
INSTALLATION INSTRUCTIONS

AC500 product family

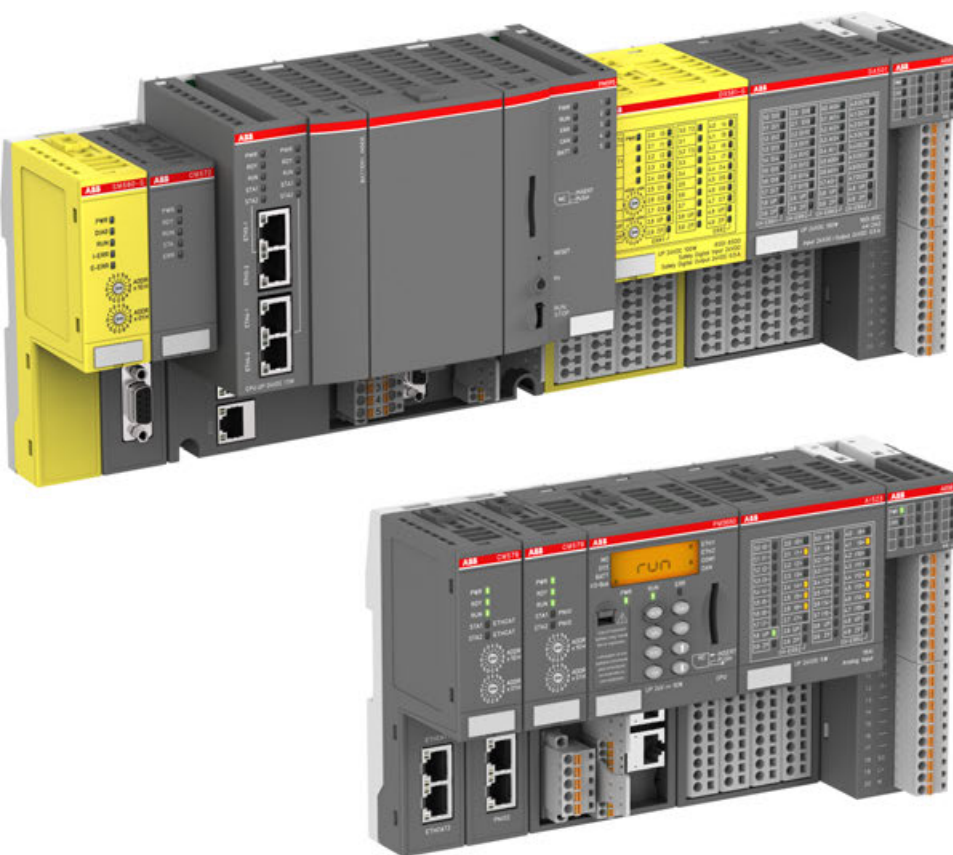


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1 AC522(-XC)

- AC522
- AC522-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

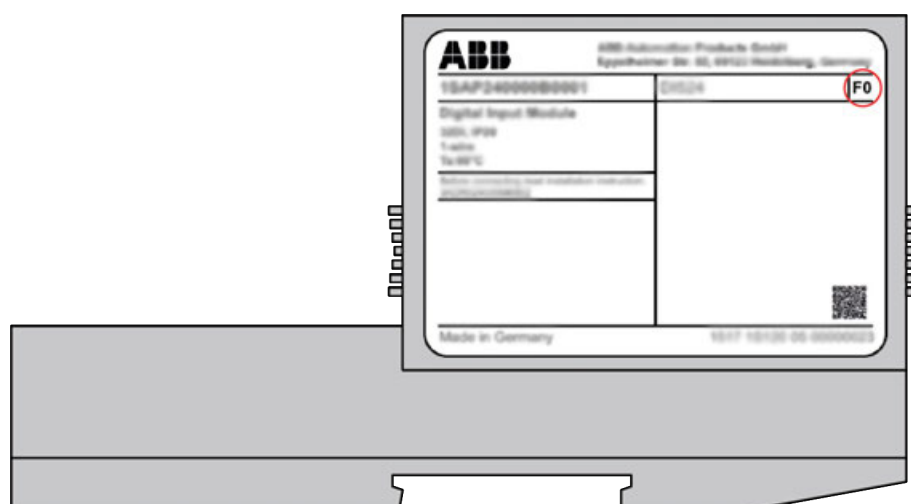
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- Communication interface modules CI5xx as of index F0.
- Processor modules PM56xx-2ETH with firmware version as of V3.2.0.



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

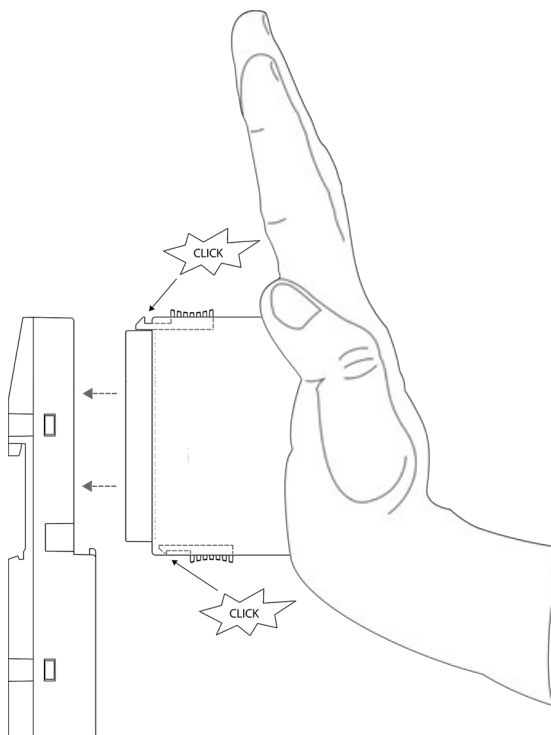
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

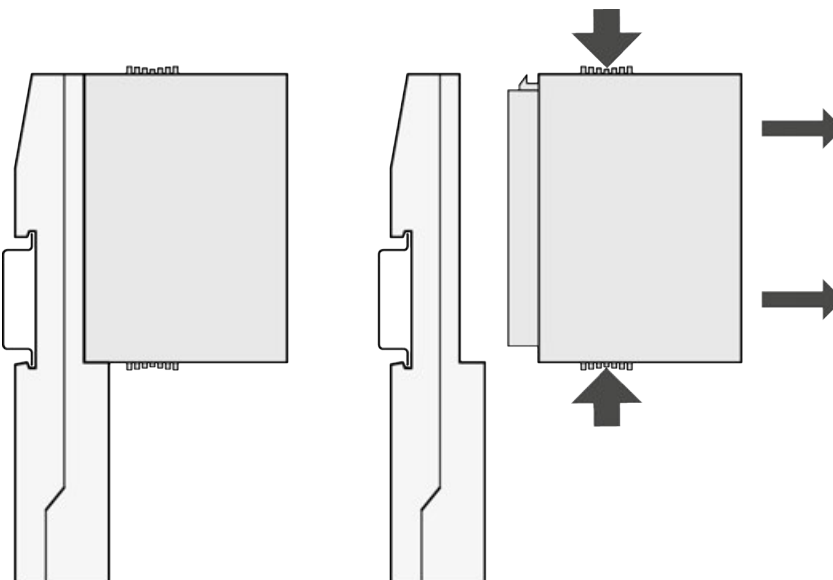
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

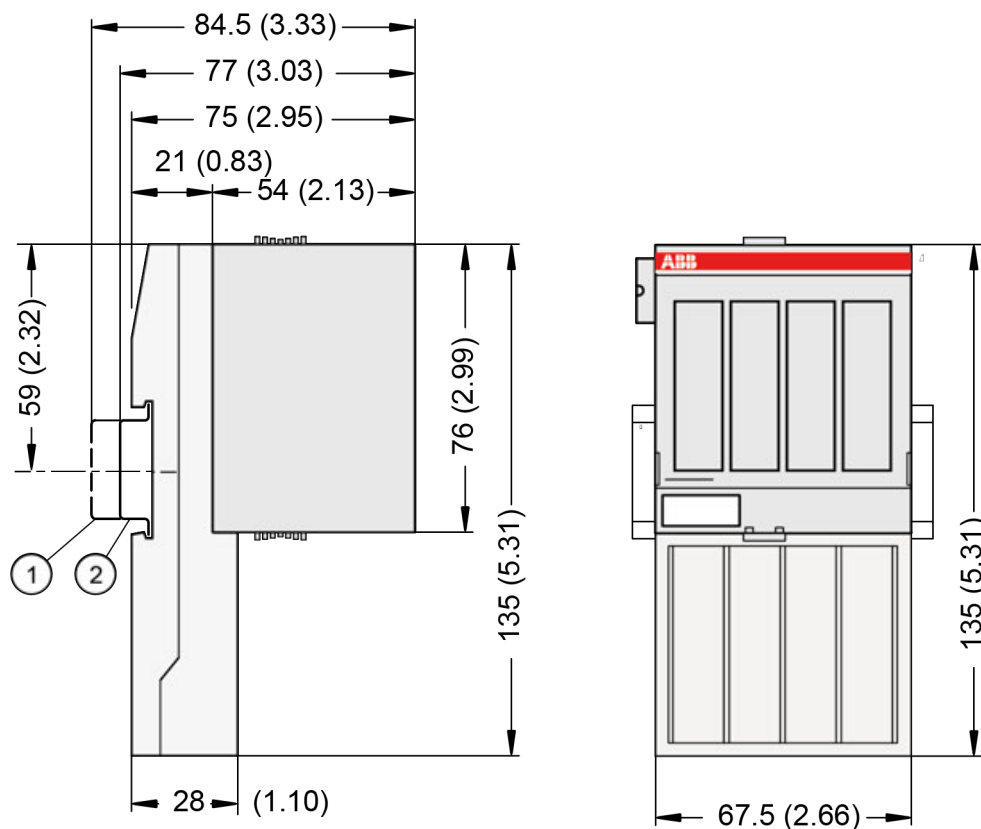
1.1 Assembly



1.2 Disassembly



1.3 Dimensions

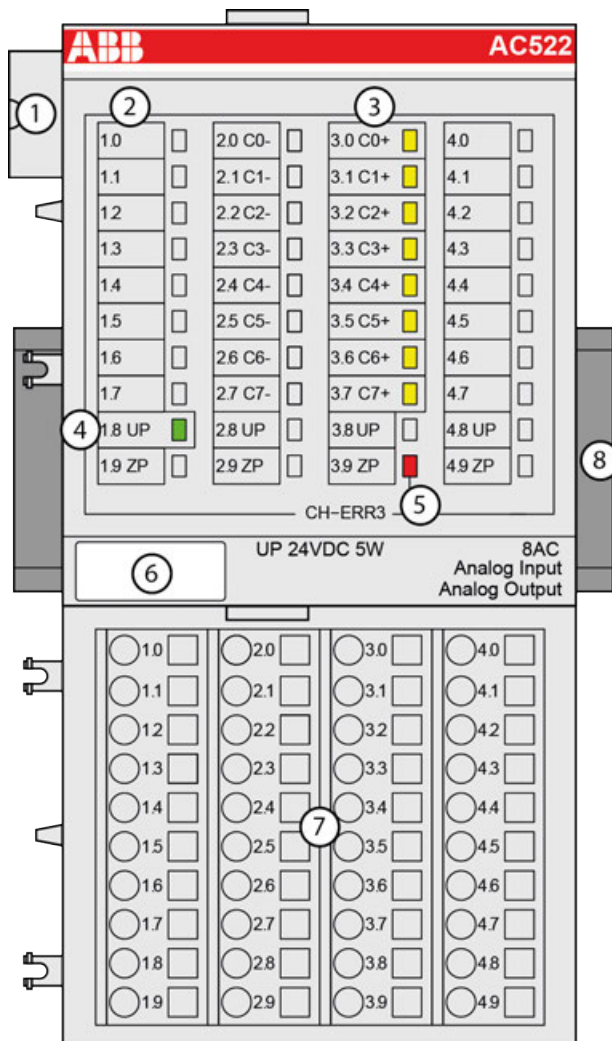


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

1.4 Connections

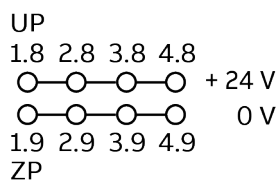


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 8 yellow LEDs to display the signal states at the analog inputs/outputs (C0 - C7)
- 4 1 green LED to display the state of the process supply voltage UP
- 5 1 red LED to display errors
- 6 Label
- 7 Terminal unit
- 8 DIN rail
- Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

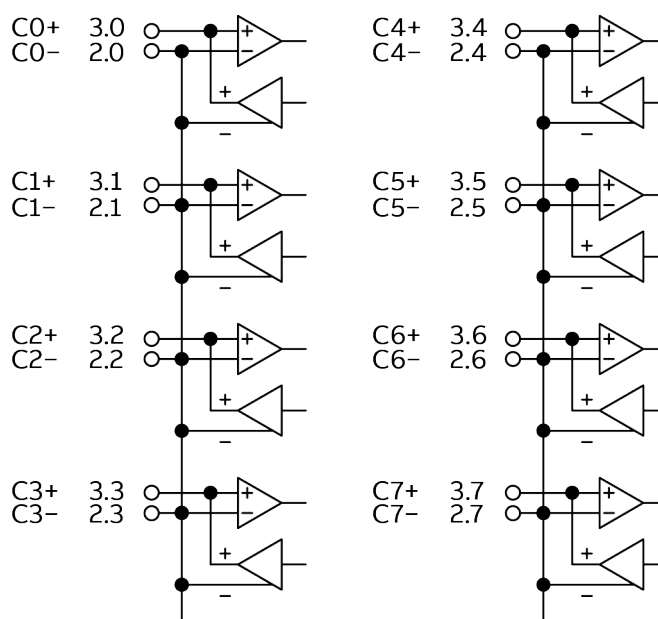
1.4.1 Process supply voltage



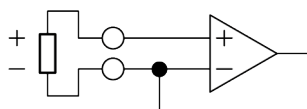
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

1.4.2 Inputs/Outputs

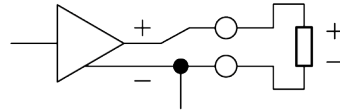


Examples



C0 ... C7
0 V ... +10 V
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA
Pt100 / Pt1000
Ni1000

Fig. 1: Example of connection input



C0 ... C3	C4 ... C7
$\pm 10 \text{ V}$	$\pm 10 \text{ V}$
0 mA ... +20 mA	–
+4 mA ... +20 mA	–

Fig. 2: Example of connection output

1.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

1.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

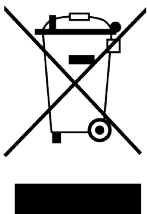
ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

1.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

2 AI523(-XC)

- AI523
- AI523-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.

**WARNING!****Electric shock due to negligent behavior during hot swapping!**

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.

**NOTICE!****Risk of damage to I/O modules!**

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap

**Hot swap**

System requirements for hot swapping of I/O modules:

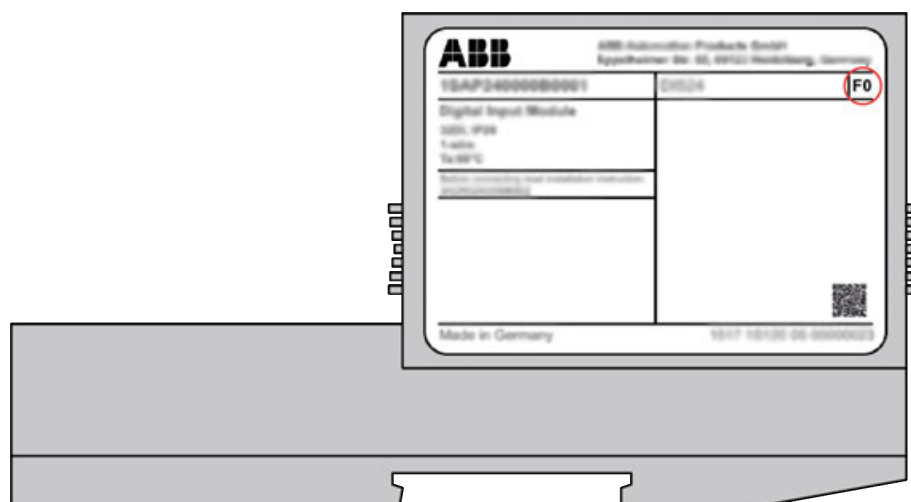
- *Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-H.*
- *I/O modules as of index F0.*

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

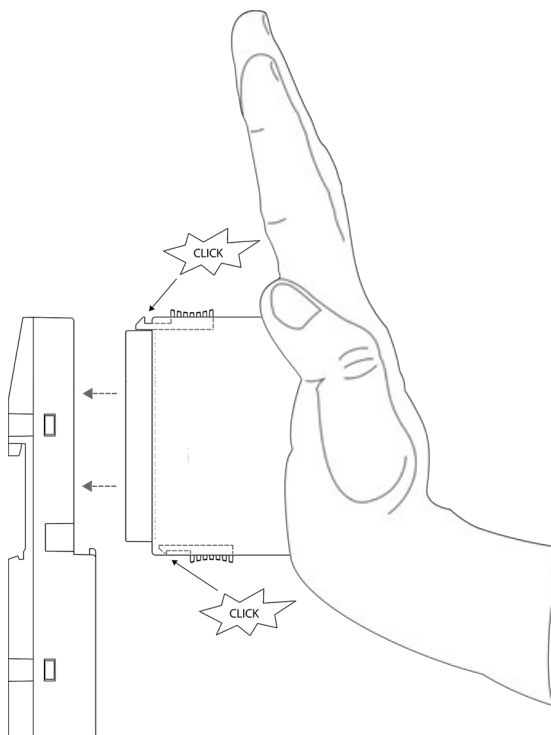
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

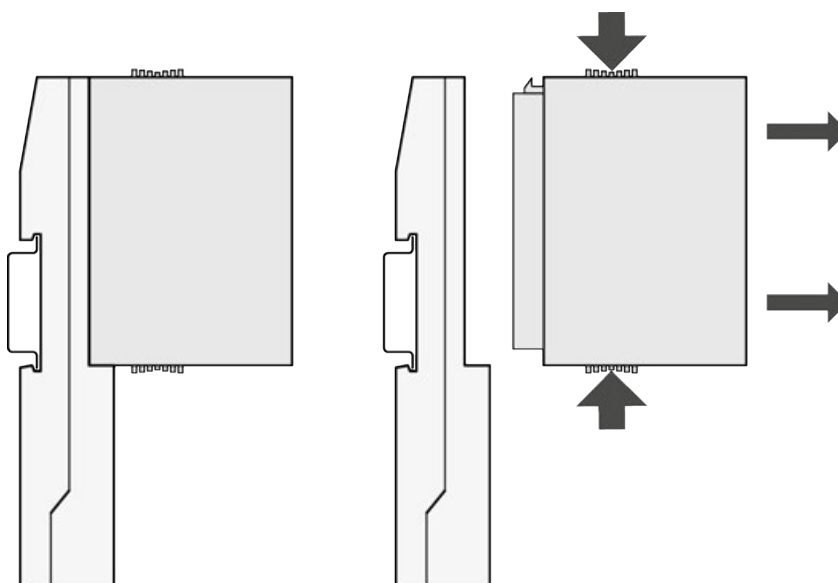
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

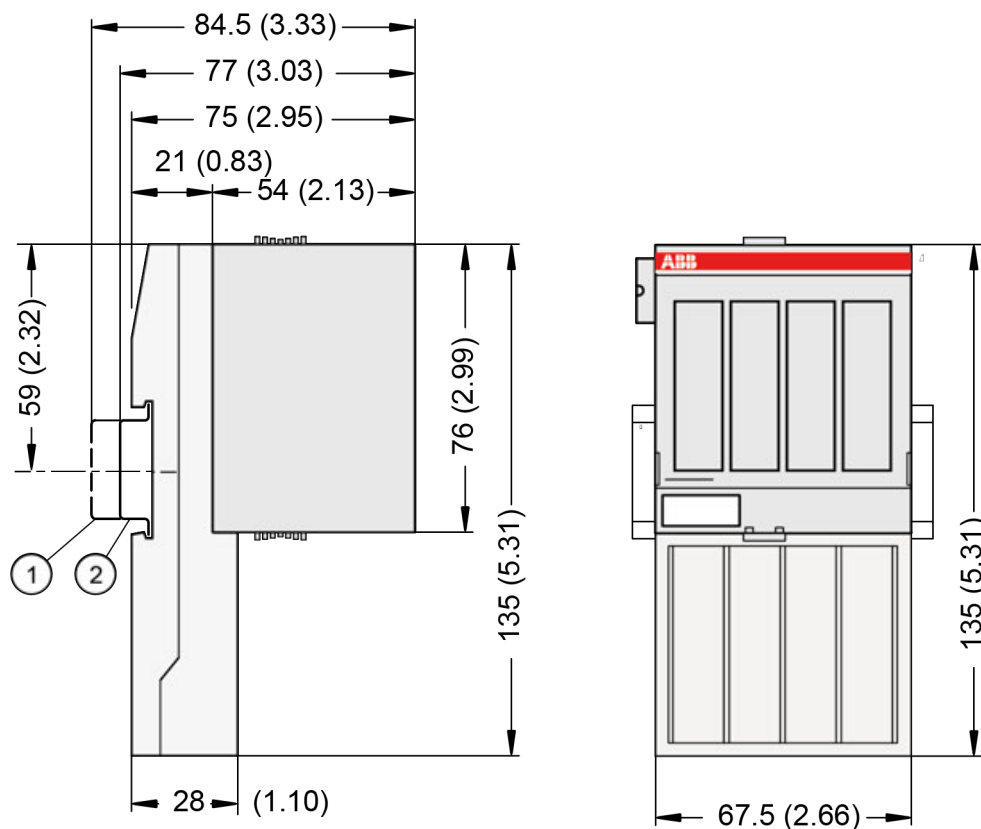
2.1 Assembly



2.2 Disassembly



2.3 Dimensions

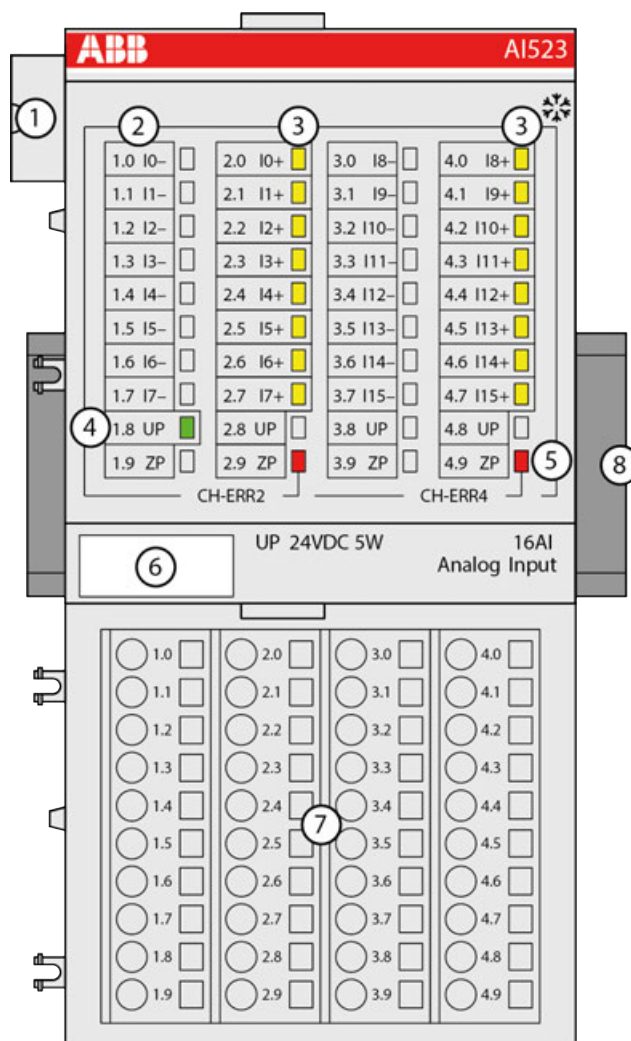


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

2.4 Connections

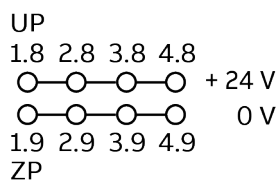


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 16 yellow LEDs to display the signal states at the analog inputs (I0 - I15)
- 4 1 green LED to display the state of the process supply voltage UP
- 5 2 red LEDs to display errors
- 6 Label
- 7 Terminal unit
- 8 DIN rail
- ✱ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

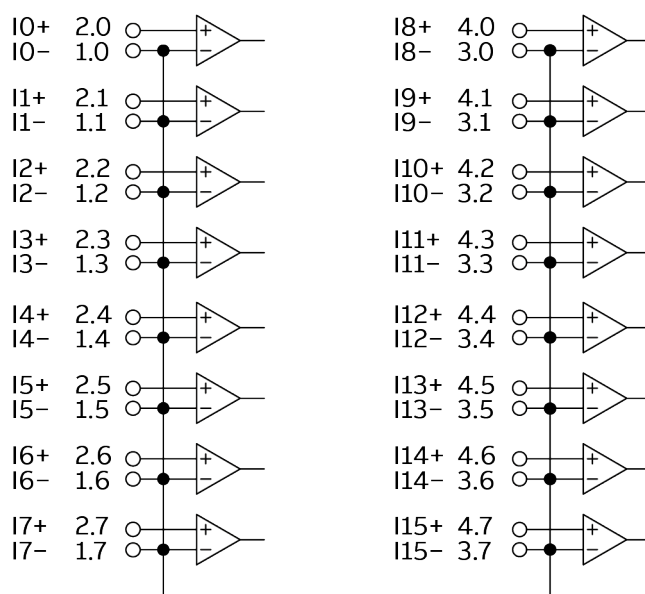
2.4.1 Process supply voltage



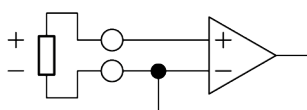
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

2.4.2 Inputs



Example



I0 ... I15
0 V ... +10 V
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA
Pt100 / Pt1000
Ni1000

Fig. 3: Example of connection input

2.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

2.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

2.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

3 AI531(-XC)

- AI531
- AI531-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.

Electric shock due to negligent behavior during hot swapping!

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



Risk of damage to I/O modules!

Processor modules and communication interface modules must not be removed or inserted during operation.




System requirements for hot swapping of I/O modules:

- The following I/O bus masters support hot swapping of attached I/O modules:*

- 

ABB
ABB Identification Products GmbH
Spitzheimer Str. 35, 89121 Neuburg, Germany

1SAF240000B0001	01024
Digital Input Module	
500, 400	
1x24V	
1x24V	
Before connecting read installation instruction www.abb.com	
Made in Germany 1017 10120 00 0000023	



The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

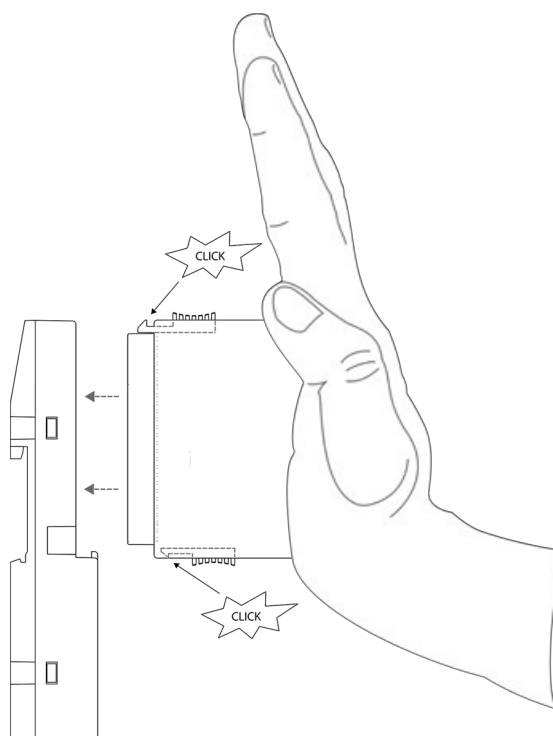
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

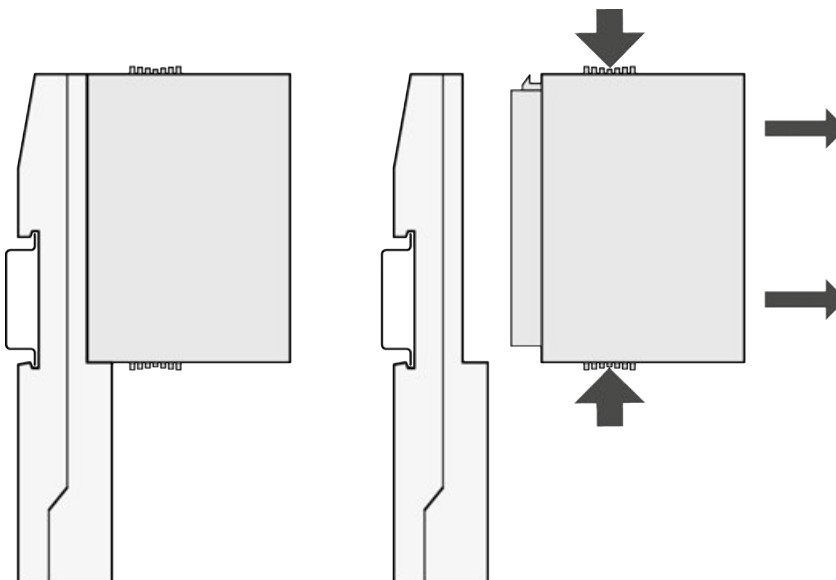
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

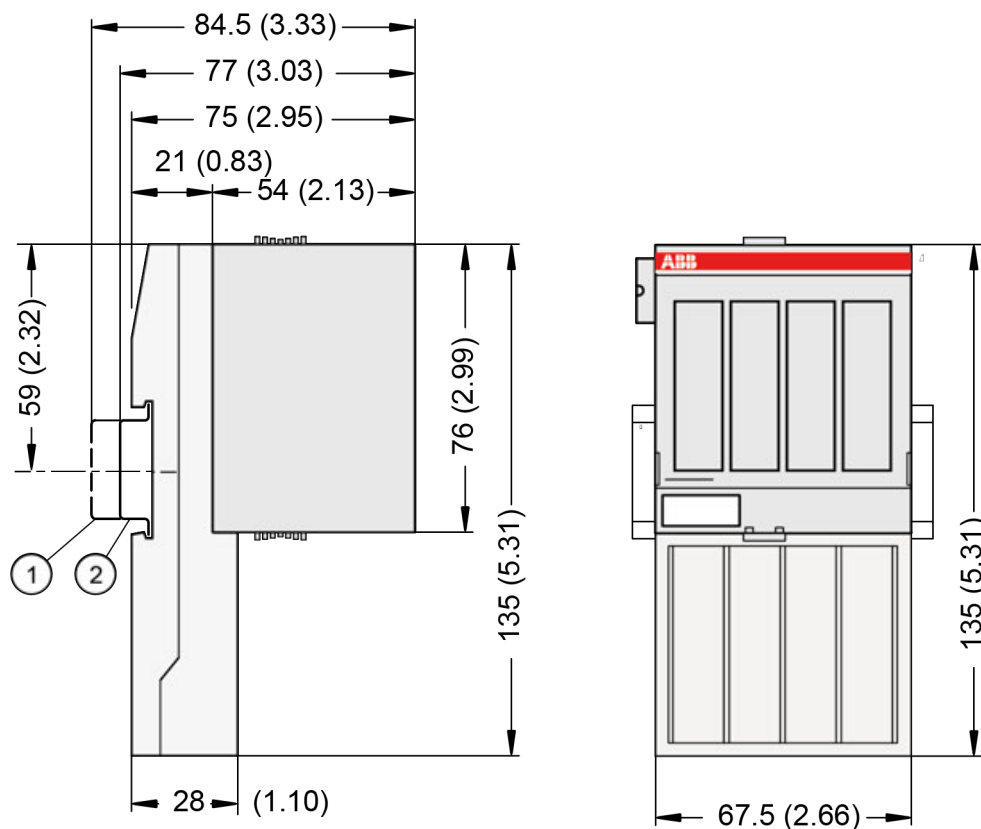
3.1 Assembly



3.2 Disassembly



3.3 Dimensions

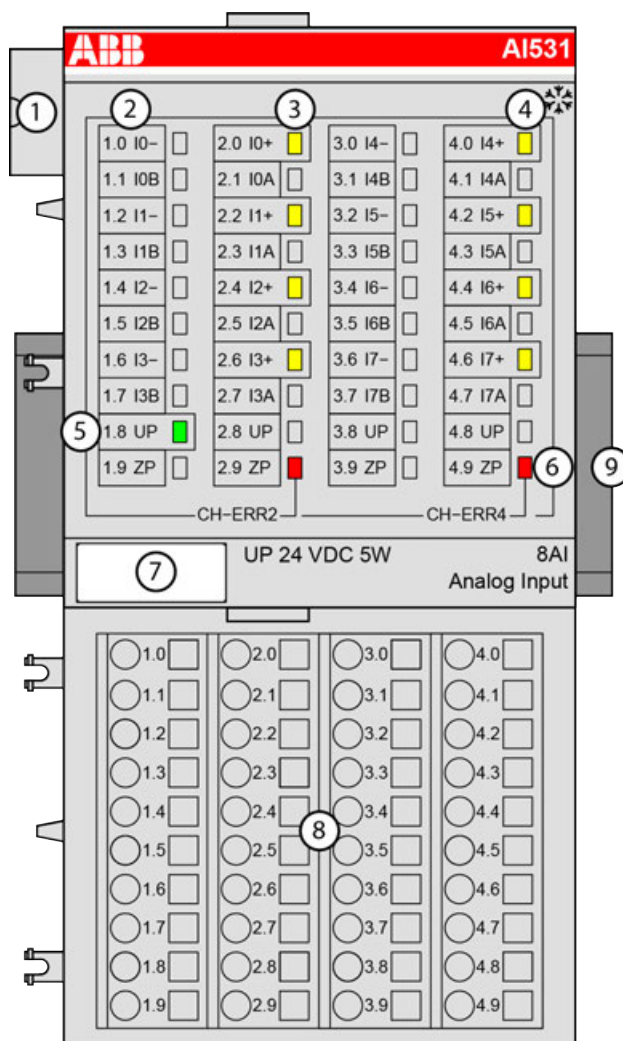


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

3.4 Connections

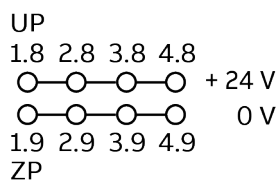


- 1 I/O bus
- 2 Allocation between terminal number and signal names
- 3 4 yellow LEDs to display the states at the inputs I0 to I3
- 4 4 yellow LEDs to display the states at the inputs I4 to I7
- 5 1 green LED to display the process supply voltage UP
- 6 2 red LEDs to display errors (CH-ERR2 and CH-ERR4)
- 7 Label
- 8 Terminal unit
- 9 DIN rail
- ✱ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

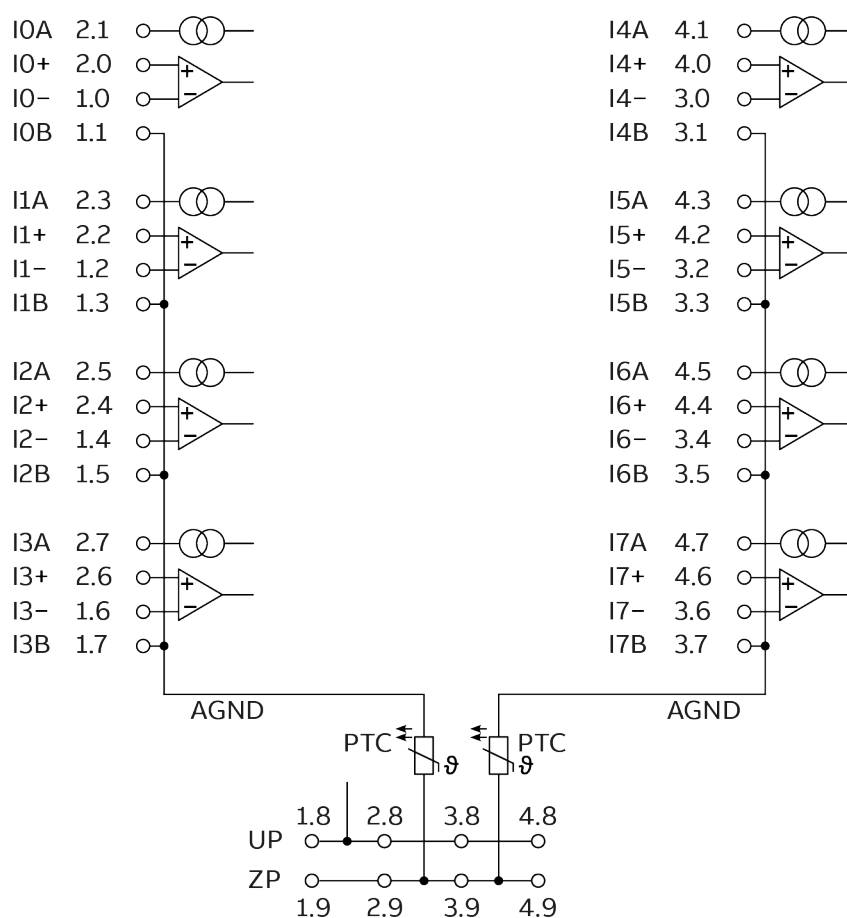
3.4.1 Process supply voltage



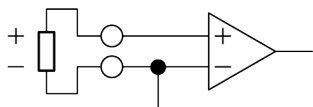
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

3.4.2 Inputs



Example



I0 ... I7
-50 mV... +50 mV
-500 mV ... +500 mV
-1 V ... +1 V
-5 V ... +5 V
-10 V... +10 V
0 V ... +5 V
0 V ... +10 V
0 mA ... +20 mA
+4 mA ... +20 mA
0 Ω ... 50 kΩ
Pt100 / Pt1000
Ni1000
Cu50
Thermo J, K, T, N, S
Digital Input


Fig. 4: Example of connection input

3.5 Cleaning

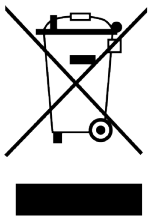


Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

3.6 Certification

		MSIP-REI-Abb-AC500	
en	Note	en	Devices with KCC sign on product sticker and packaging
	These devices correspond to:	ko	제품 스티커 및 포장에 KCC 표시가 된 기기
ko	참고 이러한 기기는		KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"
			KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함

3.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

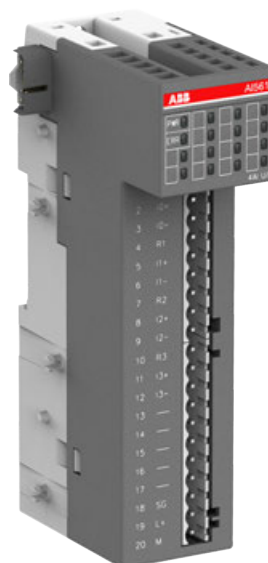
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

4 AI561

- AI561

**CAUTION!****Risk of injury and damaging the product!**

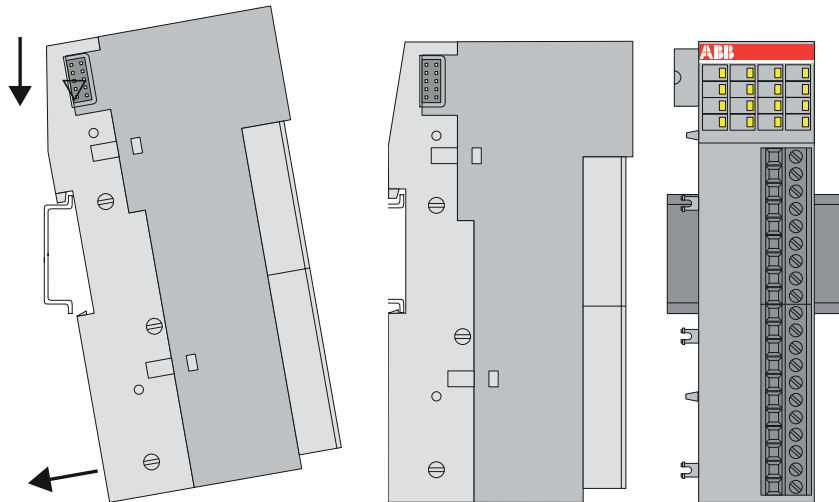
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

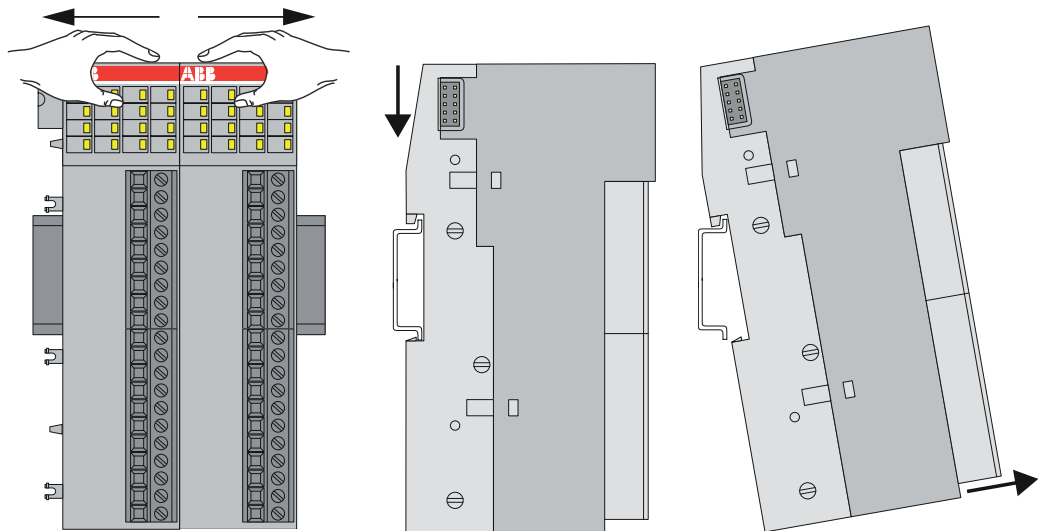
**CAUTION!**

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

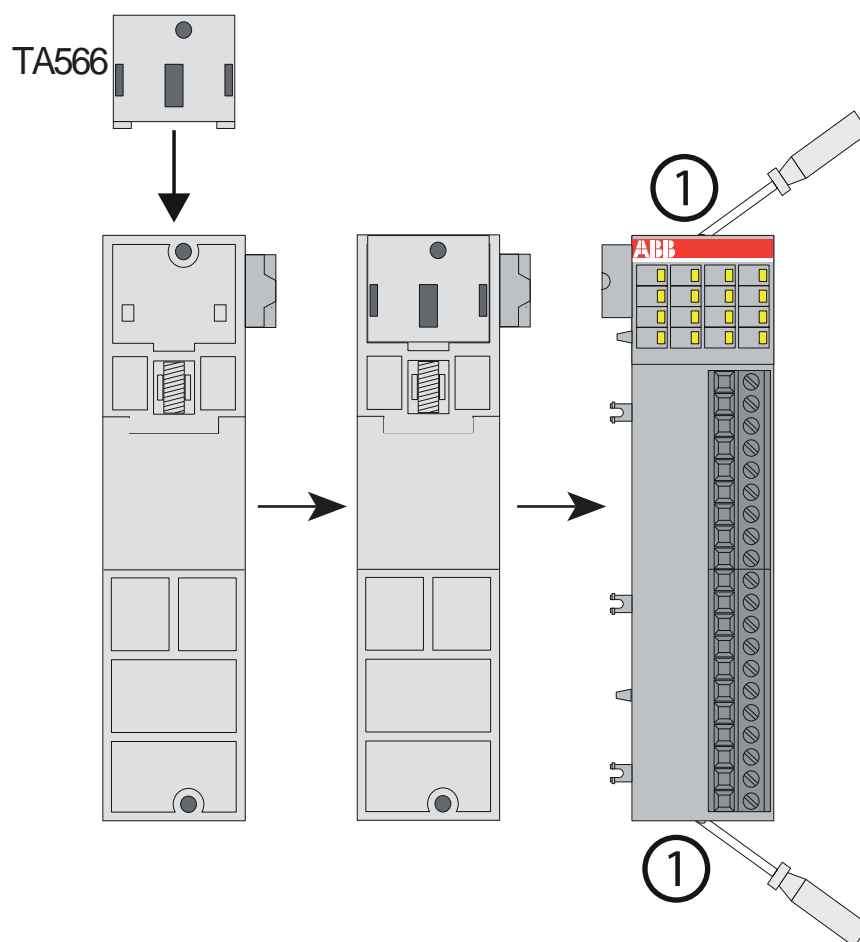
4.1 Assembly



4.2 Disassembly



4.3 Assembly with screws



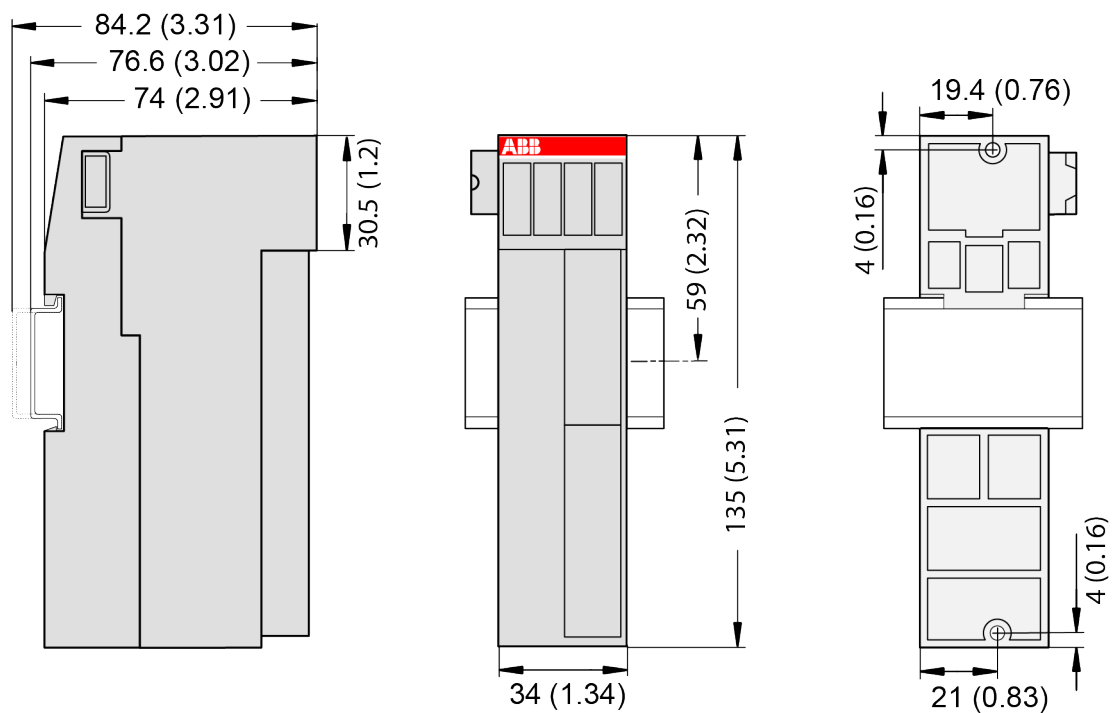
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

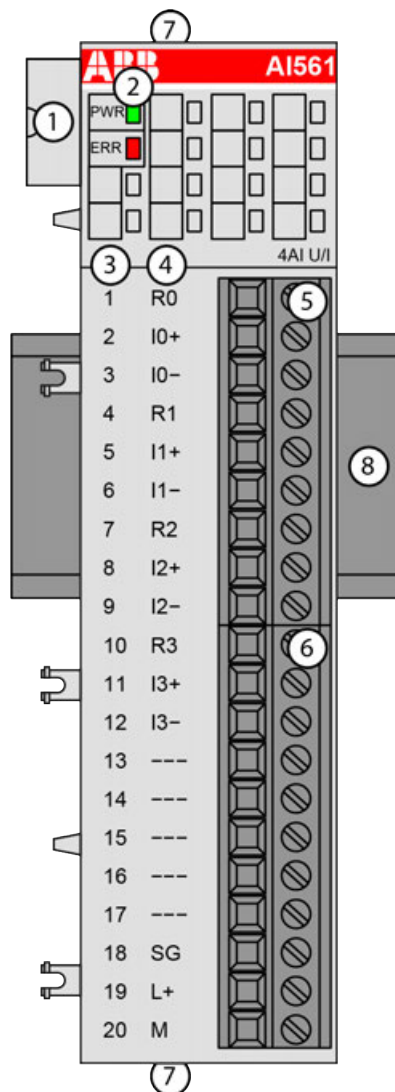
The insertion of the accessories TA566 for wall mounting is essential.

4.4 Dimensions



The dimensions are in mm and in brackets in inch.

4.5 Connections



- 1 I/O bus
- 2 1 green LED to display power supply, 1 red LED to display error
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for input signals (9-pin)
- 6 Terminal block for input signals (11-pin)
- 7 2 holes for wall-mounting with screws
- 8 DIN rail

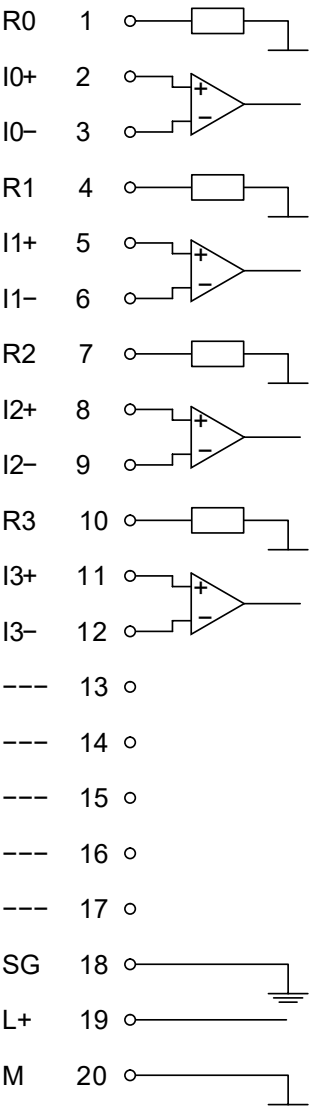


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.


5	TA563-9	9-pin, screw, cable from front
	TA564-9	9-pin, screw, cable from side
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from front

	TA564-11	11-pin, screw, cable from side
	TA565-11	11-pin, spring, cable from front

4.5.1 Inputs/Outputs



4.6 Cleaning




Cleaning instruction

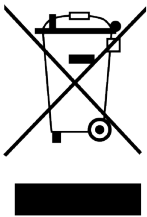
Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

4.7 Certification

 MSIP-REI-Abb-AC500-eCo		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

4.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

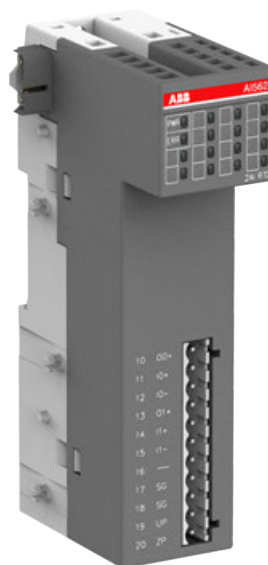
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

5 AI562

- AI562

**CAUTION!****Risk of injury and damaging the product!**

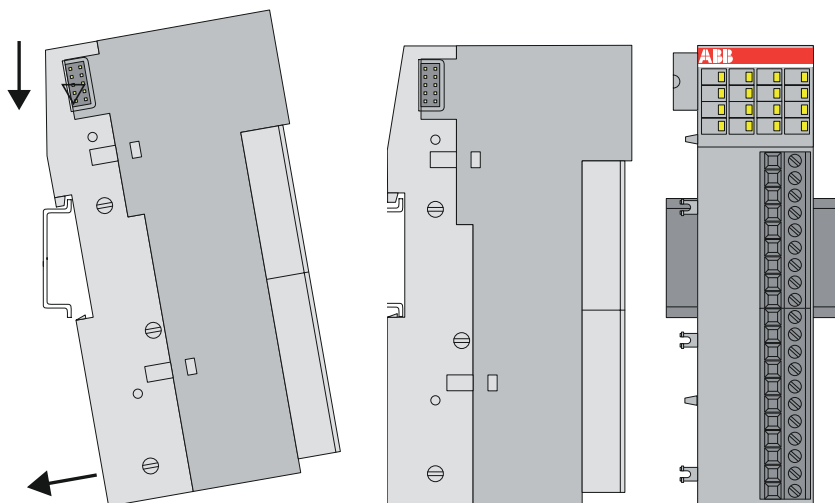
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

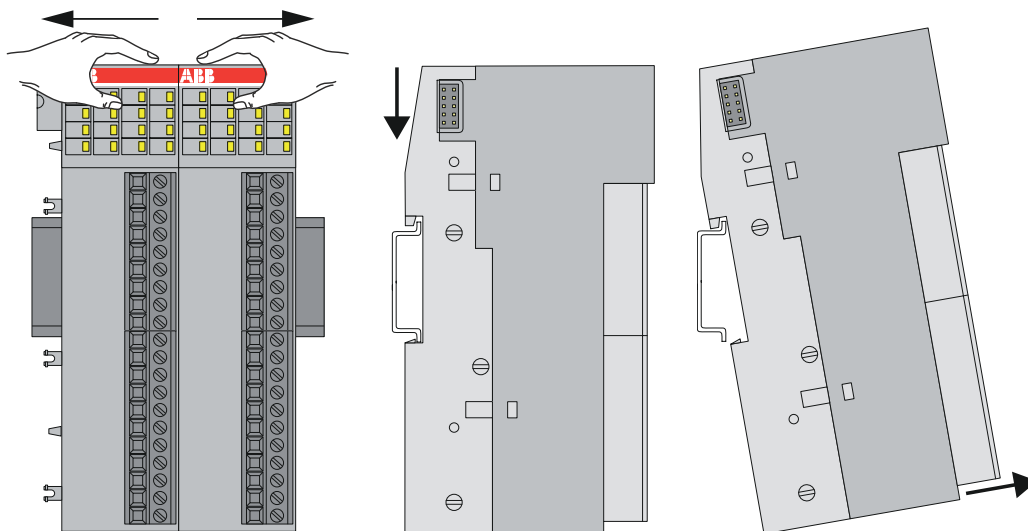
**CAUTION!**

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

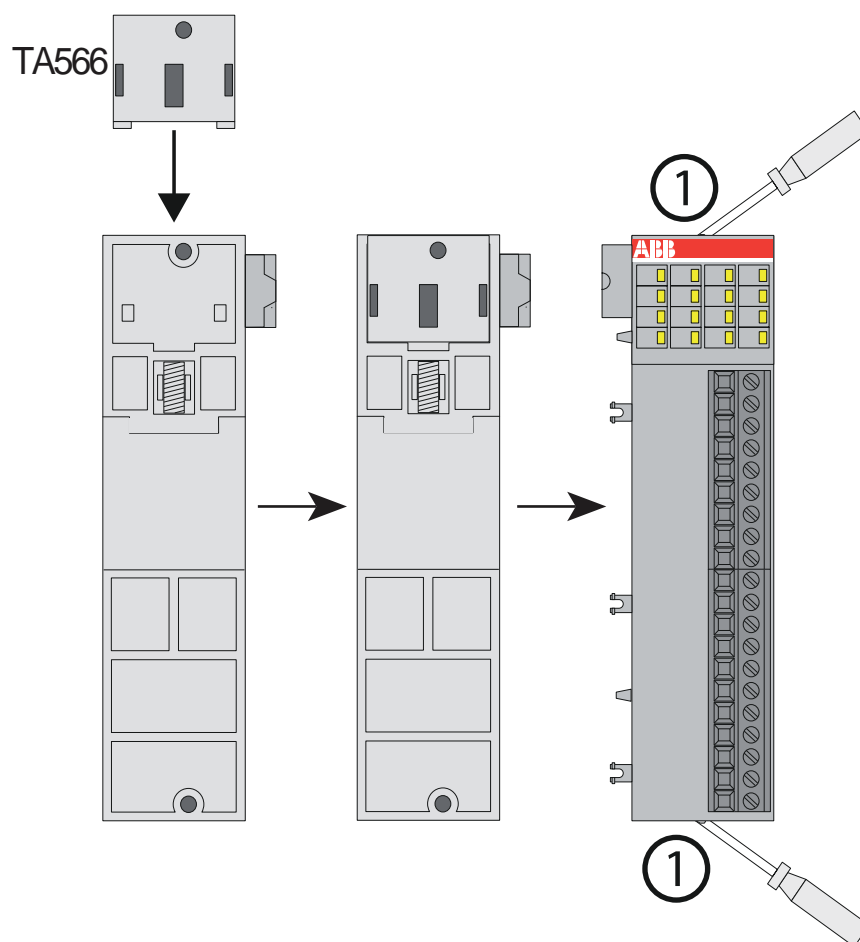
5.1 Assembly



5.2 Disassembly



5.3 Assembly with screws



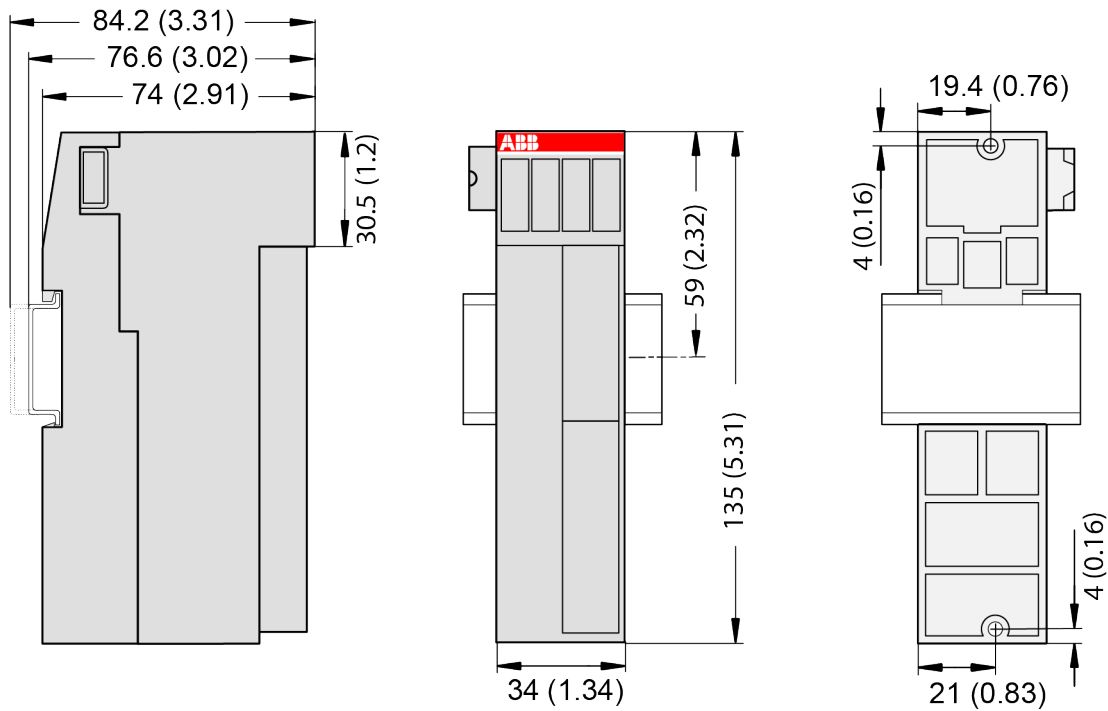
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

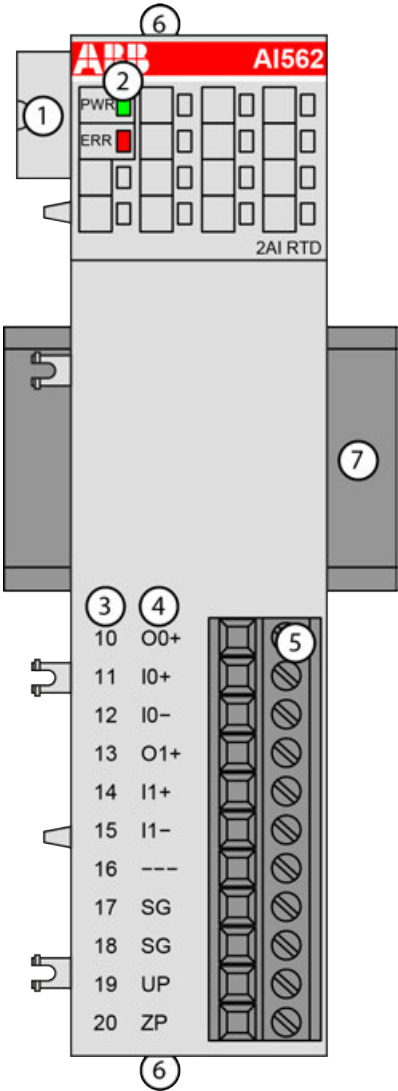
The insertion of the accessories TA566 for wall mounting is essential.

5.4 Dimensions




The dimensions are in mm and in brackets in inch.

5.5 Connections

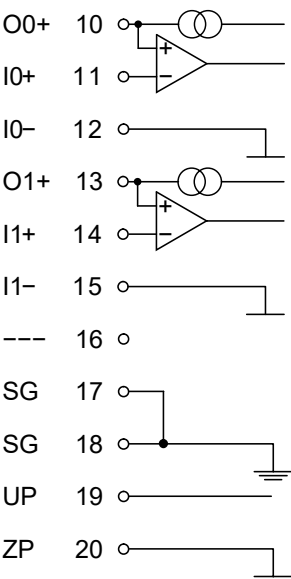


- 1 I/O bus
- 2 1 green LED to display power supply, 1 red LED to display error
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for input signals (11-pin)
- 6 2 holes for wall-mounting with screws
- 7 DIN rail

 All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

5	TA563-11	11-pin, screw, cable from front
	TA564-11	11-pin, screw, cable from side
	TA565-11	11-pin, spring, cable from front

5.5.1 Inputs/Outputs



5.6 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

5.7 Certification



MSIP-REI-Abb-AC500-eCo

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

en **Devices with KCC sign on product sticker and packaging**
ko 제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"
KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

5.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

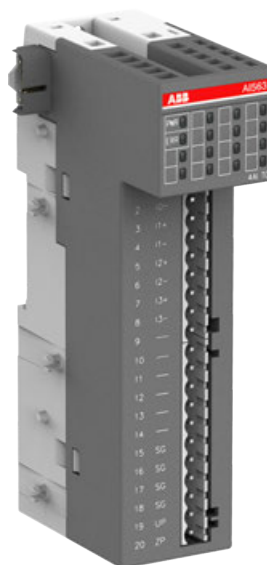
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

6 AI563

- AI563

**CAUTION!****Risk of injury and damaging the product!**

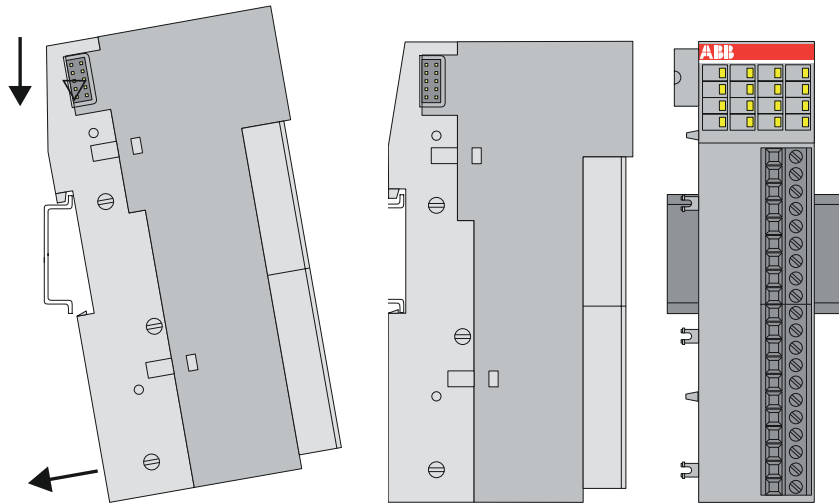
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

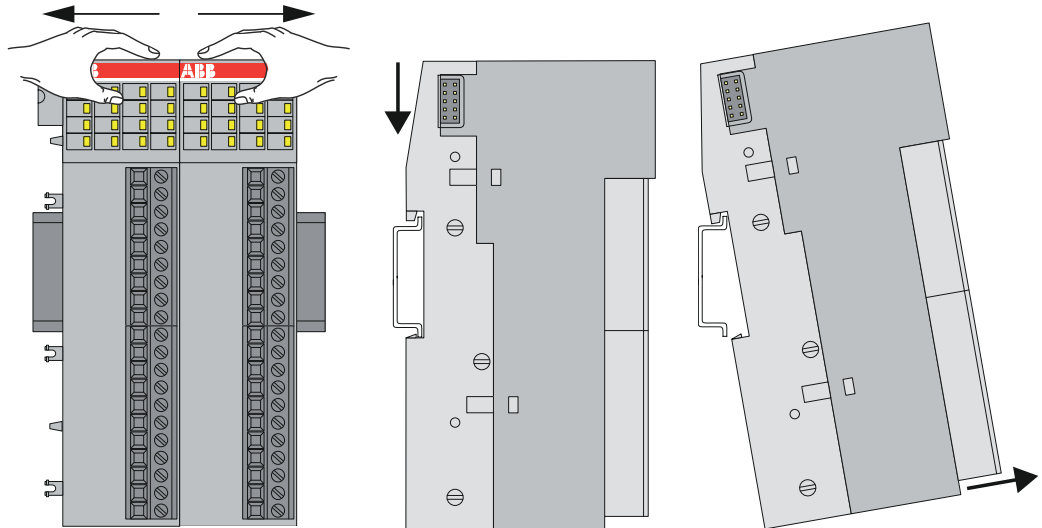
**CAUTION!**

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

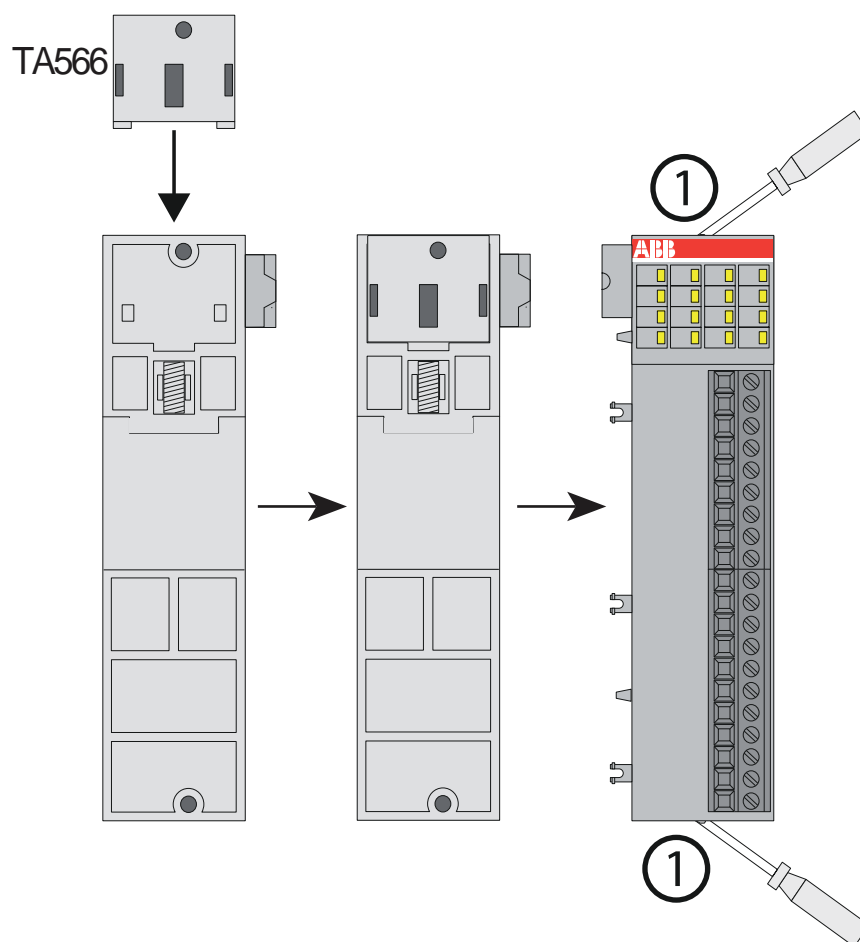
6.1 Assembly



6.2 Disassembly



6.3 Assembly with screws



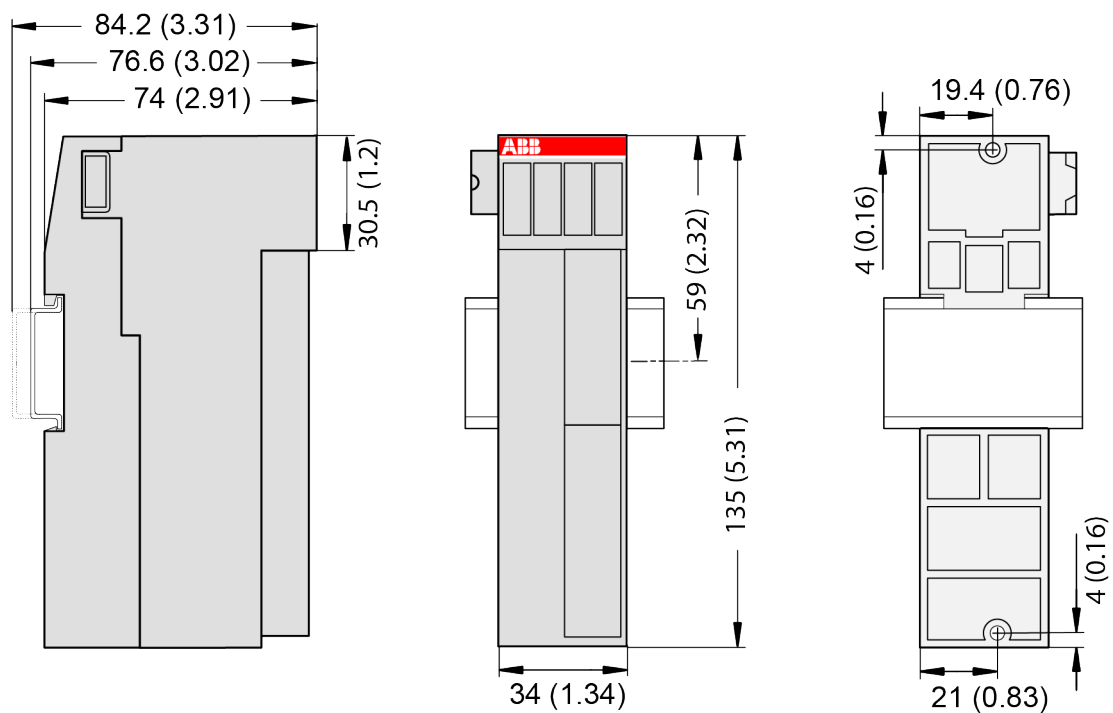
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

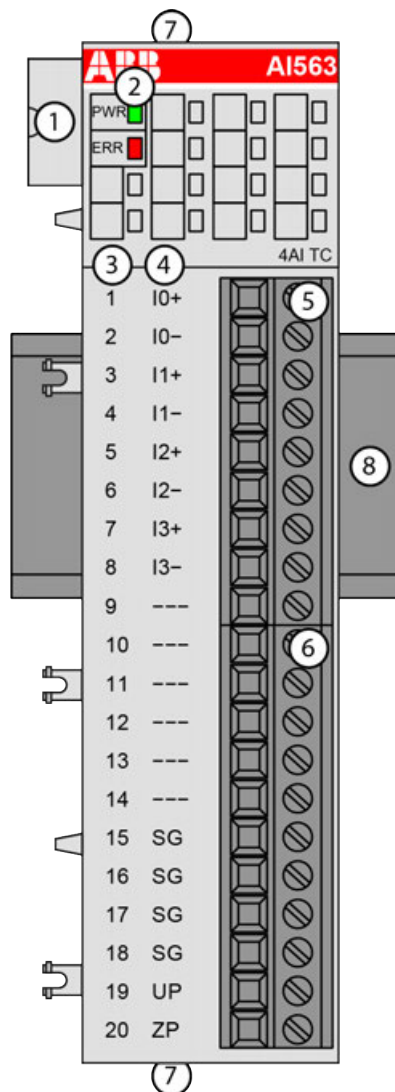
The insertion of the accessories TA566 for wall mounting is essential.

6.4 Dimensions



The dimensions are in mm and in brackets in inch.

6.5 Connections



- 1 I/O bus
- 2 1 green LED to display power supply, 1 red LED to display error
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for input signals (9-pin)
- 6 Terminal block for input signals (11-pin)
- 7 2 holes for wall-mounting with screws
- 8 DIN rail

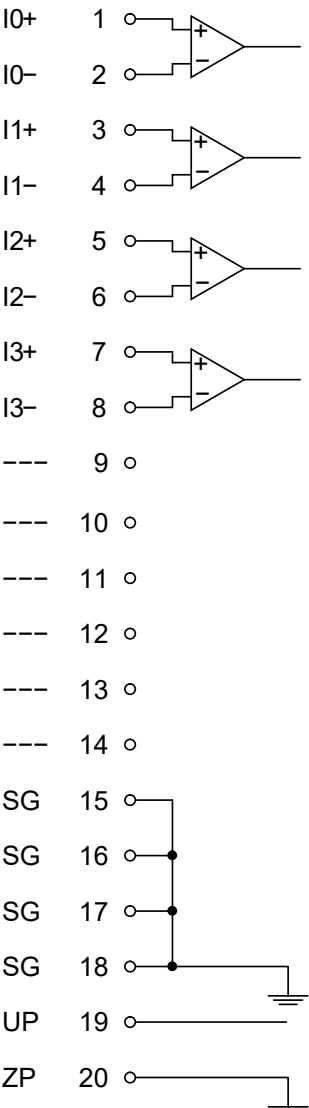


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

5	TA563-9	9-pin, screw, cable from front
	TA564-9	9-pin, screw, cable from side
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from front

	TA564-11	11-pin, screw, cable from side
	TA565-11	11-pin, spring, cable from front

6.5.1 Inputs/Outputs




6.6 Cleaning

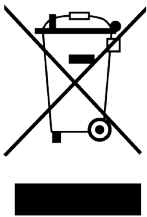


Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

6.7 Certification

 MSIP-REI-Abb-AC500-eCo		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

6.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

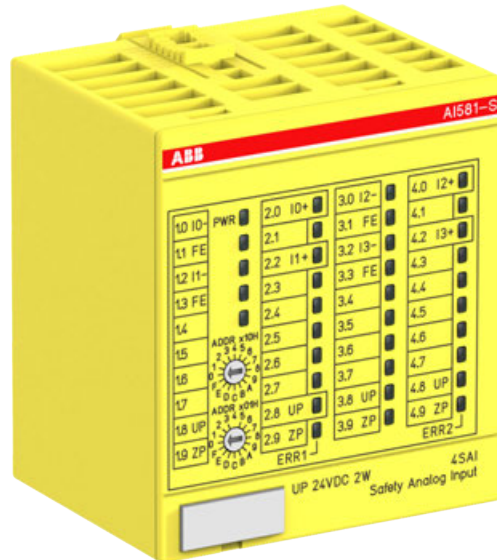
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

7 AI581-S(-XC)

- AI581-S
- AI581-S-XC



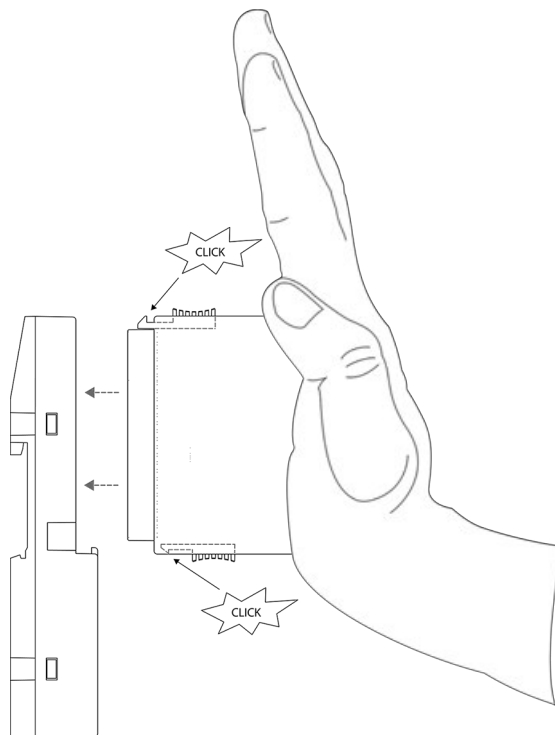
CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

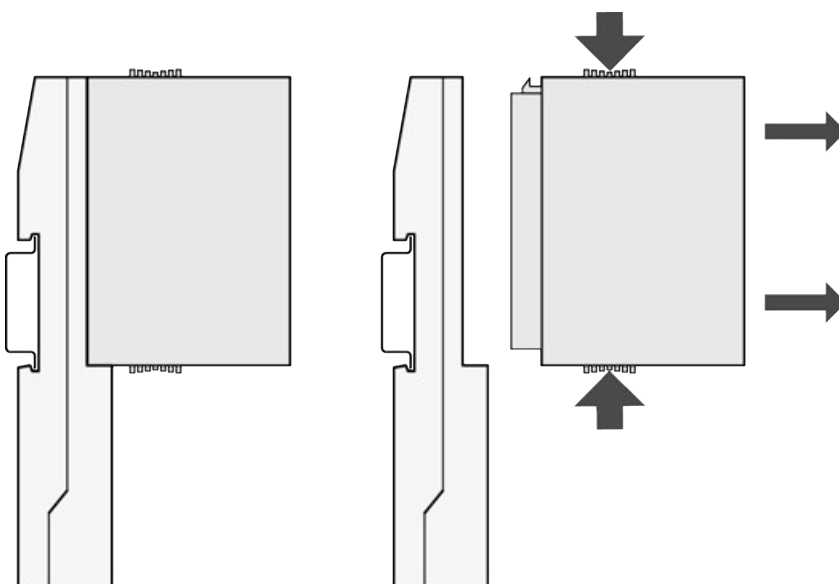
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

7.1 Assembly

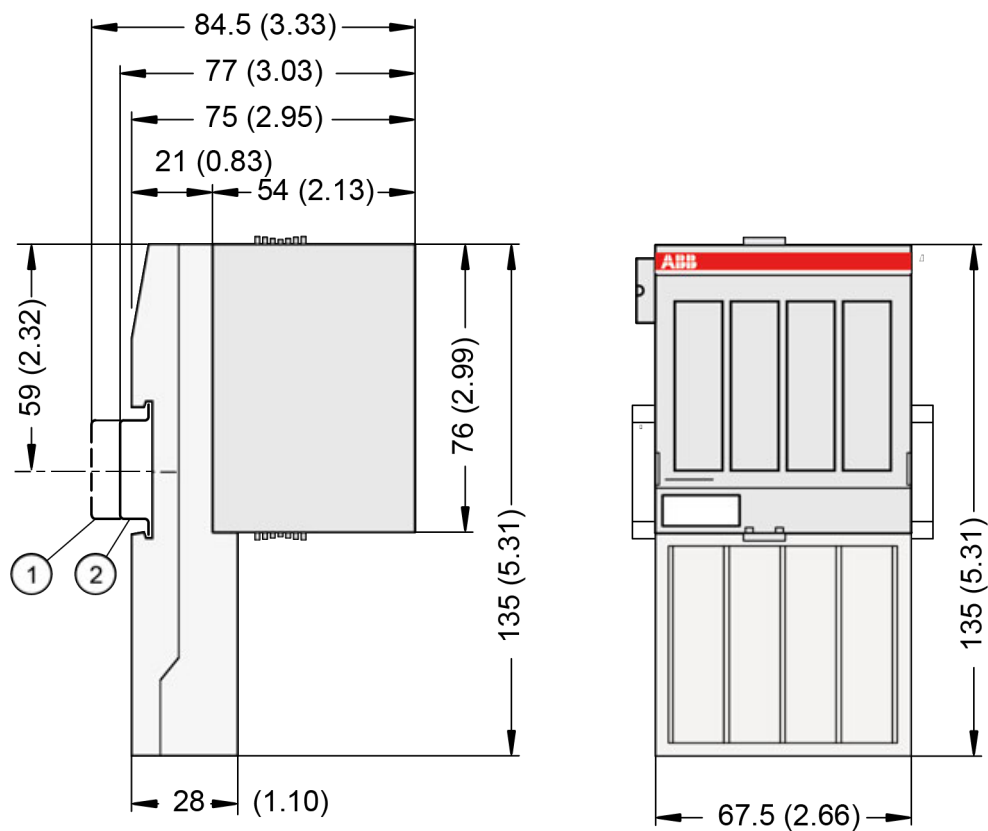


1. Put the module on the terminal unit
⇒ Module clicks in.
2. Then press the module with a force of at least 100 N into the terminal unit to achieve proper electrical contact.

7.2 Disassembly

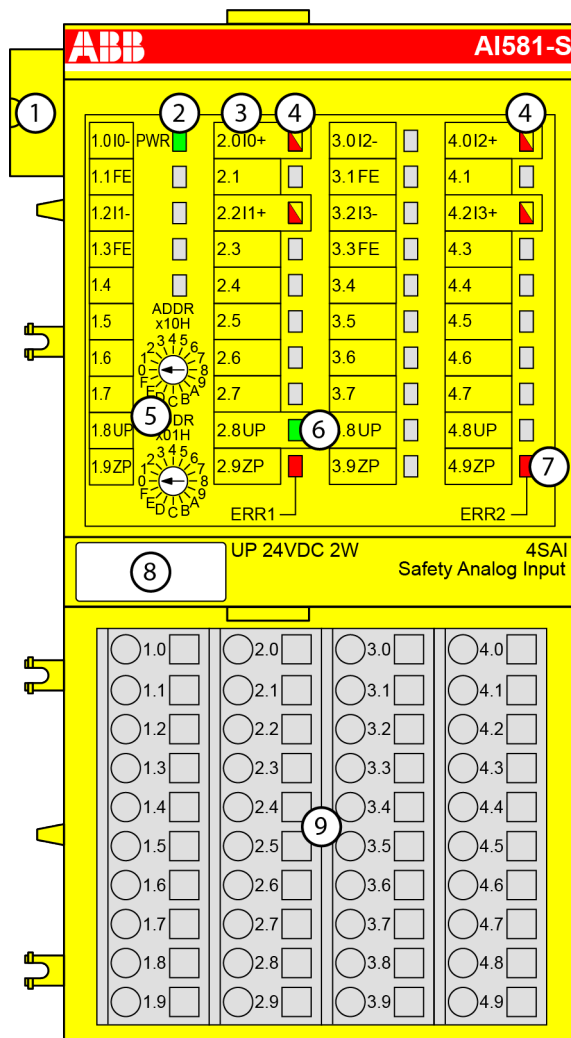


7.3 Dimensions



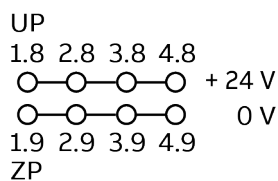
The dimensions are in mm and in brackets in inch.

7.4 Connections



- 1 I/O bus
- 2 System LED
- 3 Allocation of terminal number and signal name
- 4 4 yellow/red LEDs to display the signal states of the analog inputs
- 5 2 rotary switches for setting the PROFIsafe address
- 6 1 green LED to display the state of the process supply voltage UP
- 7 2 red LEDs to display errors
- 8 Label
- 9 Terminal unit TU582-S(-XC)
- ✱ Sign for XC version

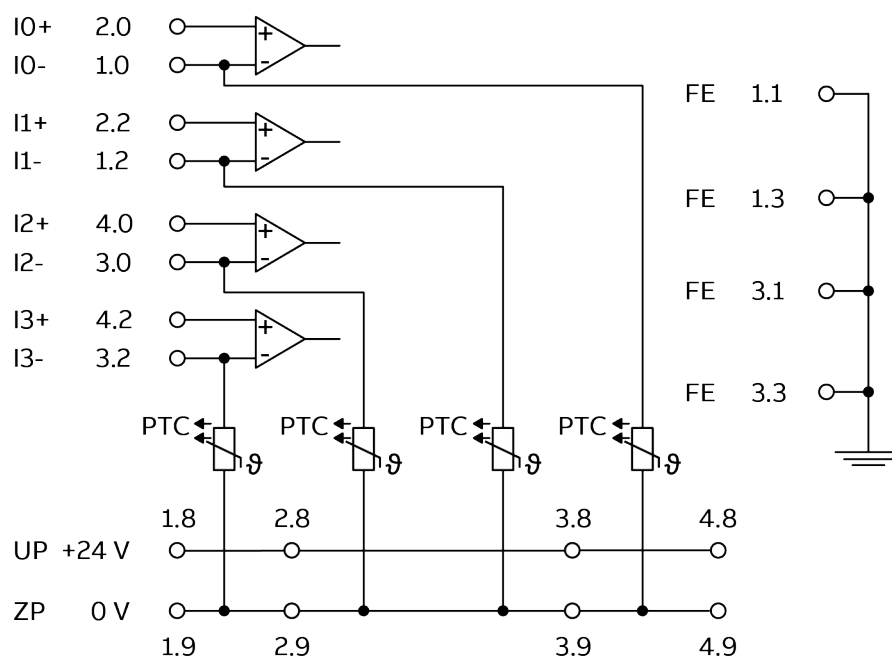
7.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

7.4.2 Inputs



Example

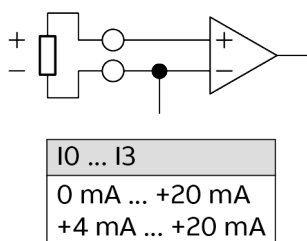


Fig. 5: Example of connection input



AC500-S safety user manual

For a detailed description of the connection of the module, please refer to the "AC500-S safety user manual".

7.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

7.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

7.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

8 AO523(-XC)

- AO523
- AO523-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

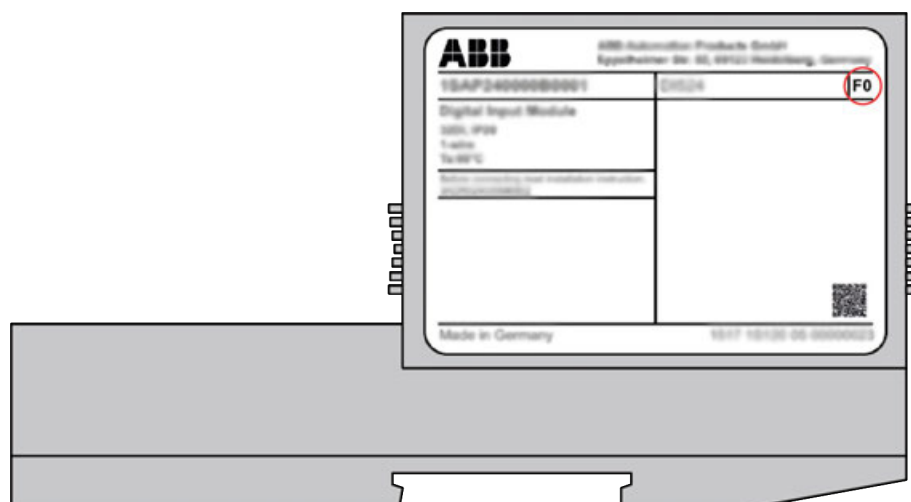
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

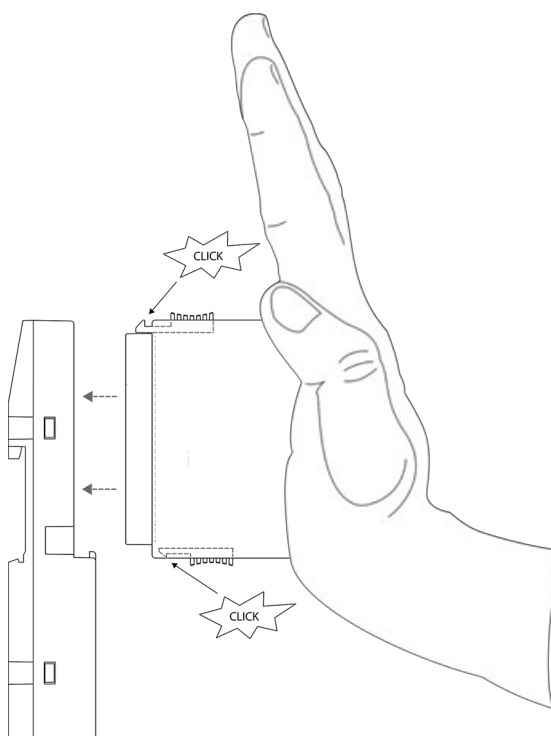
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

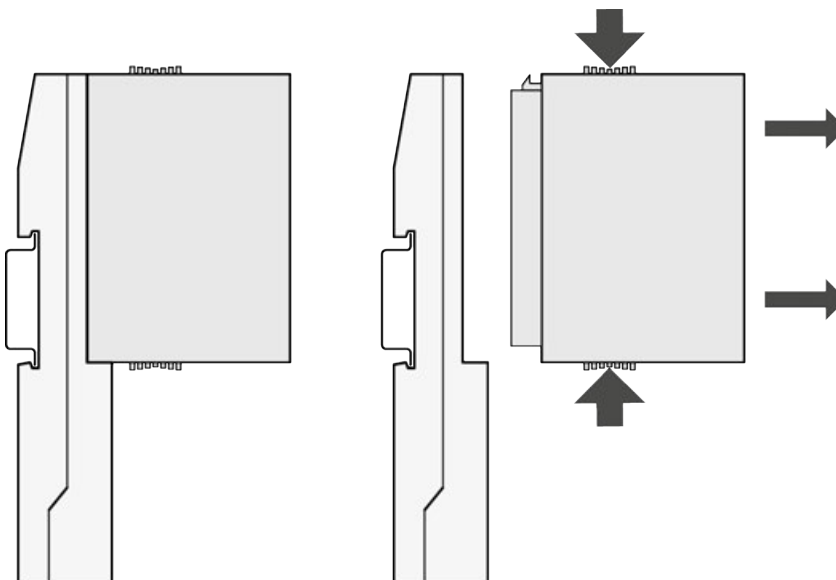
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

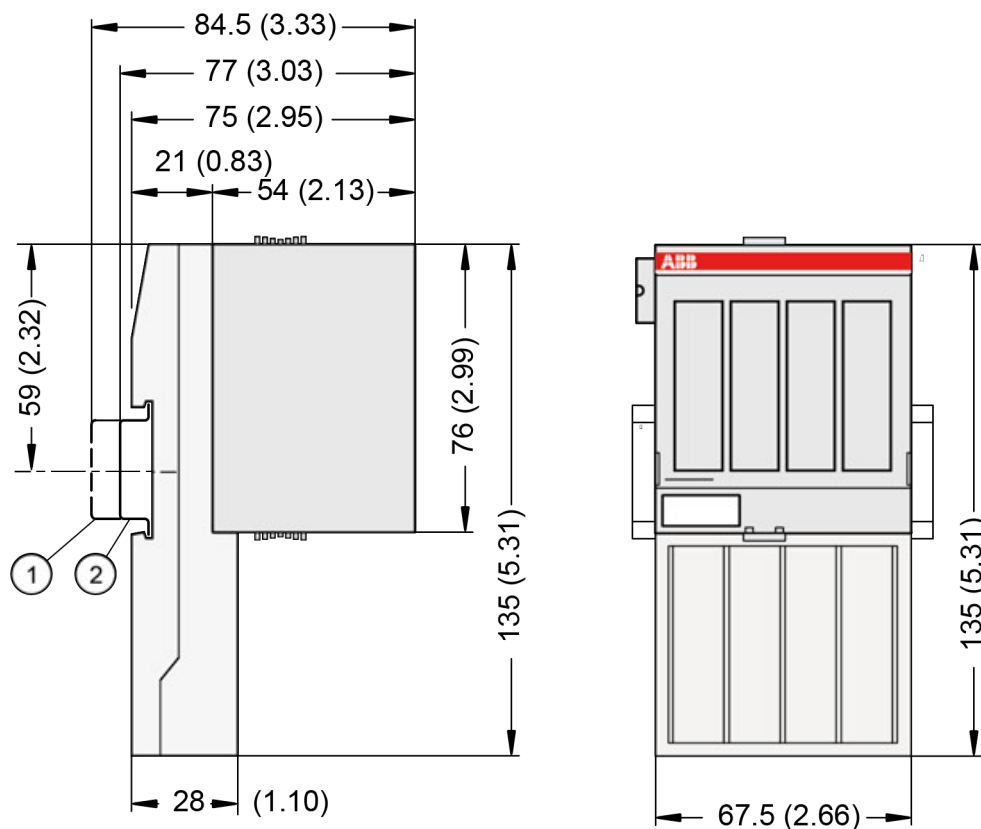
8.1 Assembly



8.2 Disassembly



8.3 Dimensions

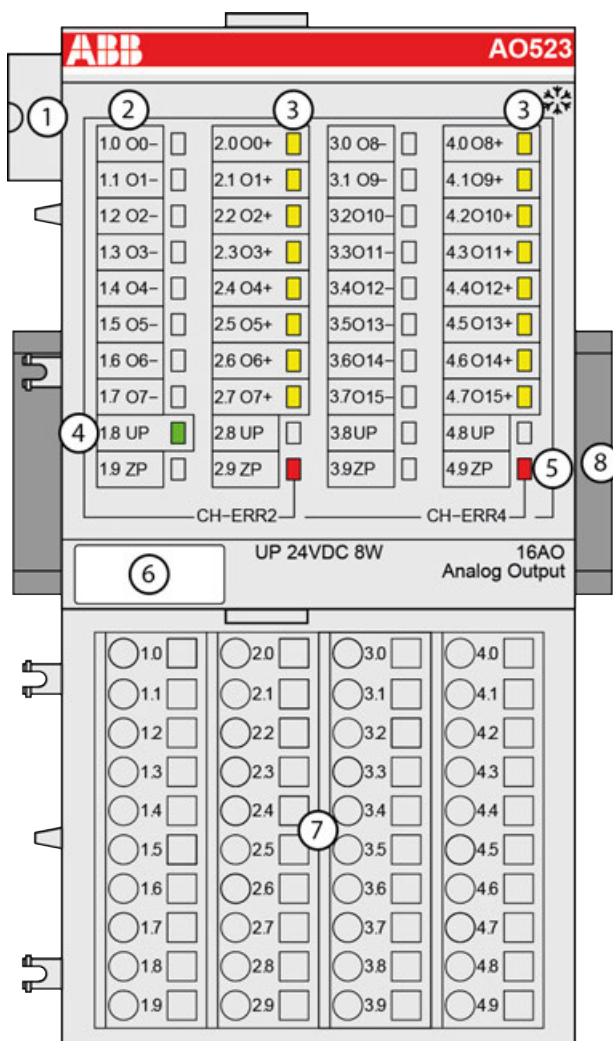


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

8.4 Connections

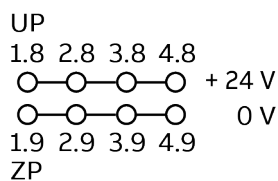


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 16 yellow LEDs to display the signal states at the analog outputs (O0 - O15)
- 4 1 green LED to display the state of the process supply voltage UP
- 5 2 red LEDs to display errors
- 6 Label
- 7 Terminal unit
- 8 DIN rail
- ✱ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

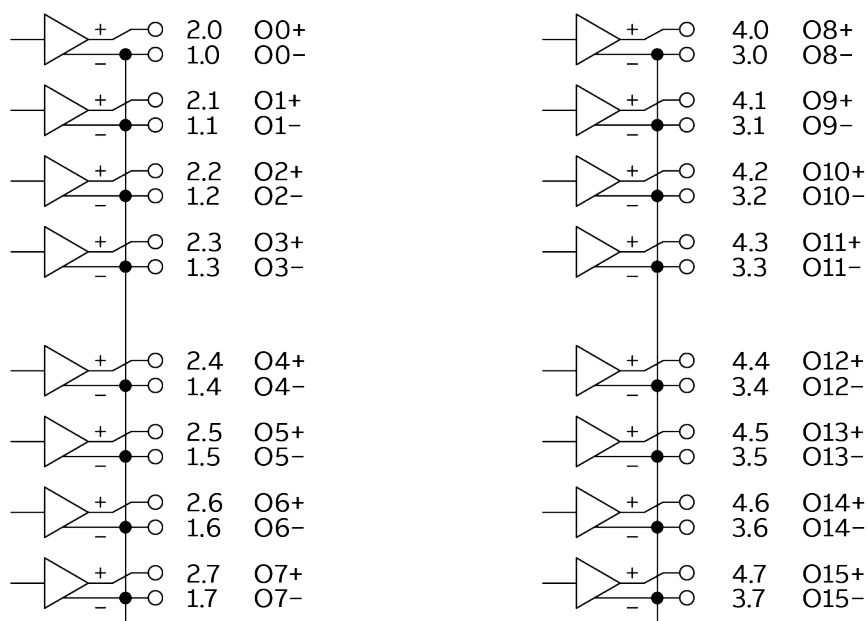
8.4.1 Process supply voltage



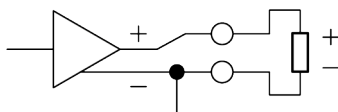
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

8.4.2 Outputs



Example



O0 ... O3	O4 ... O7
O8 ... O11	O12 ... O15
± 10 V	± 10 V
0 mA ... +20 mA	–
+4 mA ... +20 mA	–

Fig. 6: Example of connection output

8.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

8.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

8.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

9 AO561

- AO561

**CAUTION!****Risk of injury and damaging the product!**

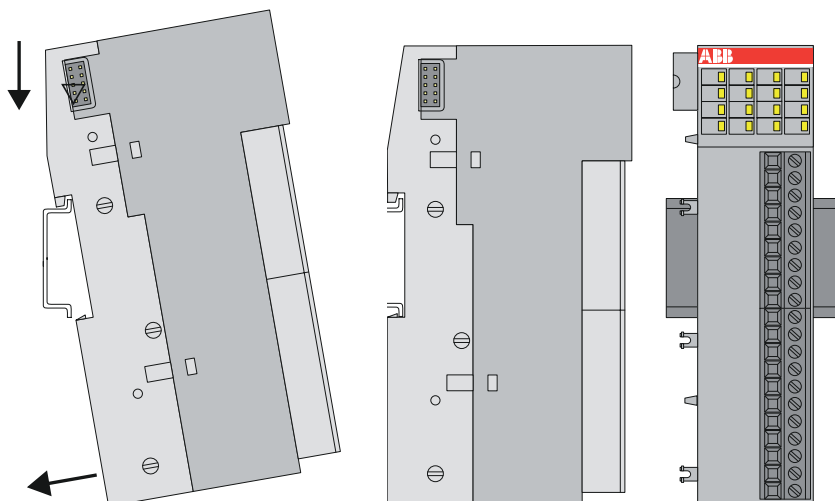
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

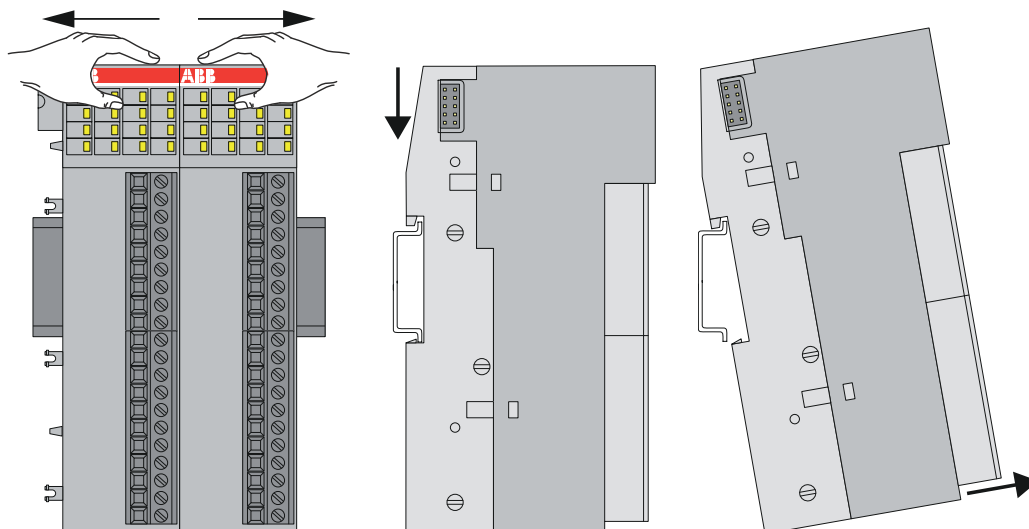
**CAUTION!**

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

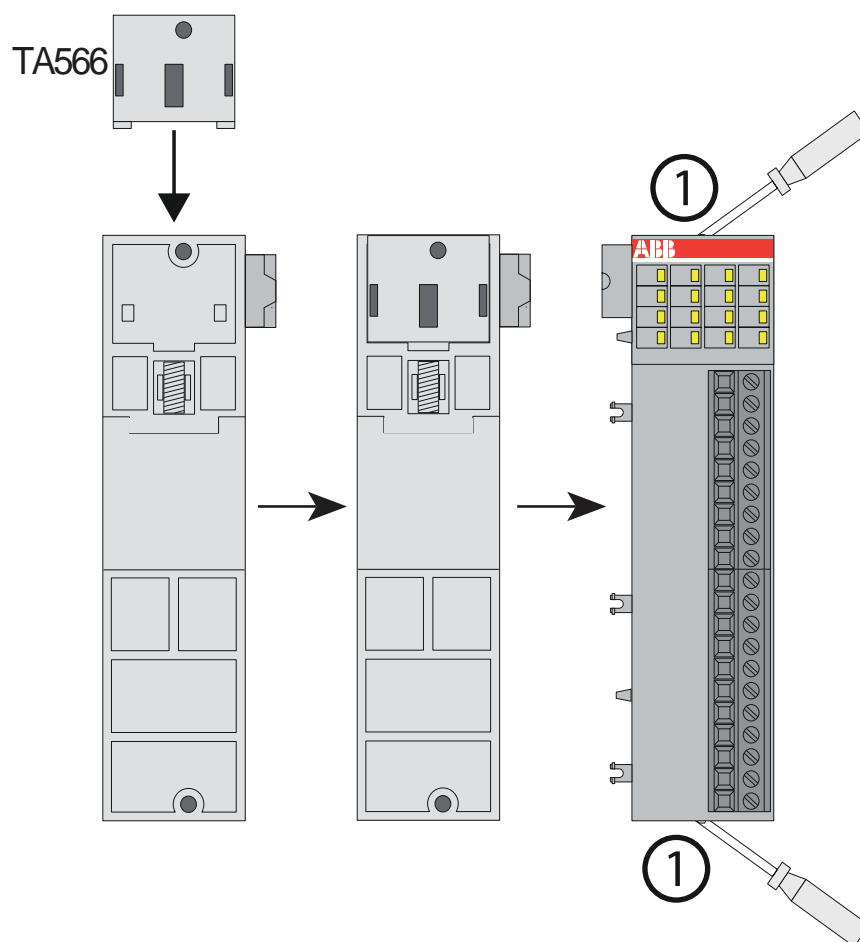
9.1 Assembly



9.2 Disassembly



9.3 Assembly with screws



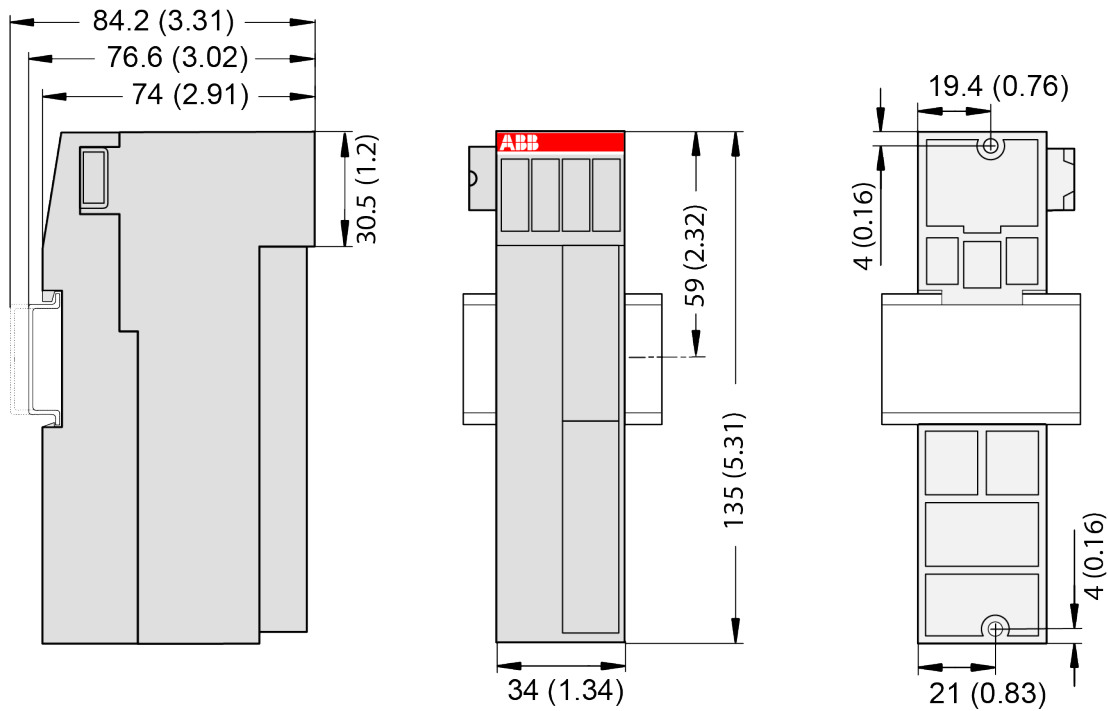
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

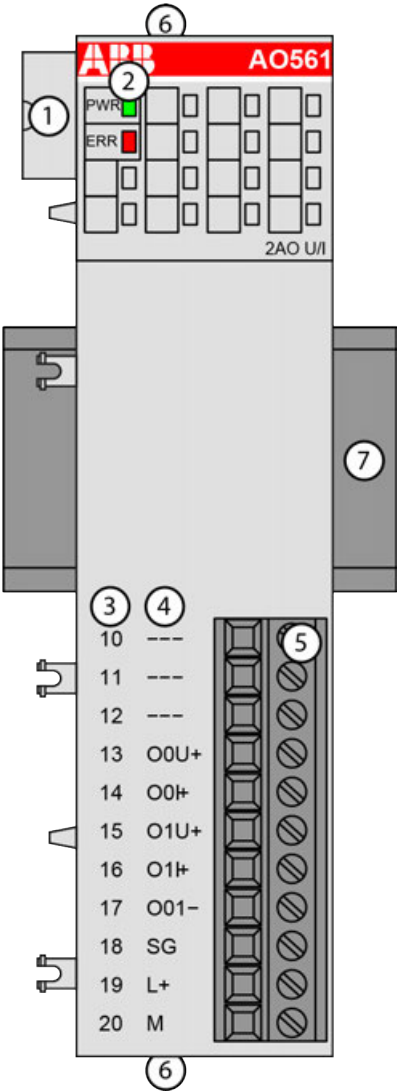
The insertion of the accessories TA566 for wall mounting is essential.

9.4 Dimensions




The dimensions are in mm and in brackets in inch.

9.5 Connections

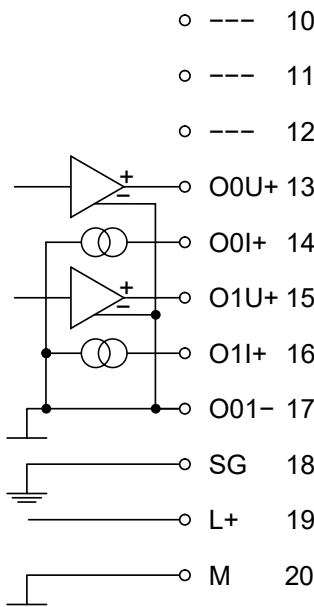


- 1 I/O bus
- 2 1 green LED to display power supply, 1 red LED to display error
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for output signals (11-pin)
- 6 2 holes for wall-mounting with screws
- 7 DIN rail

 All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

5	TA563-11	11-pin, screw, cable from front
	TA564-11	11-pin, screw, cable from side
	TA565-11	11-pin, spring, cable from front

9.5.1 Inputs/Outputs




9.6 Cleaning



Cleaning instruction
*Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.*

9.7 Certification

		MSIP-REI-Abb-AC500-eCo	
en	Note	These devices correspond to:	
ko	참고 이러한 기기는	en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
		en	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"
		ko	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함

9.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

10 AX521(-XC)

- AX521
- AX521-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.

**WARNING!****Electric shock due to negligent behavior during hot swapping!**

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.

**NOTICE!****Risk of damage to I/O modules!**

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap

**Hot swap**

System requirements for hot swapping of I/O modules:

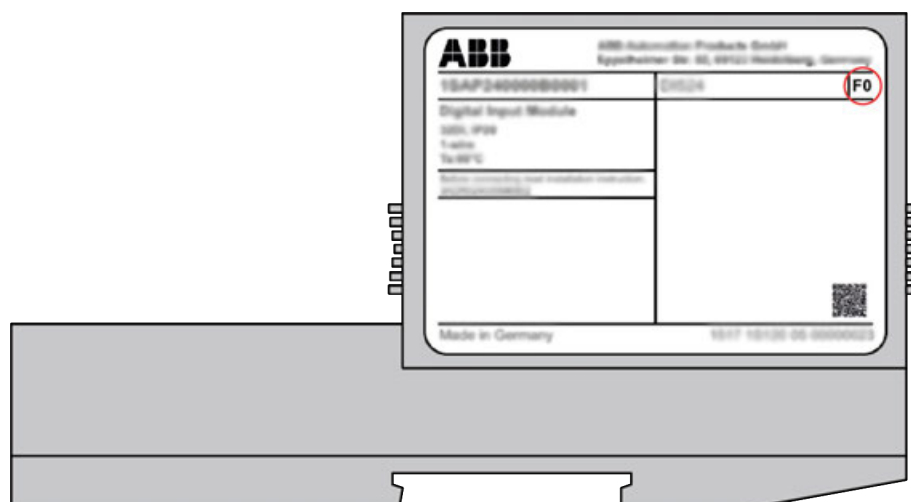
- *Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-H.*
- *I/O modules as of index F0.*

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

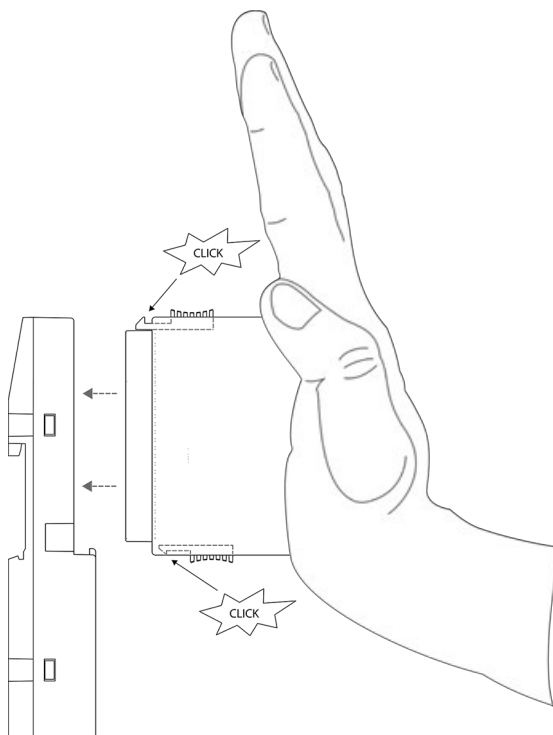
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

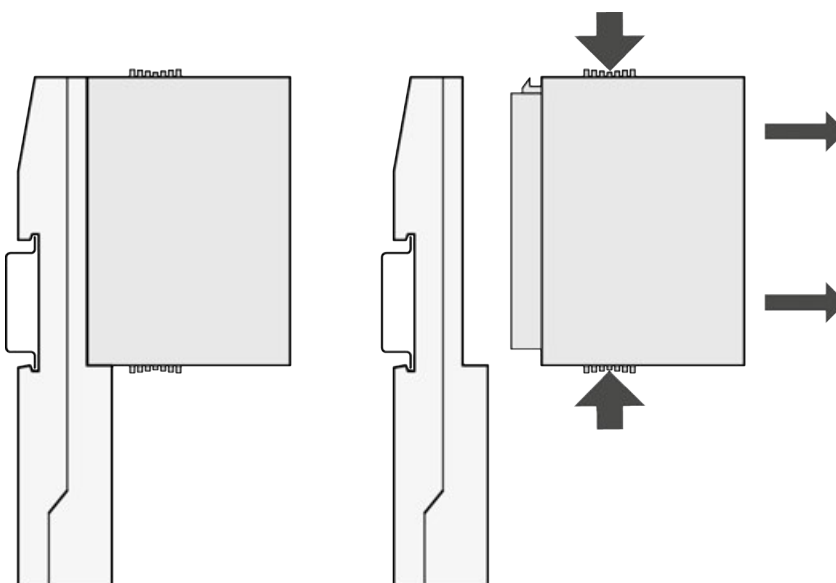
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

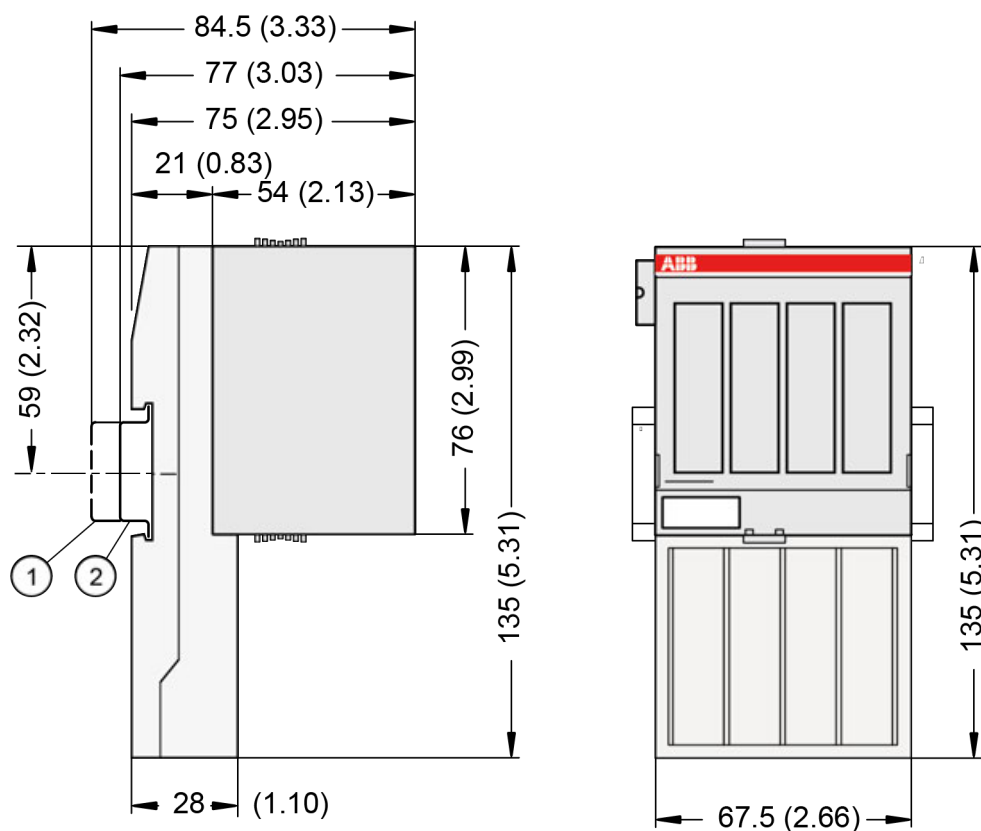
10.1 Assembly



10.2 Disassembly



10.3 Dimensions

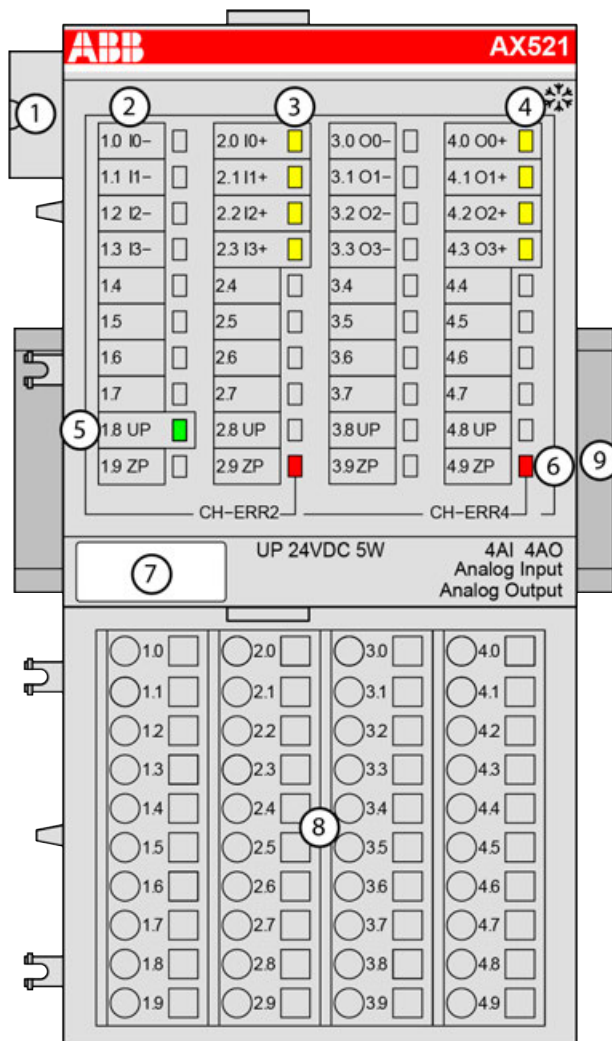


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

10.4 Connections

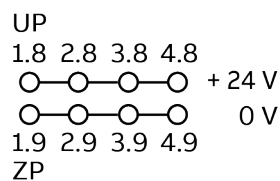


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 4 yellow LEDs to display the signal states at the analog inputs (I0 - I3)
- 4 4 yellow LEDs to display the signal states at the analog outputs (O0 - O3)
- 5 1 green LED to display the state of the process supply voltage UP
- 6 2 red LEDs to display errors
- 7 Label
- 8 Terminal unit
- 9 DIN rail
- AXC Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

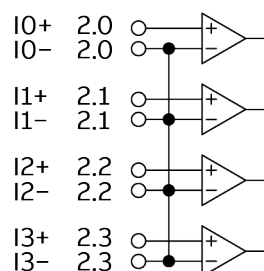
10.4.1 Process supply voltage



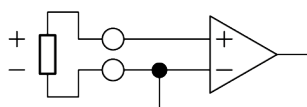
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

10.4.2 Inputs



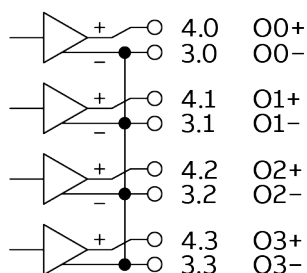
Example



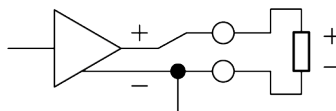
I0 ... I3
0 V ... +10 V
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA
Pt100 / Pt1000
Ni1000

Fig. 7: Example of connection input

10.4.3 Outputs



Example



O0 ... O3
$\pm 10\text{ V}$
0 mA ... +20 mA
+4 mA ... +20 mA

Fig. 8: Example of connection output

10.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

10.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

10.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

11 AX522(-XC)

- AX522
- AX522-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

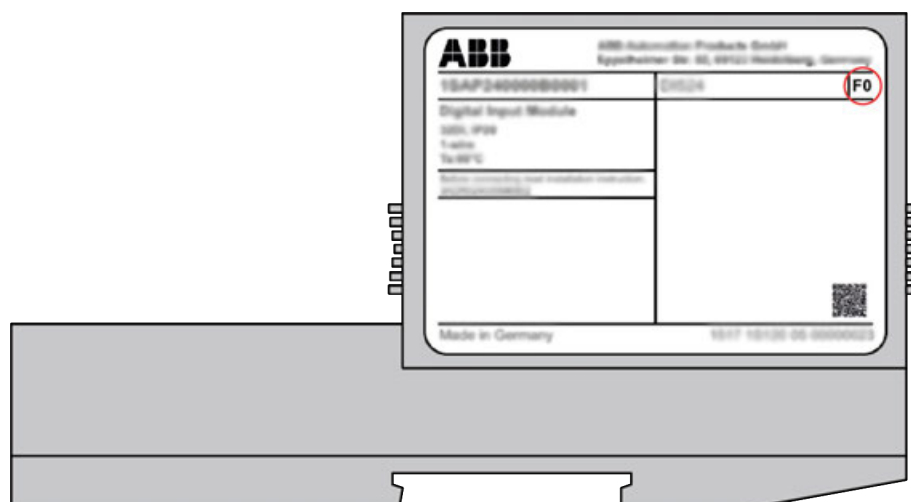
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

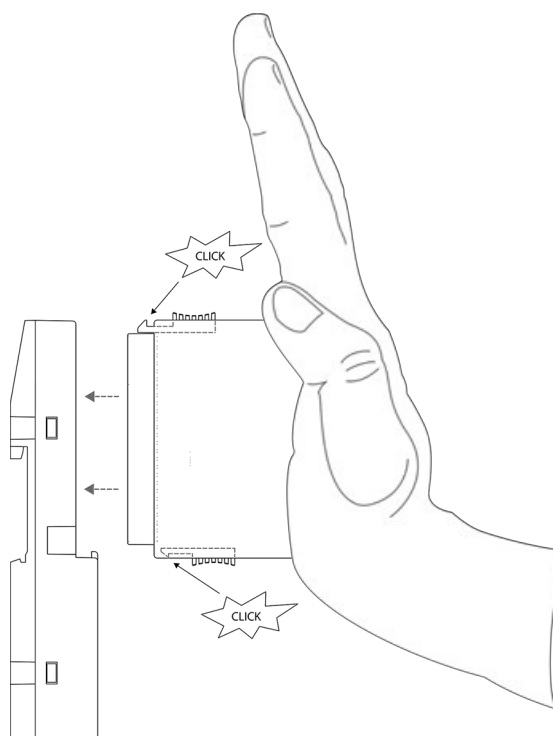
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

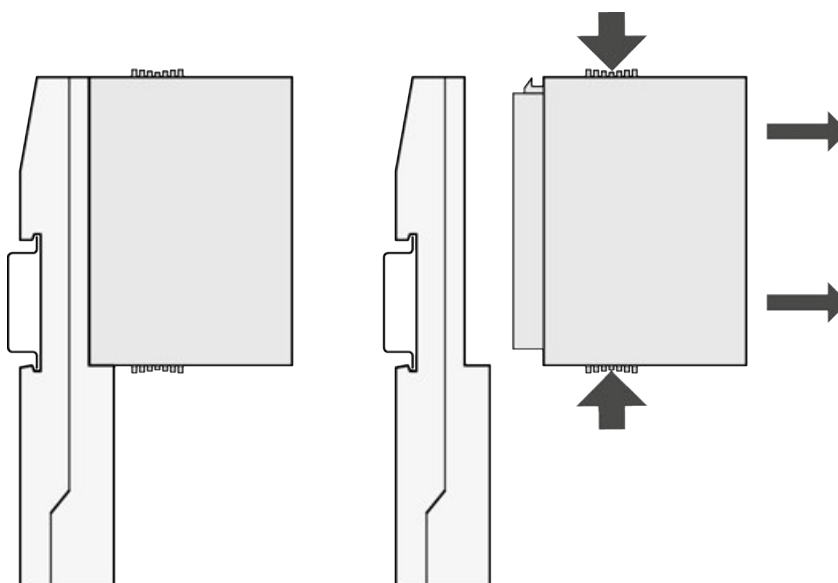
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

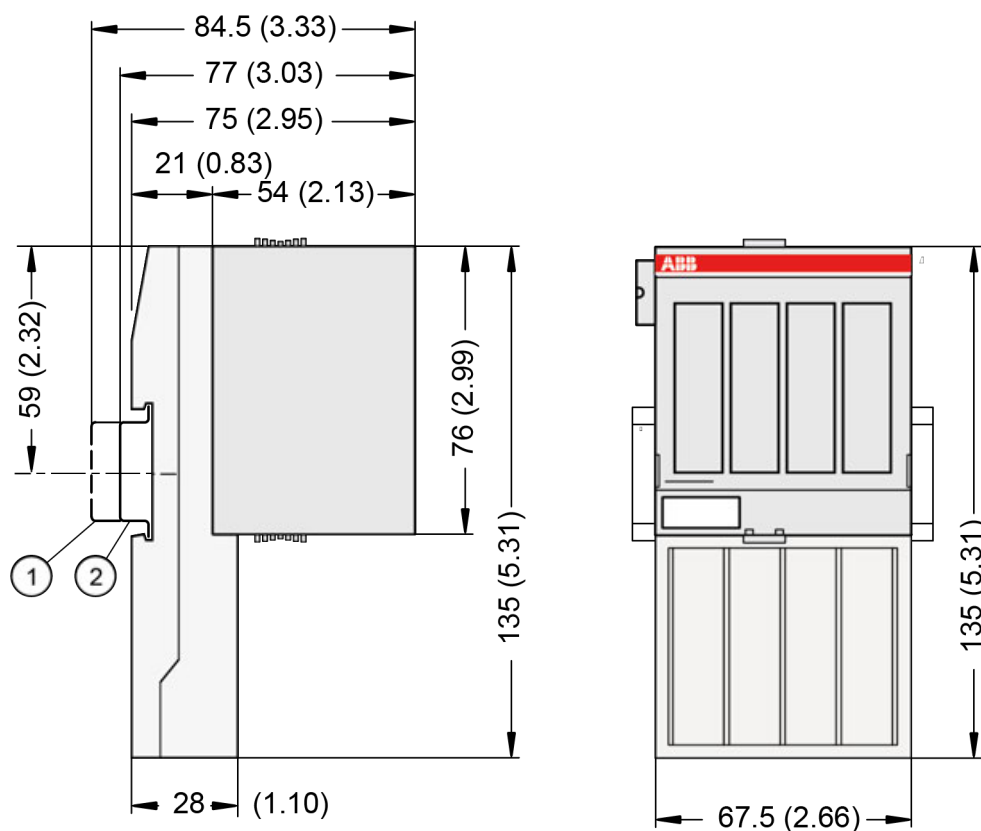
11.1 Assembly



11.2 Disassembly



11.3 Dimensions

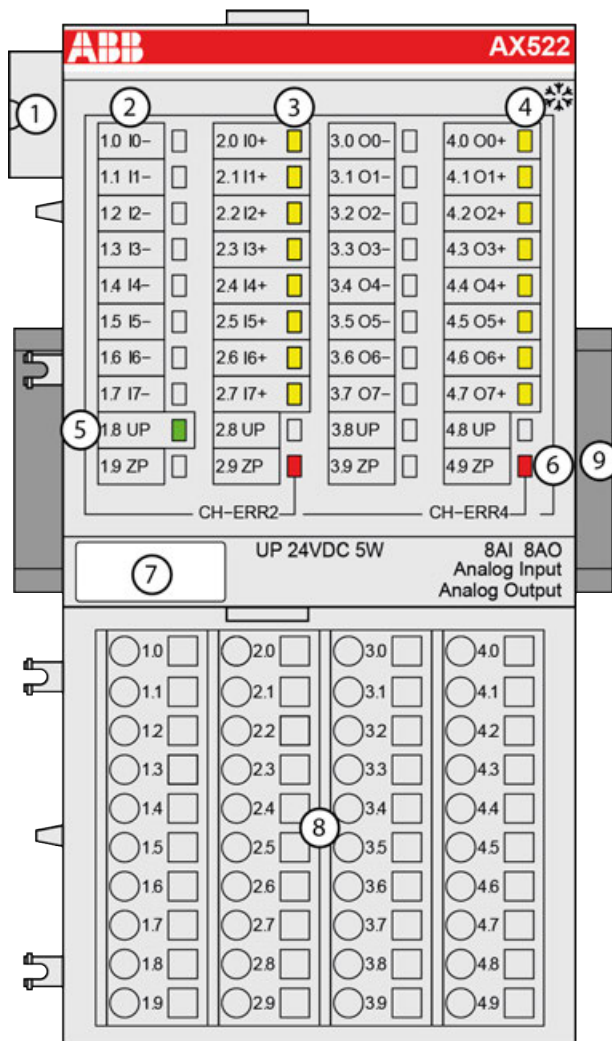


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

11.4 Connections

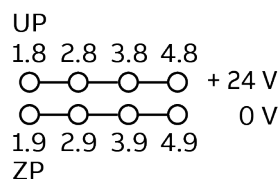


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 8 yellow LEDs to display the signal states at the analog inputs (I0 - I7)
- 4 8 yellow LEDs to display the signal states at the analog outputs (O0 - O7)
- 5 1 green LED to display the state of the process supply voltage UP
- 6 2 red LEDs to display errors
- 7 Label
- 8 Terminal unit
- 9 DIN rail
- Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

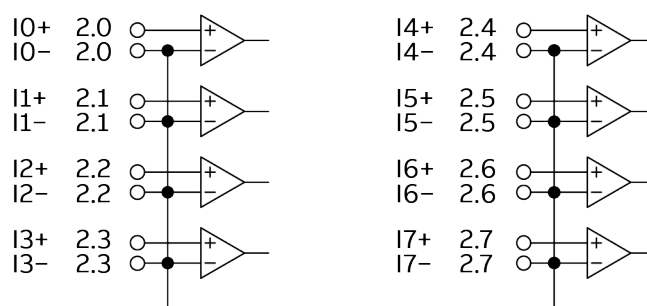
11.4.1 Process supply voltage



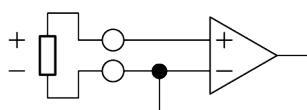
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

11.4.2 Inputs



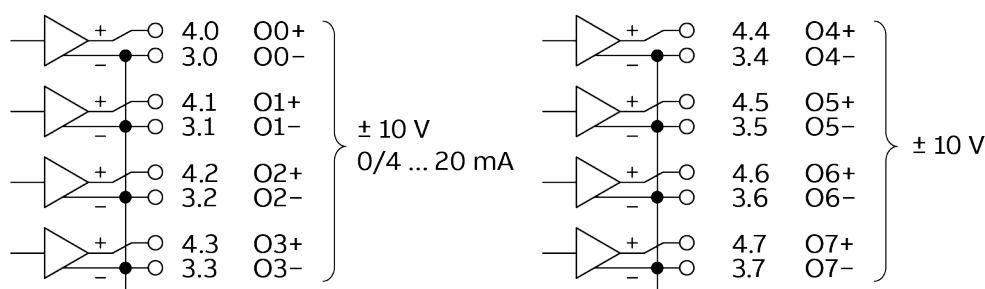
Example



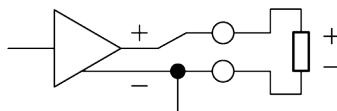
I0 ... I7
0 V ... +10 V
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA
Pt100 / Pt1000
Ni1000

Fig. 9: Example of connection input

11.4.3 Outputs



Example



O0 ... O3	O4 ... O7
$\pm 10 \text{ V}$	$\pm 10 \text{ V}$
0 mA ... +20 mA	–
+4 mA ... +20 mA	–

Fig. 10: Example of connection output

11.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

11.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

11.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

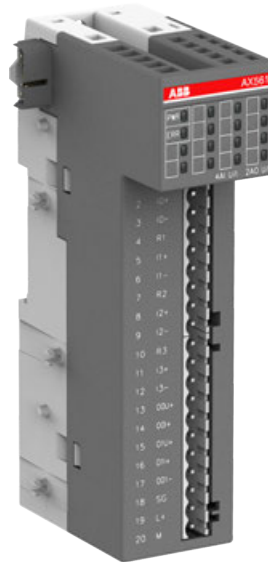
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

12 AX561

- AX561

**CAUTION!****Risk of injury and damaging the product!**

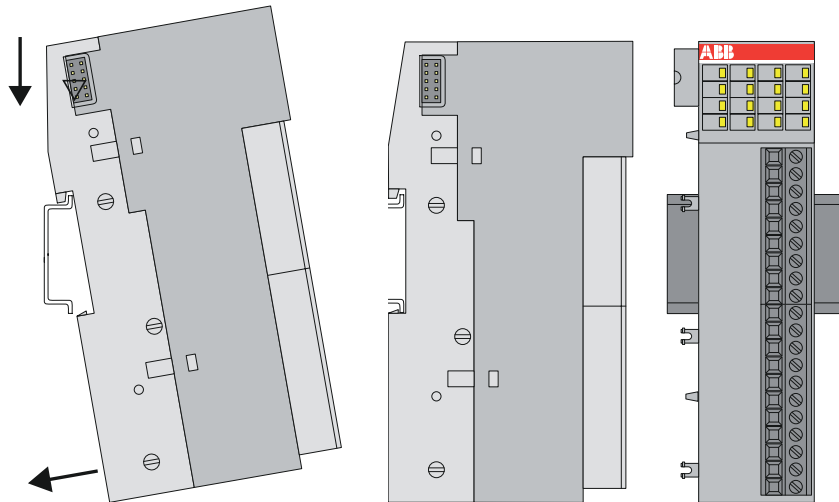
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

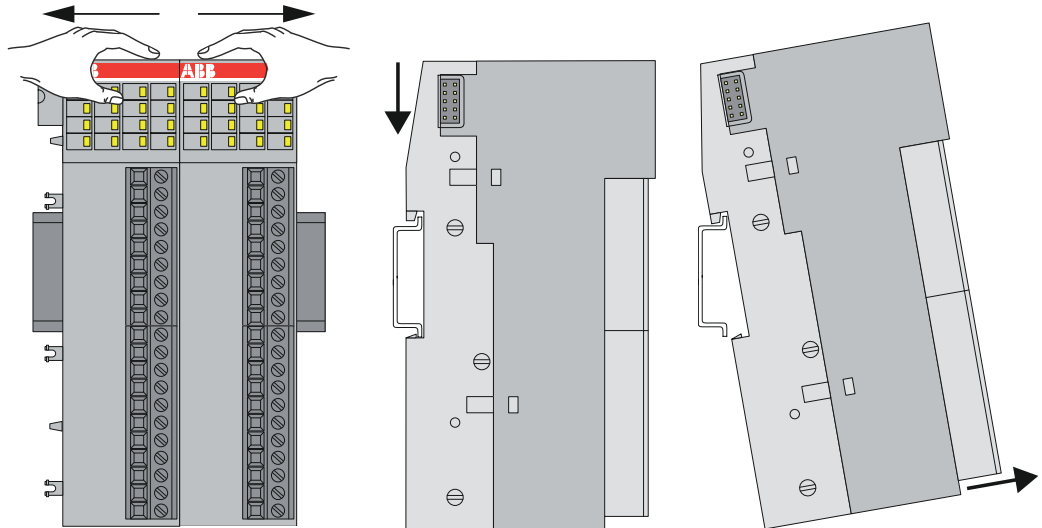
**CAUTION!**

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

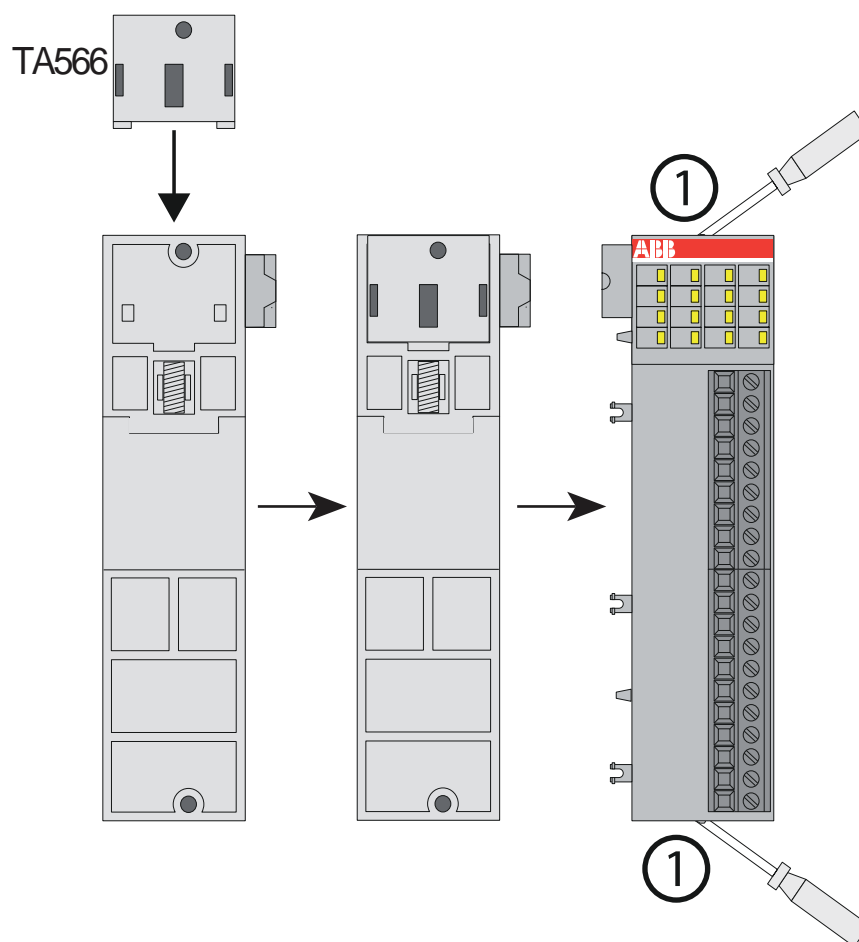
12.1 Assembly



12.2 Disassembly



12.3 Assembly with screws



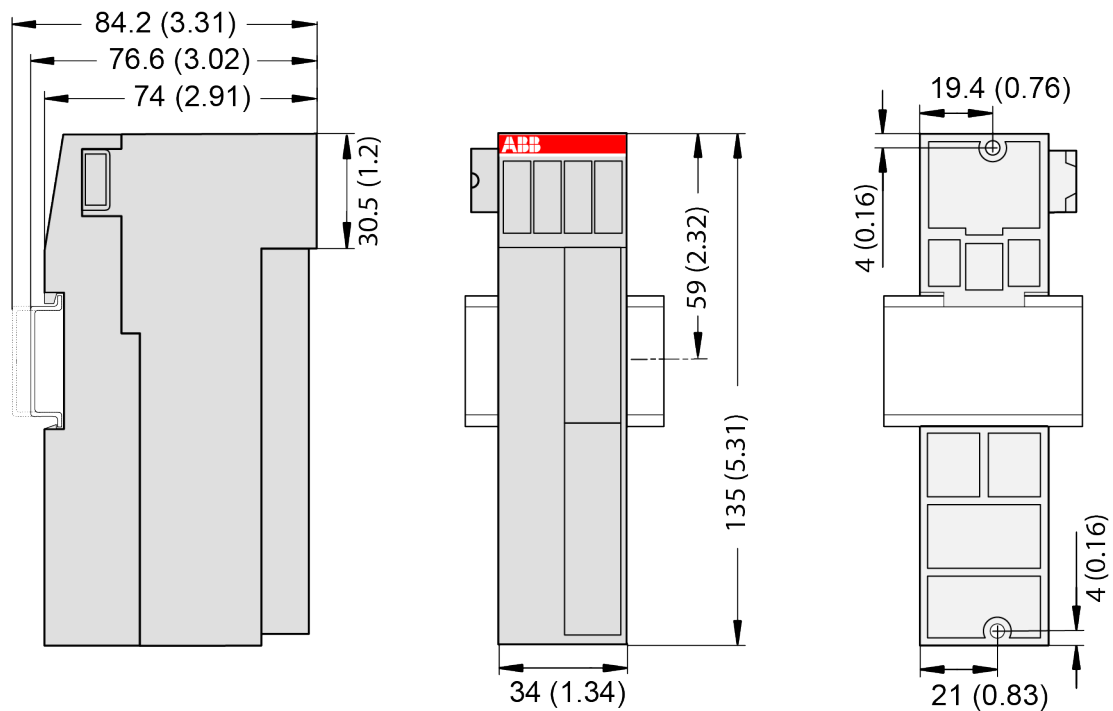
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

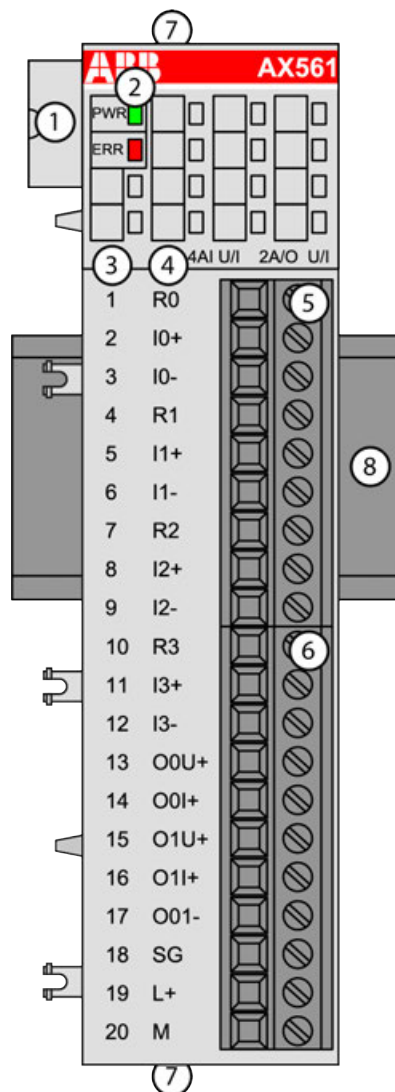
The insertion of the accessories TA566 for wall mounting is essential.

12.4 Dimensions



The dimensions are in mm and in brackets in inch.

12.5 Connections



- 1 I/O bus
- 2 1 green LED to display power supply, 1 red LED to display error
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for input signals (9-pin)
- 6 Terminal block for output signals (11-pin)
- 7 2 holes for wall-mounting with screws
- 8 DIN rail

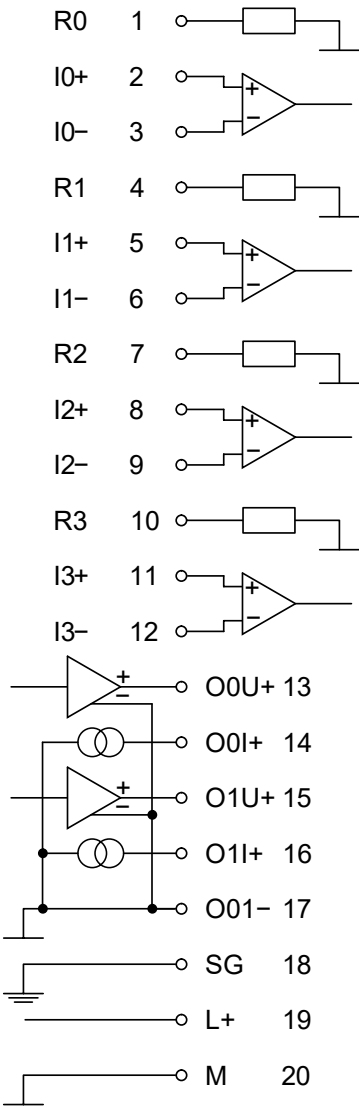


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.


5	TA563-9	9-pin, screw, cable from front
	TA564-9	9-pin, screw, cable from side
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from front

	TA564-11	11-pin, screw, cable from side
	TA565-11	11-pin, spring, cable from front

12.5.1 Inputs/Outputs




12.6 Cleaning

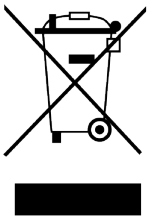


Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

12.7 Certification

 MSIP-REI-Abb-AC500-eCo		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

12.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

13 CD522(-XC)

- CD522
- CD522-XC



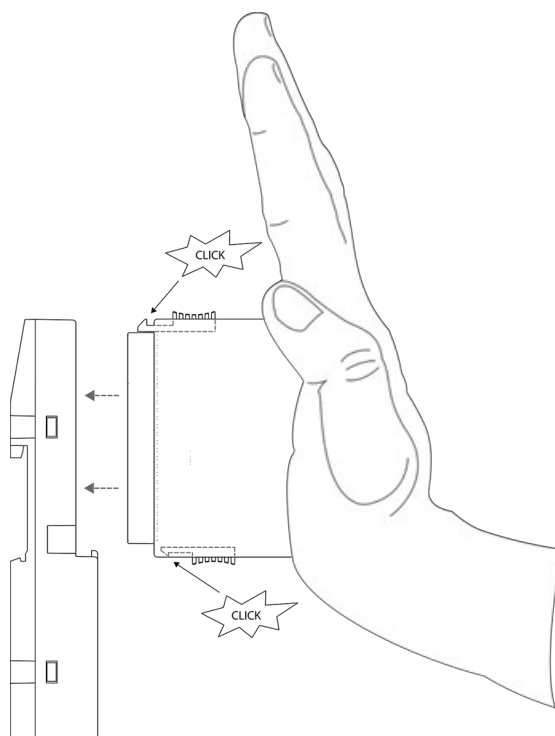
CAUTION!

Risk of injury and damaging the product!

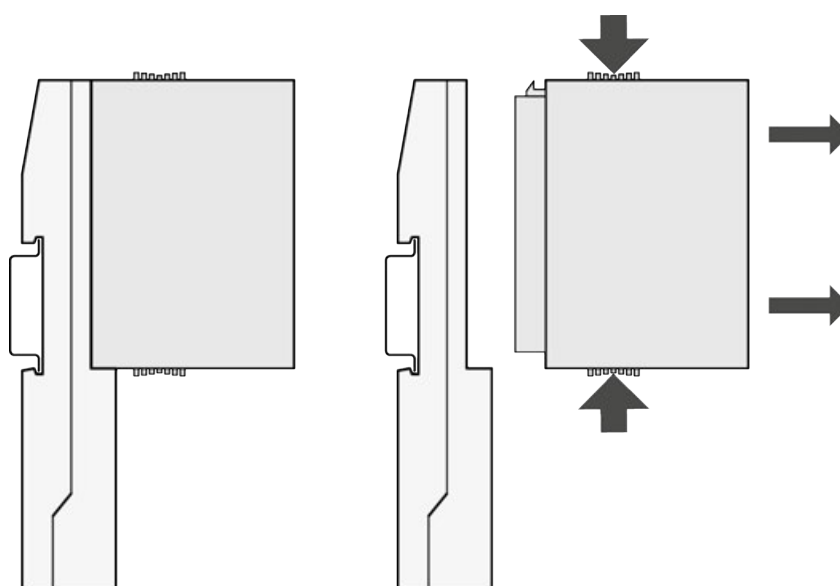
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

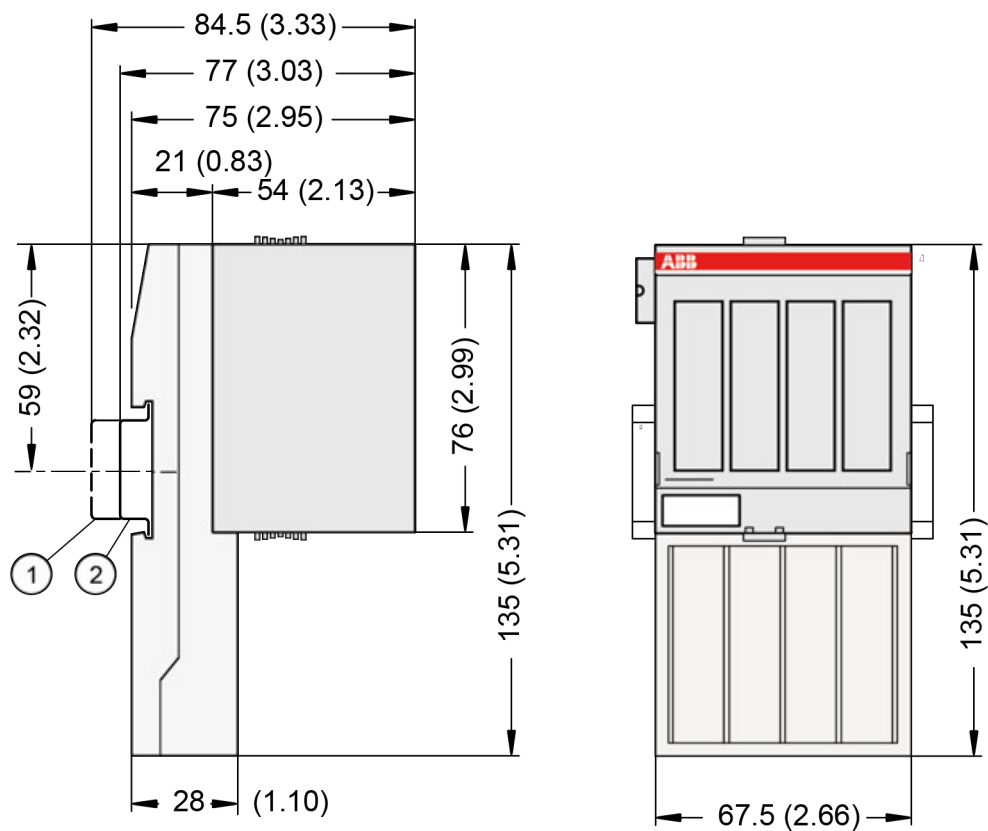
13.1 Assembly



13.2 Disassembly

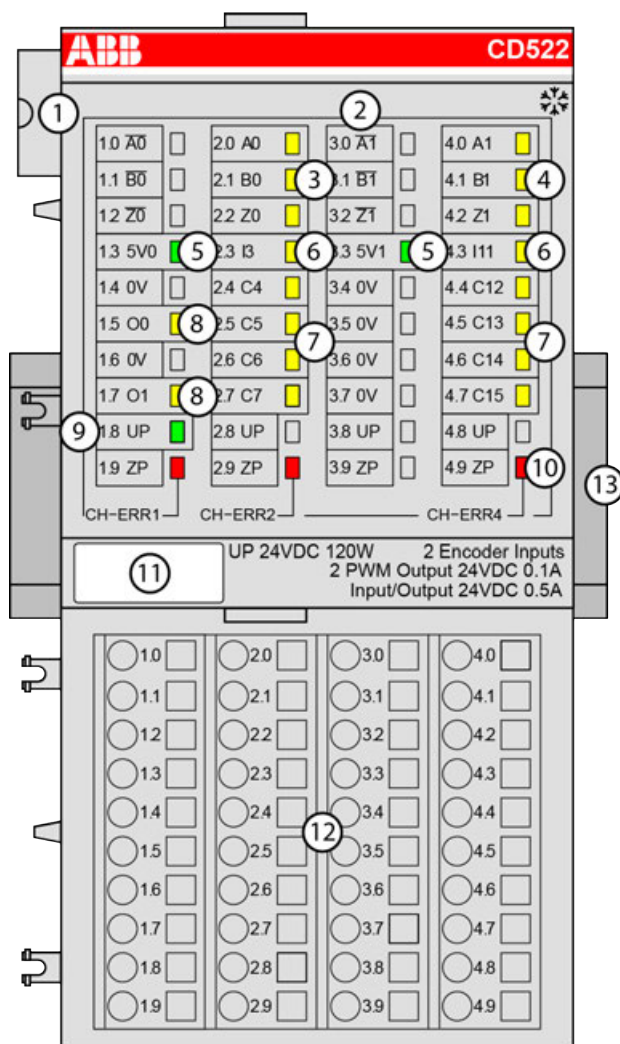


13.3 Dimensions



The dimensions are in mm and in brackets in inch.

13.4 Connections

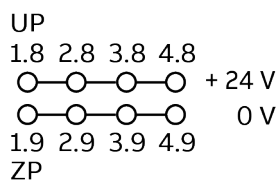


- 1 I/O bus
- 2 Allocation of terminal No. and signal name
- 3 3 yellow LEDs to display the signal states of the encoder 0 input
- 4 3 yellow LEDs to display the signal states of the encoder 1 input
- 5 2 green LEDs to display the 5-V-power-supply states
- 6 2 yellow LEDs to display the signal state of the digital input I3 and I11
- 7 8 yellow LEDs to display the input/output signal states
- 8 2 yellow LEDs to display the signal states of the PWM/pulse outputs
- 9 1 green LED to display the process voltage UP
- 10 3 red LEDs to display errors
- 11 Label
- 12 Terminal unit
- 13 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

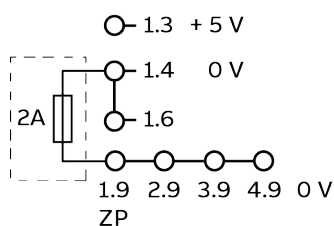
13.4.1 Process supply voltage



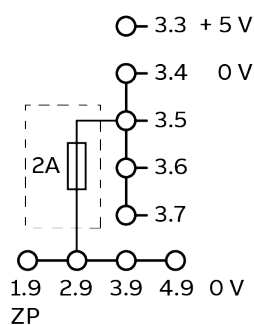
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

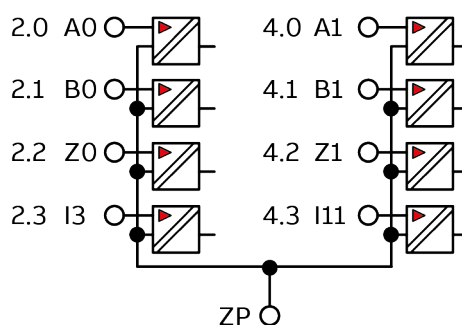
5V0



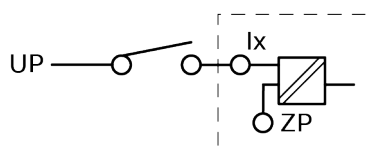
5V1



13.4.2 Inputs

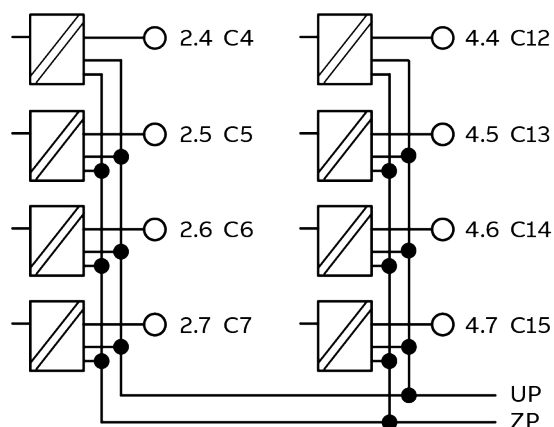


Example

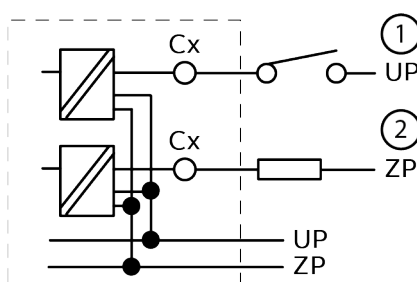


- 1 Example of connection input Ix

13.4.3 Inputs/Outputs



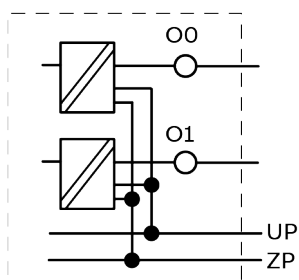
Example



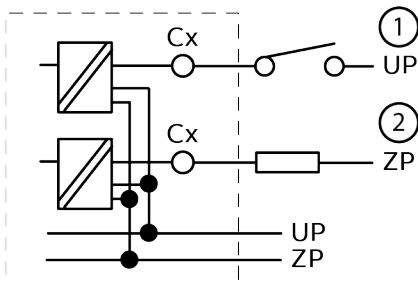
- 1 Example of connection as an input
- 2 Example of connection as an output

13.4.4 Outputs

Push-pull outputs



Example



- 1 Example of connection as output with UP reference
- 2 Example of connection as output with ZP reference



Examples of connection encoder/sensors, see description CD522.

13.5 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

13.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging
ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"
KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

13.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

14 CI501-PNIO(-XC)

- CI501-PNIO
- CI501-PNIO-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

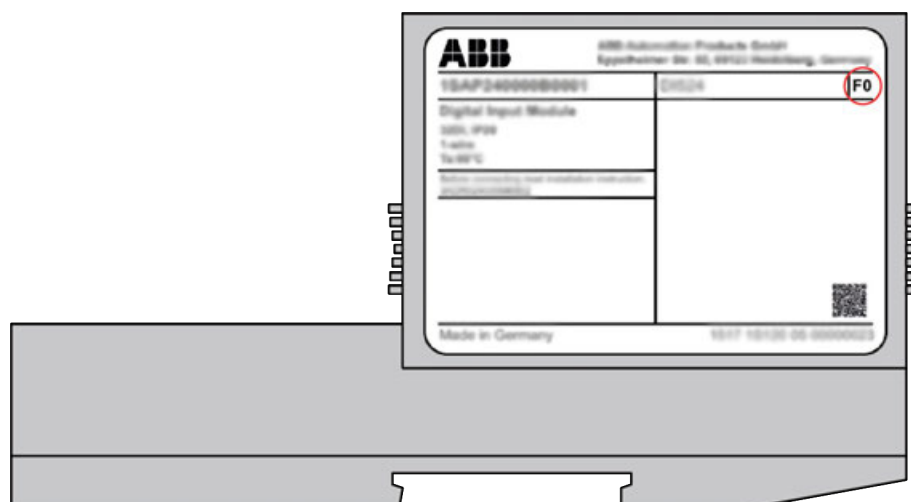
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

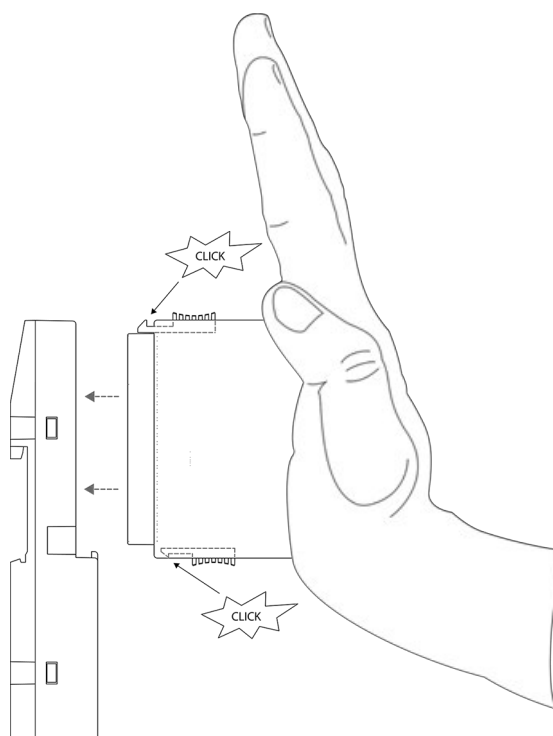
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

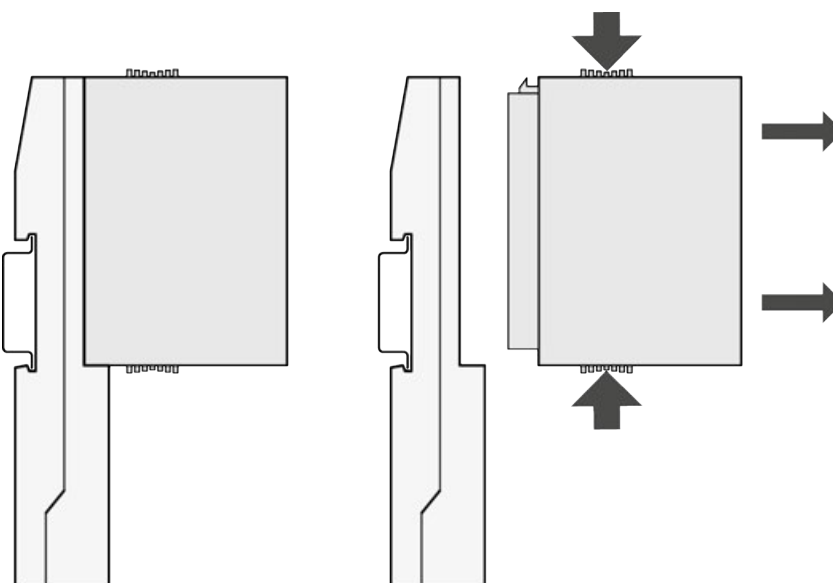
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

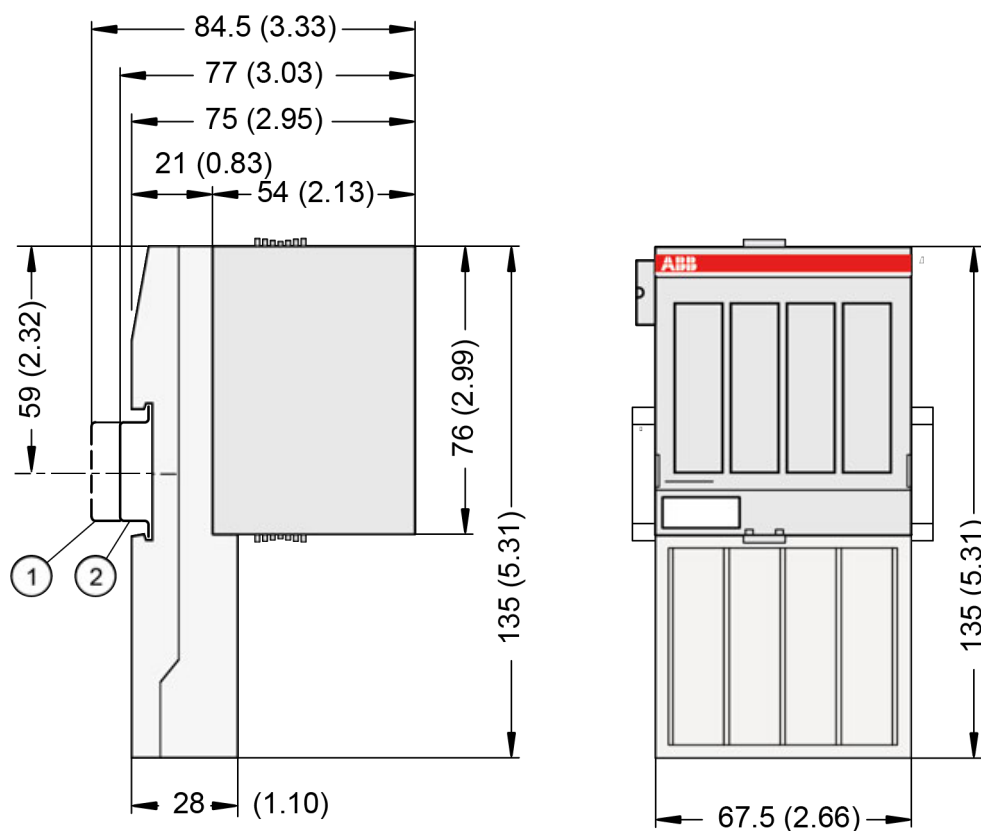
14.1 Assembly



14.2 Disassembly



14.3 Dimensions

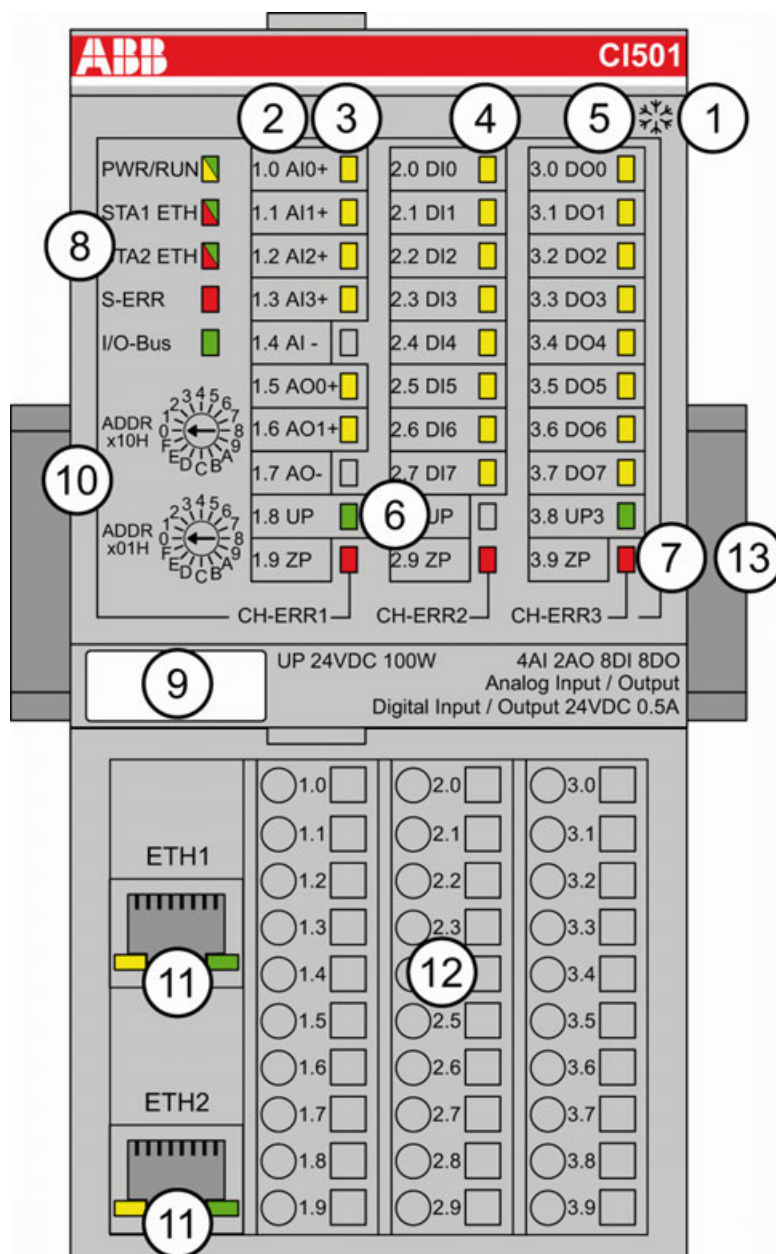


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

14.4 Connections

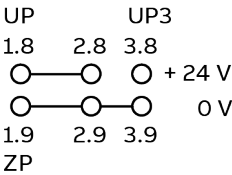


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 6 yellow LEDs to display the signal states of the analog inputs/outputs (AI0 - AI3, AO0 - AO1)
- 4 8 yellow LEDs to display the signal states of the digital inputs (DI0 - DI7)
- 5 8 yellow LEDs to display the signal states of the digital outputs (DO0 - DO7)
- 6 2 green LEDs to display the process supply voltage UP and UP3
- 7 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
- 8 5 system LEDs: PWR/RUN, STA1 ETH, STA2 ETH, S-ERR, I/O-Bus
- 9 Label
- 10 2 rotary switches for setting the I/O device identifier
- 11 Ethernet interfaces (ETH1, ETH2) on the terminal unit
- 12 Terminal unit
- 13 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

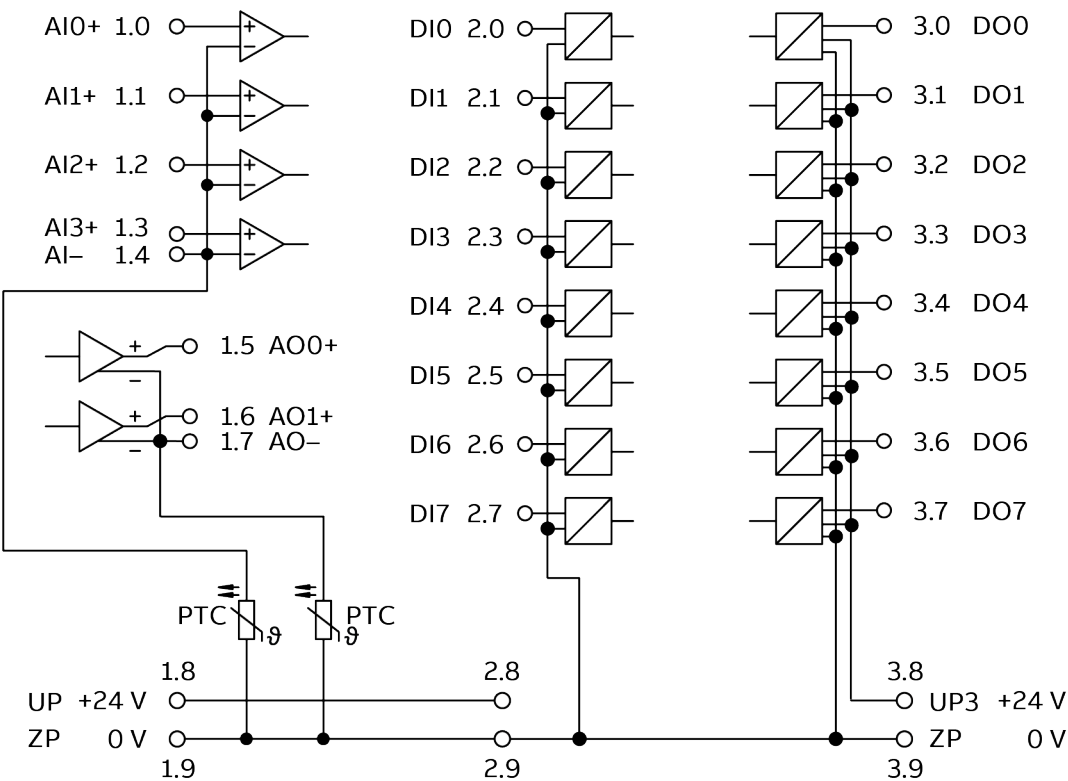
14.4.1 Process supply voltage



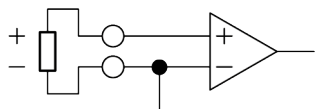
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

14.4.2 Inputs/Outputs



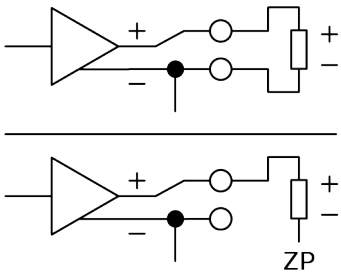
Example analog
input



AI0 ... AI3
0 V ... +10 V
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA
Pt100 / Pt1000
Ni1000

Fig. 11: Example of connection input AIx

Example analog
output



AO0 ... AO1
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA

Fig. 12: Example of connection output AOx

Example digital
input

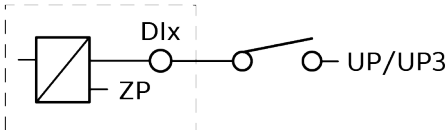


Fig. 13: Example of connection input DIx

Example digital
output

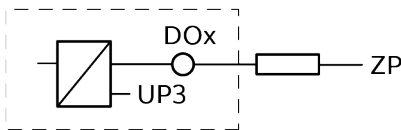


Fig. 14: Example of connection output DOx

14.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

14.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

14.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

15 CI502-PNIO(-XC)

- CI502-PNIO
- CI502-PNIO-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



NOTICE!

The section "Hot Swap" is only valid for CI502-PNIO(-XC) and CI522-MODTCP(-XC).

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.

**WARNING!****Electric shock due to negligent behavior during hot swapping!**

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.

**NOTICE!****Risk of damage to I/O modules!**

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap

**Hot swap**

System requirements for hot swapping of I/O modules:

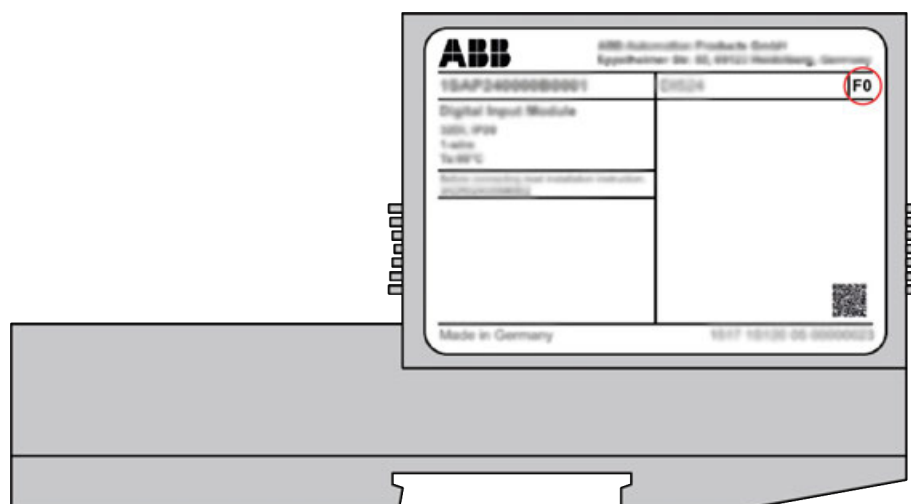
- *Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-H.*
- *I/O modules as of index F0.*

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

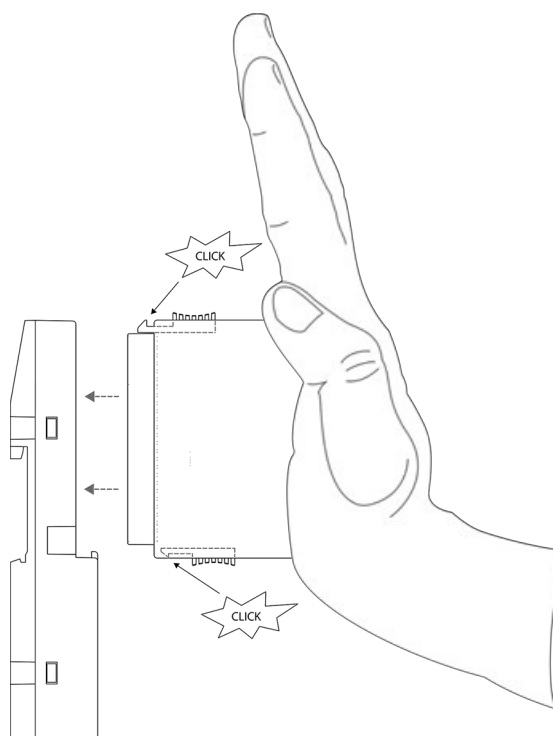
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

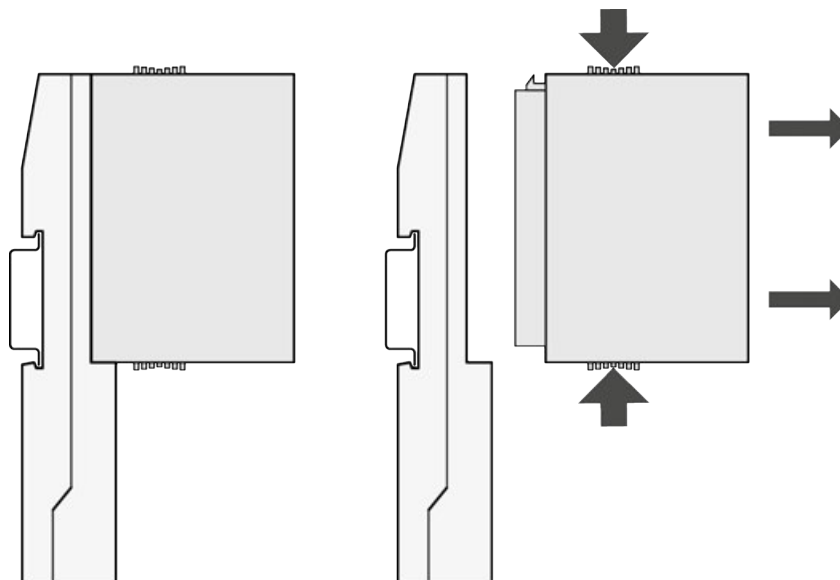
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

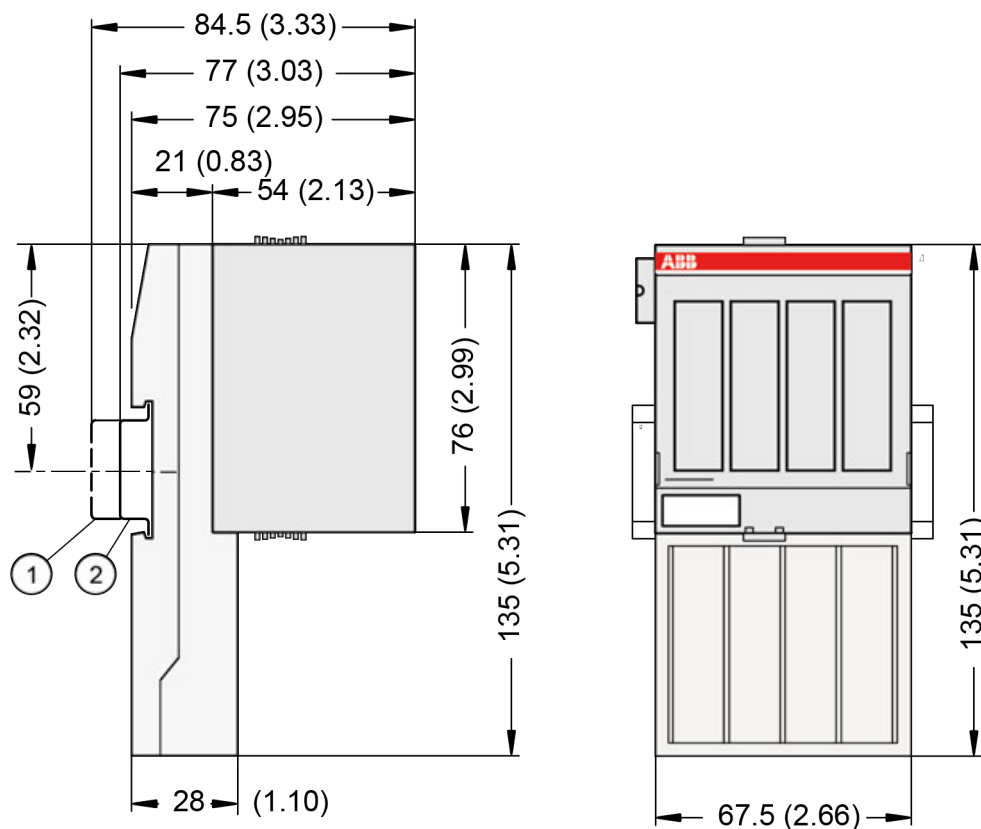
15.1 Assembly



15.2 Disassembly



15.3 Dimensions

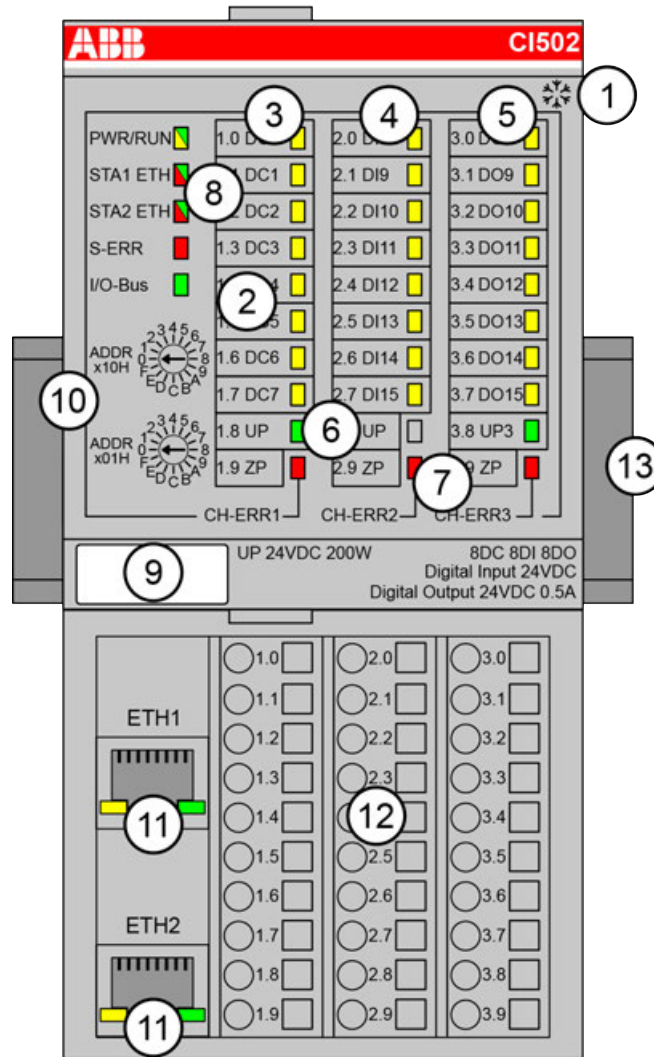


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

15.4 Connections

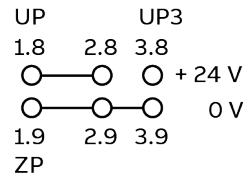


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 8 yellow LEDs to display the signal states of the digital configurable inputs/outputs (DC0 - DC7)
- 4 8 yellow LEDs to display the signal states of the digital inputs (DI8 - DI15)
- 5 8 yellow LEDs to display the signal states of the digital outputs (DO8 - DO15)
- 6 2 green LEDs to display the process supply voltage UP and UP3
- 7 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
- 8 5 system LEDs: PWR/RUN, STA1 ETH, STA2 ETH, S-ERR, I/O-Bus
- 9 Label
- 10 2 rotary switches for setting the I/O device identifier
- 11 Ethernet interfaces (ETH1, ETH2) on the terminal unit
- 12 Terminal unit
- 13 DIN rail
- ❄ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

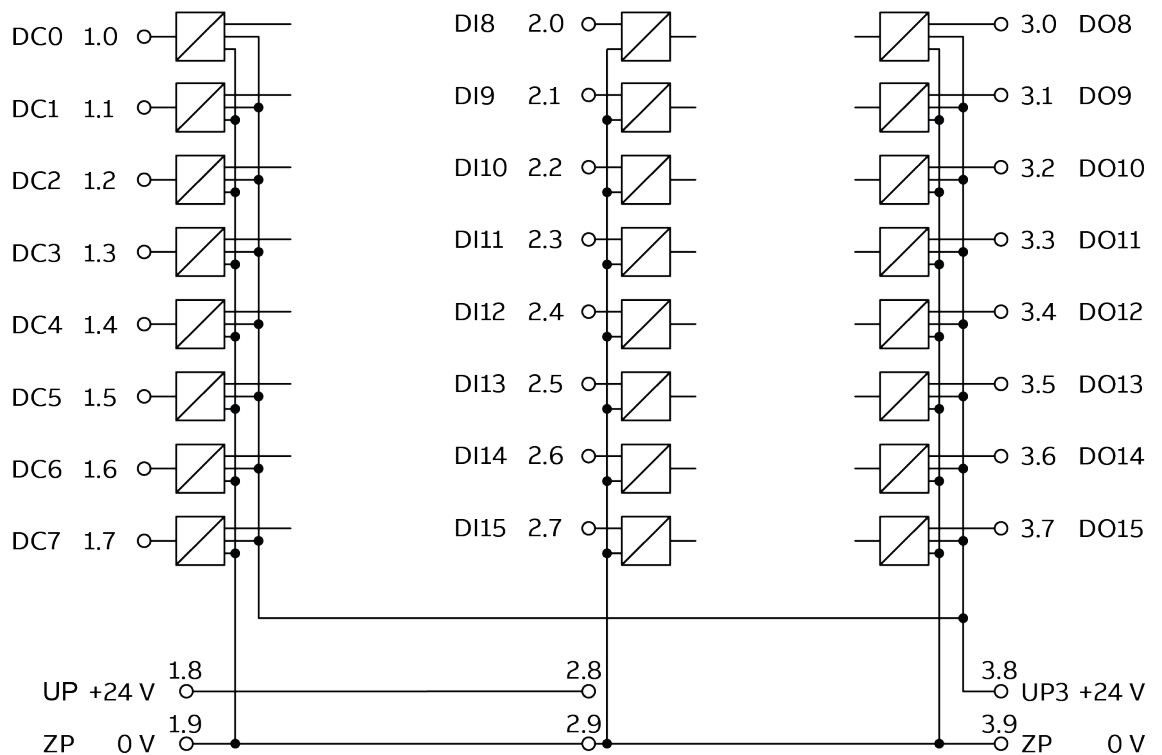
15.4.1 Process supply voltage



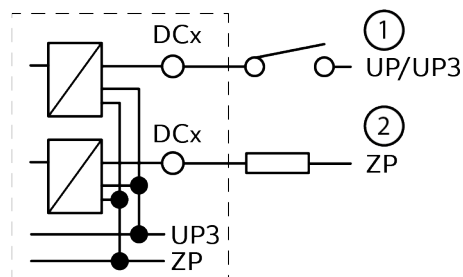
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

15.4.2 Inputs/Outputs



Example input or output



- 1 Example of connection as an input
- 2 Example of connection as an output

Example digital input

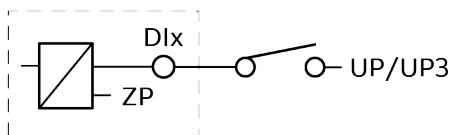


Fig. 15: Example of connection input DLx

Example digital output

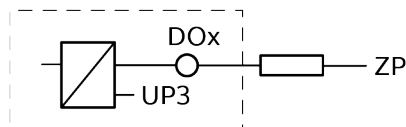


Fig. 16: Example of connection output DOx

15.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

15.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

15.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

16 CI504-PNIO(-XC)

- CI504-PNIO
- CI504-PNIO-XC



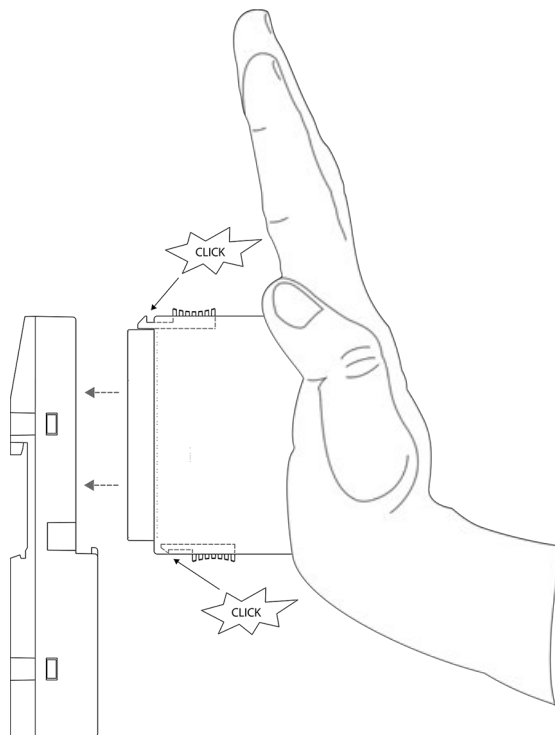
CAUTION!

Risk of injury and damaging the product!

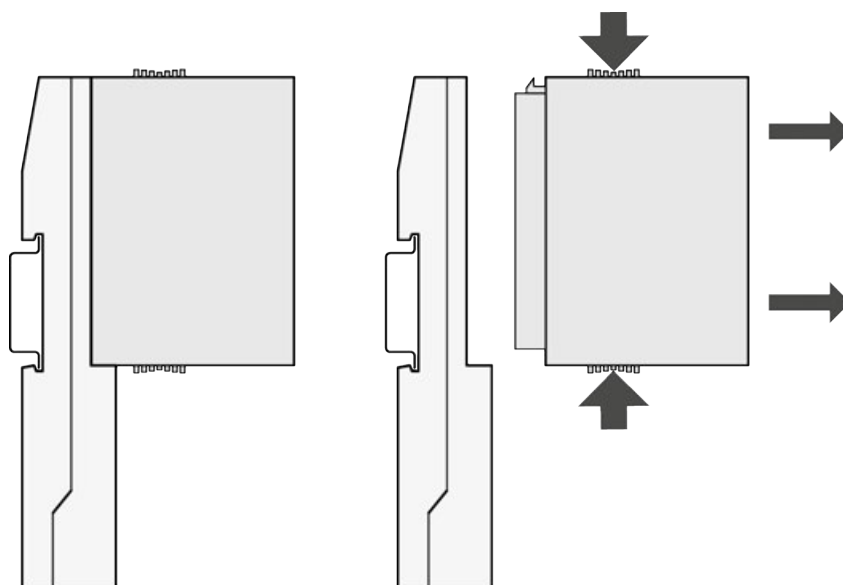
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

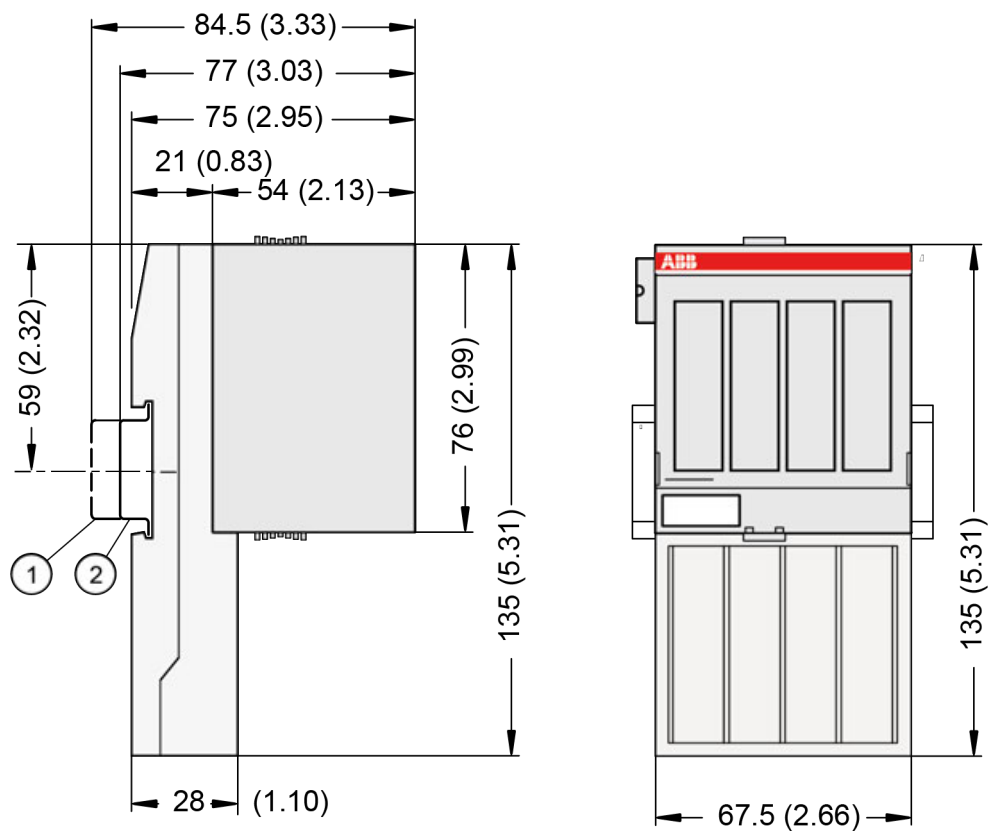
16.1 Assembly



16.2 Disassembly

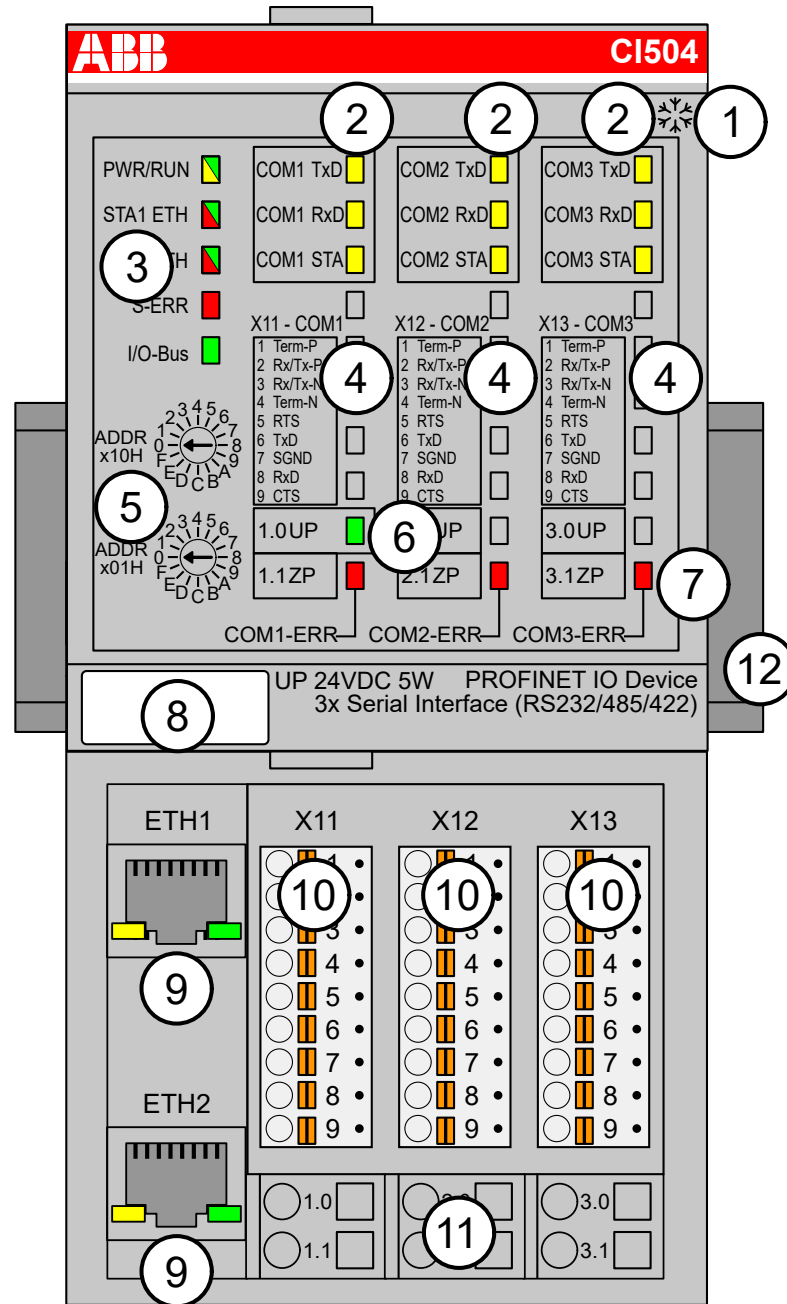


16.3 Dimensions



The dimensions are in mm and in brackets in inch.

16.4 Connections

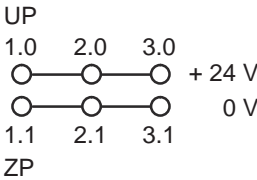


- 1 I/O bus
- 2 3 x 3 yellow LEDs to display the signal states of the serial interfaces COM1, COM2 and COM3
- 3 5 system LEDs: PWR/RUN, STA1 ETH, STA2 ETH, S-ERR, I/O-Bus
- 4 Allocation between terminal number and signal name of the serial interfaces
- 5 2 rotary switches for setting the I/O device identifier
- 6 1 green LED to display the process voltage UP
- 7 3 red LEDs to display errors (COM1-ERR, COM2-ERR, COM3-ERR) of the serial interfaces
- 8 Label
- 9 Ethernet Interfaces (ETH1, ETH2) on the terminal unit
- 10 3 removable connectors to connect the interfaces
- 11 6 spring terminals for power supply voltage (UP)
- 12 DIN rail
- ❄ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

16.4.1 Process supply voltage



CAUTION!
The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

16.4.2 Ethernet network interfaces

Pin assignment

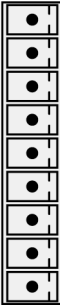
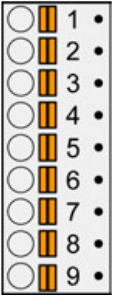
Interface	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NC	Not connected
	5	NC	Not connected
	6	RxD-	Receive data -
	7	NC	Not connected
	8	NC	Not connected
	Shield	Cable shield	Functional earth



In corrosive environment, please protect unused connectors using the TA535 accessory.
Not supplied with this device.

16.4.3 Serial interfaces COM1/COM2/COM3

Pin assignment (RS-485 / RS-232)

		Pin	Signal	Interface	Description
 Terminal block removed	 Terminal block inserted	1	Terminator P	RS-485	Terminator P
		2	RxD/TxD-P	RS-485	Receive/Transmit, positive
		3	RxD/TxD-N	RS-485	Receive/Transmit, negative
		4	Terminator N	RS-485	Terminator N
		5	RTS	RS-232	Request to send (output)
		6	TxD	RS-232	Transmit data (output)
		7	SGND	Signal Ground	Signal Ground
		8	RxD	RS-232	Receive data (input)
		9	CTS	RS-232	Clear to send (input)

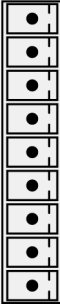
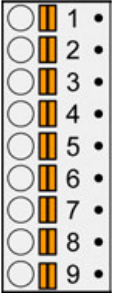


NOTICE!

Unused connector!

Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.

Pin assignment (RS-422)

		PIN	Signal	Interface	Description
 Terminal block removed	 Terminal block inserted	1	Terminator P/ RxD+	RS-422	Terminator P/ Receive, positive
		2	TxD+	RS-422	Transmit, positive
		3	TxD-	RS-422	Transmit, negative
		4	Terminator N/ RxD-	RS-422	Terminator N/ Receive, negative
		5			
		6			
		7	SGND	RS-422	Signal Ground
		8			
		9			



NOTICE!

Resistors are connected inside the module

The line-terminating resistors are connected inside the module. Additional resistors are not necessary

16.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

16.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

16.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

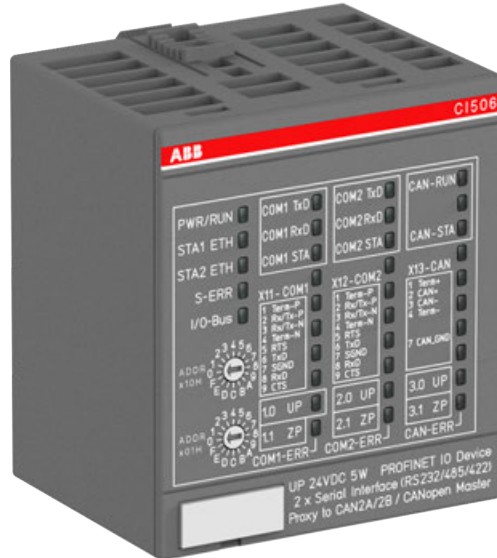
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

17 CI506-PNIO(-XC)

- CI506-PNIO
- CI506-PNIO-XC



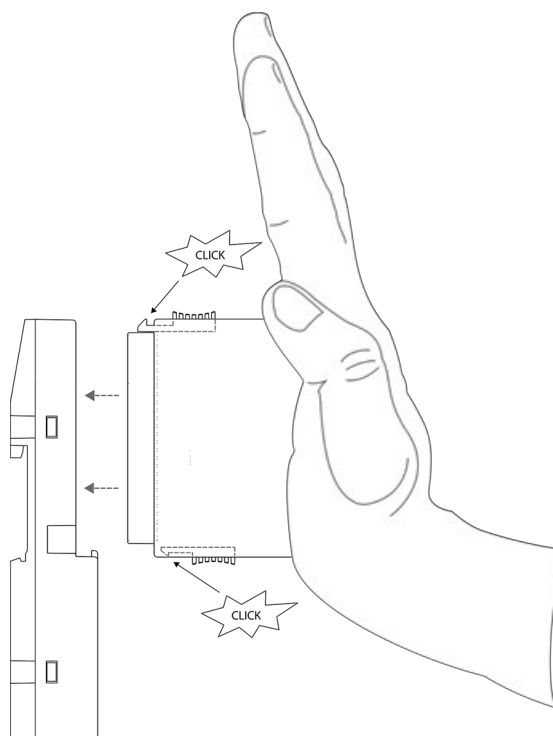
CAUTION!

Risk of injury and damaging the product!

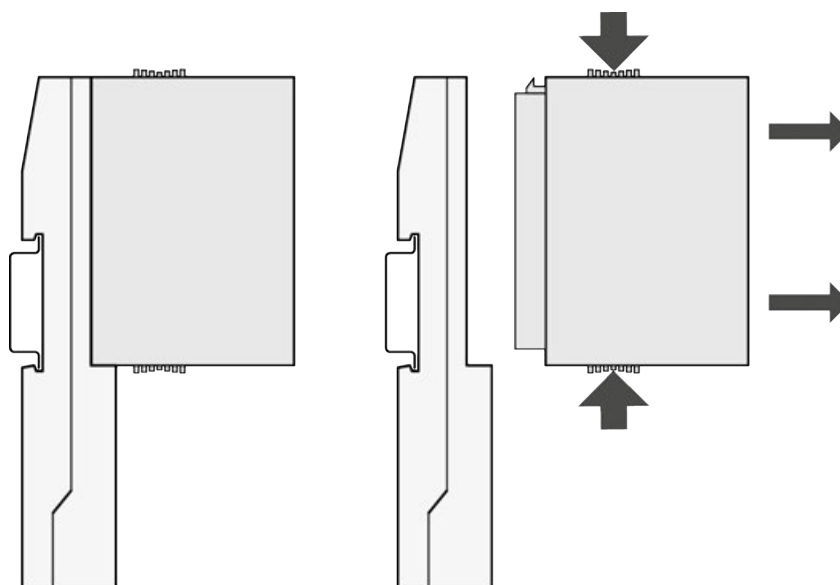
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

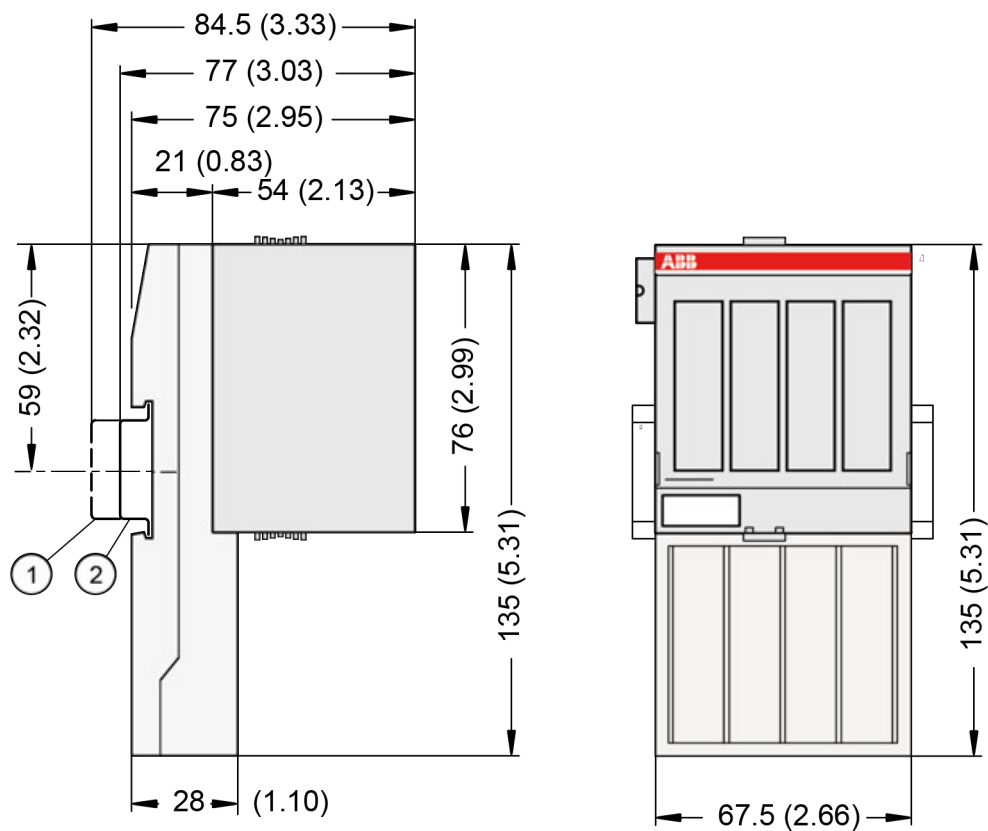
17.1 Assembly



17.2 Disassembly



17.3 Dimensions

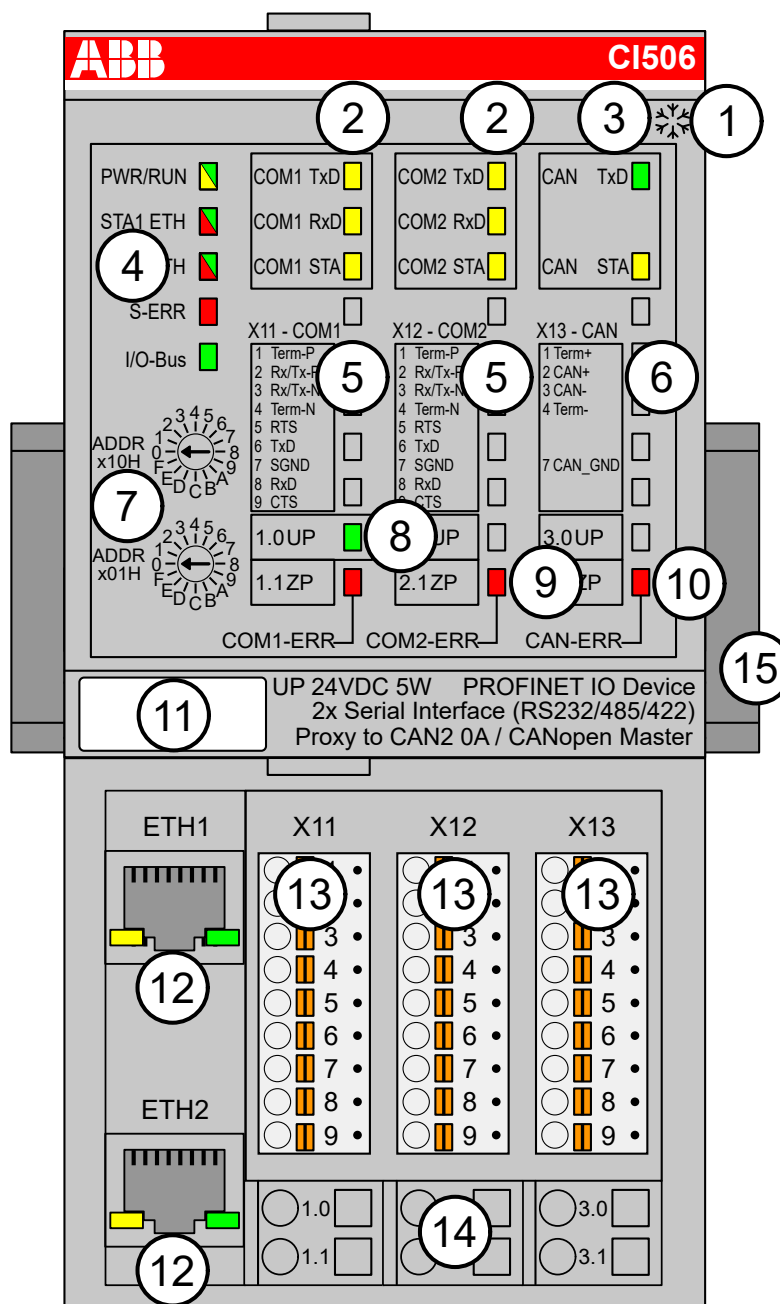


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

17.4 Connections

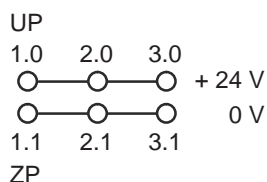


- 1 I/O bus
 - 2 2 x 3 yellow LEDs to display the signal states of the serial interfaces COM1 and COM2
 - 3 1 green and 1 yellow LEDs to display the signal states of the CANopen interface
 - 4 5 system LEDs: PWR/RUN, STA1 ETH, STA2 ETH, S-ERR, I/O-Bus
 - 5 Allocation between terminal number and signal name of the serial interfaces
 - 6 Allocation between terminal number and signal name of the CANopen interface
 - 7 2 rotary switches for setting the I/O device identifier
 - 8 1 green LED to display the process voltage UP
 - 9 2 red LEDs to display errors (COM1-ERR, COM2-ERR) of the serial interfaces
 - 10 1 red LED to display errors (CAN-ERR) of the CANopen interface
 - 11 Label
 - 12 Ethernet Interfaces (ETH1, ETH2) on the terminal unit
 - 13 3 removable connectors to connect the subordinated interfaces
 - 14 6 spring terminals for power supply voltage (UP)
 - 15 DIN rail
- ❄ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

17.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

17.4.2 Serial interface COM1/COM2

Pin assignment
(RS-485 /
RS-232)

		Pin	Signal	Interface	Description
<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">COM1</div> <div style="margin: 0 10px;"> </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">COM1</div> <div style="margin: 0 10px;"> </div> </div>	<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Terminal block removed</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Terminal block inserted</div> </div>	1	Terminator P	RS-485	Terminator P
		2	RxD/TxD-P	RS-485	Receive/Transmit, positive
		3	RxD/TxD-N	RS-485	Receive/Transmit, negative
		4	Terminator N	RS-485	Terminator N
		5	RTS	RS-232	Request to send (output)
		6	TxD	RS-232	Transmit data (output)
		7	SGND	Signal Ground	Signal Ground
		8	RxD	RS-232	Receive data (input)
		9	CTS	RS-232	Clear to send (input)

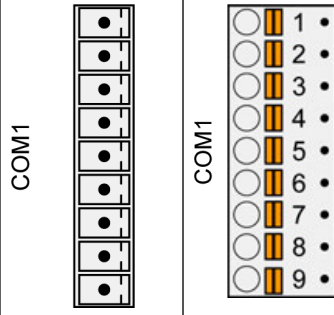


NOTICE!

Unused connector!

Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.

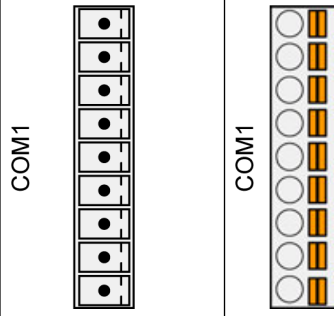
**Pin assignment
(RS-422)**

		PIN	Signal	Interface	Description
 Terminal block removed	COM1	1	Terminator P/ RxD+	RS-422	Terminator P/ Receive, positive
		2	TxD+	RS-422	Transmit, positive
		3	TxD-	RS-422	Transmit, negative
		4	Terminator N/ RxD-	RS-422	Terminator N/ Receive, negative
		5			
		6			
		7	SGND	RS-422	Signal Ground
		8			
		9			

**NOTICE!****Resistors are connected inside the module**

The line-terminating resistors are connected inside the module. Additional resistors are not necessary

17.4.3 CANopen interface**Pin assignment**

		PIN	Signal	Description
 Terminal block removed	COM1	1	Term +	Terminator, positive
		2	CAN +	CAN, positive
		3	CAN -	CAN, negative
		4	Term -	Terminator, negative
		5		
		6		
		7	CAN GND	CAN Ground
		8		
		9		

**NOTICE!****Unused connector!**


Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.

17.5 Cleaning**Cleaning instruction**

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

17.6 Certification

		MSIP-REI-Abb-AC500	
en		Devices with KCC sign on product sticker and packaging	
ko		제품 스티커 및 포장에 KCC 표시가 된 기기	
en	Note		
	These devices correspond to:	KN61000-6-2 "Immunity for industrial environments",	
		KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성",	
		KN61000-6-4 "산업 환경 누출 기준"에 적합함	

17.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

18 CI511-ETHCAT

- CI511-ETHCAT



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



NOTICE!

The section "Hot Swap" is only valid for CI501-PNIO(-XC) and CI521-MODTCP(-XC).

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.

**WARNING!****Electric shock due to negligent behavior during hot swapping!**

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.

**NOTICE!****Risk of damage to I/O modules!**

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap

**Hot swap**

System requirements for hot swapping of I/O modules:

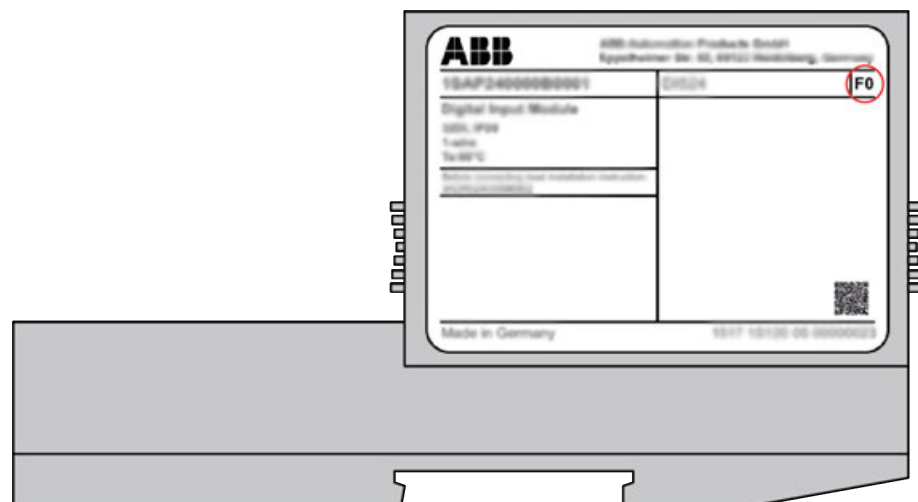
- *Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-H.*
- *I/O modules as of index F0.*

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

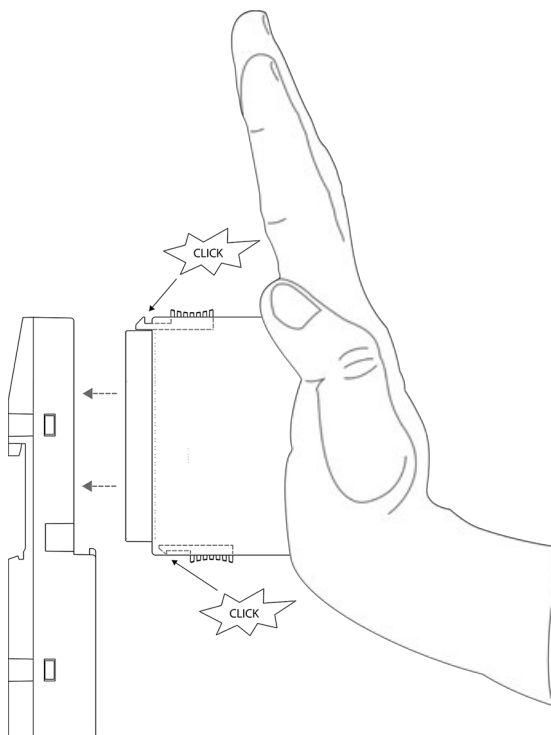
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

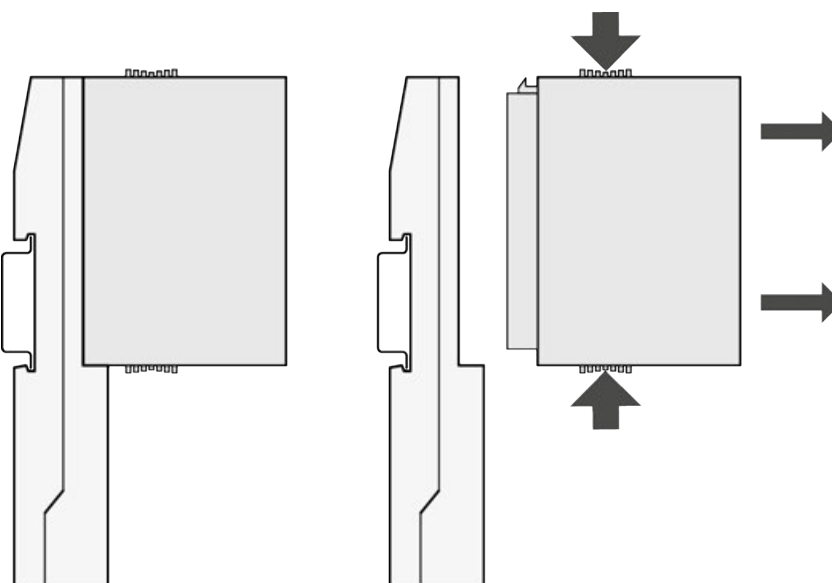
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

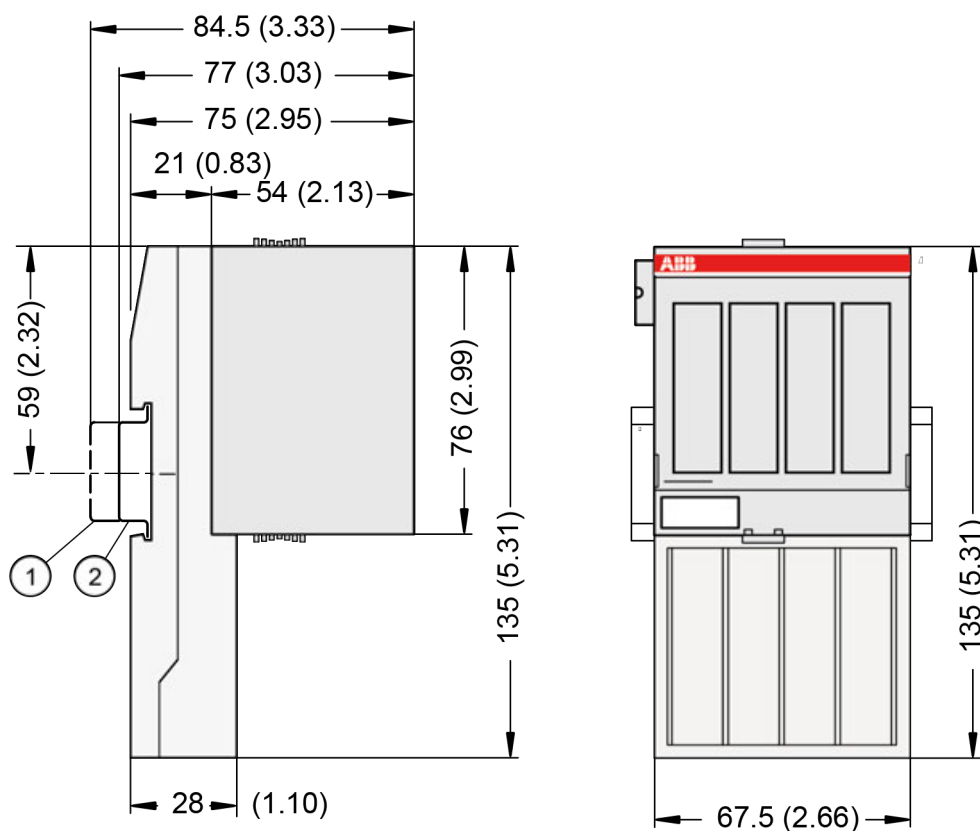
18.1 Assembly



18.2 Disassembly



18.3 Dimensions

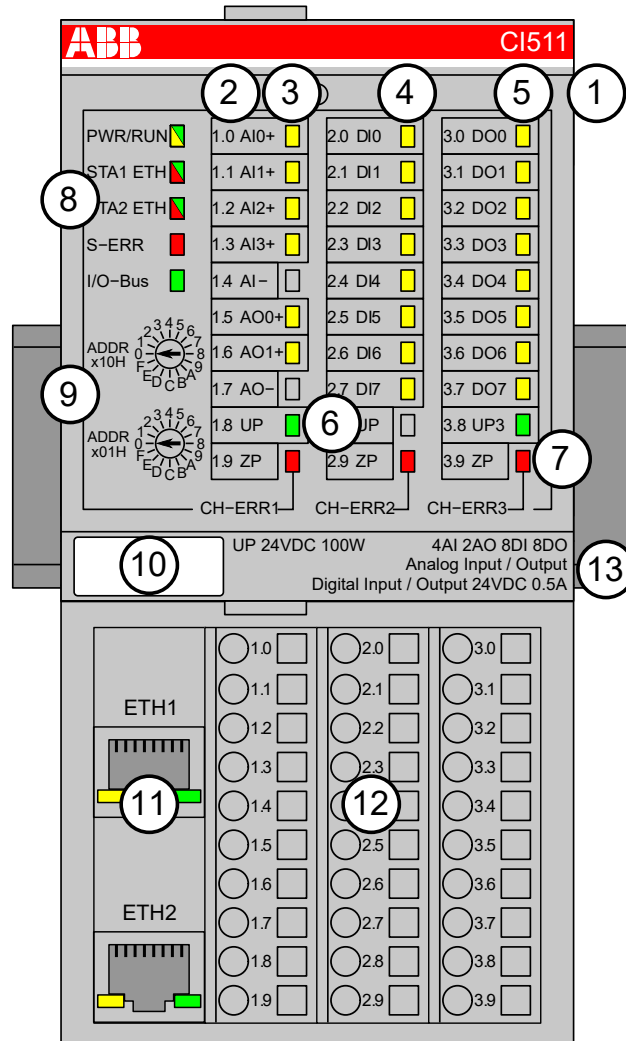


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

18.4 Connections

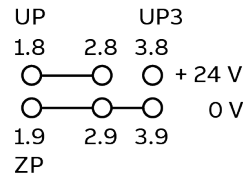


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 6 yellow LEDs to display the signal states of the analog inputs/outputs (AI0 - AI3, AO0 - AO1)
- 4 8 yellow LEDs to display the signal states of the digital inputs (DI0 - DI7)
- 5 8 yellow LEDs to display the signal states of the digital outputs (DO0 - DO7)
- 6 2 green LEDs to display the supply voltage UP and UP3
- 7 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
- 8 5 system LEDs: PWR/RUN, NET, DC, S-ERR, I/O-Bus
- 9 2 rotary switches (reserved for future extensions)
- 10 Label
- 11 Ethernet interfaces (ETH1, ETH2) on the terminal unit
- 12 Terminal unit
- 13 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

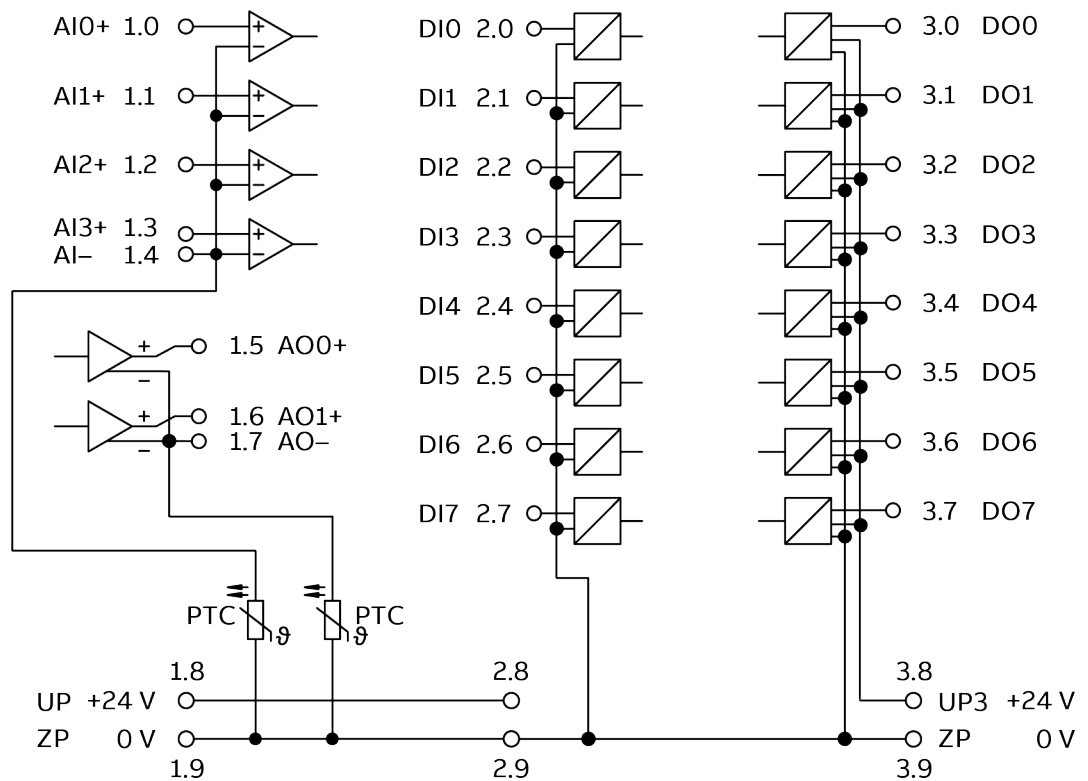
18.4.1 Process supply voltage



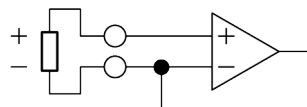
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

18.4.2 Inputs/Outputs



Example analog input



AI0 ... AI3
0 V ... +10 V
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA
Pt100 / Pt1000
Ni1000

Fig. 17: Example of connection input AIx

Example analog
output

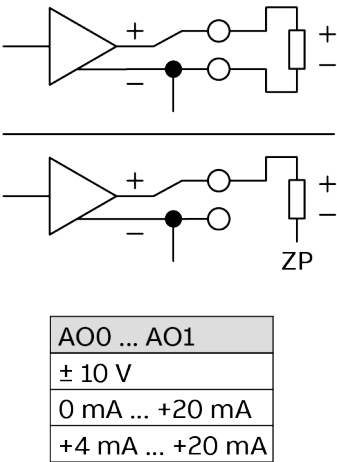


Fig. 18: Example of connection output AOx

Example digital
input

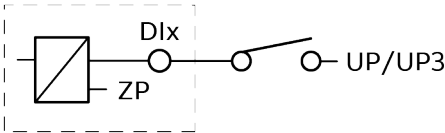


Fig. 19: Example of connection input DIx

Example digital
output

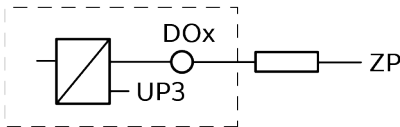


Fig. 20: Example of connection output DOx

18.5 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

18.6 Certification



MSIP-REI-Abb-AC500

en **Note**
 These devices correspond to:

ko 참고
 이러한 기기는

en **Devices with KCC sign on product sticker and packaging**

ko 제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

18.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

19 CI512-ETHCAT

- CI512-ETHCAT



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.

Risk of damage to I/O modules!

Processor modules and communication interface modules must not be removed or inserted during operation.



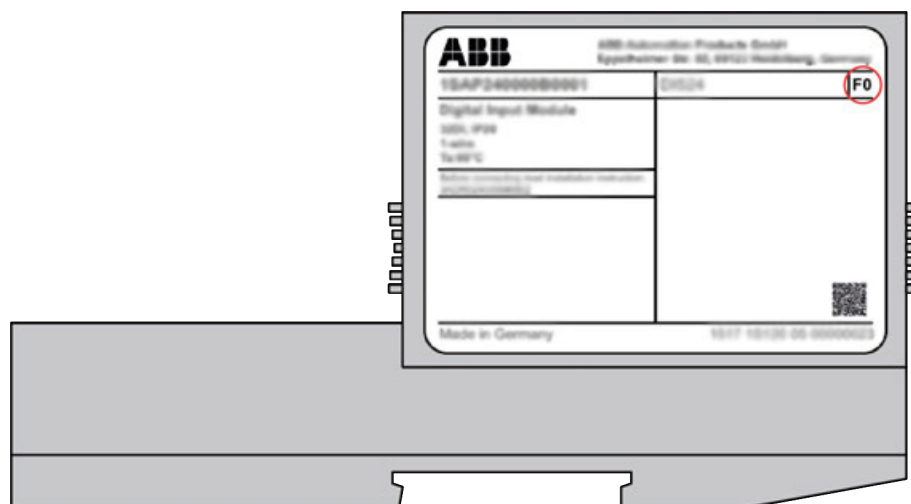
System requirements for hot swapping of I/O modules:

- The following I/O bus masters support hot swapping of attached I/O modules:*

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!



The index of the module is in the right corner of the label.



Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

**NOTICE!****Risk of damage to I/O modules!**

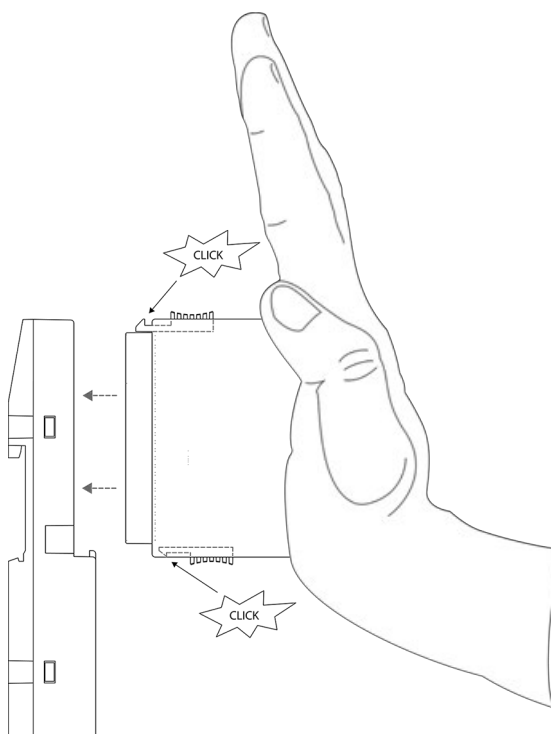
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

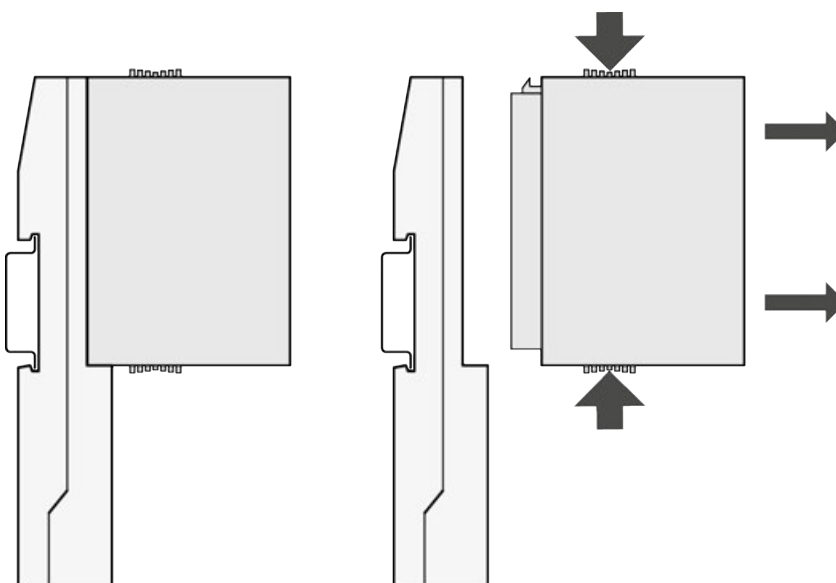
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1

Device	Min. required device index for I/O module as of FW Version 3.0.14
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

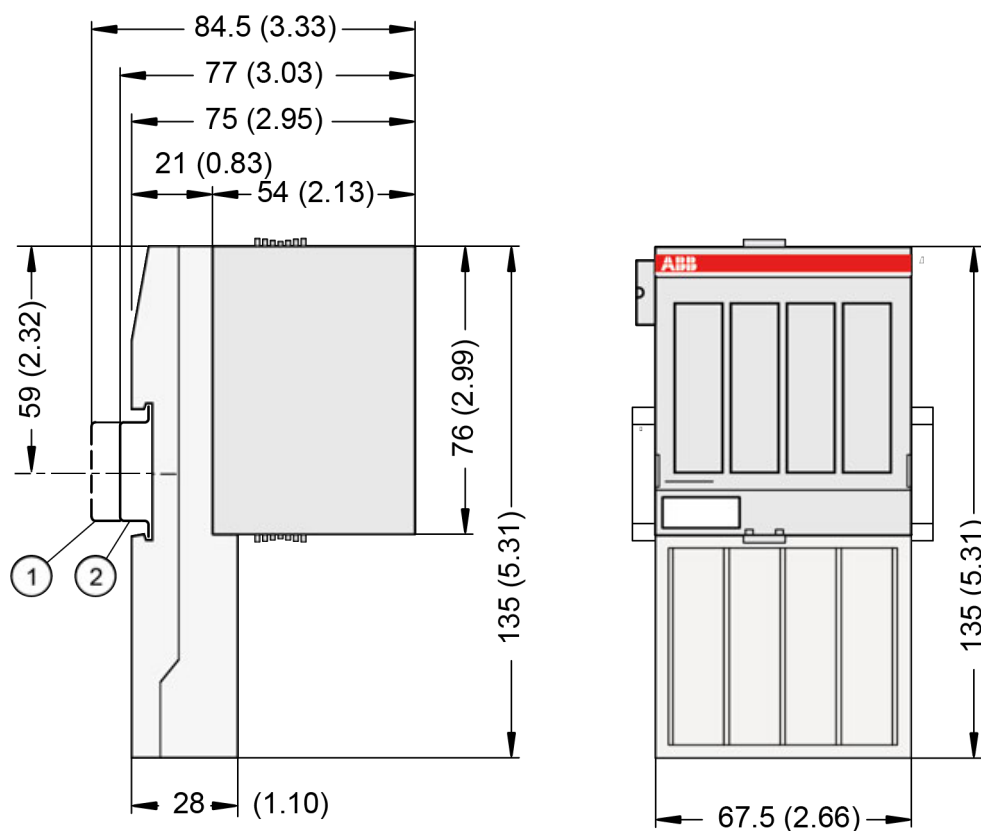
19.1 Assembly



19.2 Disassembly



19.3 Dimensions

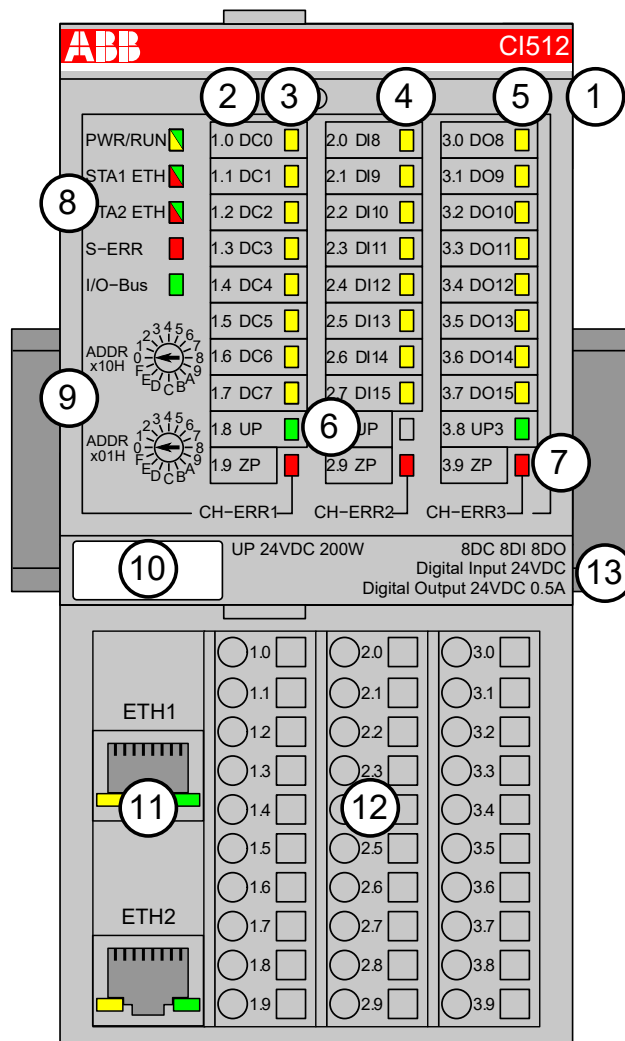


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

19.4 Connections

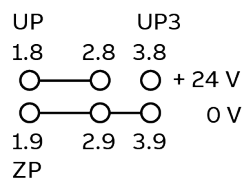


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 8 yellow LEDs to display the signal states of the digital configurable inputs/outputs (DC0 - DC7)
- 4 8 yellow LEDs to display the signal states of the digital inputs (DI0 - DI7)
- 5 8 yellow LEDs to display the signal states of the digital outputs (DO0 - DO7)
- 6 2 green LEDs to display the supply voltage UP and UP3
- 7 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
- 8 5 System LEDs: PWR/RUN, NET, DC, S-ERR, I/O-Bus
- 9 2 rotary switches (reserved for future extensions)
- 10 Label
- 11 Ethernet interfaces (ETH1, ETH2) on the terminal unit
- 12 Terminal unit
- 13 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

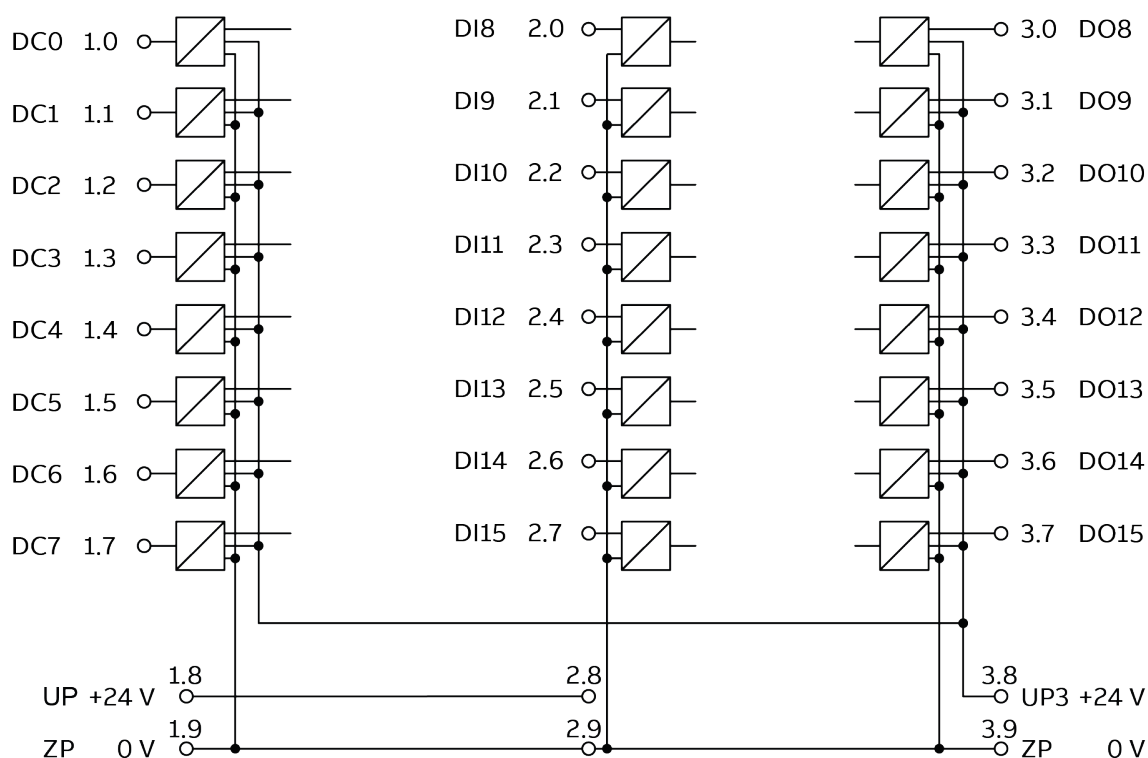
19.4.1 Process supply voltage



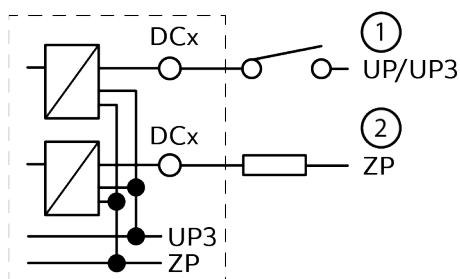
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

19.4.2 Inputs/Outputs



Example input or output



- 1 Example of connection as an input
- 2 Example of connection as an output

Example digital
input

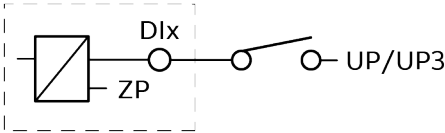


Fig. 21: Example of connection input DLx

Example digital
output

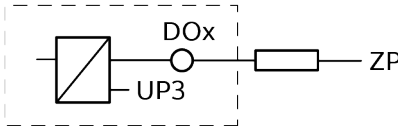


Fig. 22: Example of connection output DOx

19.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

19.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

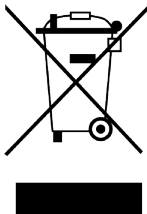
ko

제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

19.7 Recycling



Disposal and recycling information

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The symbol indicates that this product must be recycled/disposed of separately from other household waste.

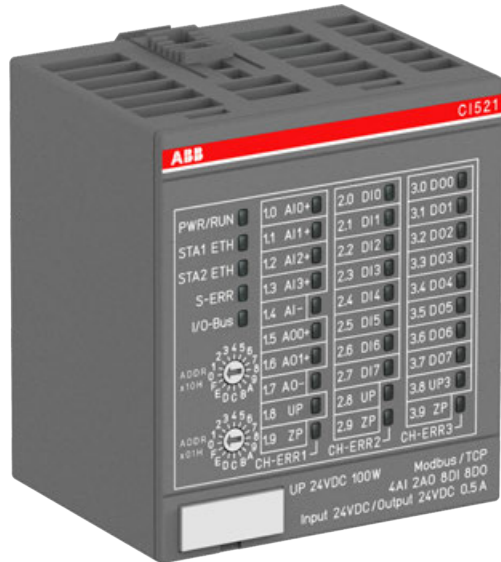
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

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For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

20 CI521-MODTCP(-XC)

- CI521-MODTCP
- CI521-MODTCP-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.

**WARNING!****Electric shock due to negligent behavior during hot swapping!**

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.

**NOTICE!****Risk of damage to I/O modules!**

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap

**Hot swap**

System requirements for hot swapping of I/O modules:

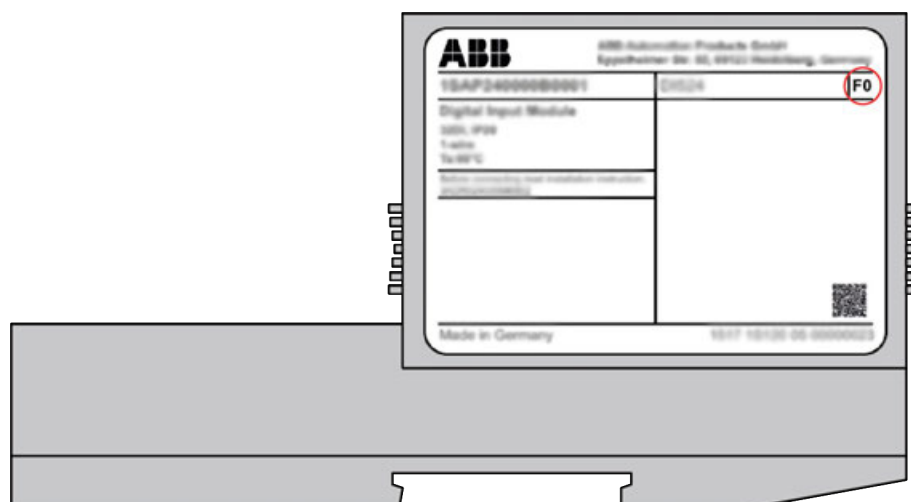
- *Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-H.*
- *I/O modules as of index F0.*

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

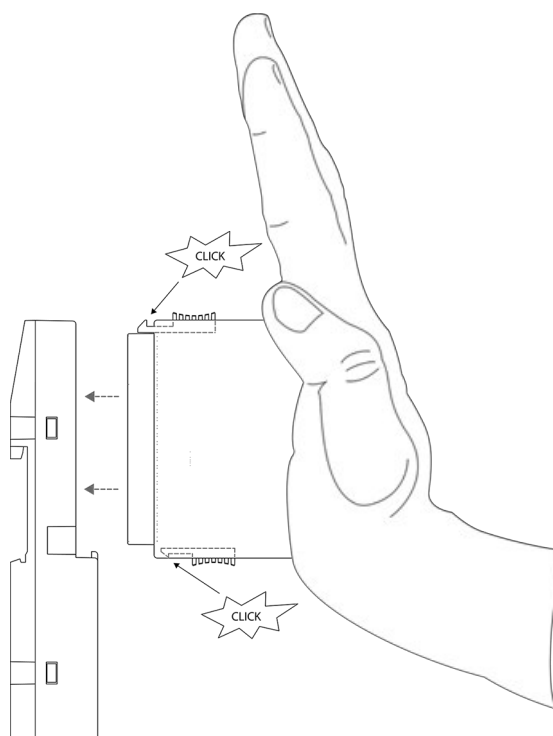
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

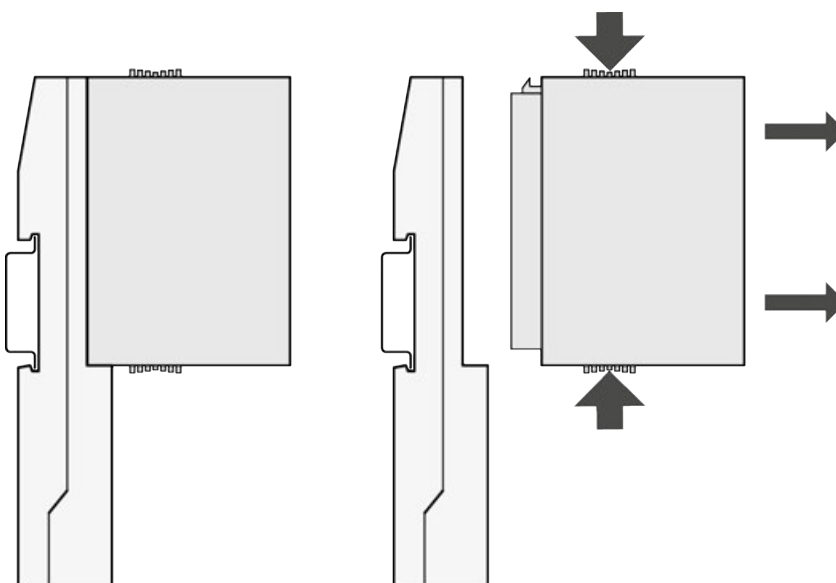
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

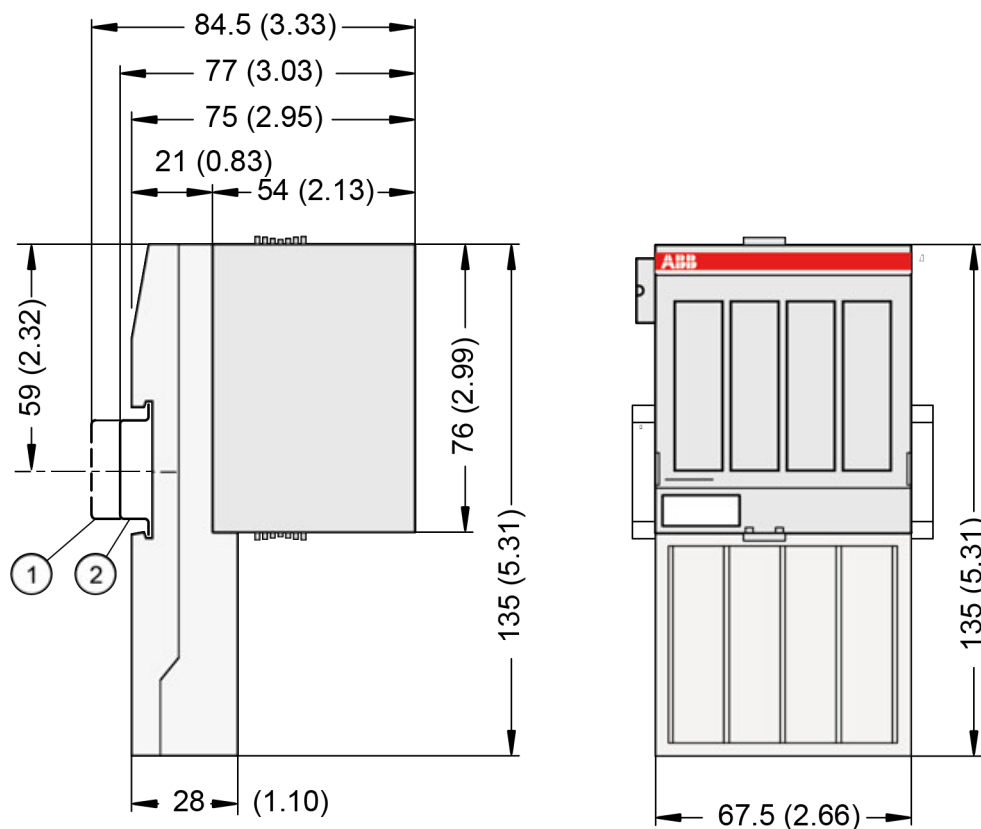
20.1 Assembly



20.2 Disassembly



20.3 Dimensions

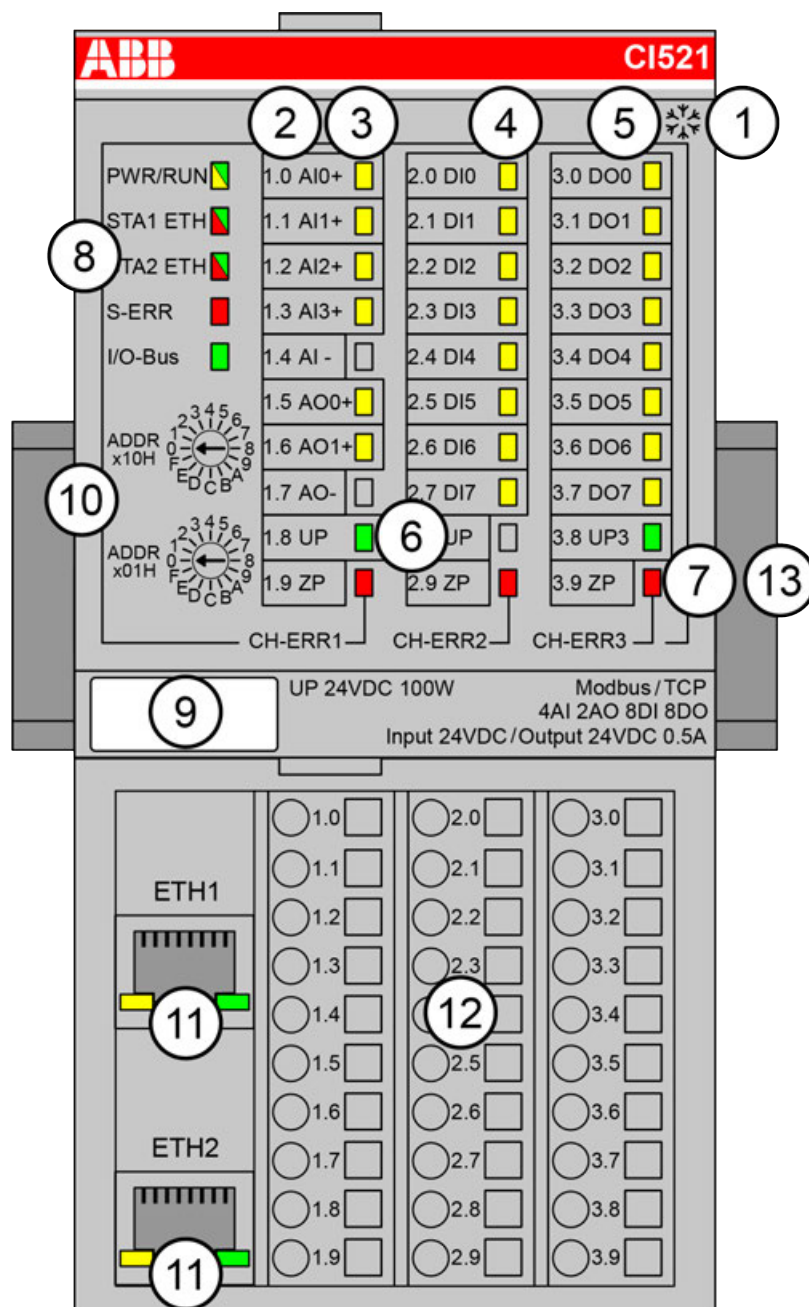


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

20.4 Connections

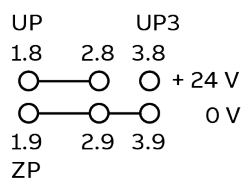


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 6 yellow LEDs to display the signal states of the analog inputs/outputs (AI0 - AI3, AO0 - AO1)
- 4 8 yellow LEDs to display the signal states of the digital inputs (DI0 - DI7)
- 5 8 yellow LEDs to display the signal states of the digital outputs (DO0 - DO7)
- 6 2 green LEDs to display the process supply voltage UP and UP3
- 7 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
- 8 5 system LEDs: PWR/RUN, STA1 ETH, STA2 ETH, S-ERR, I/O-Bus
- 9 Label
- 10 2 rotary switches for setting the IP address
- 11 Ethernet interfaces (ETH1, ETH2) on the terminal unit
- 12 Terminal unit
- 13 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

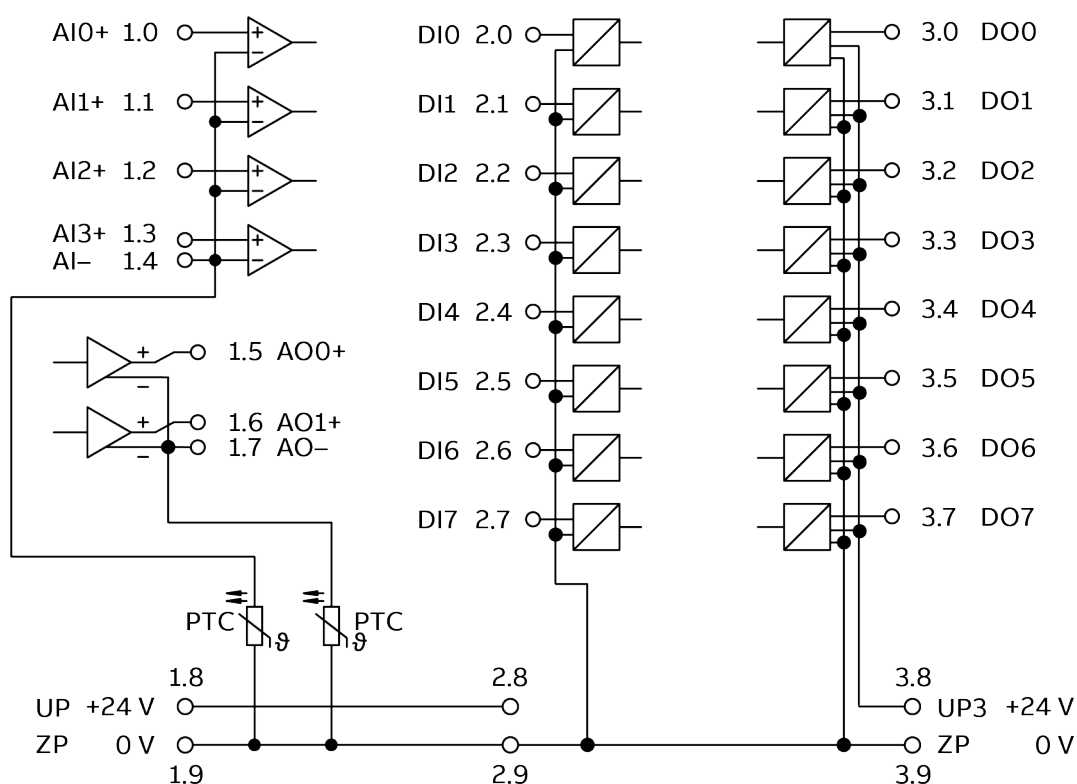
20.4.1 Process supply voltage



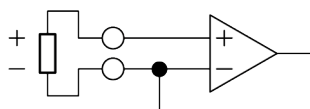
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

20.4.2 Inputs/Outputs



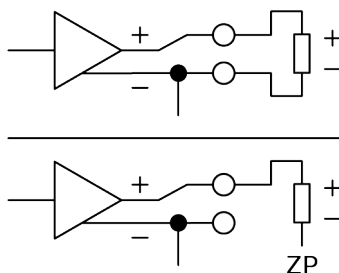
Example analog input



AI0 ... AI3
0 V ... +10 V
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA
Pt100 / Pt1000
Ni1000

Fig. 23: Example of connection input AIx

Example analog output



AO0 ... AO1
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA

Fig. 24: Example of connection output AOx

Example digital input

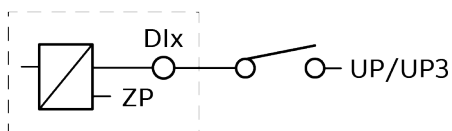


Fig. 25: Example of connection input DIx

Example digital output

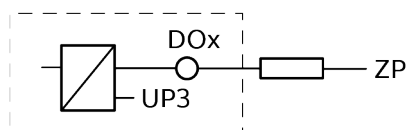


Fig. 26: Example of connection output DOx

20.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

20.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

20.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

21 CI522-MODTCP(-XC)

- CI522-MODTCP
- CI522-MODTCP-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



NOTICE!

The section "Hot Swap" is only valid for CI502-PNIO(-XC) and CI522-MODTCP(-XC).

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.

**WARNING!****Electric shock due to negligent behavior during hot swapping!**

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.

**NOTICE!****Risk of damage to I/O modules!**

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap

**Hot swap**

System requirements for hot swapping of I/O modules:

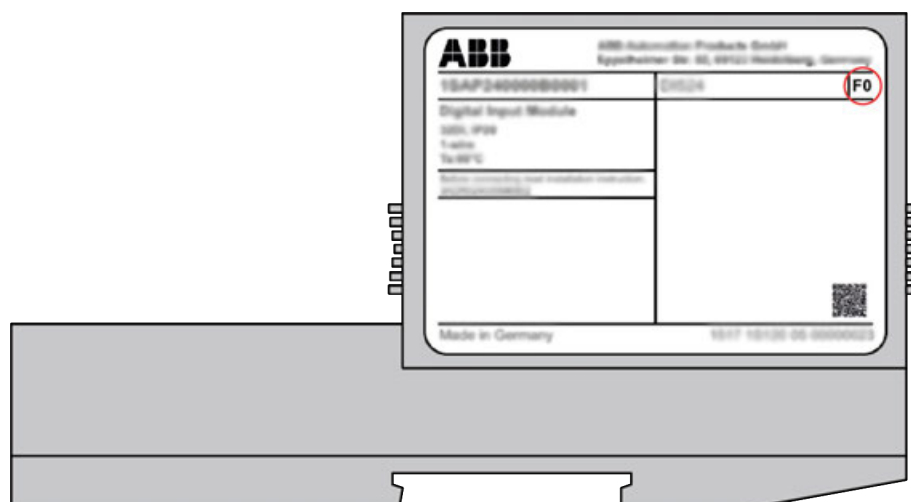
- *Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-H.*
- *I/O modules as of index F0.*

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

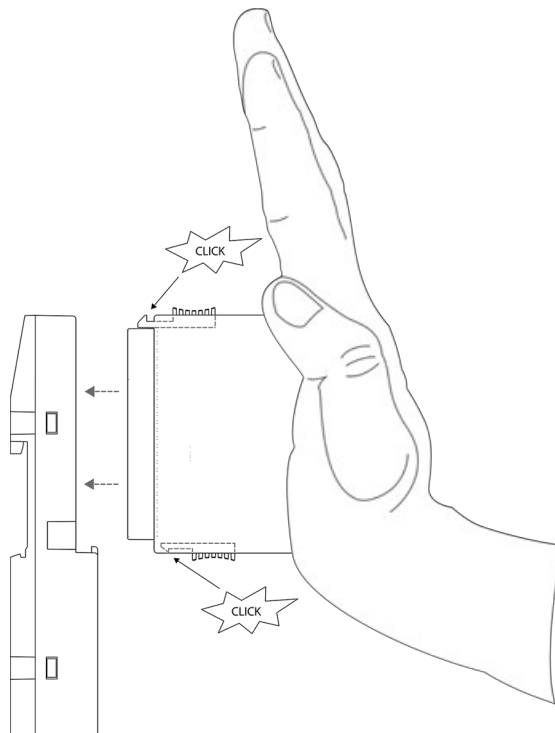
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

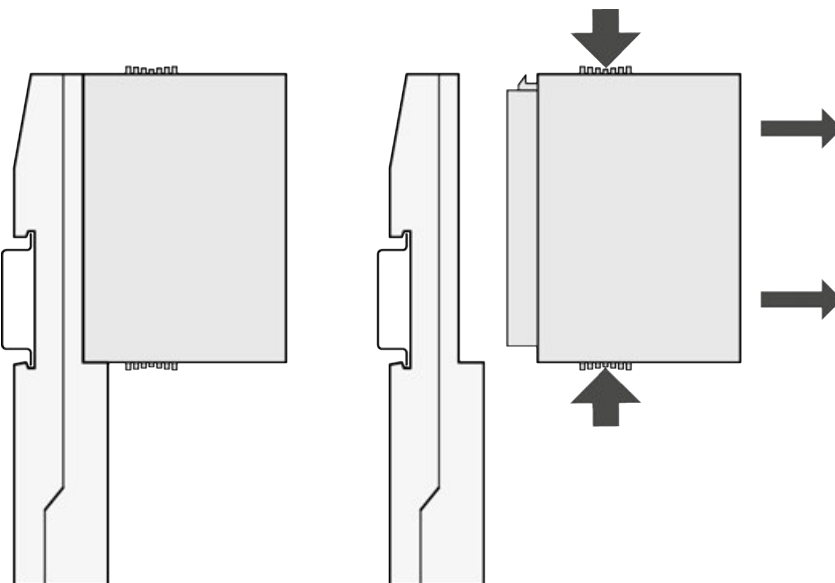
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

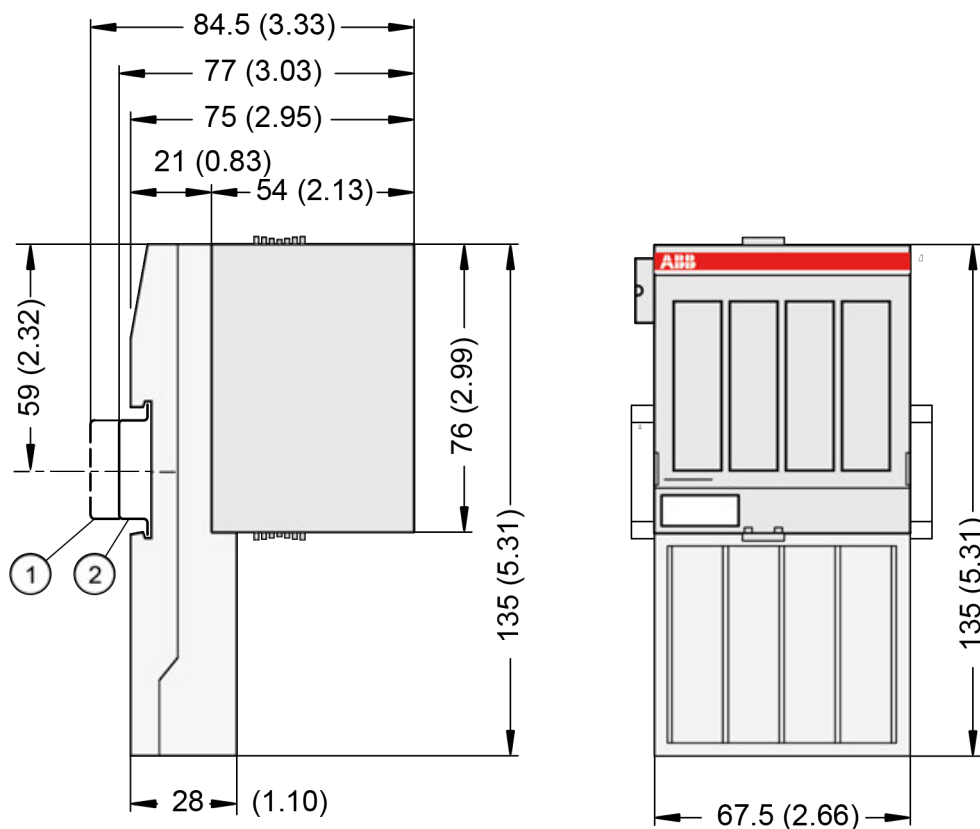
21.1 Assembly



21.2 Disassembly



21.3 Dimensions

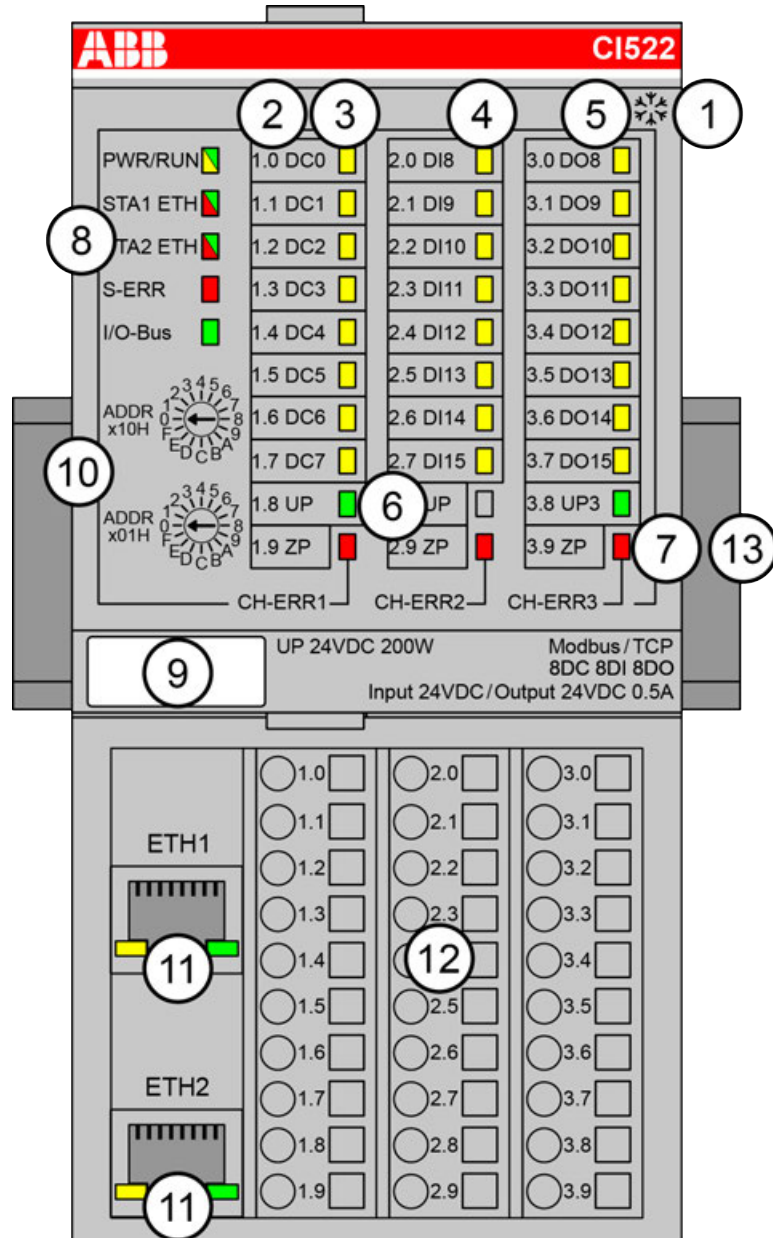


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

21.4 Connections

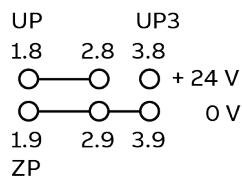


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 8 yellow LEDs to display the signal states of the digital configurable inputs/outputs (DC0 - DC7)
- 4 8 yellow LEDs to display the signal states of the digital inputs (DI8 - DI15)
- 5 8 yellow LEDs to display the signal states of the digital outputs (DO8 - DO15)
- 6 2 green LEDs to display the process supply voltage UP and UP3
- 7 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
- 8 5 system LEDs: PWR/RUN, STA1 ETH, STA2 ETH, S-ERR, I/O-Bus
- 9 Label
- 10 2 rotary switches for setting the IP address
- 11 Ethernet interfaces (ETH1, ETH2) on the terminal unit
- 12 Terminal unit
- 13 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

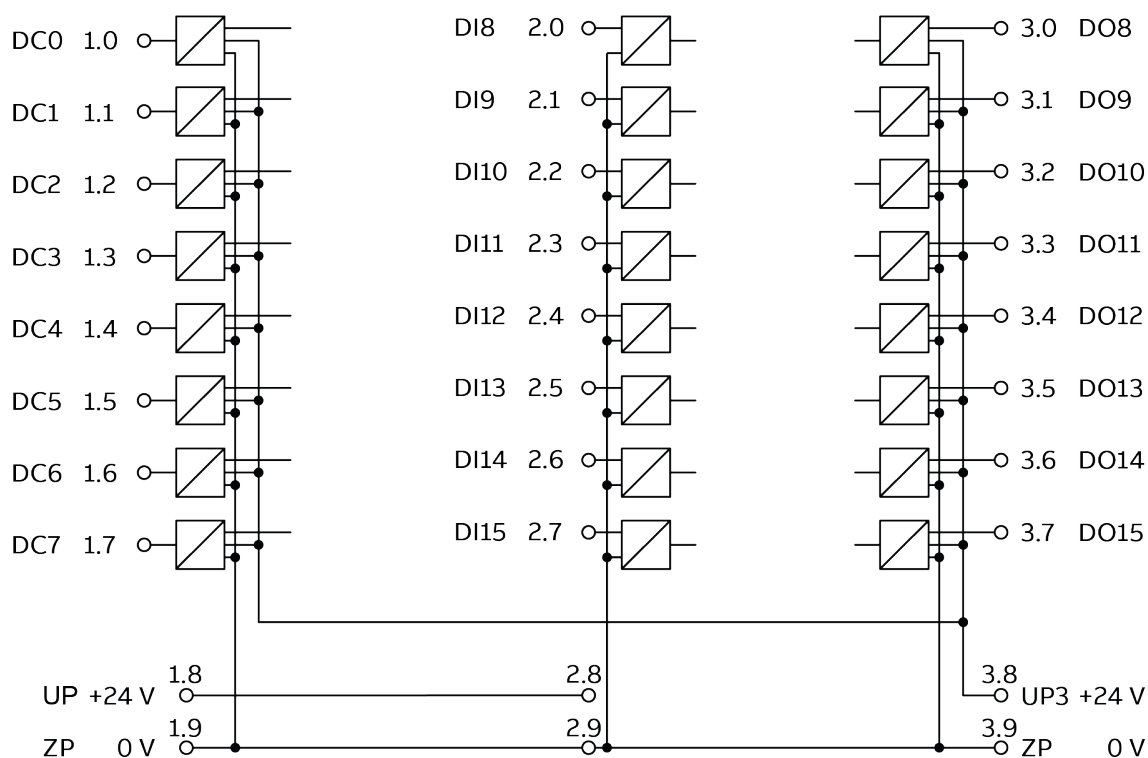
21.4.1 Process supply voltage



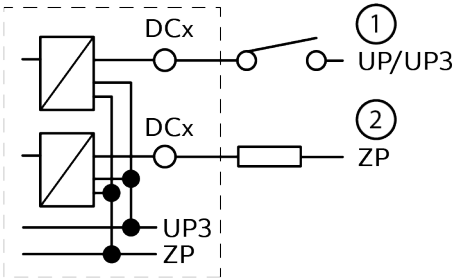
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

21.4.2 Inputs/Outputs



Example input
or output



- 1 Example of connection as an input
- 2 Example of connection as an output

Example digital
input

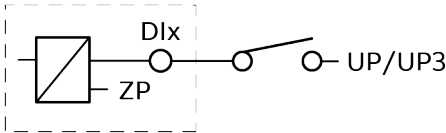


Fig. 27: Example of connection input DLx

Example digital
output

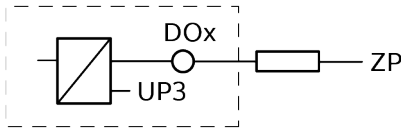


Fig. 28: Example of connection output DOx

21.5 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

21.6 Certification



MSIP-REI-Abb-AC500

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

21.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

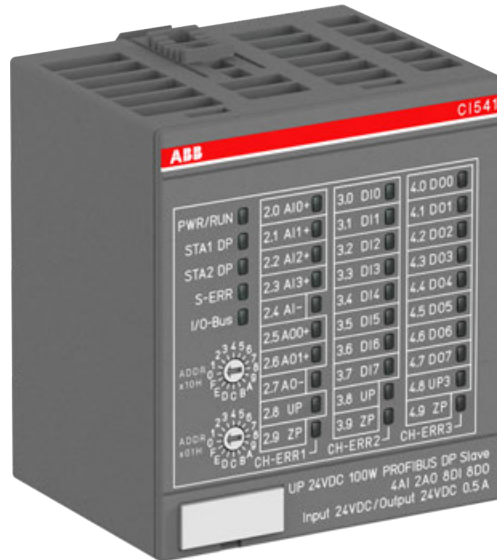
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

22 CI541-DP(-XC)

- CI541-DP
- CI541-DP-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

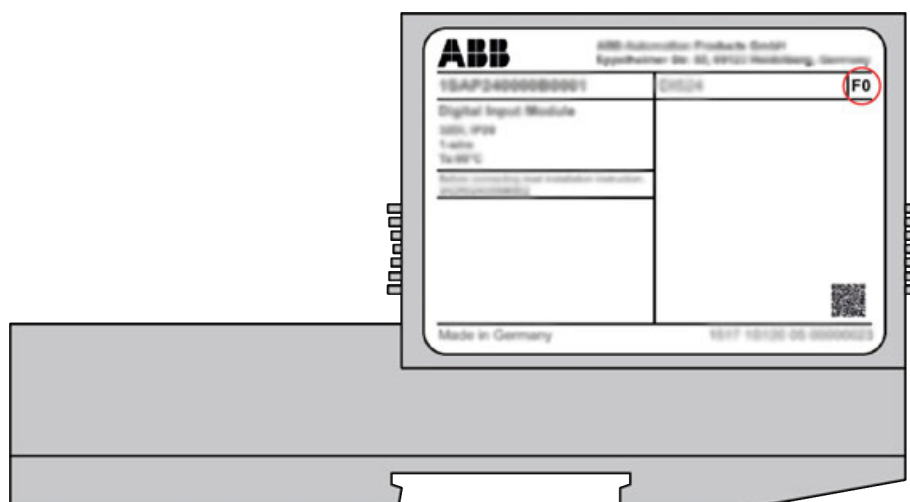
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

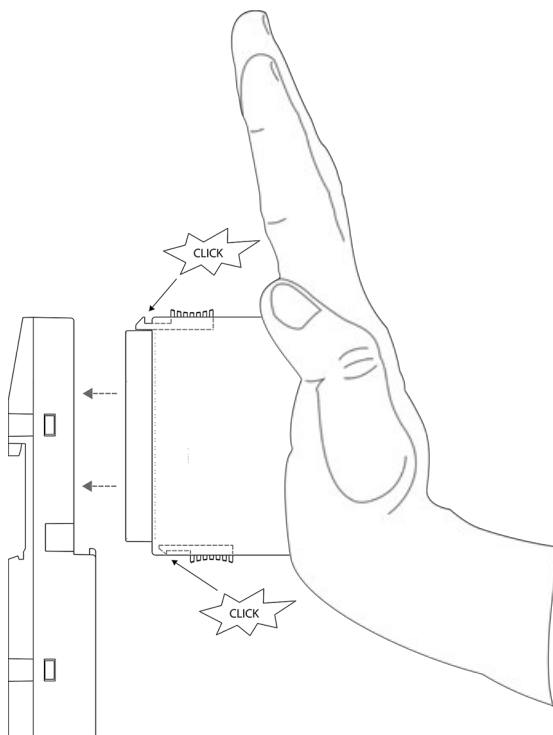
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

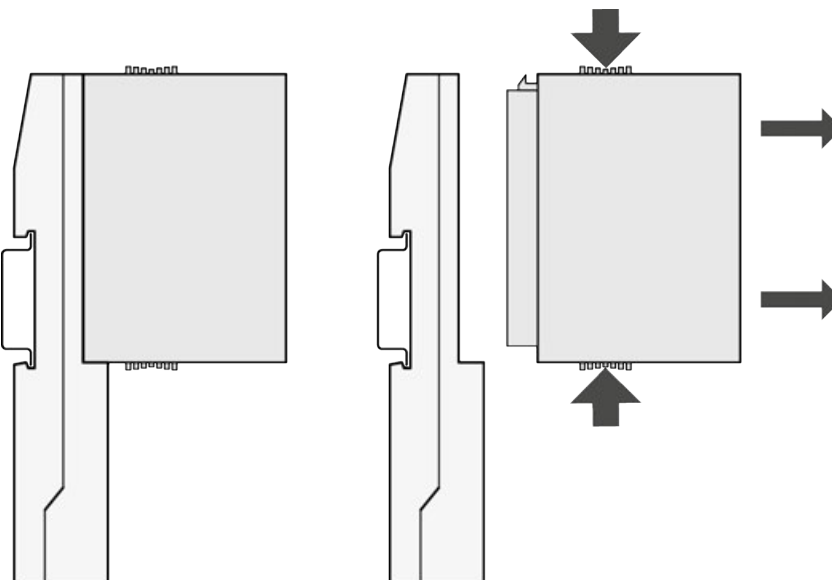
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

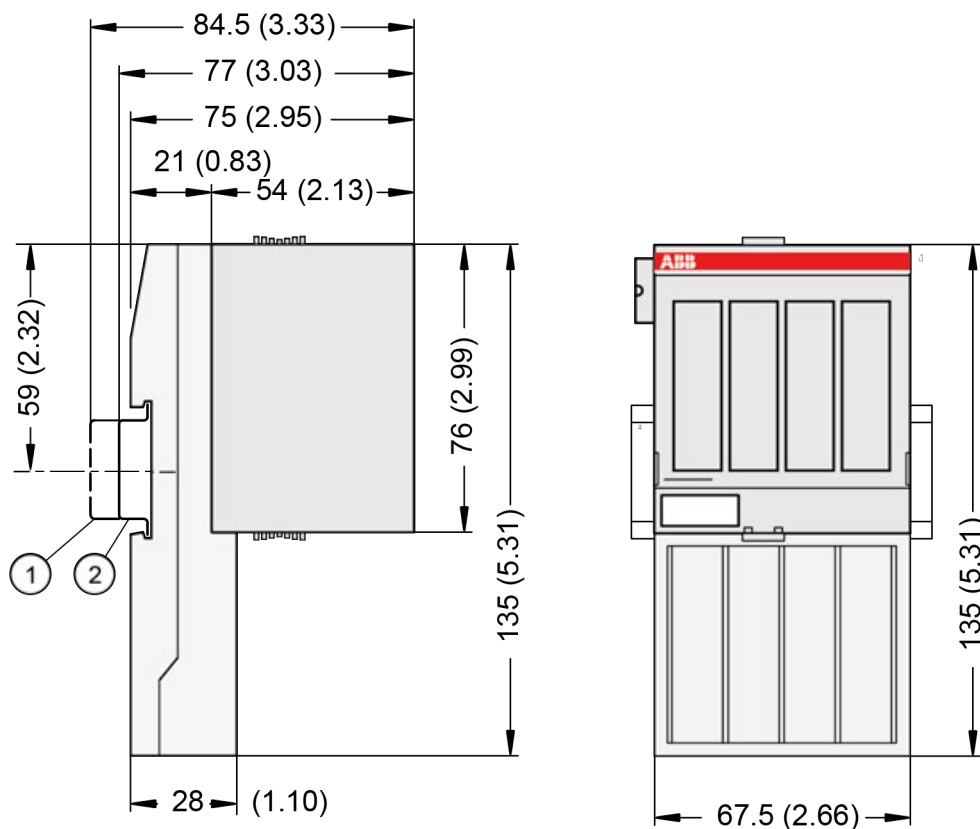
22.1 Assembly



22.2 Disassembly



22.3 Dimensions

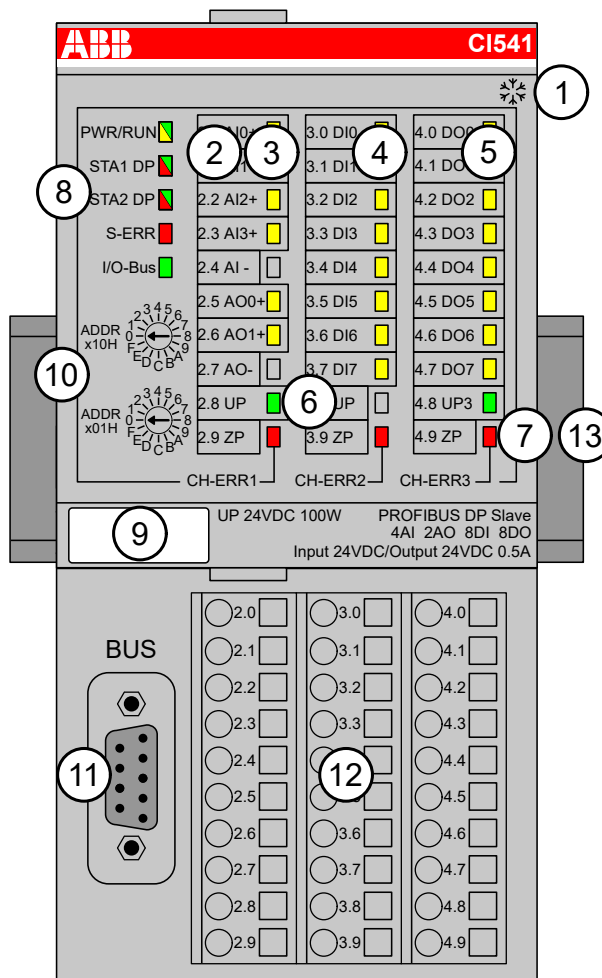


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

22.4 Connections

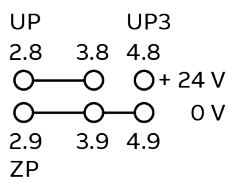


- 1 I/O bus
 - 2 Allocation between terminal number and signal name
 - 3 6 yellow LEDs to display the signal states of the analog inputs/outputs (AI0 - AI3, AO0 - AO1)
 - 4 8 yellow LEDs to display the signal states of the digital inputs (DI0 - DI7)
 - 5 8 yellow LEDs to display the signal states of the digital outputs (DO0 - DO7)
 - 6 2 green LEDs to display the process supply voltage UP and UP3
 - 7 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
 - 8 5 system LEDs: PWR/RUN, STA1 DP, STA2 DP, S-ERR, I/O-Bus
 - 9 Label
 - 10 2 rotary switches for setting the PROFIBUS ID
 - 11 9-pin D-SUB connector to connect the PROFIBUS DP signals
 - 12 Terminal unit
 - 13 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

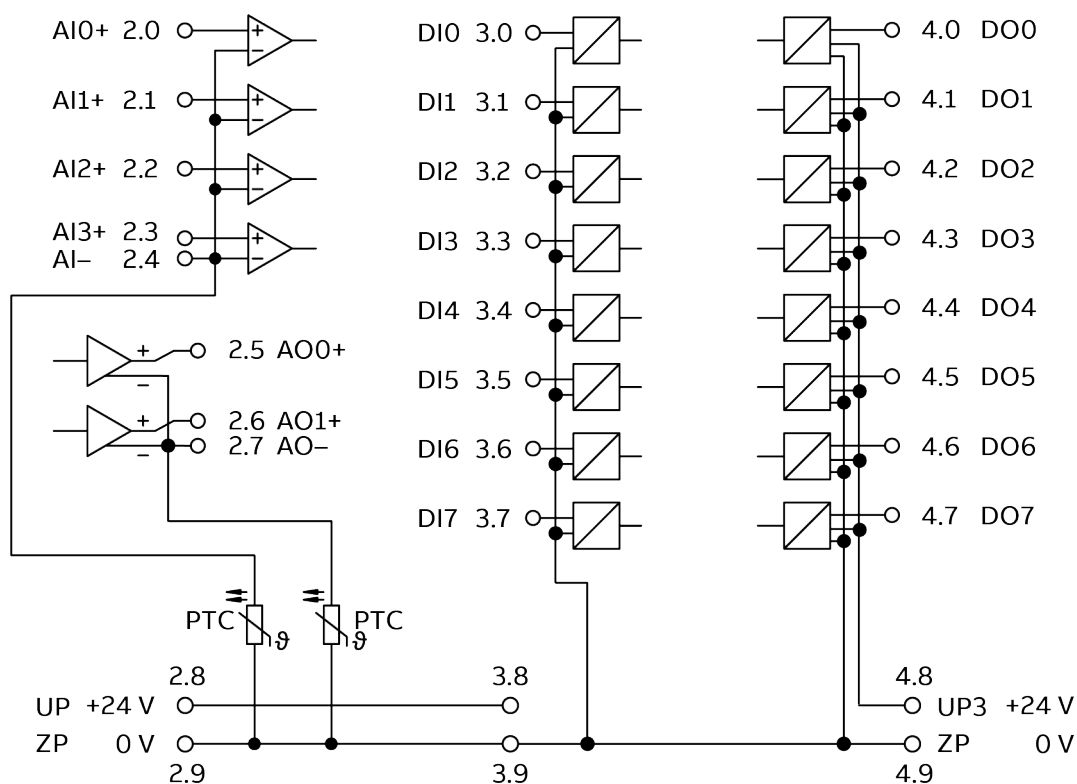
22.4.1 Process supply voltage



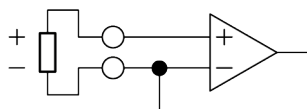
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

22.4.2 Inputs/Outputs



Example analog input



AI0 ... AI3
0 V ... +10 V
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA
Pt100 / Pt1000
Ni1000

Fig. 29: Example of connection input AIx

Example analog output

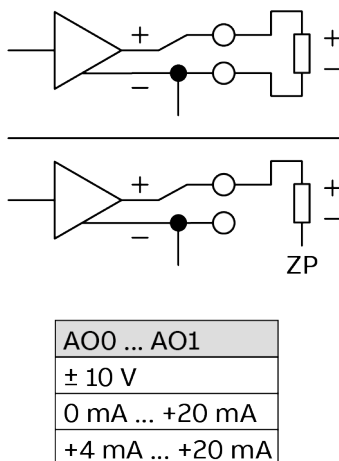


Fig. 30: Example of connection output AOx

Example digital input

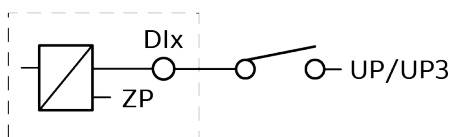


Fig. 31: Example of connection input DIx

Example digital output

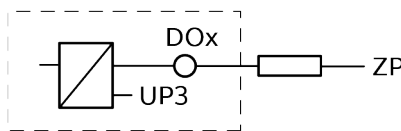


Fig. 32: Example of connection output DOx

22.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

22.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

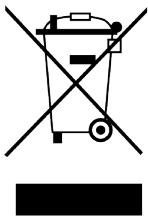
en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

22.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

23 CI542-DP(-XC)

- CI542-DP
- CI542-DP-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

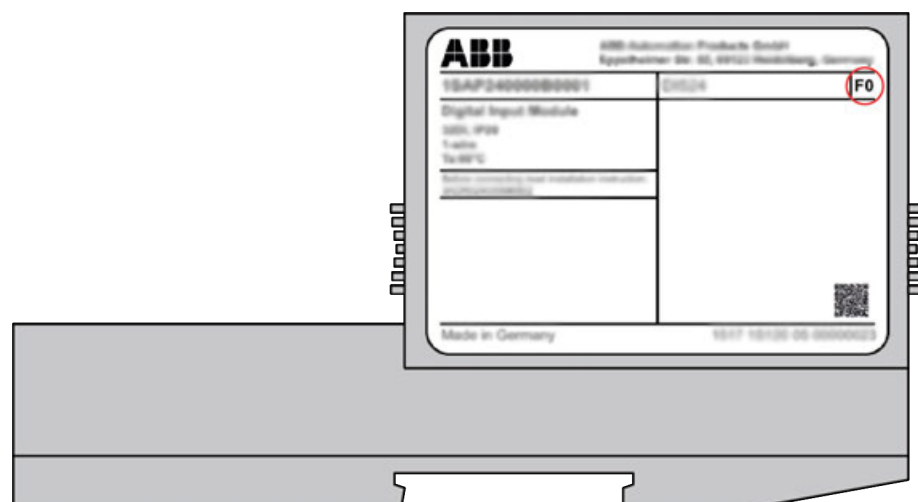
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-H.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

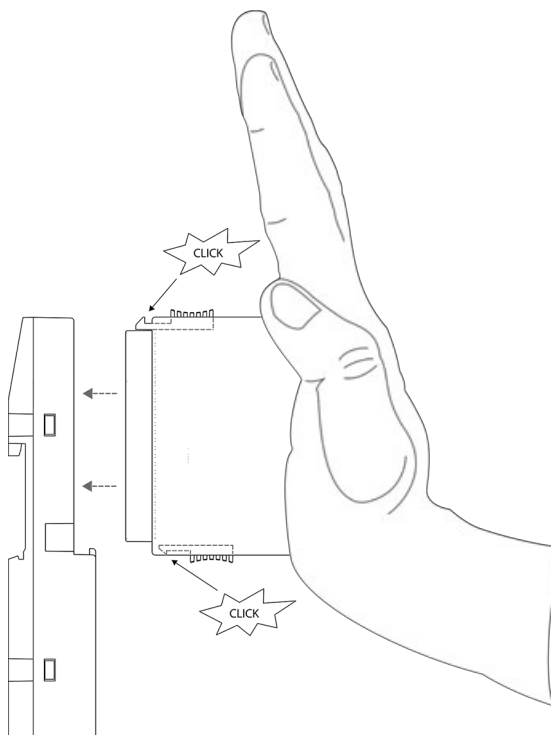
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

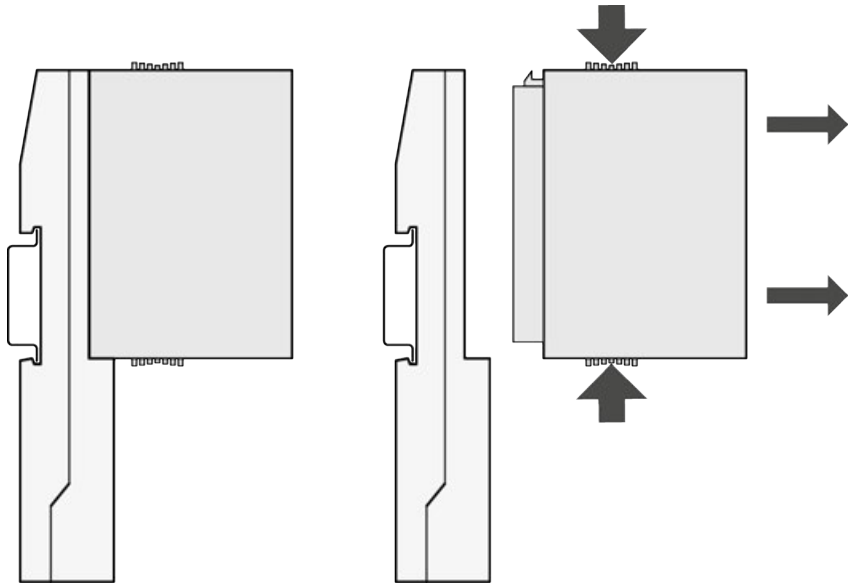
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

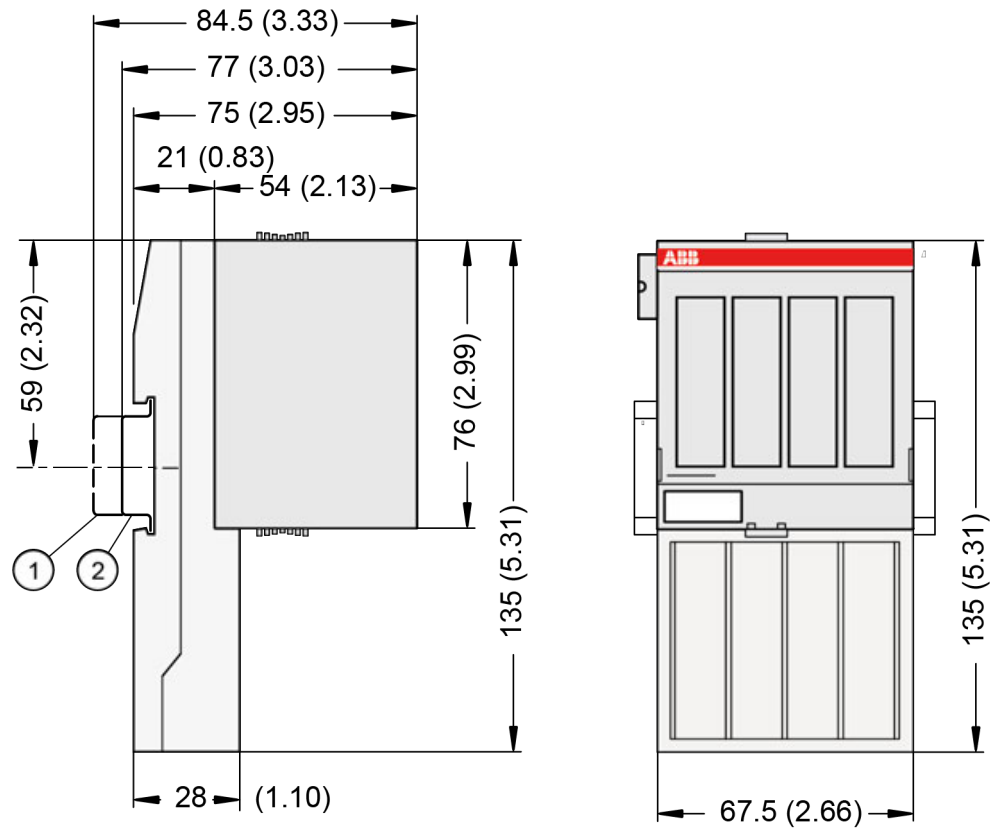
23.1 Assembly



23.2 Disassembly



23.3 Dimensions

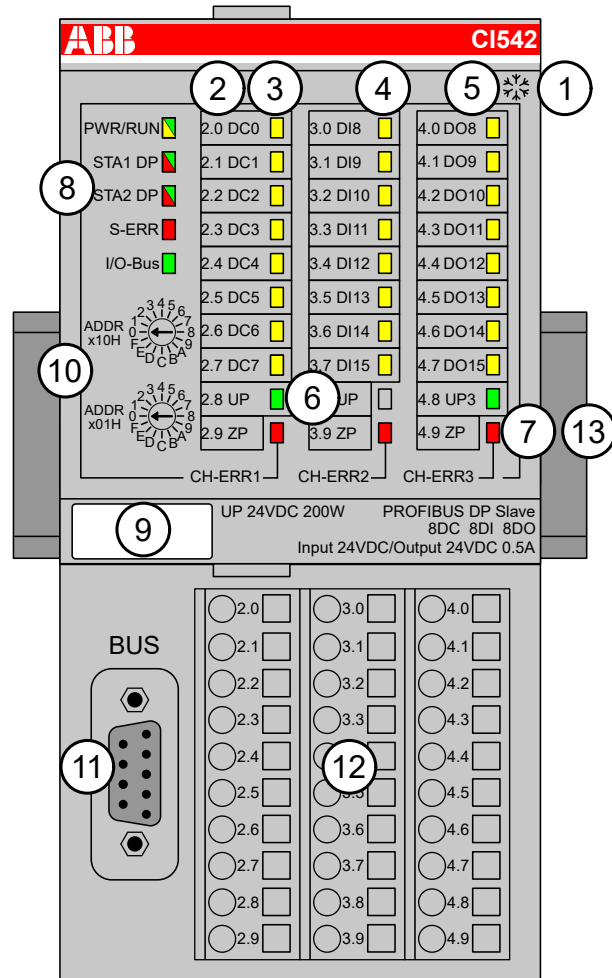


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

23.4 Connections

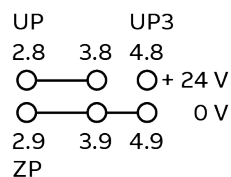


- 1 I/O bus
 - 2 Allocation between terminal number and signal name
 - 3 8 yellow LEDs to display the signal states of the configurable digital inputs/outputs (DC0 - DC7)
 - 4 8 yellow LEDs to display the signal states of the digital inputs (DI8 - DI15)
 - 5 8 yellow LEDs to display the signal states of the digital outputs (DO8 - DO15)
 - 6 2 green LEDs to display the process supply voltage UP and UP3
 - 7 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
 - 8 5 system LEDs: PWR/RUN, STA1 DP, STA2 DP, S-ERR, I/O-Bus
 - 9 Label
 - 10 2 rotary switches for setting the PROFIBUS ID
 - 11 9-pin D-SUB connector to connect the PROFIBUS DP signals
 - 12 Terminal unit
 - 13 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

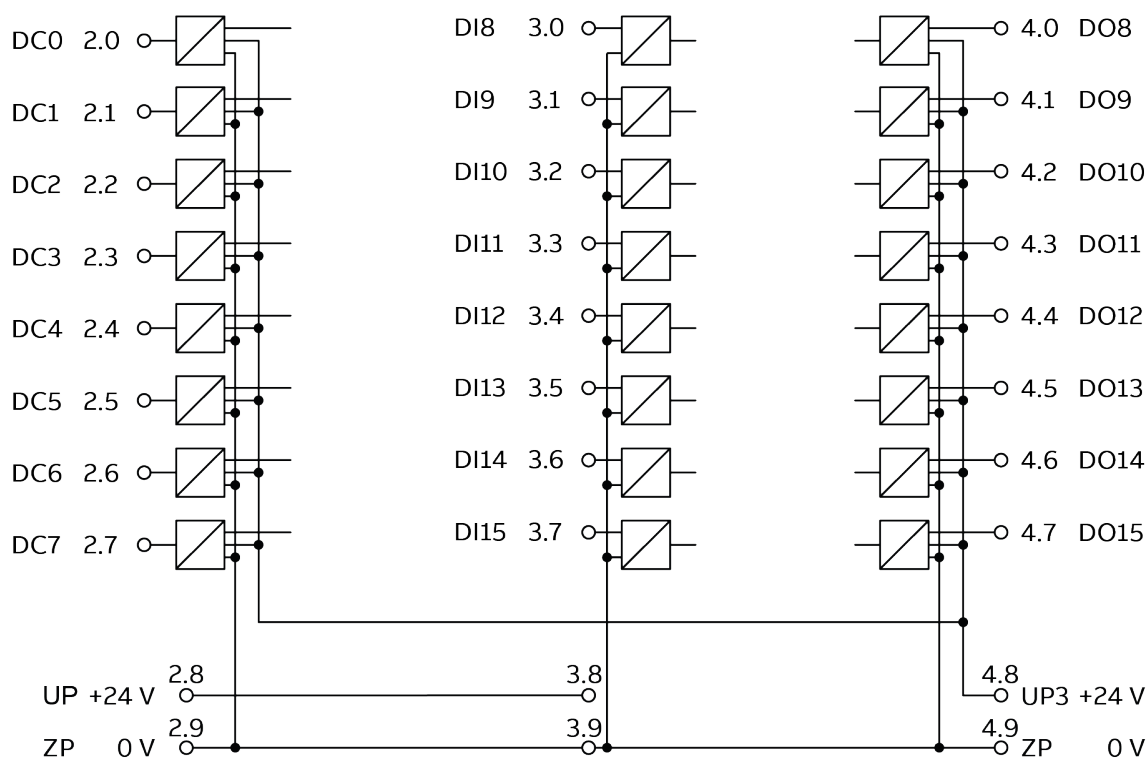
23.4.1 Process supply voltage



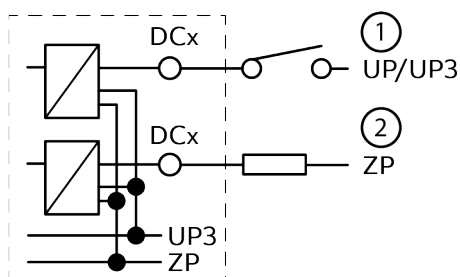
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

23.4.2 Inputs/Outputs



Example input or output



- 1 Example of connection as an input
- 2 Example of connection as an output

Example digital input

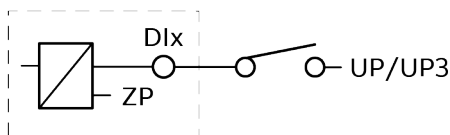


Fig. 33: Example of connection input DLx

Example digital output

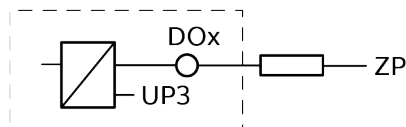


Fig. 34: Example of connection output DOx

23.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

23.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

23.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

24 CI581-CN(-XC)

- CI581-CN
- CI581-CN-XC



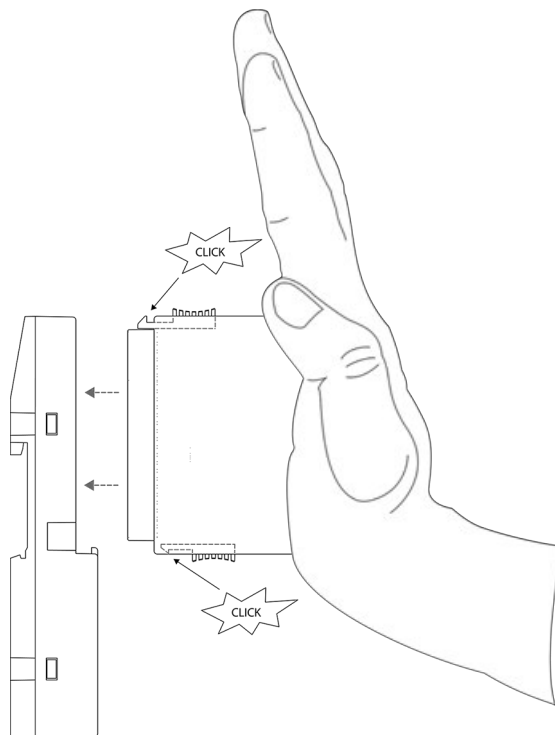
CAUTION!

Risk of injury and damaging the product!

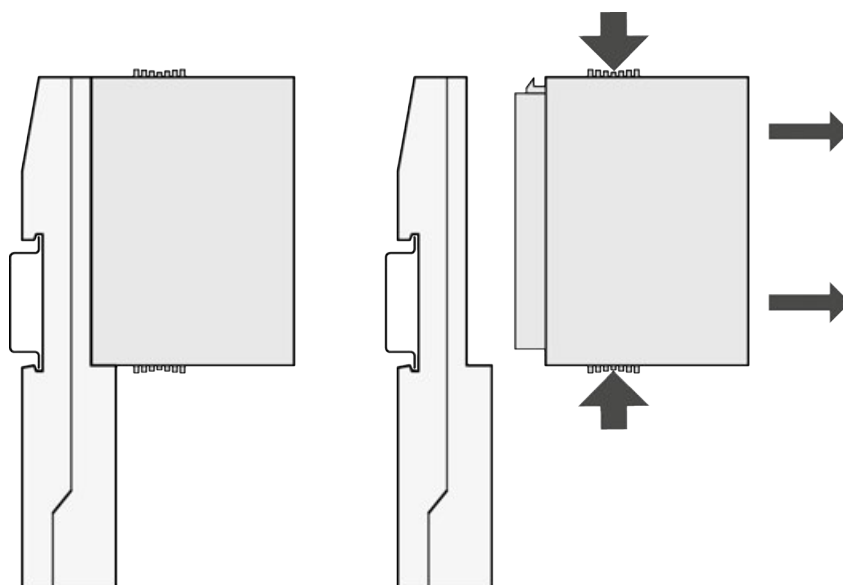
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

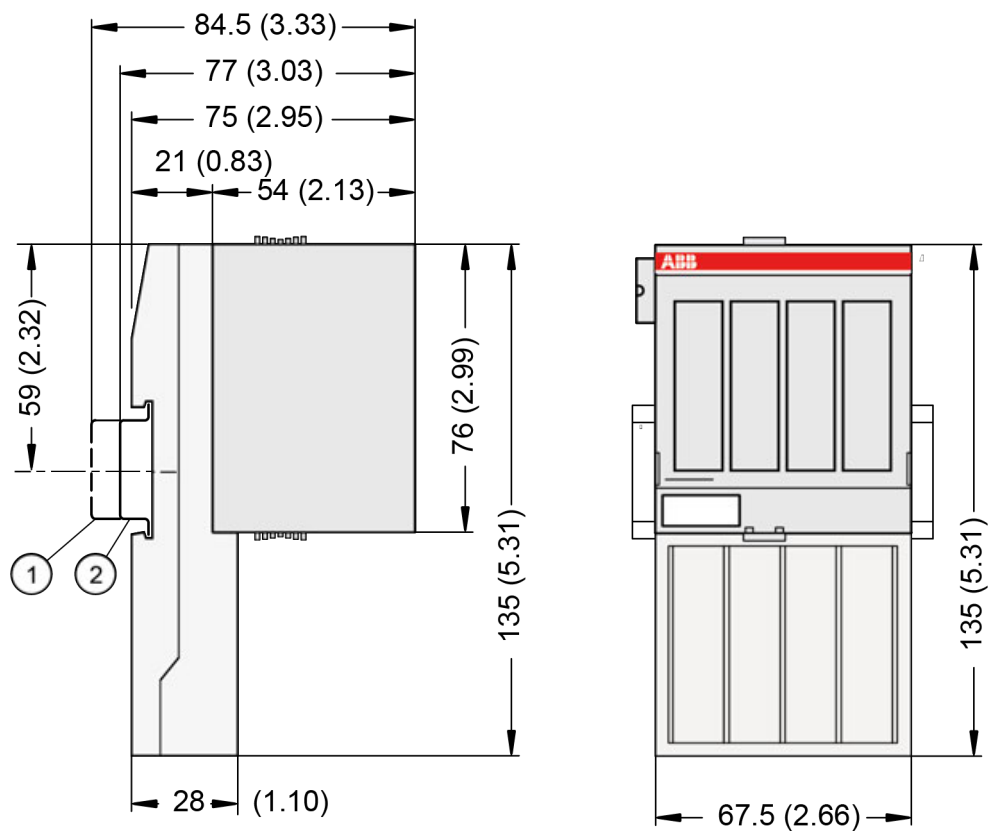
24.1 Assembly



24.2 Disassembly



24.3 Dimensions

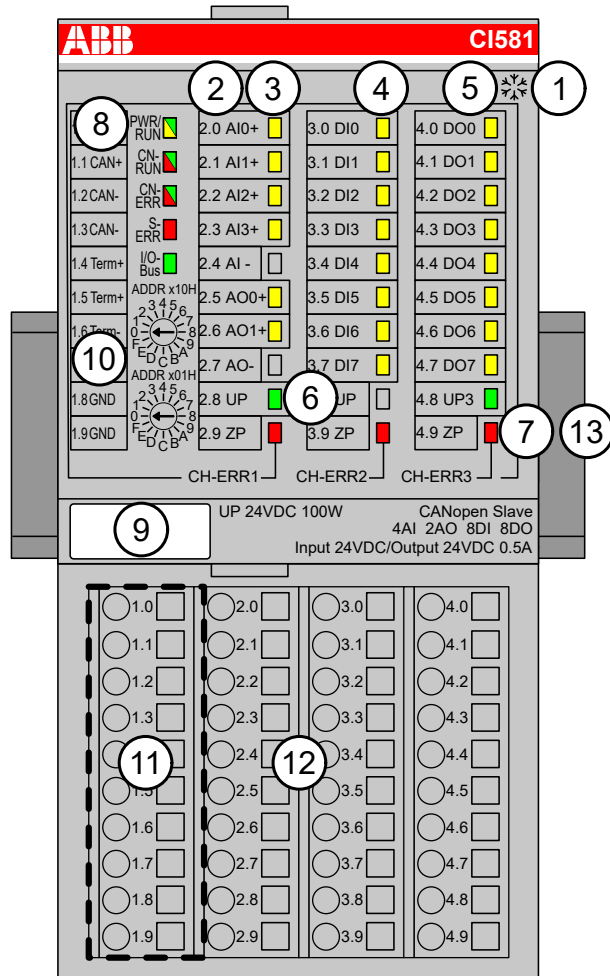


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

24.4 Connections

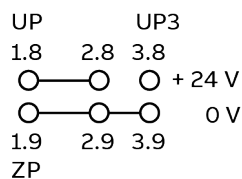


- 1 I/O bus
 - 2 Allocation between terminal No. and signal name
 - 3 6 yellow LEDs to display the signal states of the analog inputs/outputs (AI0 - AI3, AO0 - AO1)
 - 4 8 yellow LEDs to display the signal states of the digital inputs (DI0 - DI7)
 - 5 8 yellow LEDs to display the signal states of the digital outputs (DO0 - DO7)
 - 6 2 green LEDs to display the supply voltage UP and UP3
 - 7 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
 - 8 5 System LEDs: PWR/RUN, CN-RUN, CN-ERR, S-ERR, I/O-Bus
 - 9 Label
 - 10 2 rotary switches for setting the CANopen Node ID
 - 11 10 terminals to connect the CANopen bus signals
 - 12 Terminal unit
 - 13 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

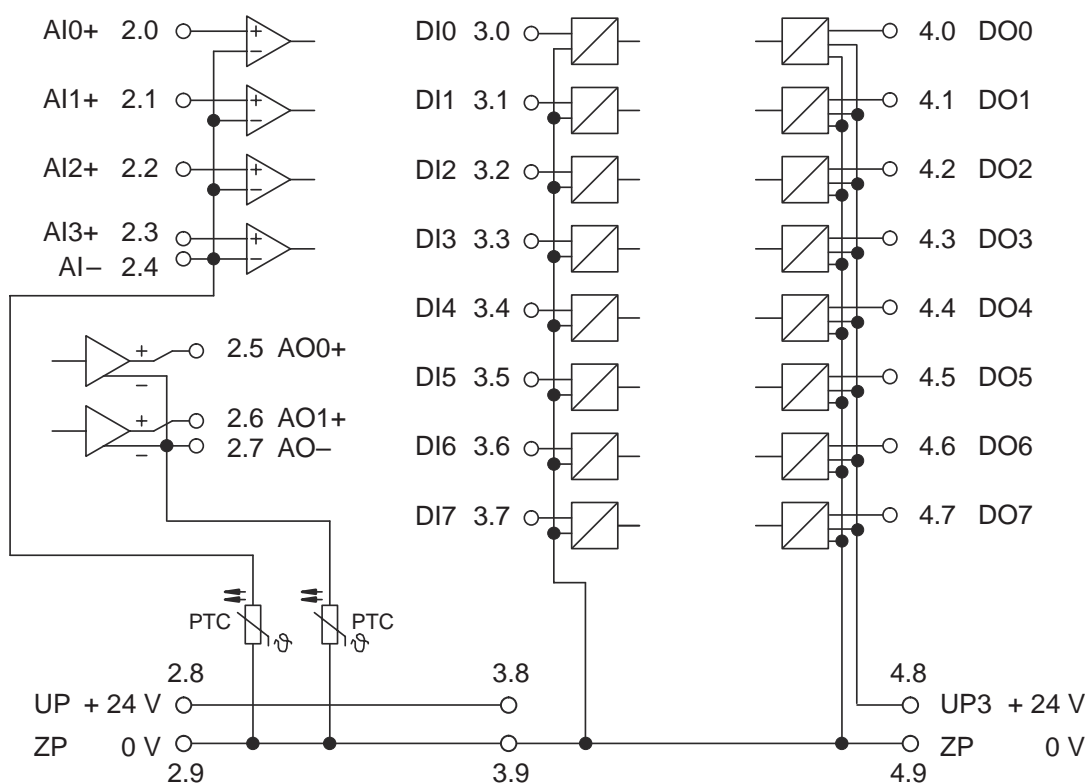
24.4.1 Process supply voltage



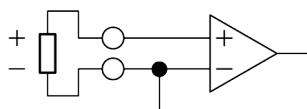
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

24.4.2 Inputs



Example analog input



AI0 ... AI3
0 V ... +10 V
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA
Pt100 / Pt1000
Ni1000

Fig. 35: Example for connection input AIx

Example analog
output

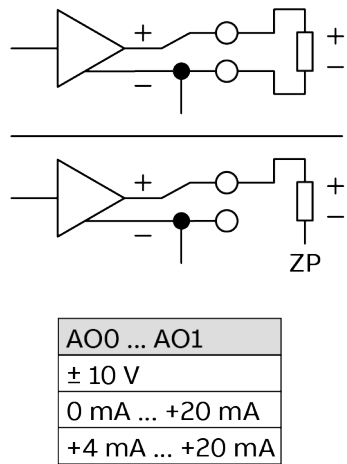


Fig. 36: Example for connection output AOx

Example digital
input

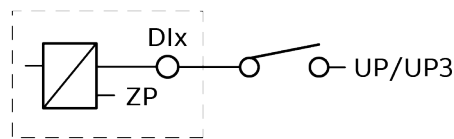


Fig. 37: Example for connection input DIx

Example digital
output

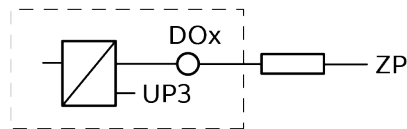



Fig. 38: Example for connection output DOx

24.5 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

24.6 Certification

		MSIP-REI-Abb-AC500	
en	Note	en	Devices with KCC sign on product sticker and packaging
	These devices correspond to:	ko	제품 스티커 및 포장에 KCC 표시가 된 기기
ko	참고 이러한 기기는		KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"
			KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함

24.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

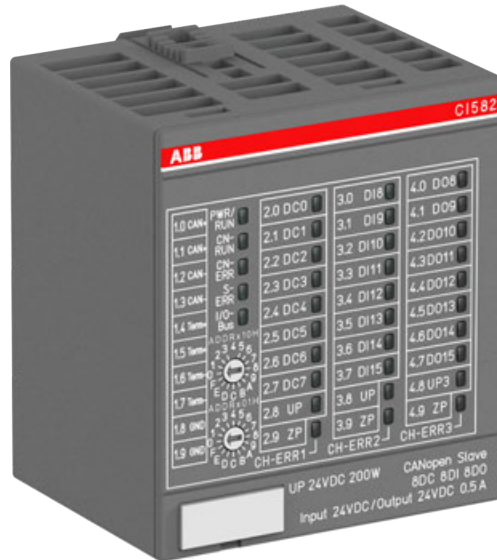
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

25 CI582-CN(-XC)

- CI582-CN
- CI582-CN-XC



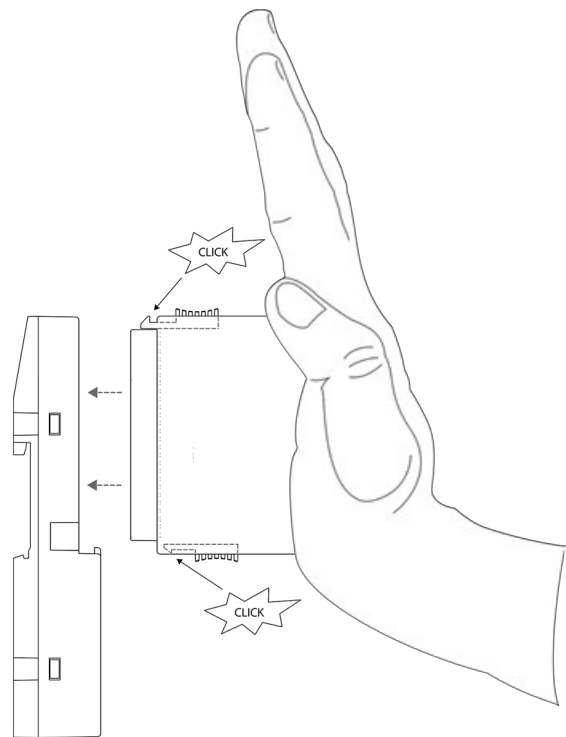
CAUTION!

Risk of injury and damaging the product!

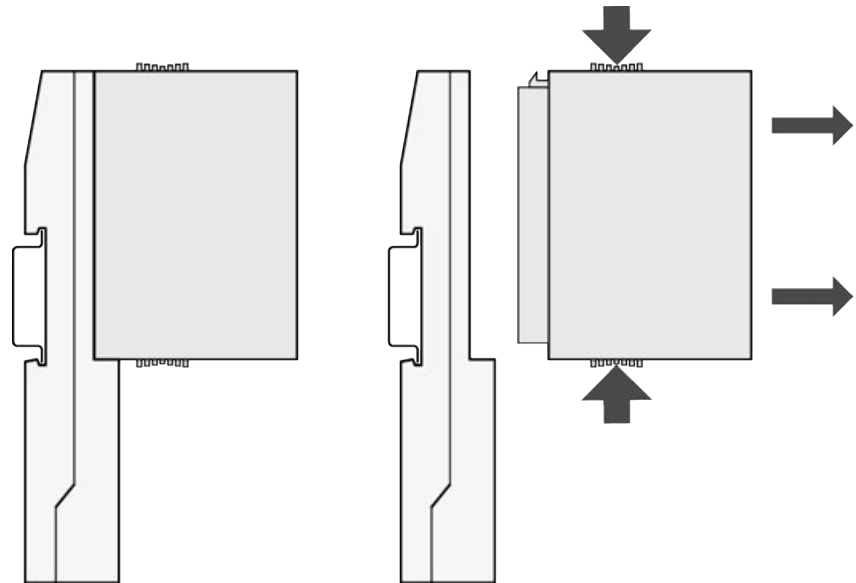
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

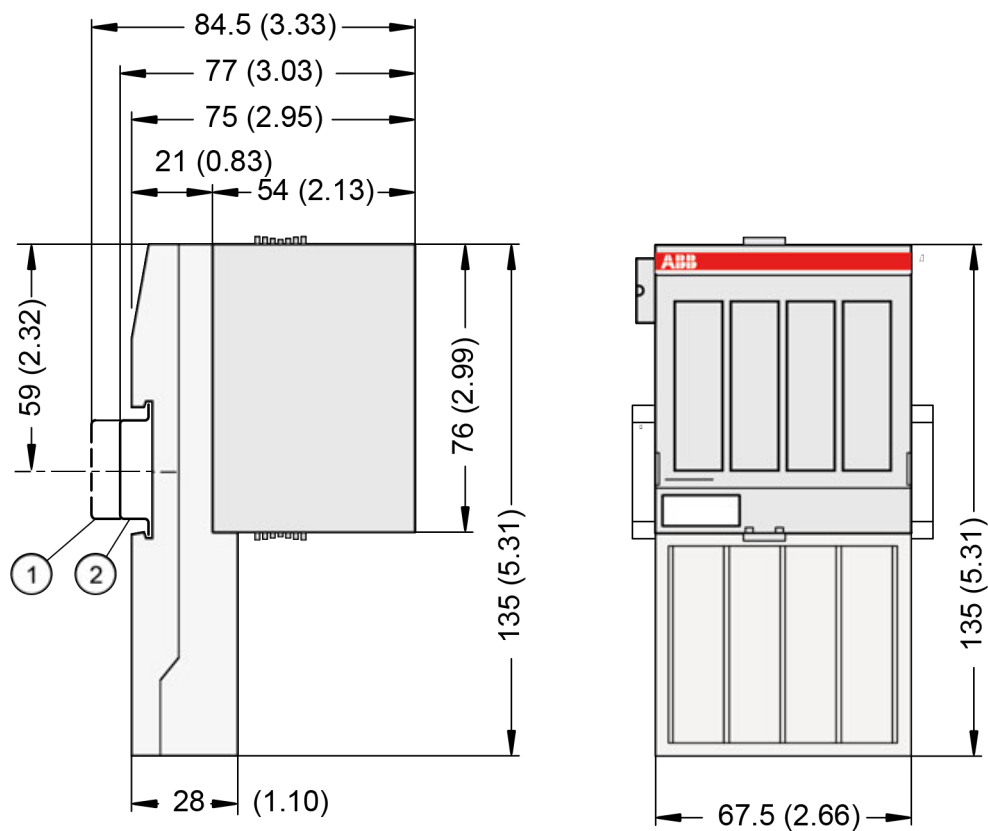
25.1 Assembly



25.2 Disassembly

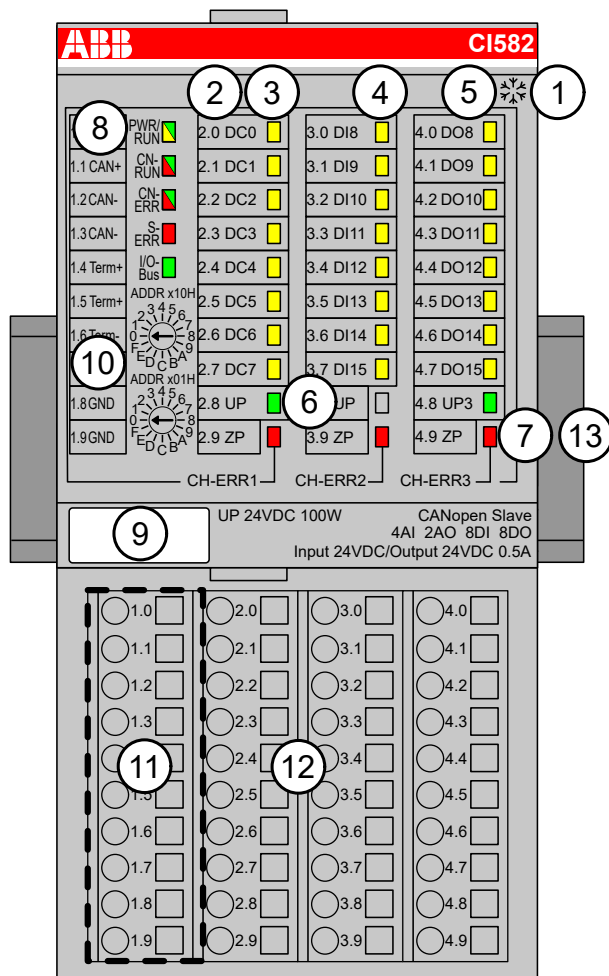


25.3 Dimensions



The dimensions are in mm and in brackets in inch.

25.4 Connections

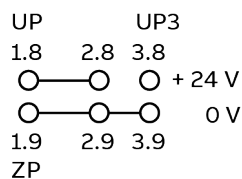


- 1 I/O bus
 - 2 Allocation between terminal number and signal name
 - 3 8 yellow LEDs to display the signal states of the configurable digital inputs/outputs (DC0 - DC7)
 - 4 8 yellow LEDs to display the signal states of the digital inputs (DI8 - DI15)
 - 5 8 yellow LEDs to display the signal states of the digital outputs (DO8 - DO15)
 - 6 2 green LEDs to display the supply voltage UP and UP3
 - 7 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
 - 8 5 System LEDs: PWR/RUN, CN-RUN, CN-ERR, S-ERR, I/O-Bus
 - 9 Label
 - 10 2 rotary switches for setting the CANopen node ID
 - 11 10 terminals to connect the CANopen bus signals
 - 12 Terminal unit
 - 13 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

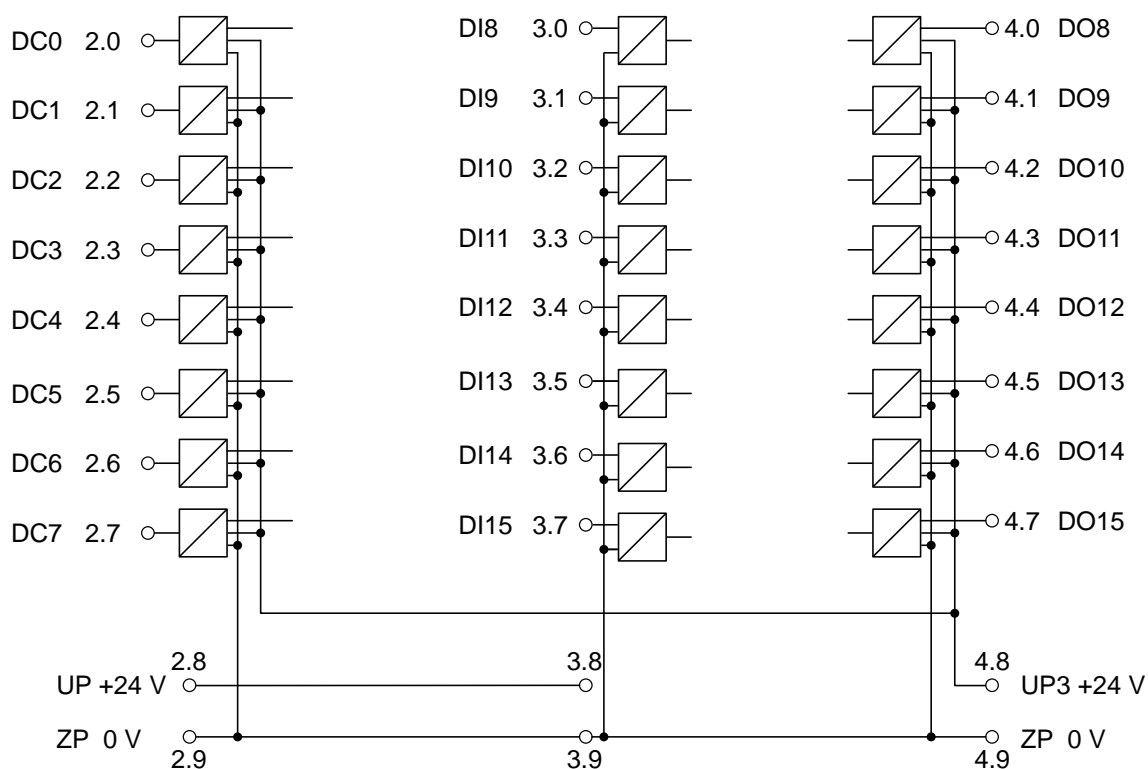
25.4.1 Process supply voltage



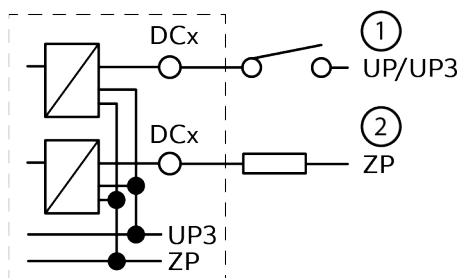
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

25.4.2 Inputs



Example input or output



- 1 Example for connection as an input
- 2 Example for connection as an output

Example digital
input

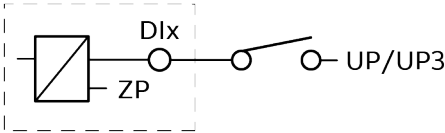


Fig. 39: Example for connection input DIx

Example digital
output

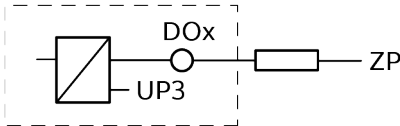


Fig. 40: Example for connection output DOx

25.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

25.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

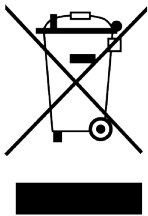
ko

제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

25.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

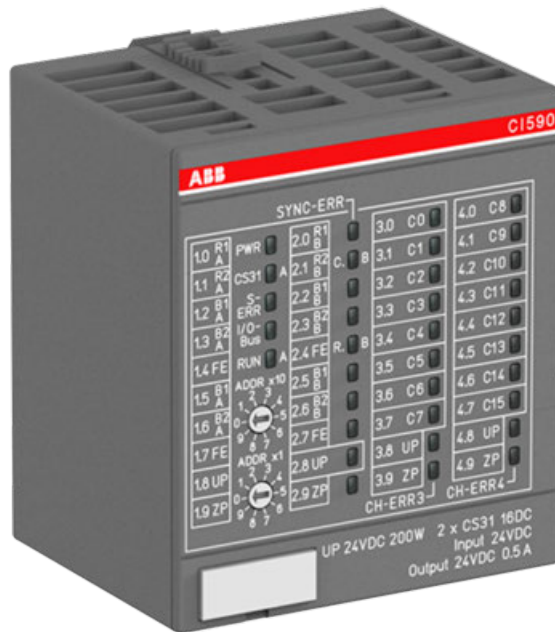
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

26 CI590-CS31-HA(-XC)

- CI590-CS31-HA
- CI590-CS31-HA-XC



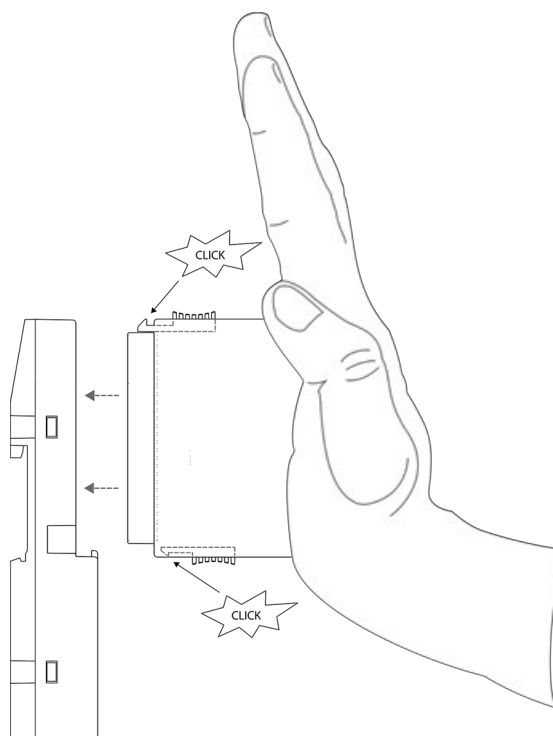
CAUTION!

Risk of injury and damaging the product!

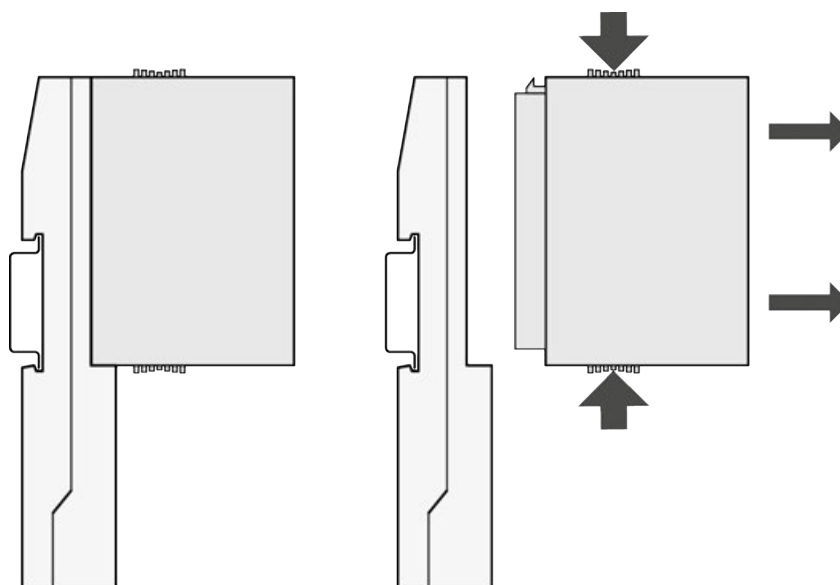
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

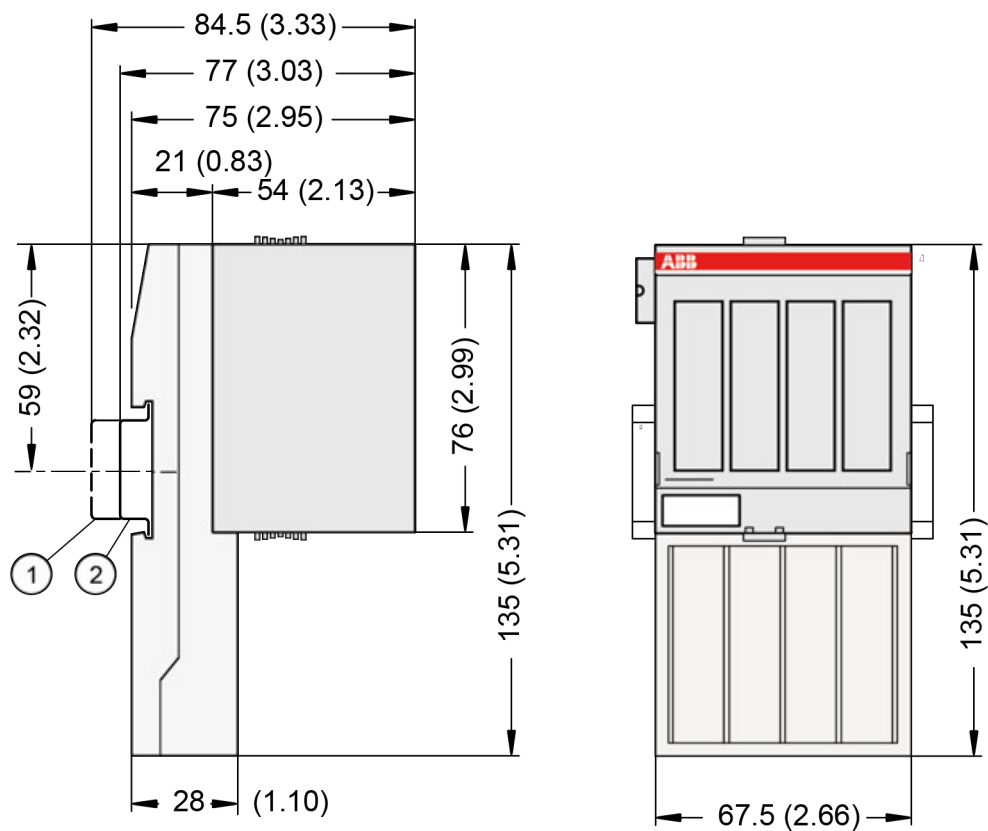
26.1 Assembly



26.2 Disassembly



26.3 Dimensions

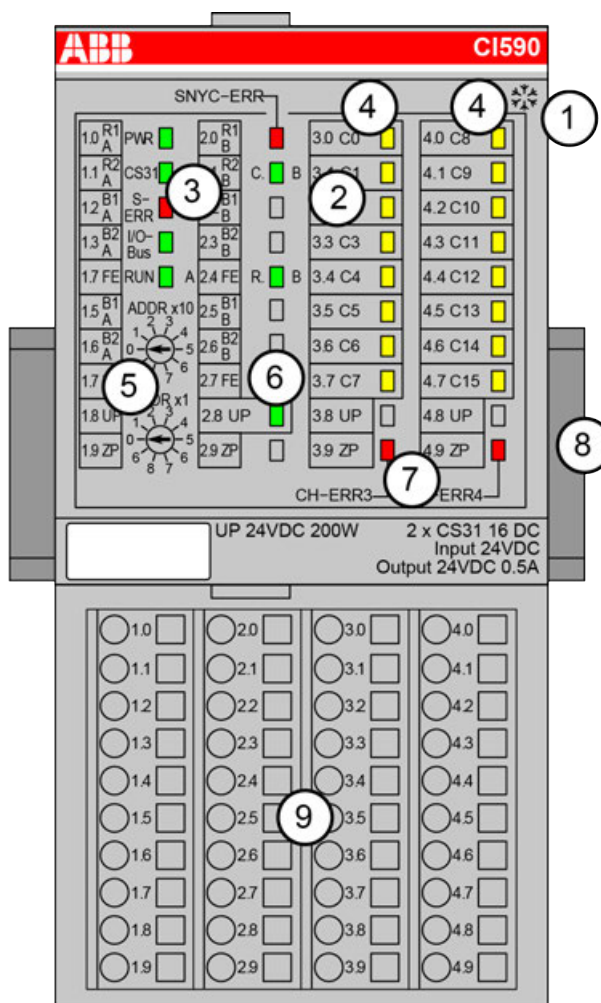


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

26.4 Connections

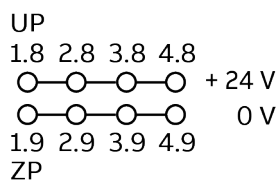


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 5 system LEDs
- 4 16 yellow LEDs to display the signal states of the configurable digital inputs/outputs C0 to C15
- 5 2 rotary switches to set the module's address (00d to 99d)
- 6 1 green LED to display the process voltage UP
- 7 2 red LEDs to display errors
- 8 DIN rail
- 9 Terminal unit
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

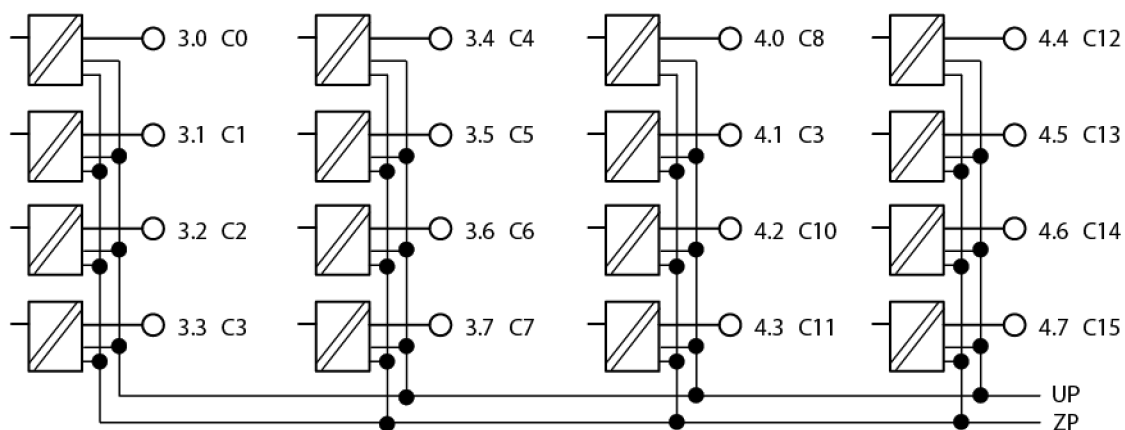
26.4.1 Process supply voltage



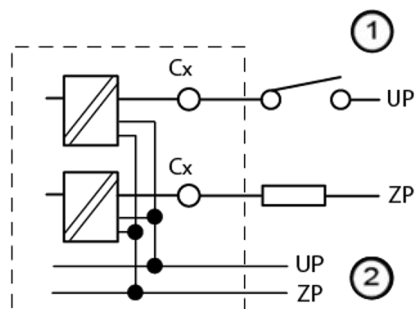
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

26.4.2 Inputs/Outputs




Example

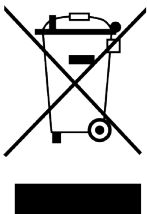


- 1 Example of connection as an input
- 2 Example of connection as an output

26.5 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

26.6 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

27 CI592-CS31(-XC)

- CI592-CS31
- CI592-CS31-XC



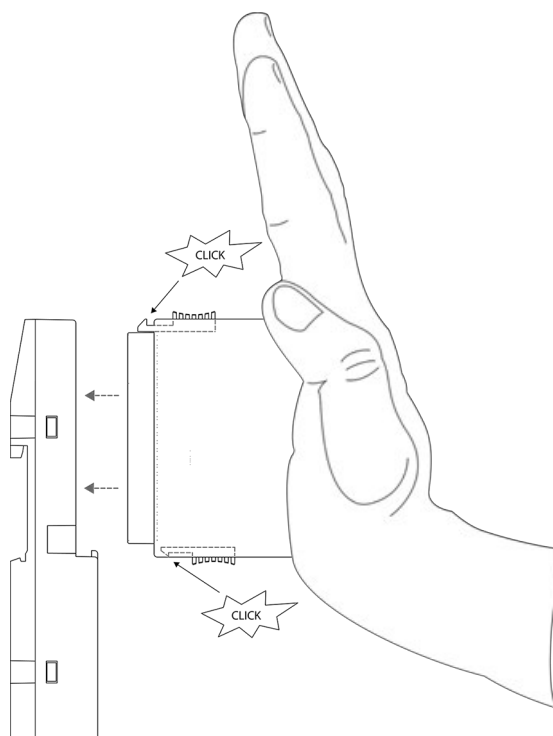
CAUTION!

Risk of injury and damaging the product!

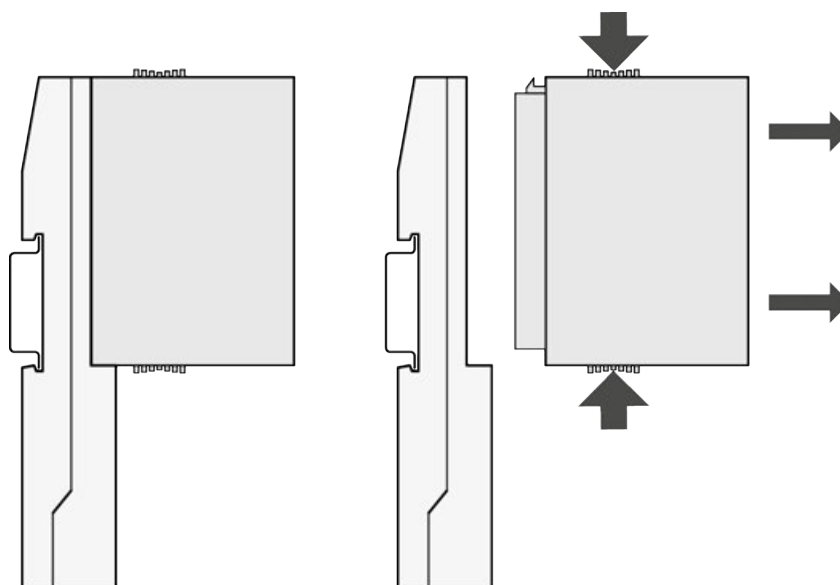
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

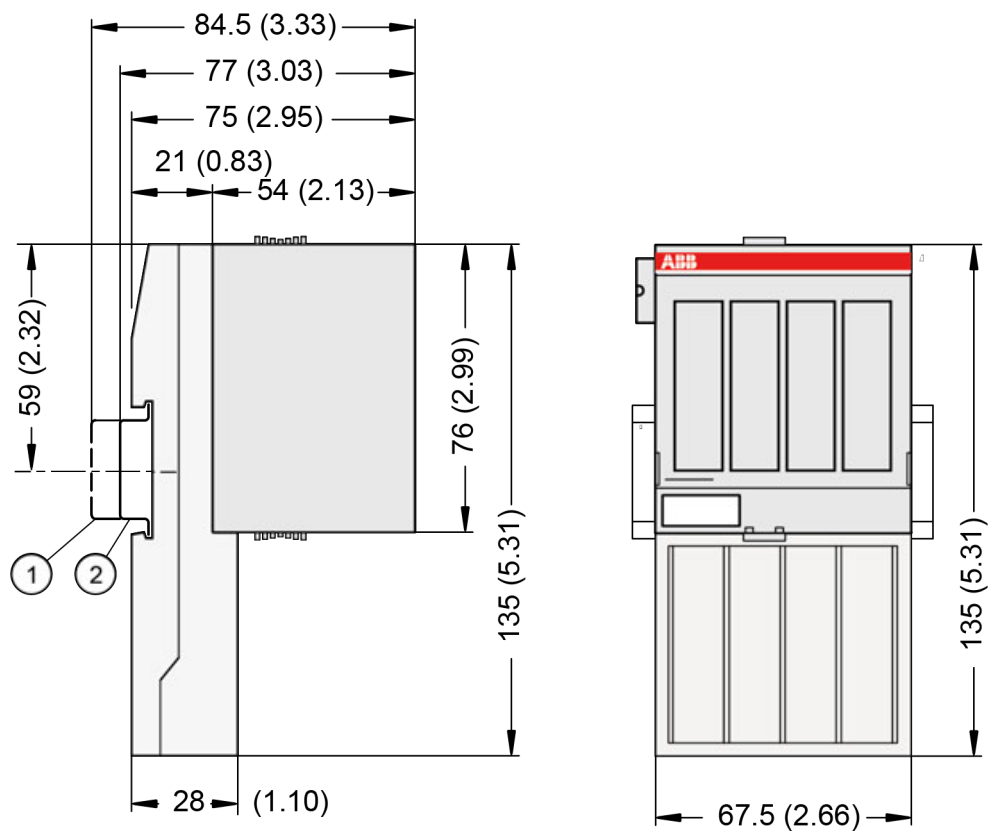
27.1 Assembly



27.2 Disassembly

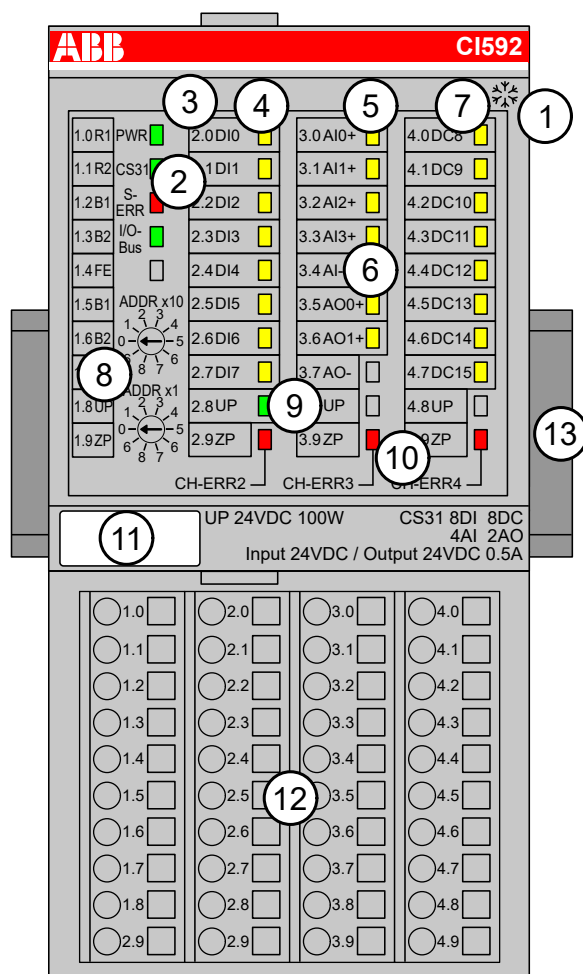


27.3 Dimensions



The dimensions are in mm and in brackets in inch.

27.4 Connections

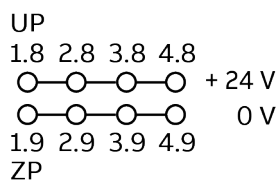


- 1 I/O bus
- 2 4 system LEDs
- 3 Allocation between terminal number and signal name
- 4 8 yellow LEDs to display the signal states of the digital inputs DI0 to DI7
- 5 4 yellow LEDs to display the signal states of the analog inputs AI0 to AI3
- 6 2 yellow LEDs to display the signal states of the analog outputs AO0 to AO1
- 7 8 yellow LEDs to display the signal states of the configurable digital inputs/outputs DC8 to DC15
- 8 2 rotary switches to set the module's address (00d to 99d)
- 9 1 green LED to display the process voltage UP
- 10 3 red LEDs to display errors
- 11 Label
- 12 Terminal unit
- 13 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

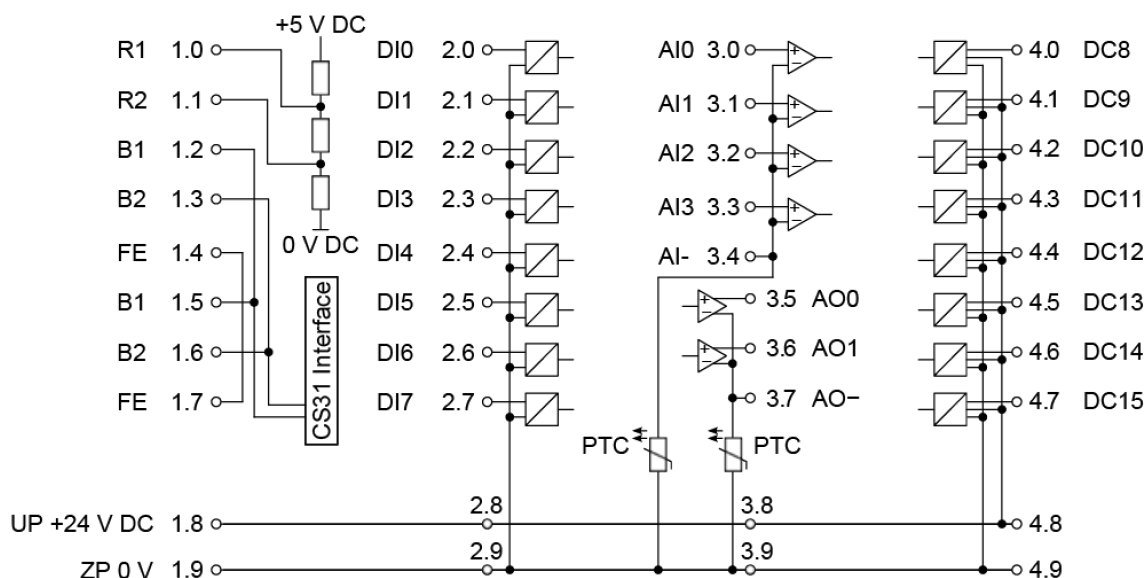
27.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

27.4.2 Inputs/Outputs



Example input or output

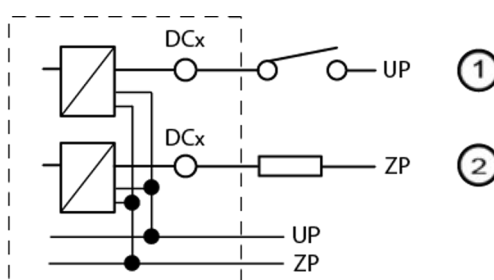


Fig. 41: Example as Input/Output

- 1 Example of connection as an input
- 2 Example of connection as an output

Example analog
input

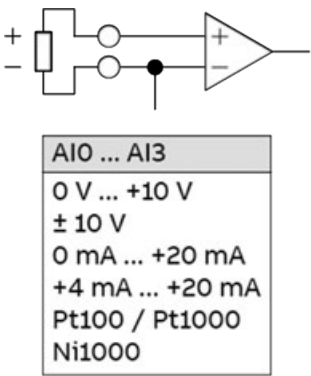


Fig. 42: Example as Input AIx

Example digital
input

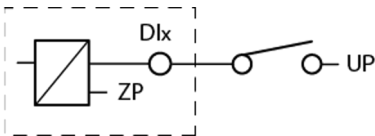


Fig. 43: Example as Input DIx

Example analog
output

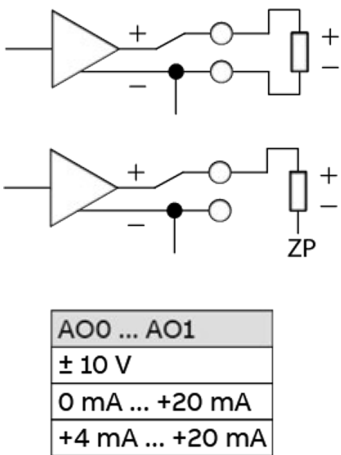



Fig. 44: Example as Output AOx

27.5 Certification

		MSIP-REI-Abb-AC500	
en	Note	These devices correspond to:	
ko	참고 이러한 기기는	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
		KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

27.6 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

28 CM574-x

- CM574-RS
- CM574-RCOM



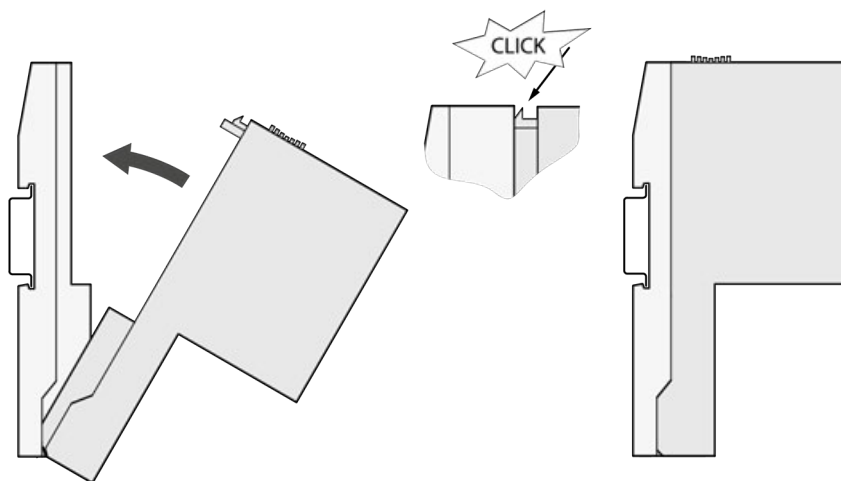
CAUTION!

Risk of injury and damaging the product!

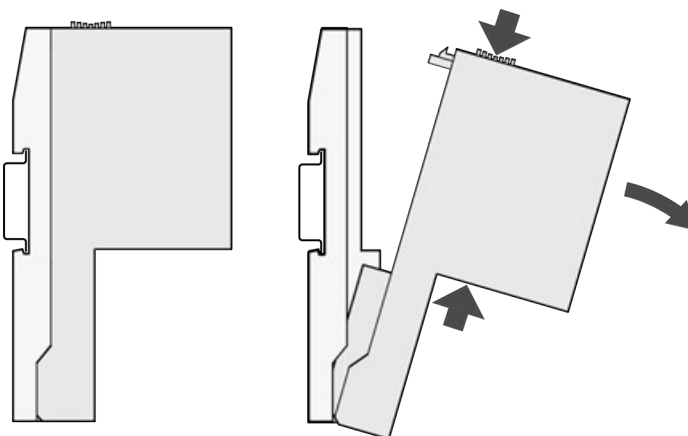
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

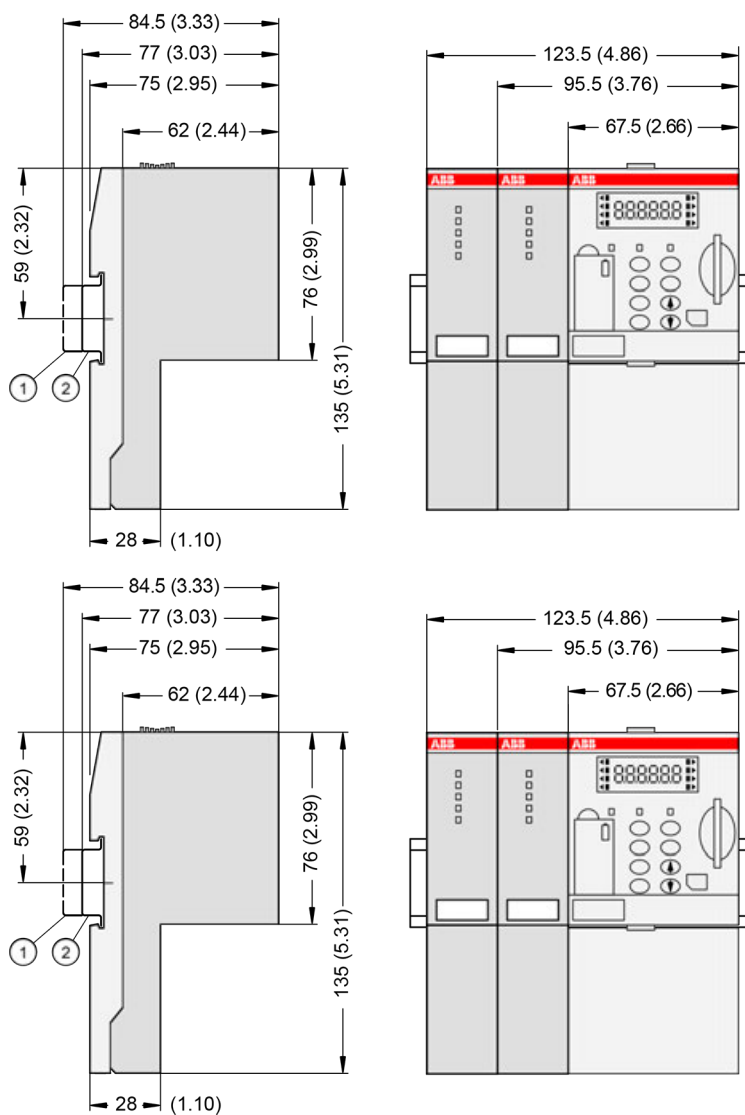
28.1 Assembly



28.2 Disassembly



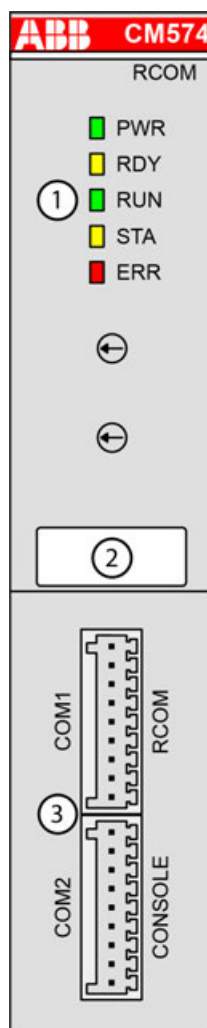
28.3 Dimensions





The dimensions are in mm and in brackets in inch.

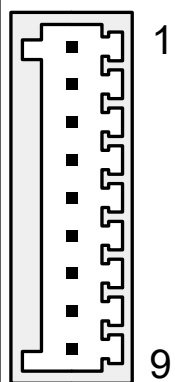
28.4 Connections



- 1 5 LEDs for state display
- 2 Label
- 3 2 interfaces: 1 RCOM protocol interface, 1 CONSOLE

28.4.1 Serial interface

PIN assignment

Pin	Signal	Interface	Description
	1	Term. P	RS-485 Terminator P
	2	RxD/TxD-P	RS-485 Receive/Transmit, positive
	3	RxD/TxD-N	RS-485 Receive/Transmit, negative
	4	Term. N	RS-485 Terminator N
	5	RTS	RS-232 Request to send (output)
	6	TxD	RS-232 Transmit data (output)
	7	SGND	Signal Ground
	8	RxD	RS-232 Receive data (input)
	9	CTS	RS-232 Clear to send (input)

28.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

28.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

28.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

29 CM579-x(-XC)

- CM579-PNIO
- CM579-PNIO-XC
- CM579-ETHCAT



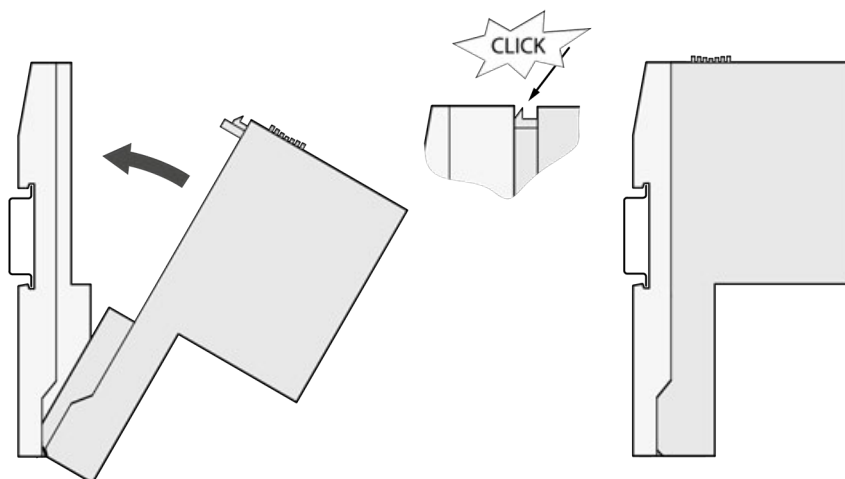
CAUTION!

Risk of injury and damaging the product!

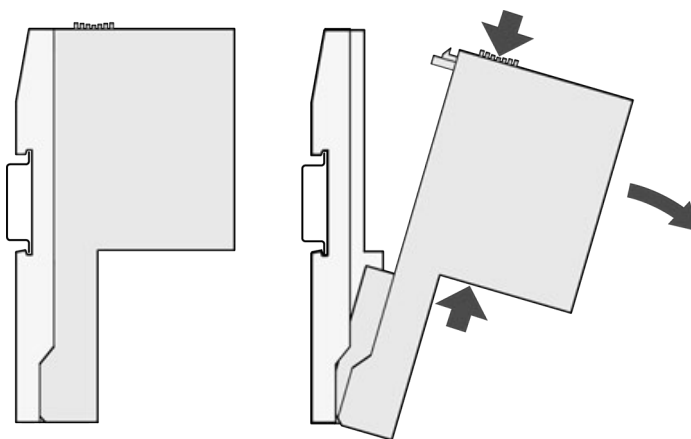
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

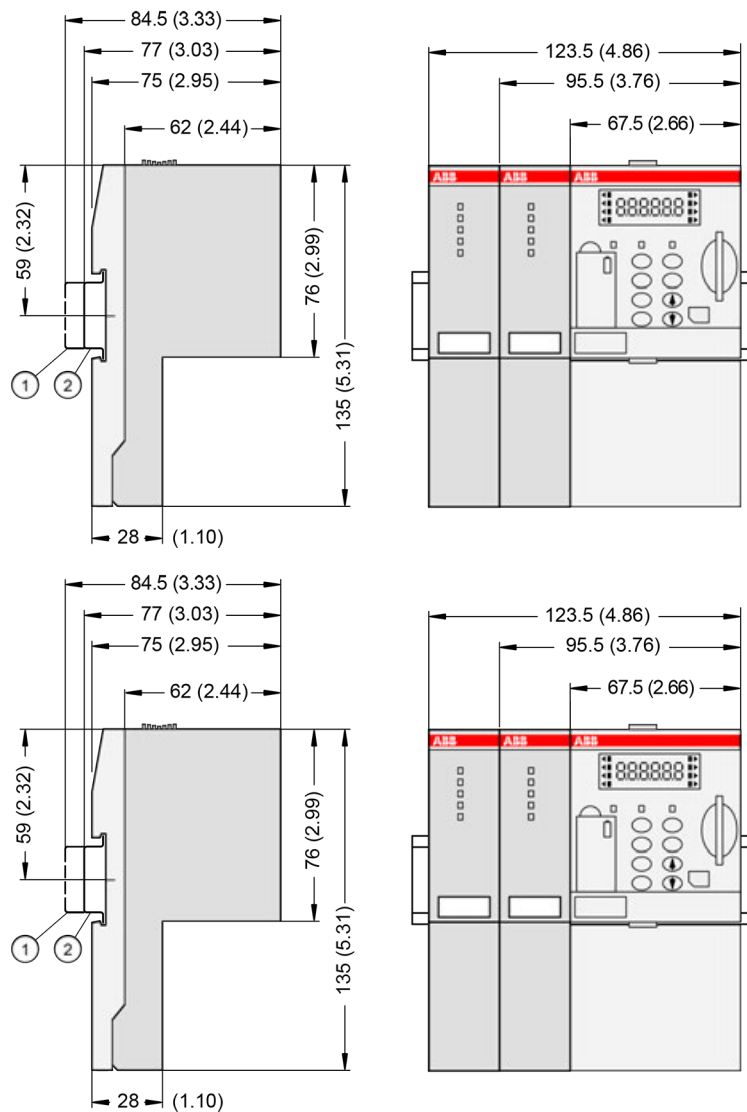
29.1 Assembly



29.2 Disassembly

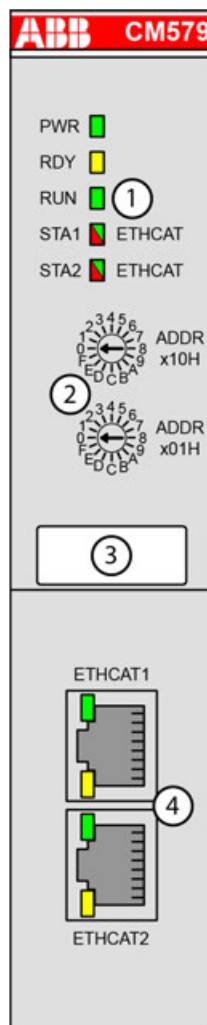


29.3 Dimensions



The dimensions are in mm and in brackets in inch.

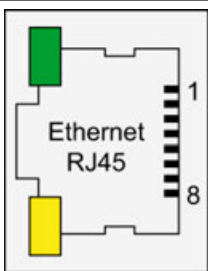
29.4 Connections



- 1 5 LEDs for state display
- 2 2 rotary switches for address setting (not used)
- 3 Label
- 4 2 communication interfaces RJ45 (ETHCAT1 and ETHCAT2)

29.4.1 Ethernet network interface

Pin assignment

Interface	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NC	Not connected
	5	NC	Not connected
	6	RxD-	Receive data -
	7	NC	Not connected
	8	NC	Not connected
	Shield	Cable shield	Functional earth



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

29.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

29.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

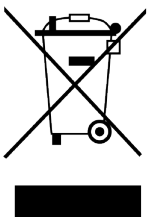
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

29.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

30 CM582-DP(-XC)

- CM582-DP
- CM582-DP-XC



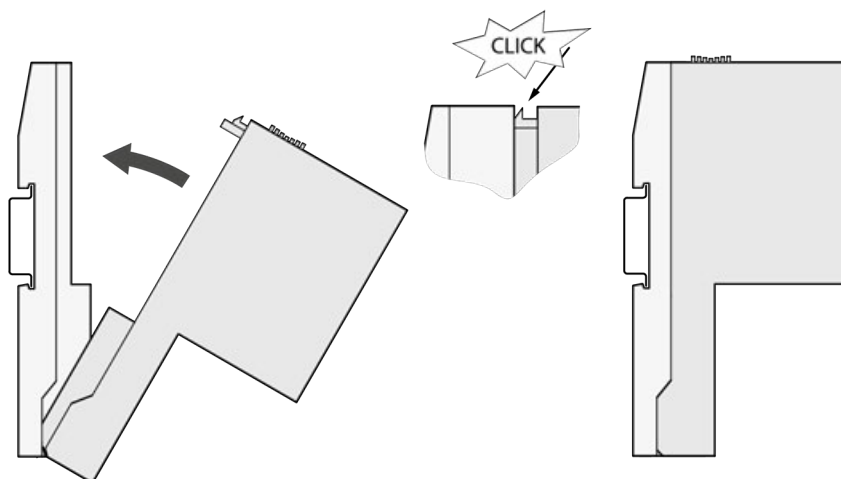
CAUTION!

Risk of injury and damaging the product!

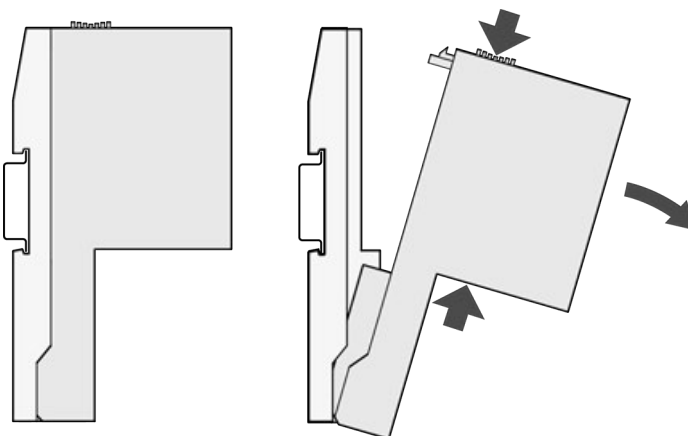
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

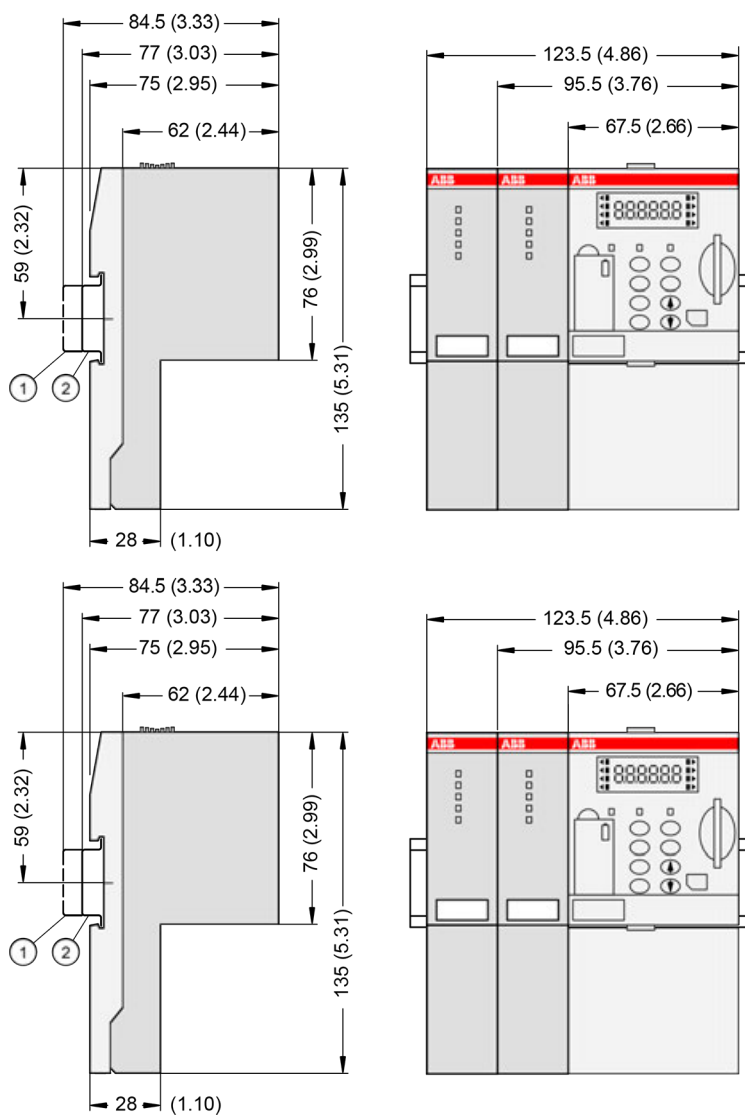
30.1 Assembly



30.2 Disassembly



30.3 Dimensions

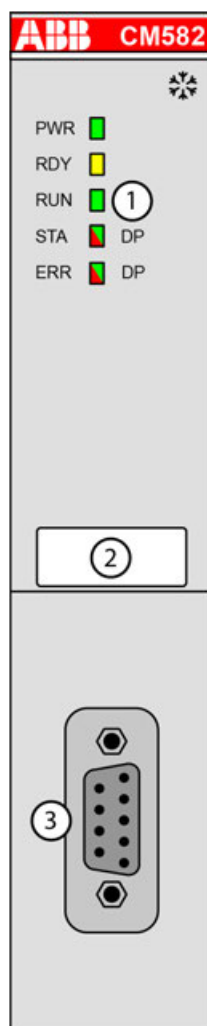


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

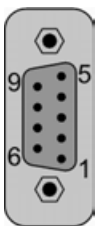
30.4 Connections



- 1 5 LEDs for state display
- 2 Label
- 3 Communication interface PROFIBUS DP D-sub, 9-pin, female
- * Sign for XC version

30.4.1 PROFIBUS interface

Pin assignment

Pin	Signal	Description
	1	NC
	2	NC
	3	RxD/TxD-P
	4	CNTR-P
	5	DGND
	6	VP
	7	NC
	8	RxD/TxD-N
	9	NC



*In corrosive environment, please protect unused connectors using the TA535 accessory.
Not supplied with this device.*

30.5 Cleaning



Cleaning instruction

*Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.*

30.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

30.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

31 CM588-CN(-XC)

- CM588-CN
- CM588-CN-XC



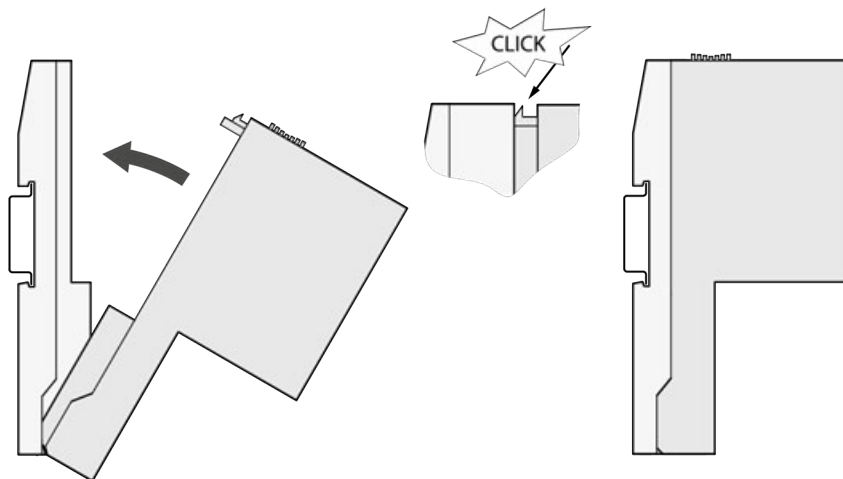
CAUTION!

Risk of injury and damaging the product!

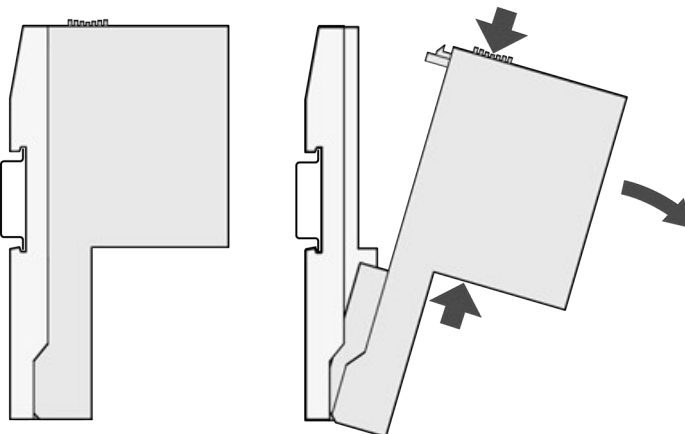
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

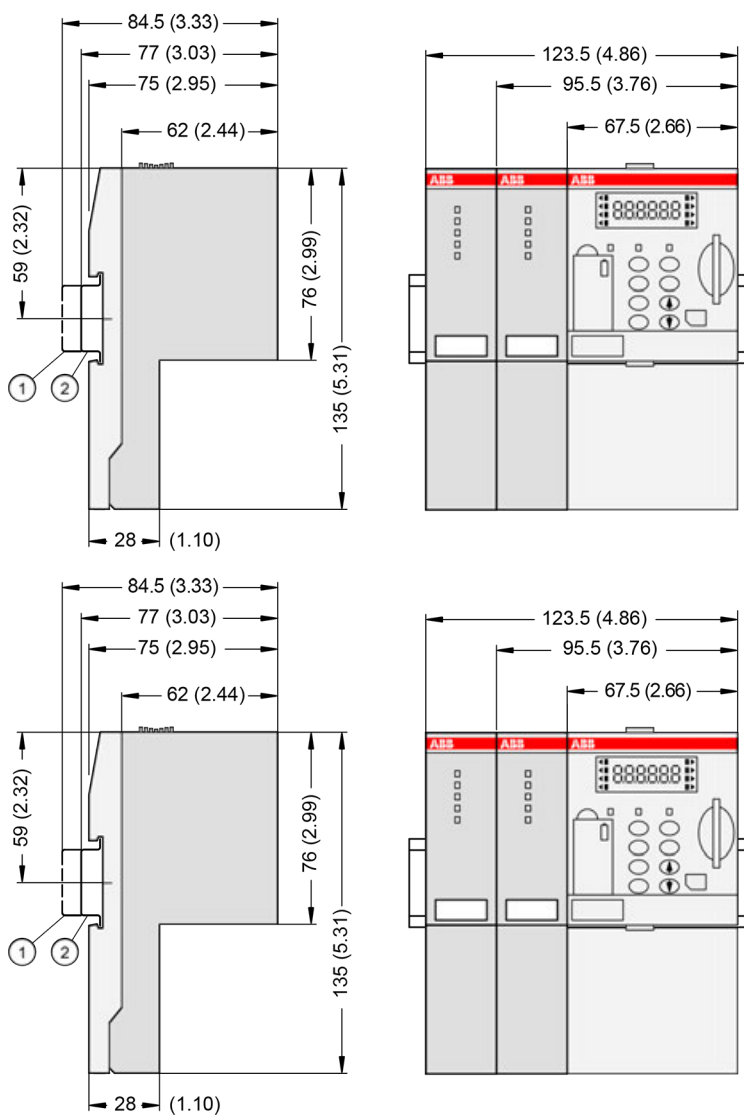
31.1 Assembly



31.2 Disassembly



31.3 Dimensions

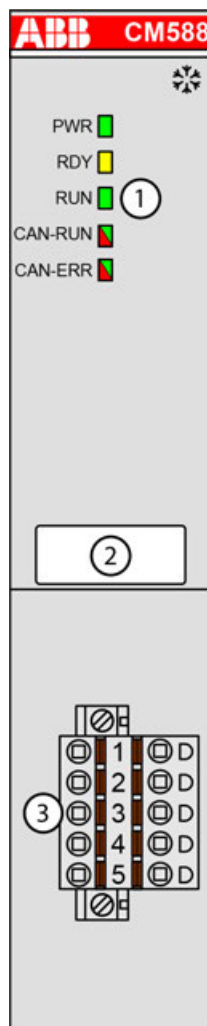


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

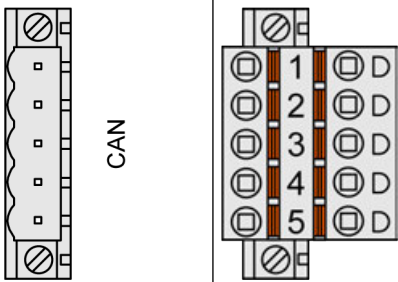
31.4 Connections



- 1 5 LEDs for state display
- 2 Label
- 3 Communication interface, 5-pin, Combicon, male, removable plug with spring terminals
- * Sign for XC version

31.4.1 CAN interface

Pin assignment

Interface		PIN	Signal	Description
		1	CAN_GND	CAN reference potential
		2	CAN_L	Bus line, receive/transmit line, LOW
		3	CAN_SHLD	Shield of the bus line
		4	CAN_H	Bus line, receive/transmit line, HIGH
		5	NC	Not connected



NOTICE!

Unused connector!

Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.

31.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

31.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

31.7 Recycling



Disposal and recycling information

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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

32 CM589-PNIO(-4)(-XC)

- CM589-PNIO
- CM589-PNIO-XC
- CM589-PNIO-4
- CM589-PNIO-4-XC



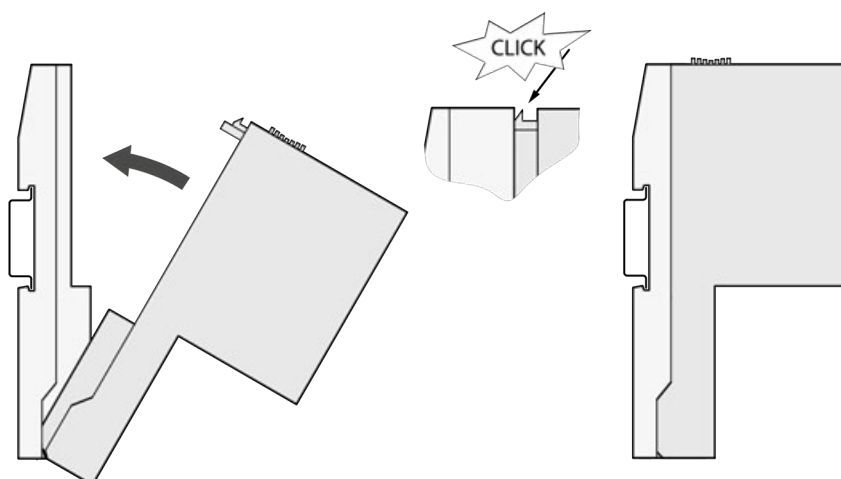
CAUTION!

Risk of injury and damaging the product!

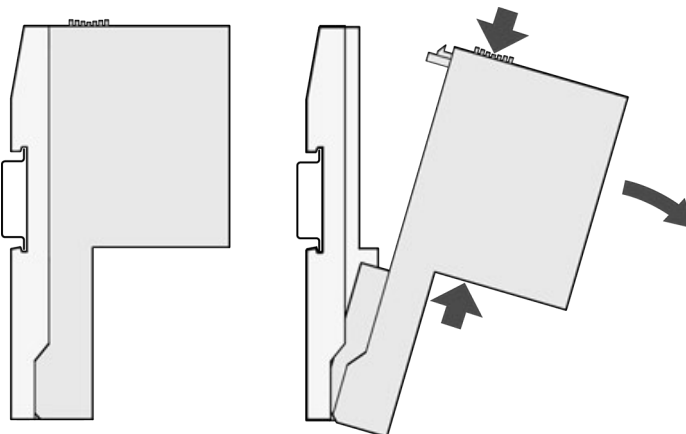
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

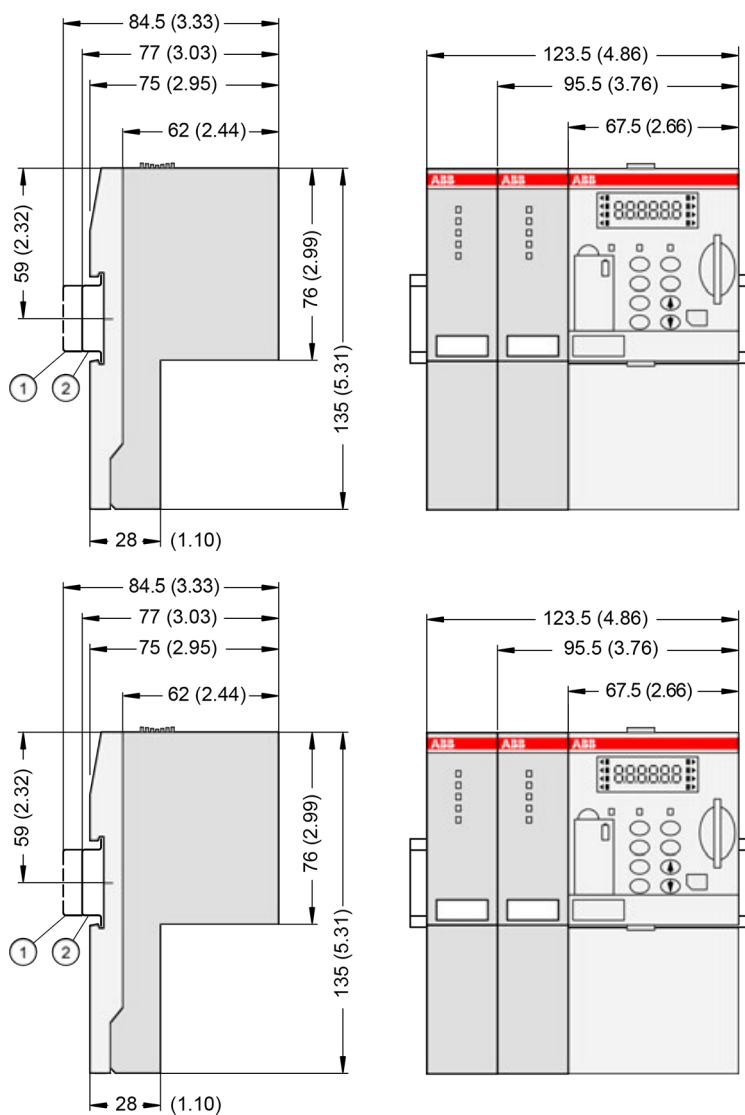
32.1 Assembly



32.2 Disassembly



32.3 Dimensions

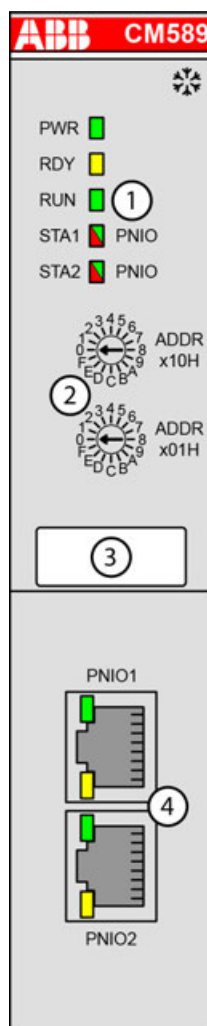



- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

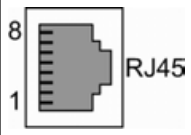
32.4 Connections



- 1 5 LEDs for state display
- 2 2 rotary switches for setting the I/O device identifier
- 3 Label
- 4 2 communication interfaces RJ45 (PNIO1 and PNIO2)
-  Sign for XC version

32.4.1 Ethernet network interface

Pin assignment

	Pin	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NU	Not used
	5	NU	Not used
	6	RxD-	Receive data -
	7	NU	Not used
	8	NU	Not used
	Shield	Cable shield	Functional earth



*In corrosive environment, please protect unused connectors using the TA535 accessory.
Not supplied with this device.*

32.5 Cleaning



Cleaning instruction

*Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.*

32.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

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Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

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KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

32.7 Recycling



Disposal and recycling information

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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

33 CM592-DP(-XC)

- CM592-DP
- CM592-DP-XC



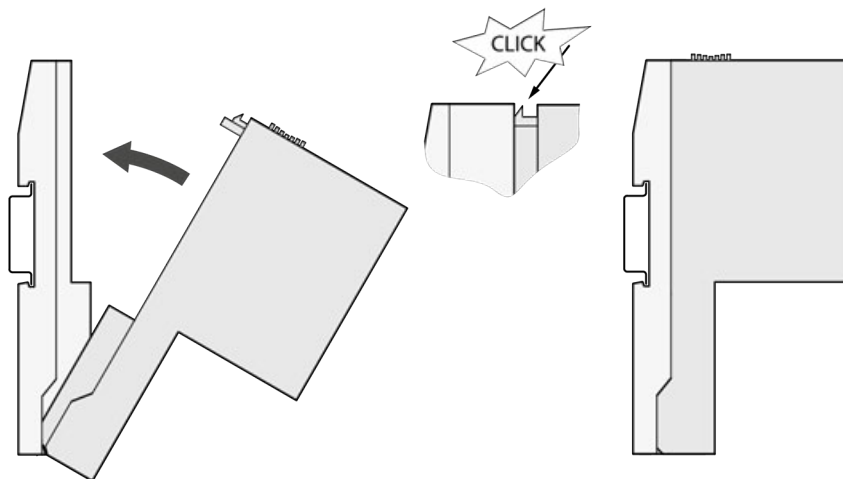
CAUTION!

Risk of injury and damaging the product!

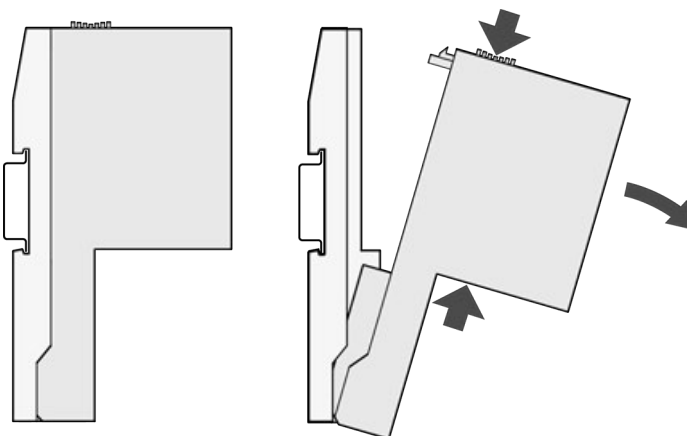
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

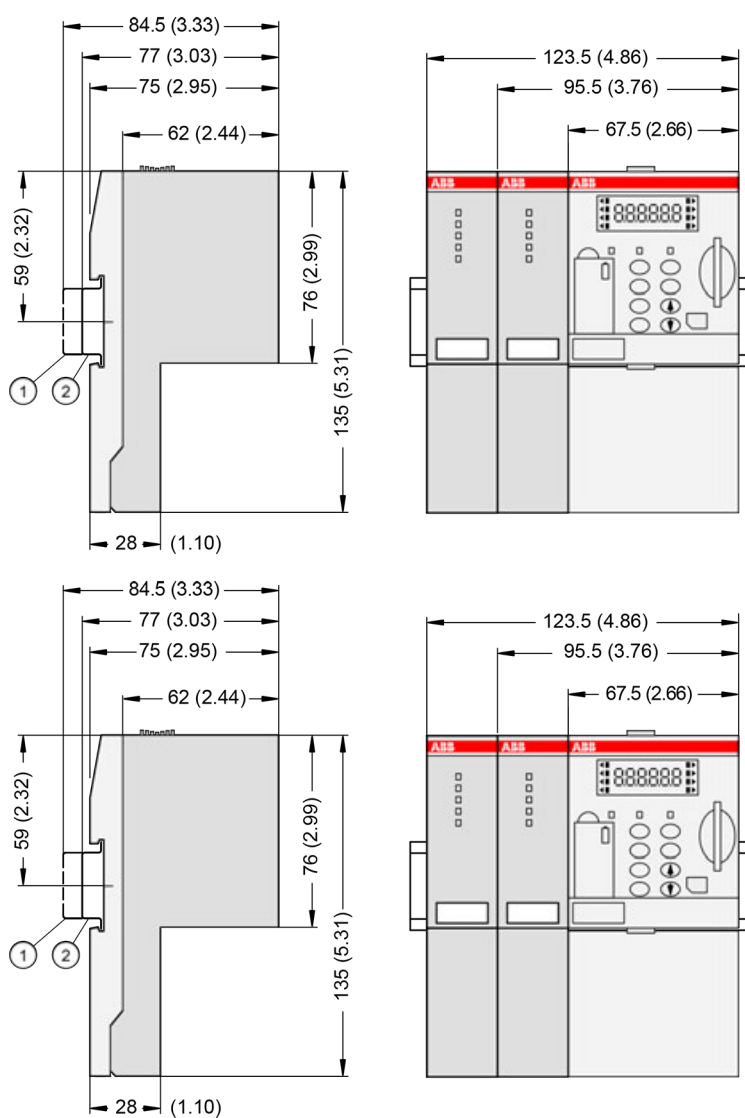
33.1 Assembly



33.2 Disassembly



33.3 Dimensions

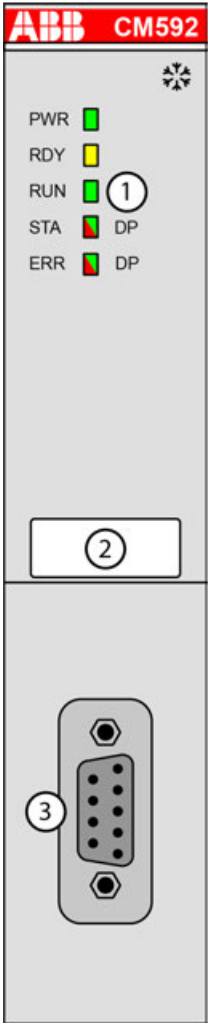


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

33.4 Connections



- 1 5 LEDs for state display
- 2 Label
- 3 Communication interface PROFIBUS DP D-sub, 9-pin, female
- * Sign for XC version

33.4.1 PROFIBUS interface

PIN assignment

Pin		Signal	Description
	1	NC	Not connected
	2	NC	Not connected
	3	RxD/TxD-P	Receive/Transmit positive
	4	CNTR-P	Control signal for repeater, positive
	5	DGND	Reference potential for data exchange and +5 VI

Pin	Signal	Description
6	VP	+5 V (power supply for the bus terminating resistors)
7	NC	Not connected
8	RxD/TxD-N	Receive/Transmit negative
9	NC	Not connected



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

33.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

33.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

33.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

34 CM597-ETH(-XC)

- CM597-ETH
- CM597-ETH-XC



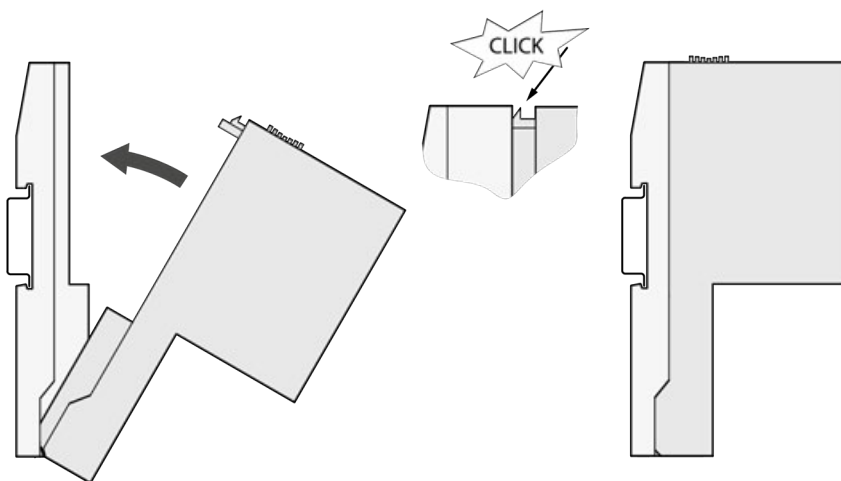
CAUTION!

Risk of injury and damaging the product!

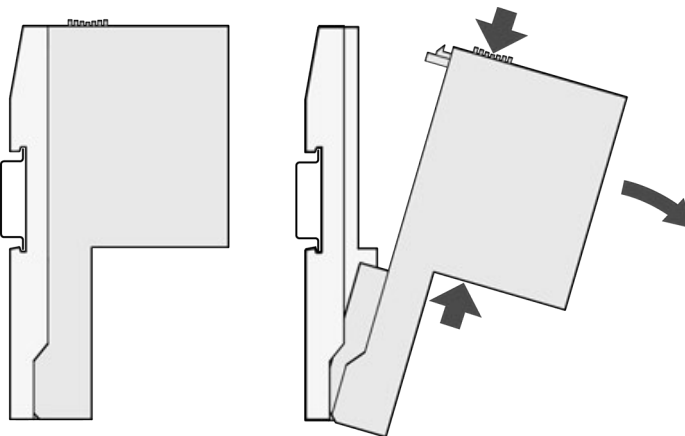
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

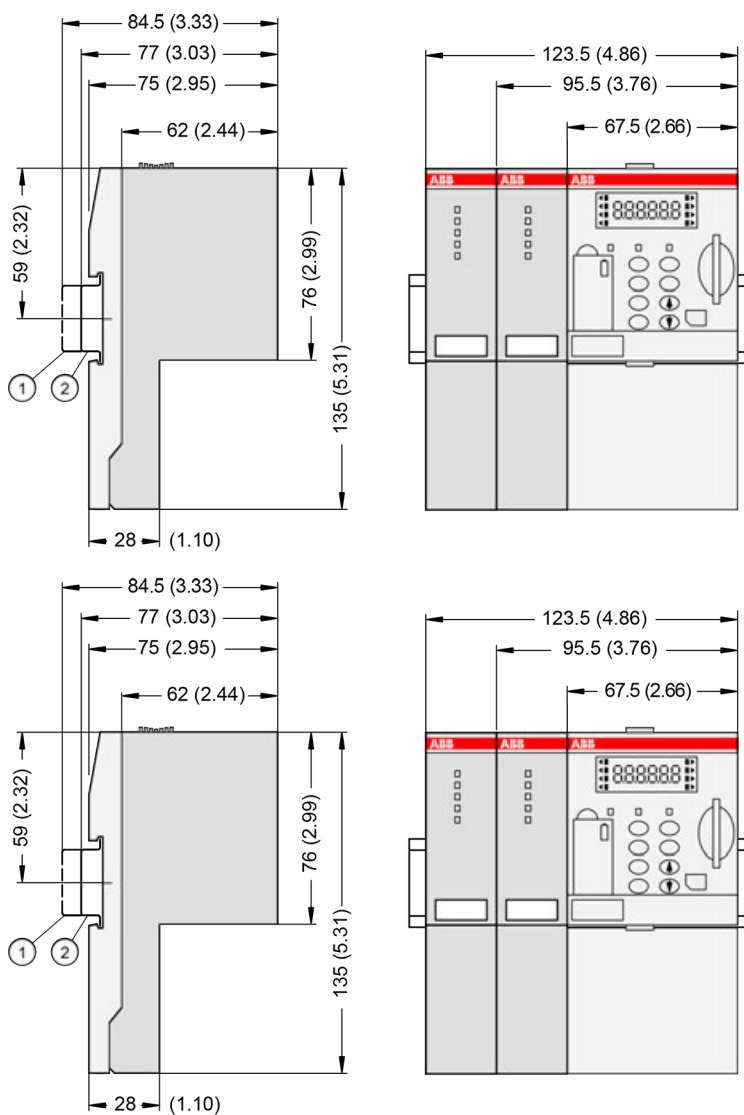
34.1 Assembly



34.2 Disassembly



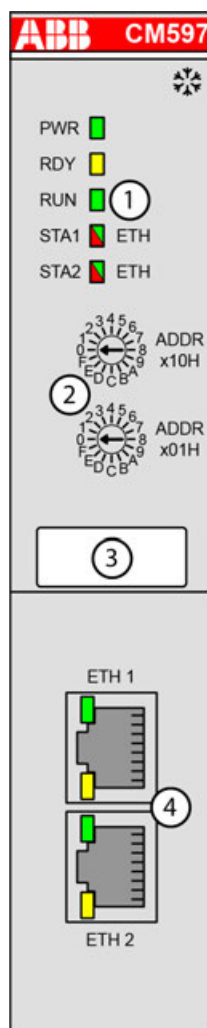
34.3 Dimensions






The dimensions are in mm and in brackets in inch.

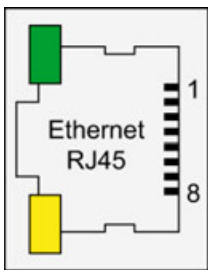
34.4 Connections



- 1 5 LEDs for state display
- 2 2 rotary switches for address setting
- 3 Label
- 4 2 communication interfaces Ethernet RJ45
-  Sign for XC version

34.4.1 Ethernet network interface

Pin assignment

Interface	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NC	Not connected
	5	NC	Not connected
	6	RxD-	Receive data -
	7	NC	Not connected
	8	NC	Not connected
	Shield	Cable shield	Functional earth



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

34.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

34.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

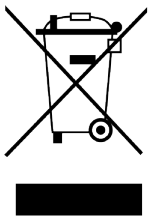
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

34.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

35 CM598-CN(-XC)

- CM598-CN
- CM598-CN-XC



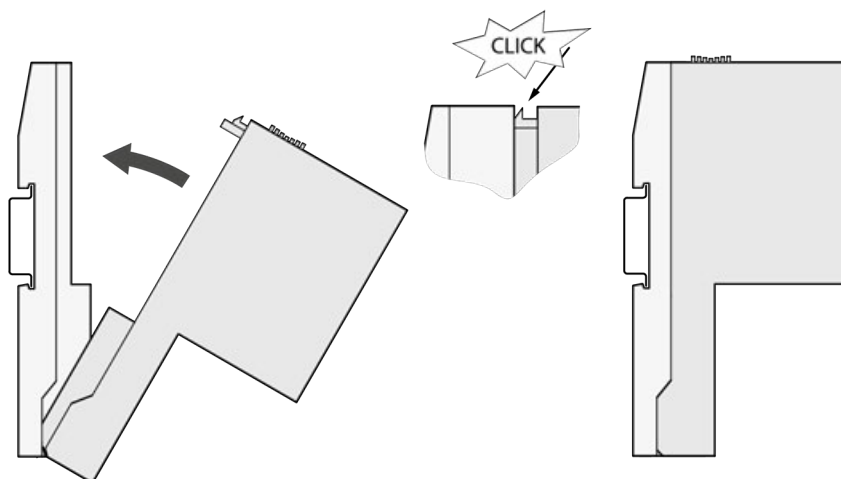
CAUTION!

Risk of injury and damaging the product!

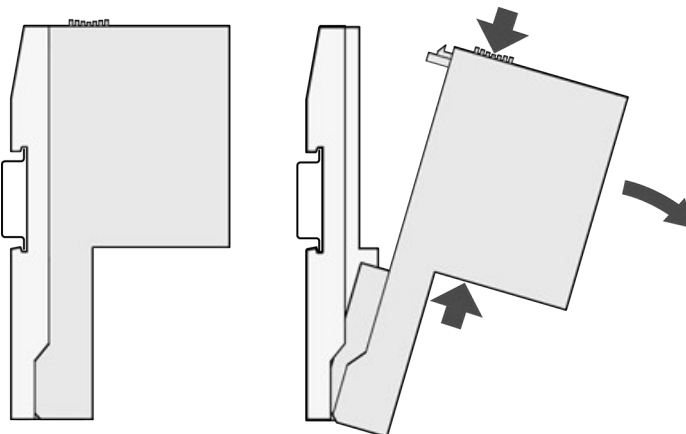
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

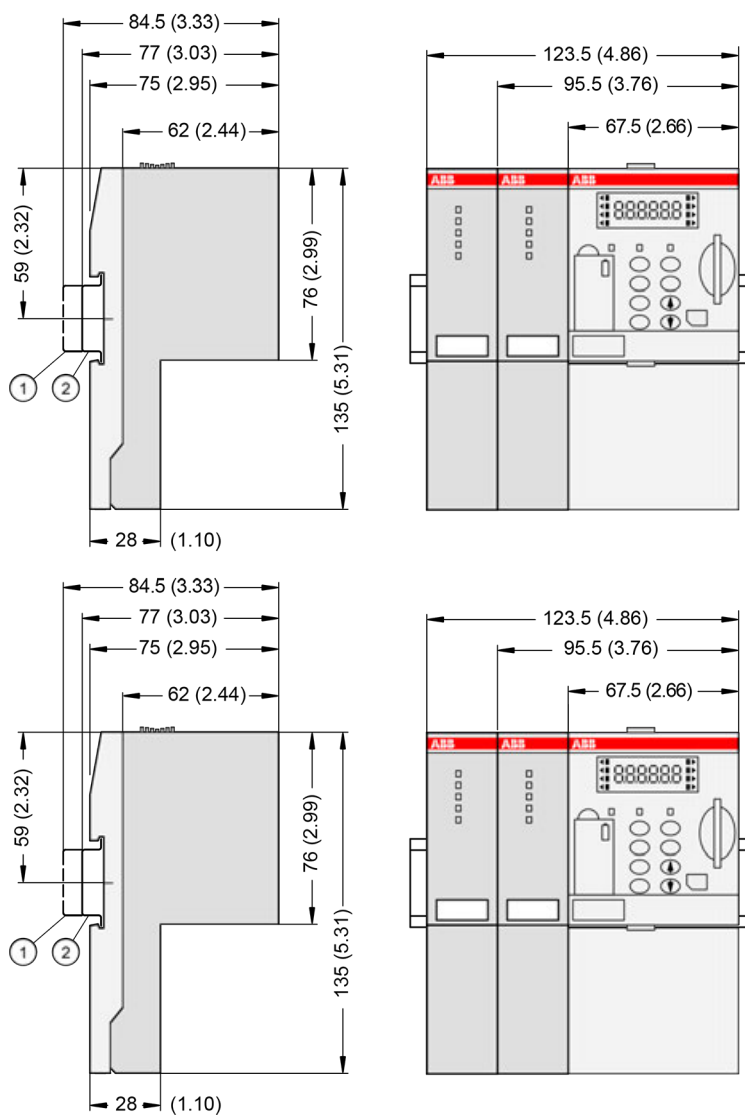
35.1 Assembly



35.2 Disassembly



35.3 Dimensions

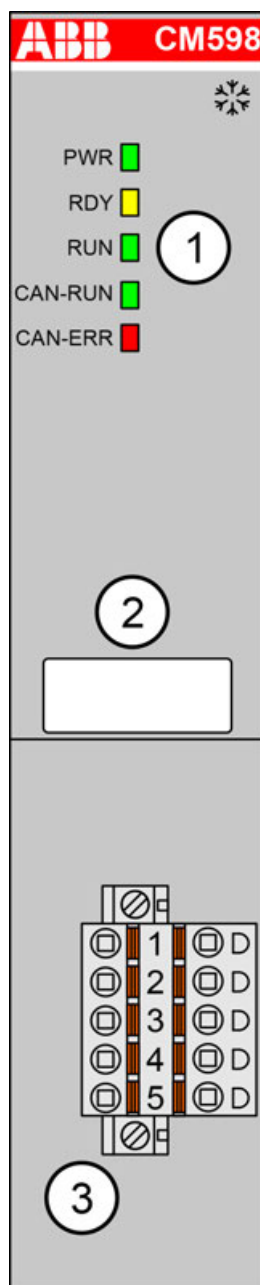


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

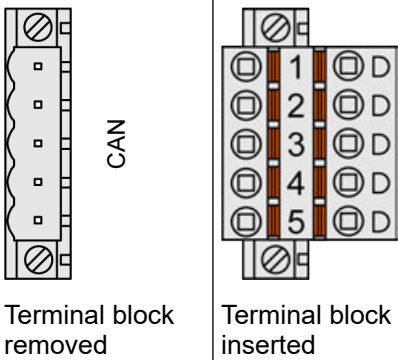
35.4 Connections



- 1 5 LEDs for state display
- 2 Label
- 3 Communication interface, 5-pin, Combicon, male, removable plug with spring terminals
- ❄ Sign for XC version

35.4.1 CAN interface

Pin assignment

Interface	PIN	Signal	Description
	1	CAN_GND	CAN reference potential
	2	CAN_L	Bus line, receive/transmit line, LOW
	3	CAN_SHLD	Shield of the bus line
	4	CAN_H	Bus line, receive/transmit line, HIGH
	5	NC	Not connected



NOTICE!

Unused connector!

Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

35.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

35.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

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ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

35.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

36 DA501(-XC)

- DA501
- DA501-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

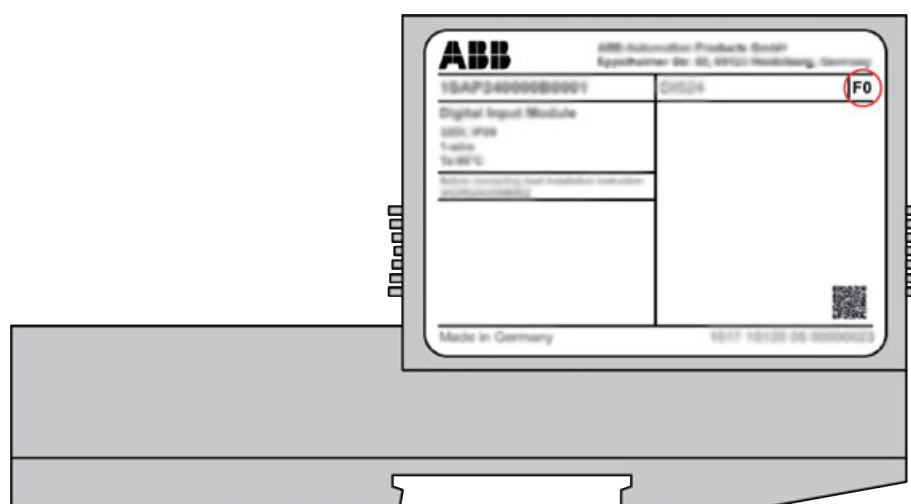
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

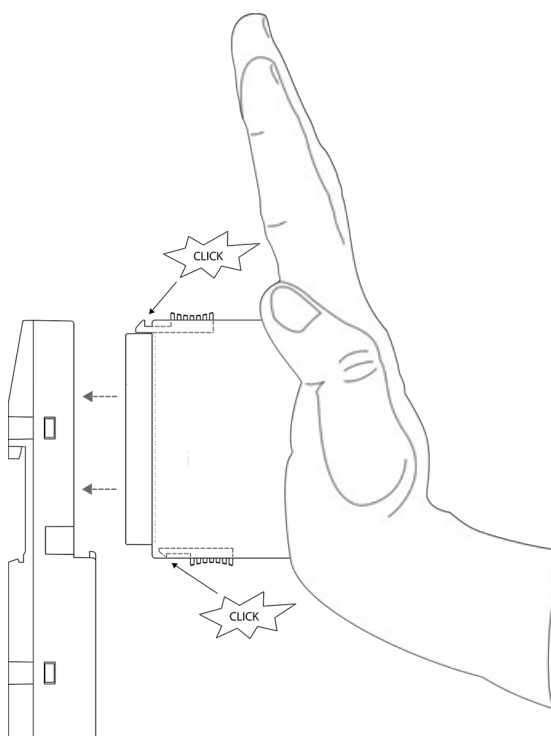
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

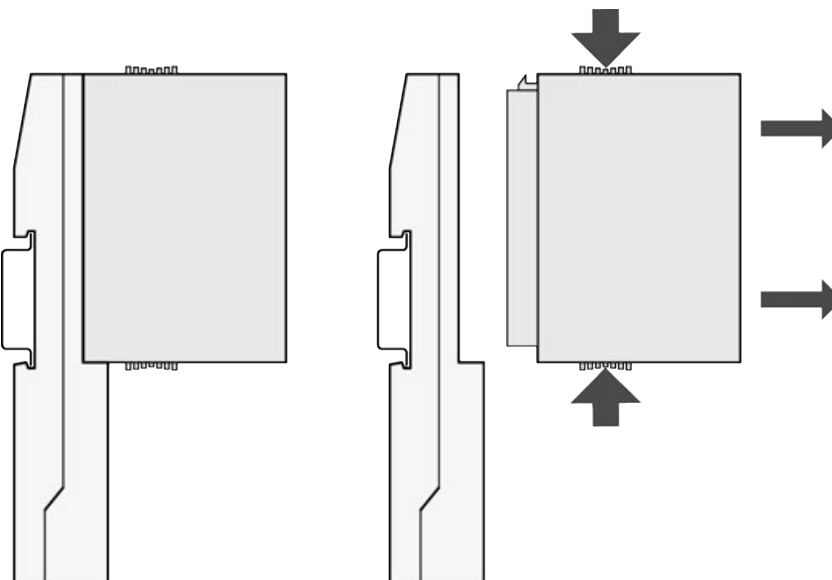
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

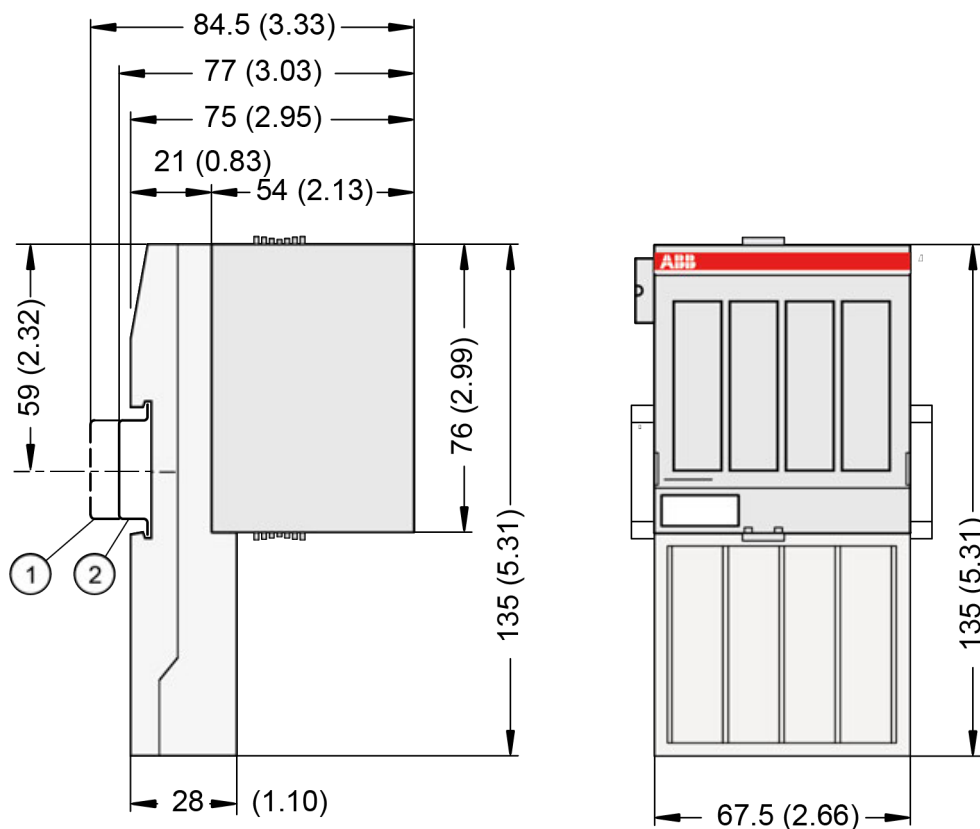
36.1 Assembly



36.2 Disassembly



36.3 Dimensions

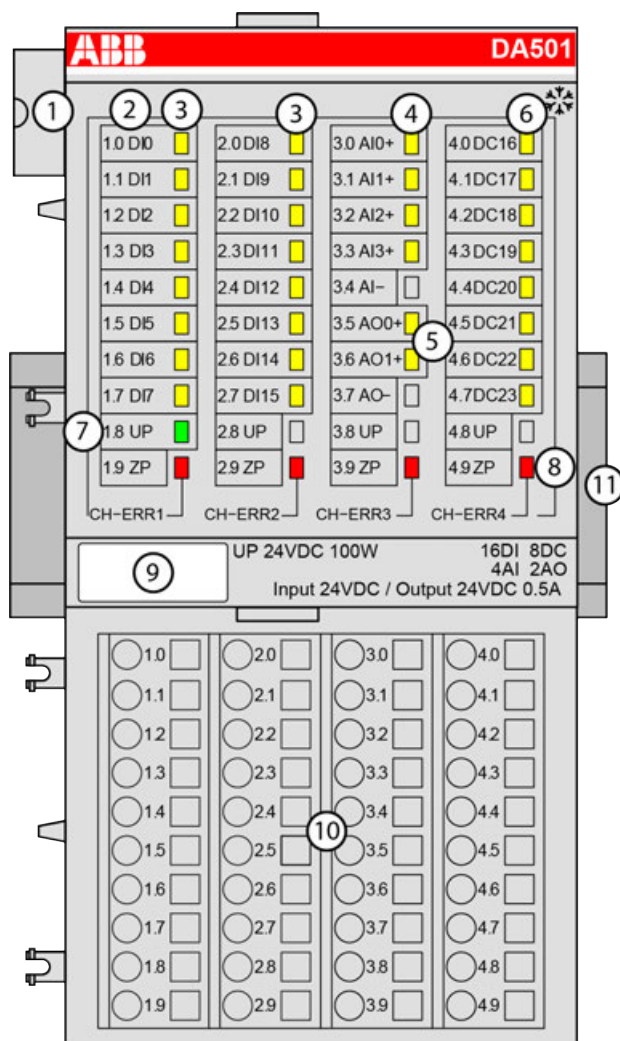


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

36.4 Connections

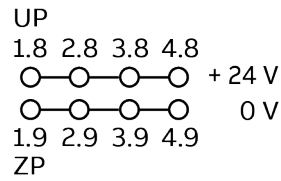


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 16 yellow LEDs to display the signal states of the digital inputs DI0 to DI15
- 4 4 yellow LEDs to display the signal states of the analog inputs AI0 to AI3
- 5 2 yellow LEDs to display the signal states of the analog outputs AO0 to AO1
- 6 8 yellow LEDs to display the signal state of the configurable digital inputs/outputs DC16 to DC23
- 7 1 green LED to display the state of the process supply voltage UP
- 8 4 red LEDs to display errors
- 9 Label
- 10 Terminal unit
- 11 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

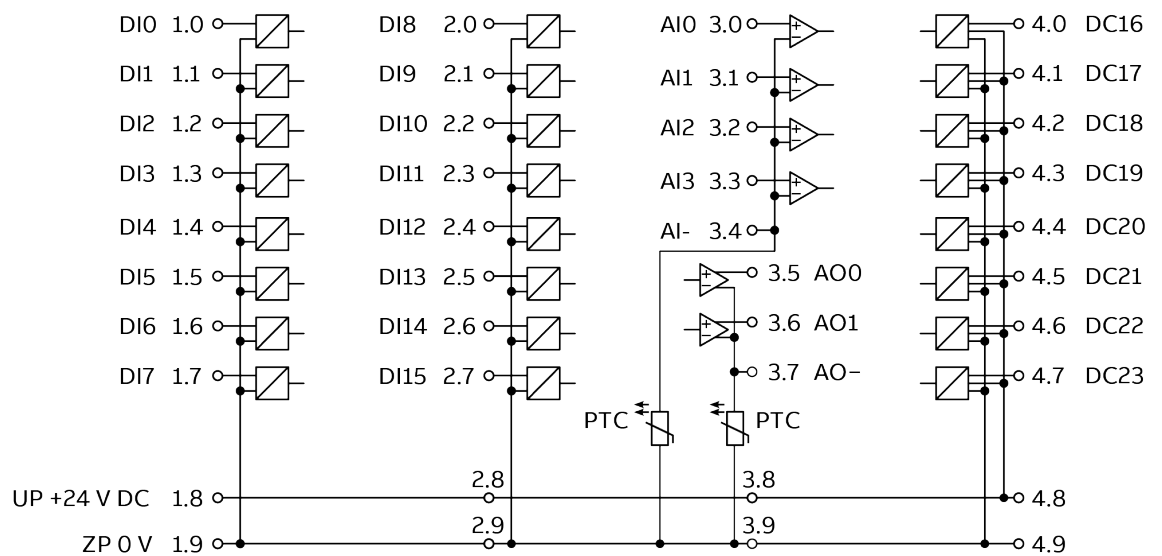
36.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

36.4.2 Inputs/Outputs



Example digital input

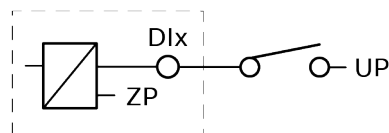
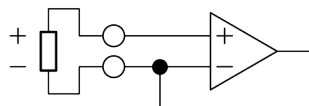


Fig. 45: Example of connection input DIx

Example analog input



AI0 ... AI3
0 V ... +10 V
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA
Pt100 / Pt1000
Ni1000

Fig. 46: Example of connection input AIx

Example analog
output

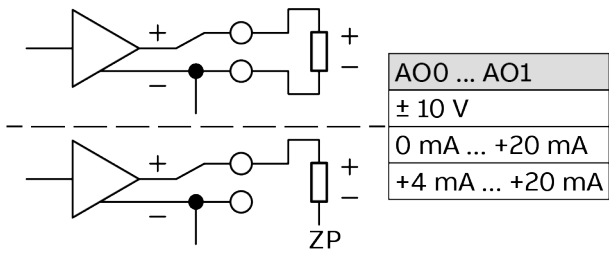
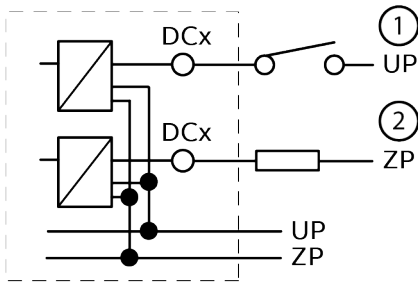


Fig. 47: Example of connection output AOx

Example input
or output



- 1 Example of connection as an input
- 2 Example of connection as an output

36.5 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

36.6 Certification



MSIP-REI-Abb-AC500

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

en **Devices with KCC sign on product sticker and packaging**

ko 제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

36.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

37 DA502(-XC)

- DA502
- DA502-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

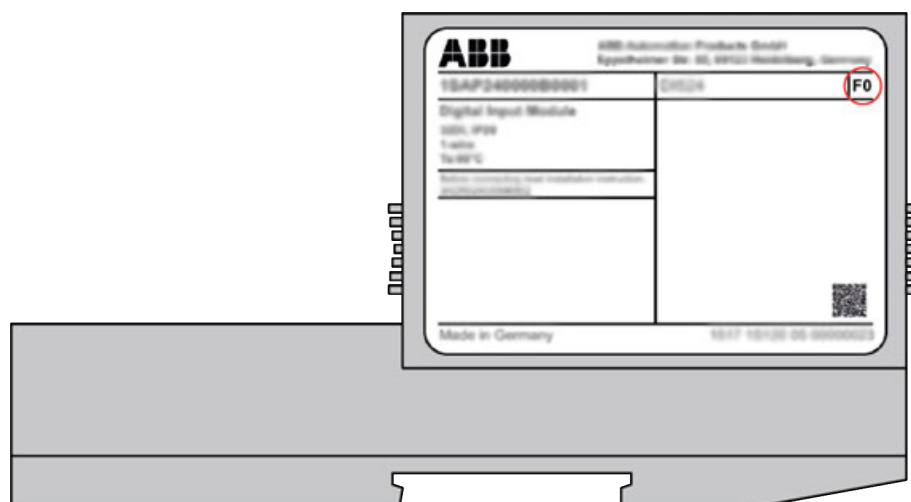
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

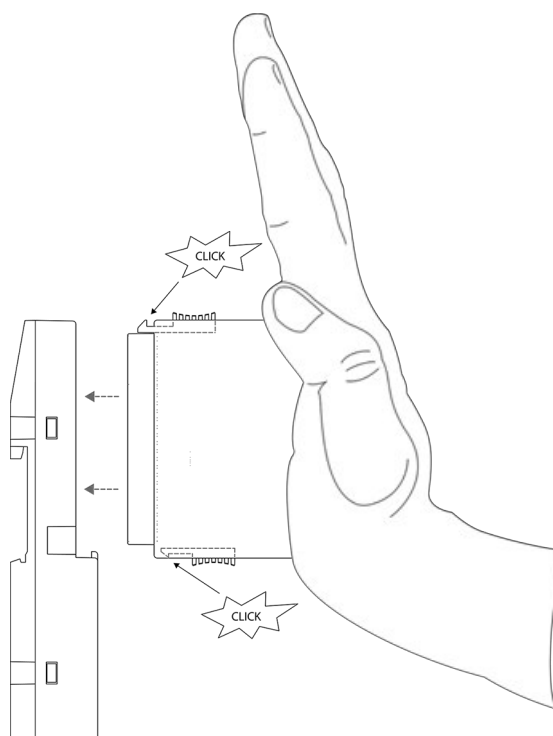
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

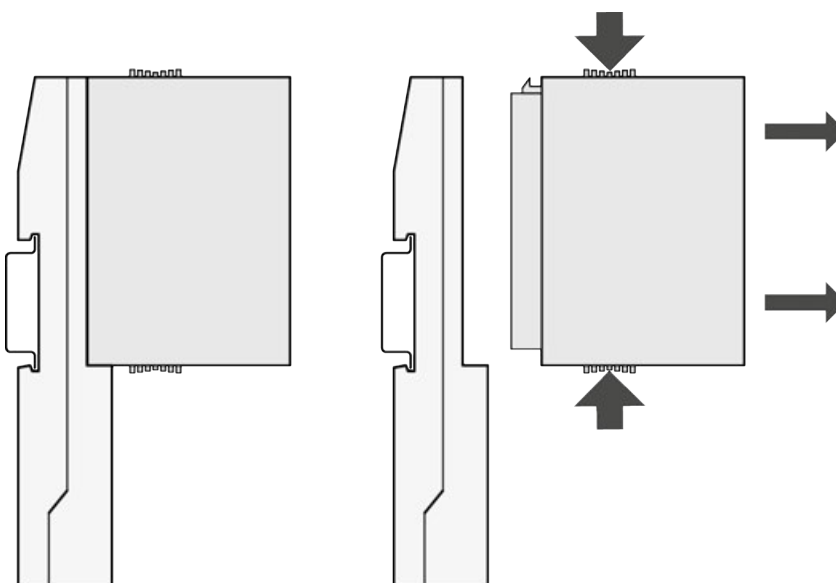
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

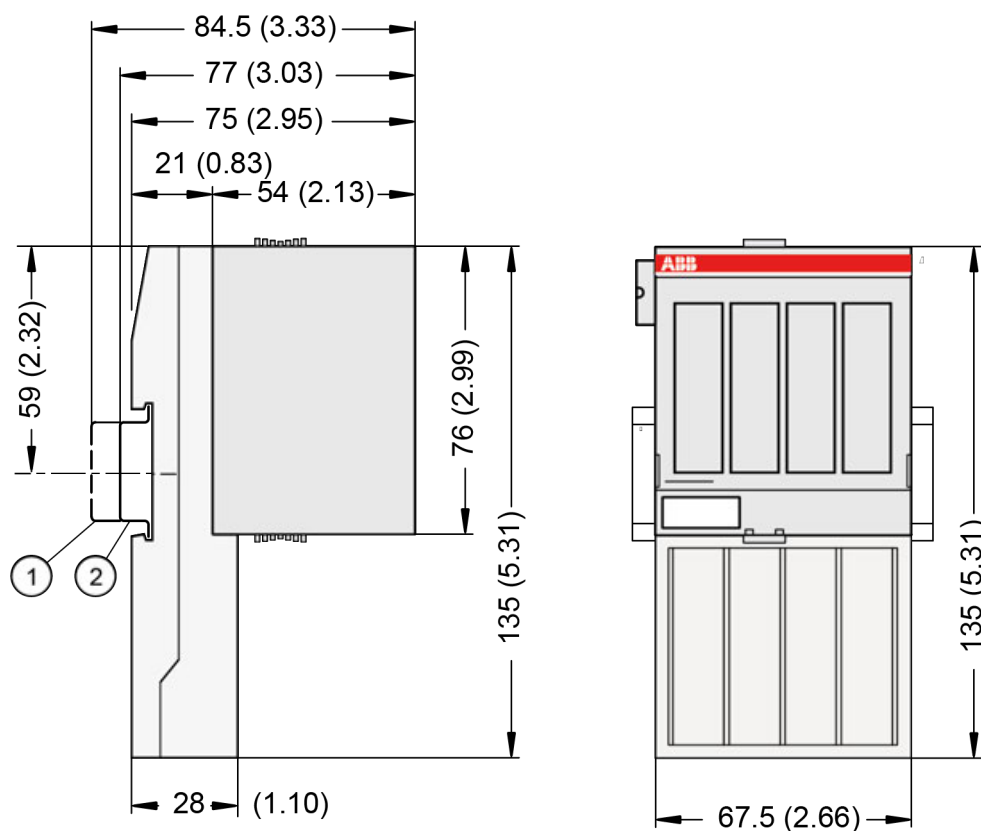
37.1 Assembly



37.2 Disassembly



37.3 Dimensions

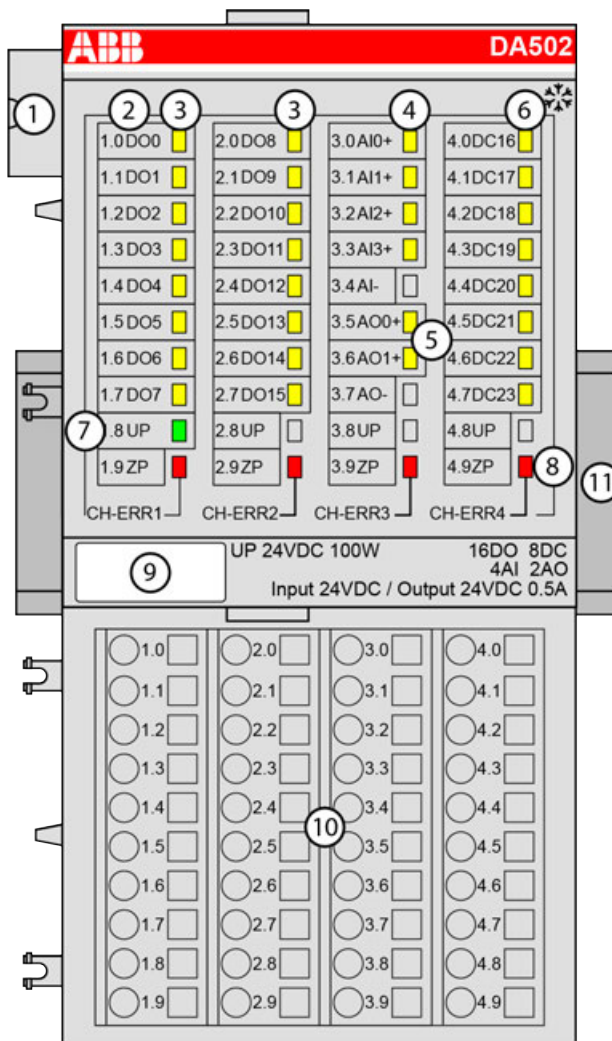


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

37.4 Connections

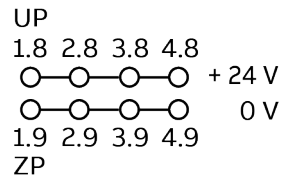


- 1 I/O bus
 - 2 Allocation between terminal number and signal name
 - 3 16 yellow LEDs to display the signal states of the digital outputs DO0 to DO15
 - 4 4 yellow LEDs to display the signal states of the analog inputs AI0 to AI3
 - 5 2 yellow LEDs to display the signal states of the analog outputs AO0 to AO1
 - 6 8 yellow LEDs to display the signal states of the configurable digital inputs/outputs DC16 to DC23
 - 7 1 green LED to display the state of the process supply voltage UP
 - 8 4 red LEDs to display errors
 - 9 Label
 - 10 Terminal unit
 - 11 DIN rail
- ✱ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

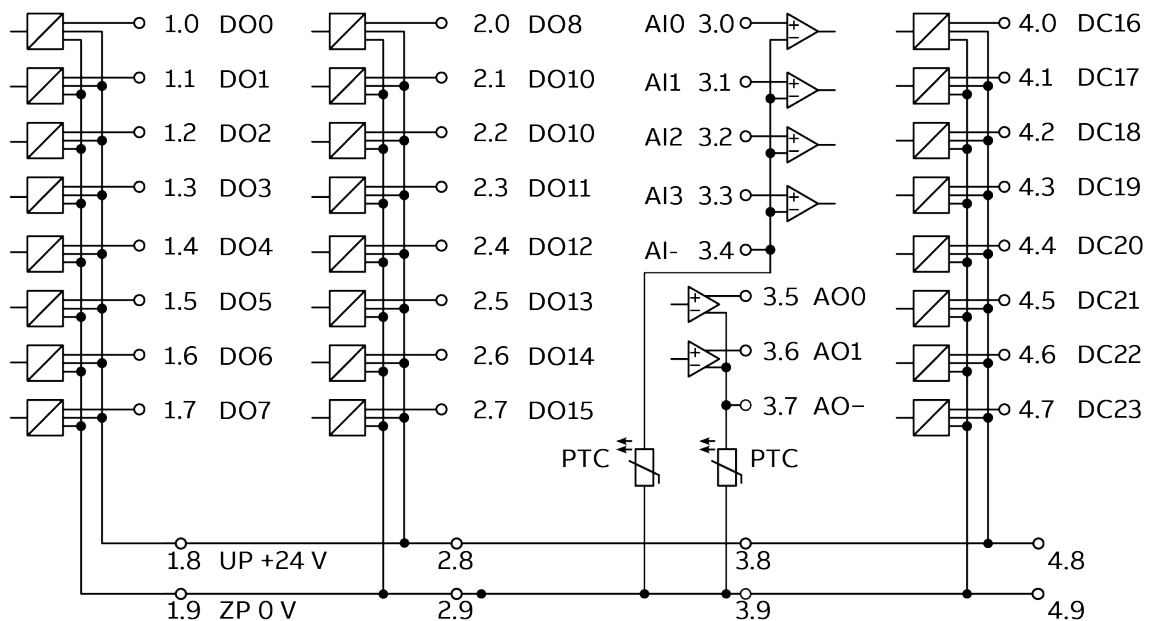
37.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

37.4.2 Inputs/Outputs



Example digital output

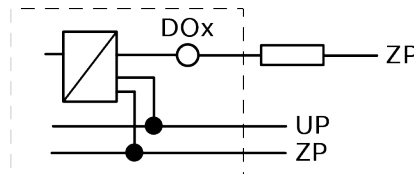
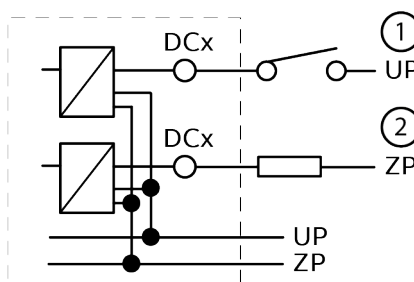


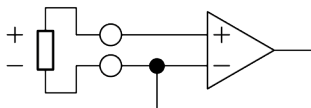
Fig. 48: Example of connection output DOx

Example input or output



- 1 Example of connection as an input
- 2 Example of connection as an output

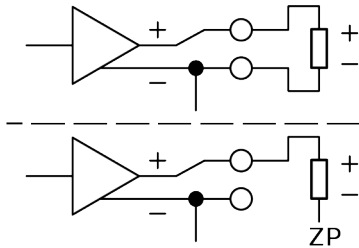
Example analog
input



AI0 ... AI3
0 V ... +10 V
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA
Pt100 / Pt1000
Ni1000

Fig. 49: Example of connection input AIx

Example analog
output



AO0 ... AO1
± 10 V
0 mA ... +20 mA
+4 mA ... +20 mA

Fig. 50: Example of connection output AOx

37.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

37.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

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제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

37.7 Recycling



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It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

38 DC501-CS31-AD

- DC501-CS31-AD



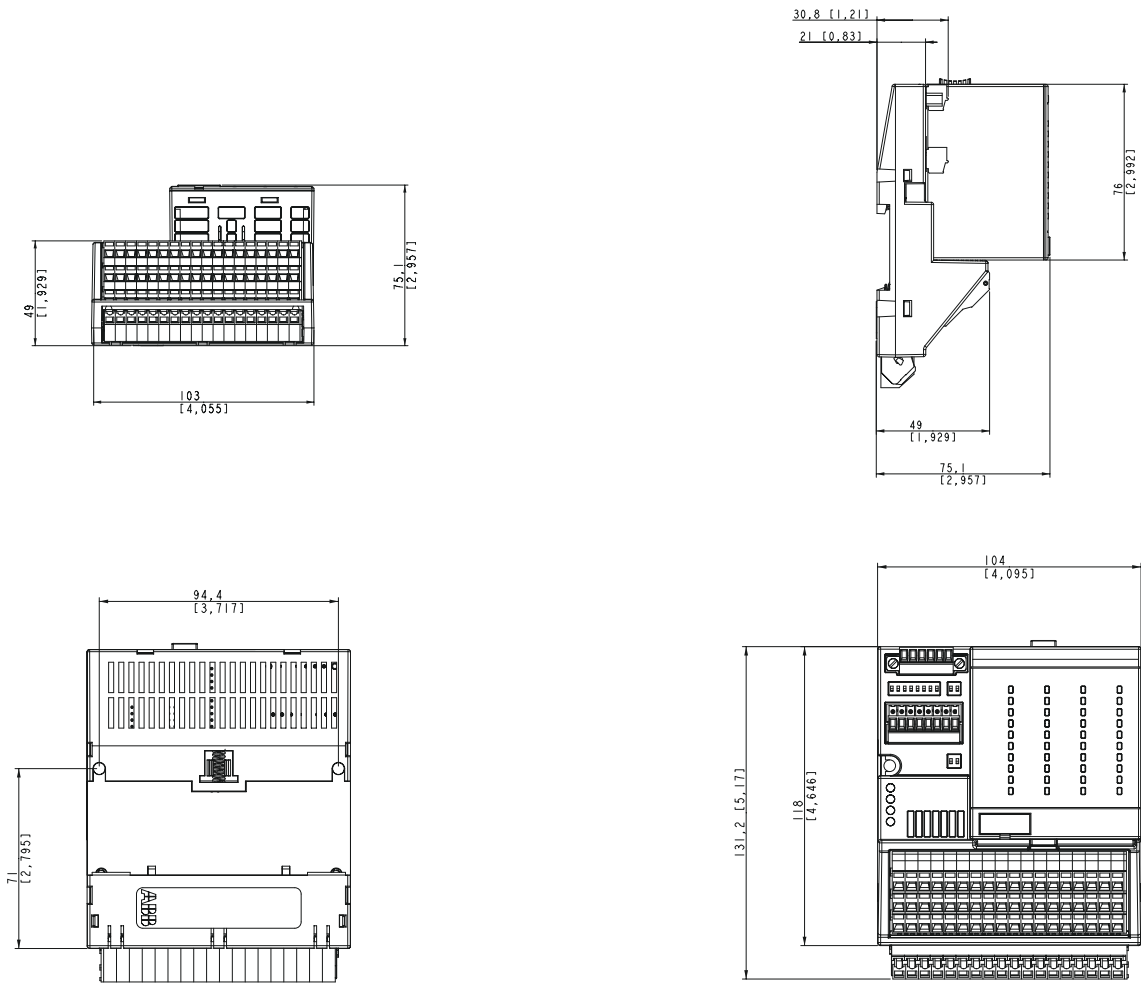
CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

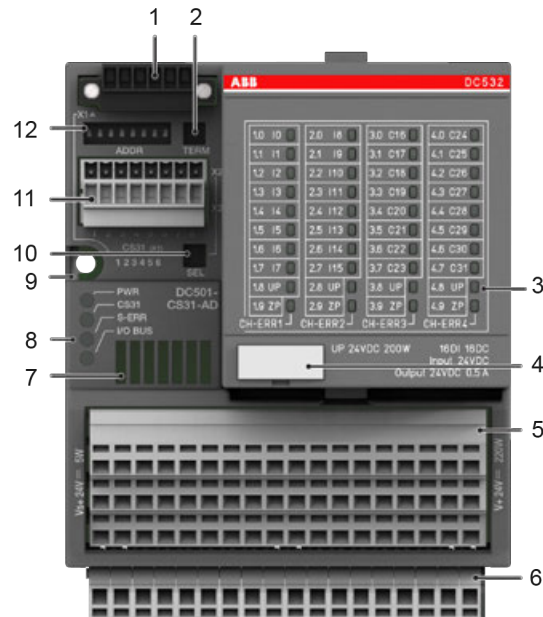
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

38.1 Dimensions



The dimensions are in mm and in brackets in inch.

38.2 Connections



- 1 Connection for CS31 bus (X1)
- 2 Bus termination (CS31 bus)
- 3 Status LEDs for DC532
- 4 TA525: Label
- 5 Terminals signal level (X4). 16 digital inputs, 8 digital outputs, 8 DC voltage supply (incl. DC532)
- 6 Terminals signal level (plug-in power bus)
- 7 Ventilation
- 8 4 Status LEDs
- 9 Hole for screw mounting (screw diameter 4 mm, extension torque 1.2 Nm)
- 10 Function selector switch for I/O extension
- 11 4 digital inputs (X2): 24 V DC. 3 analog inputs, 1 analog output (X3): 0 V ... +10 V.
- 12 DIP switch for ADDR (X1)



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

38.2.1 Bus termination



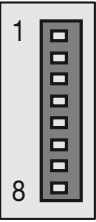
ON OFF

S1 + S2: Term. No term.

Switch 1 and 2 are set to ON: termination of CS31 bus.

Switch 1 and 2 are set to OFF: CS31 bus is not terminated.

38.2.2 ADDR

		ON	OFF
	S1: C	16 I/ 16 O	24 I/ 16 O
	S2: 64	ADDR: 32	0
	S3: 32	ADDR: 16	0
	S4: 16	ADDR: 8	0
	S5: 8	ADDR: 4	0
	S6: 4	ADDR: 2	0
	S7: 2	ADDR: 1	0
	S8: 1	NC	NC

38.2.3 SEL



	ON	OFF
S1:	DI501	0
S2:	AX501	0

Switch 1 and 2 are set to ON: No extensions are allowed, module DC501R0100 is used.

38.2.4 Plug connection

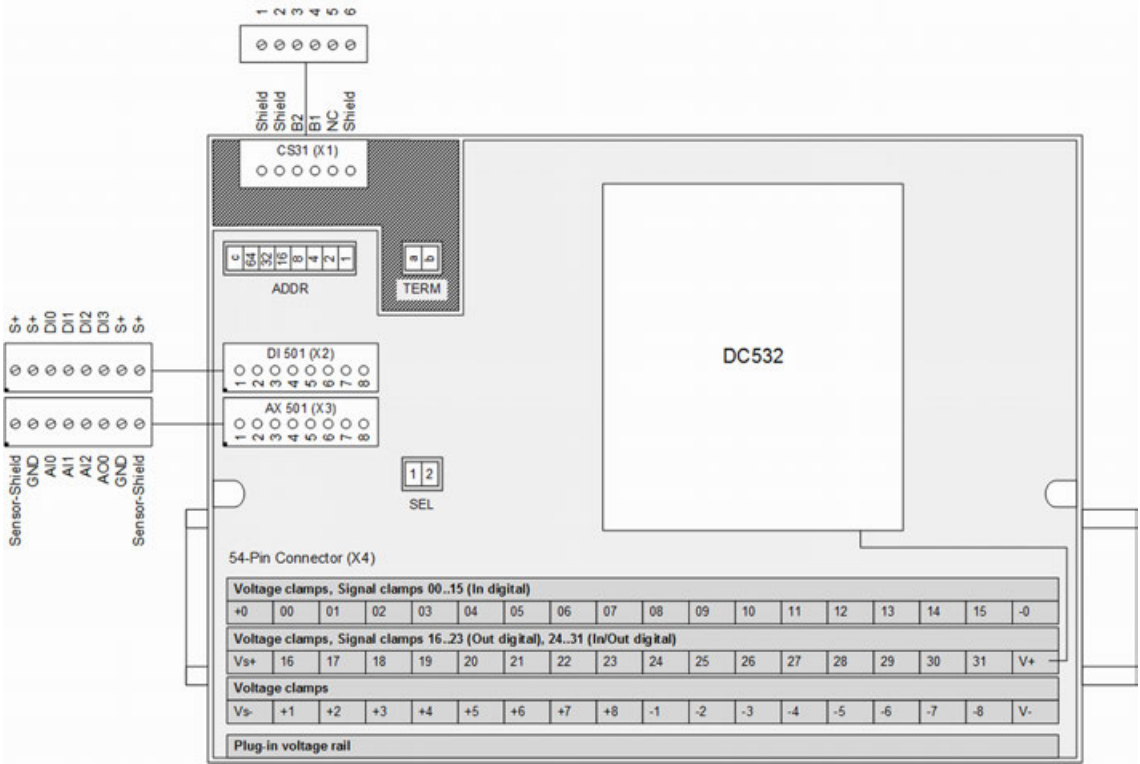


Table 1: Pin assignment CS31 bus (X1)

Connector / Terminal	Pin	Assignment / Signal
X1 / Shield	1	Shield (internally connected to pins 2 and 6. No internal connection to functional earth)
X1 / Shield	2	Shield (internally connected to pins 1 and 6. No internal connection to functional earth)
X1 / B2	3	BUS 2
X1 / B1	4	BUS 1
X1 / NC	5	Not connected
X1 / Shield	6	Shield (internally connected to pins 1 and 2. No internal connection to functional earth)

Table 2: Pin assignment DI501 (X2)

Connector / Terminal	Pin	Assignment / Signal
X2 / S+	1	Auxiliary voltage (max. 32 mA total load of S+ permitted) for DI0 - DI3. Voltage derived from input voltage Vs+ (X4)
X2 / S+	2	Auxiliary voltage (max. 32 mA total load of S+ permitted) for DI0 - DI3. Voltage derived from input voltage Vs+ (X4)
X2 / DI0	3	Digital extension input 0
X2 / DI1	4	Digital extension input 1
X2 / DI2	5	Digital extension input 2
X2 / DI3	6	Digital extension input 3
X2 / S+	7	Auxiliary voltage (max. 32 mA total load of S+ permitted) for DI0 - DI3. Voltage derived from input voltage Vs+ (X4)
X2 / S+	8	Auxiliary voltage (max. 32 mA total load of S+ permitted) for DI0 - DI3. Voltage derived from input voltage Vs+ (X4)

Table 3: Pin assignment AX501 (X3)

Connector / Terminal	Pin	Assignment / Signal
X3 / Sensor shield	1	Sensor shield
X3 / GND	2	GND
X3 / AI0	3	Analog extension input 0
X3 / AI1	4	Analog extension input 1
X3 / AI2	5	Analog extension input 2
X3 / AO0	6	Analog extension output 0
X3 / GND	7	GND
X3 / Sensor shield	8	Sensor shield

The connections X3 / 2 and X3 / 7 (GND) are directly connected to X4 / Vs-, X4 / V-. There is no AGND potential in accordance with module AX501. In module AX501, AGND is connected to GND via a resistor.

Both sensor shield connections of X3 are interconnected and jointly connected to FE via 10 M Ω || 4 nF.

Table 4: Pin assignment 54 pin connector (X4)

Connector / Block	Pin	Assignment / Signal
X4 / 1	+0	Auxiliary voltage (max. 200 mA total load of +0/ +1/ .../ +7/ +8 permitted). Voltage derived from input voltage V+ (X4)
X4 / 1	00	DC532 / I0
X4 / 1	01	DC532 / I1
X4 / 1	02	DC532 / I2
X4 / 1	03	DC532 / I3
X4 / 1	04	DC532 / I4
X4 / 1	05	DC532 / I5
X4 / 1	06	DC532 / I6
X4 / 1	07	DC532 / I7
X4 / 1	08	DC532 / I8
X4 / 1	09	DC532 / I9
X4 / 1	10	DC532 / I10
X4 / 1	11	DC532 / I11
X4 / 1	12	DC532 / I12
X4 / 1	13	DC532 / I13
X4 / 1	14	DC532 / I14
X4 / 1	15	DC532 / I15
X4 / 1	-0	GND
X4 / 2	Vs+	Voltage supply for electronics system (also for functionality of AX501 and DI501)
X4 / 2	16	DC532 / C16
X4 / 2	17	DC532 / C17
X4 / 2	18	DC532 / C18
X4 / 2	19	DC532 / C19
X4 / 2	20	DC532 / C20
X4 / 2	21	DC532 / C21
X4 / 2	22	DC532 / C22
X4 / 2	23	DC532 / C23
X4 / 2	24	DC532 / C24
X4 / 2	25	DC532 / C25
X4 / 2	26	DC532 / C26
X4 / 2	27	DC532 / C27
X4 / 2	28	DC532 / C28
X4 / 2	29	DC532 / C29
X4 / 2	30	DC532 / C30
X4 / 2	31	DC532 / C31
X4 / 2	V+	Voltage supply of inputs/outputs (module DC532 and auxiliary voltage)
X4 / 3	Vs-	GND

Connector / Block	Pin	Assignment / Signal
X4 / 3	+1	Auxiliary voltage (max. 200 mA total load of +0/ +1/ .../ +7/ +8 permitted). Voltage derived from input voltage V+ (X4)
X4 / 3	+2	Auxiliary voltage (max. 200 mA total load of +0/ +1/ .../ +7/ +8 permitted). Voltage derived from input voltage V+ (X4)
X4 / 3	+3	Auxiliary voltage (max. 200 mA total load of +0/ +1/ .../ +7/ +8 permitted). Voltage derived from input voltage V+ (X4)
X4 / 3	+4	Auxiliary voltage (max. 200 mA total load of +0/ +1/ .../ +7/ +8 permitted). Voltage derived from input voltage V+ (X4)
X4 / 3	+5	Auxiliary voltage (max. 200 mA total load of +0/ +1/ .../ +7/ +8 permitted). Voltage derived from input voltage V+ (X4)
X4 / 3	+6	Auxiliary voltage (max. 200 mA total load of +0/ +1/ .../ +7/ +8 permitted). Voltage derived from input voltage V+ (X4)
X4 / 3	+7	Auxiliary voltage (max. 200 mA total load of +0/ +1/ .../ +7/ +8 permitted). Voltage derived from input voltage V+ (X4)
X4 / 3	+8	Auxiliary voltage (max. 200 mA total load of +0/ +1/ .../ +7/ +8 permitted). Voltage derived from input voltage V+ (X4)
X4 / 3	-1	GND
X4 / 3	-2	GND
X4 / 3	-3	GND
X4 / 3	-4	GND
X4 / 3	-5	GND
X4 / 3	-6	GND
X4 / 3	-7	GND
X4 / 3	-8	GND
X4 / 3	V-	GND

Connection data of spring terminals (X4):

- Conductor cross section, single wire: 0.2 mm² to 2.5 mm²
- Conductor cross section, flexible: 0.2 mm² to 1.5 mm² (existing device: 2.5 mm² flexible)
- Conductor cross section, flexible with wire-end ferrule: 0.25 mm² to 1.5 mm²

38.3 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

38.4 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

38.5 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

39 DC522(-XC)

- DC522
- DC522-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

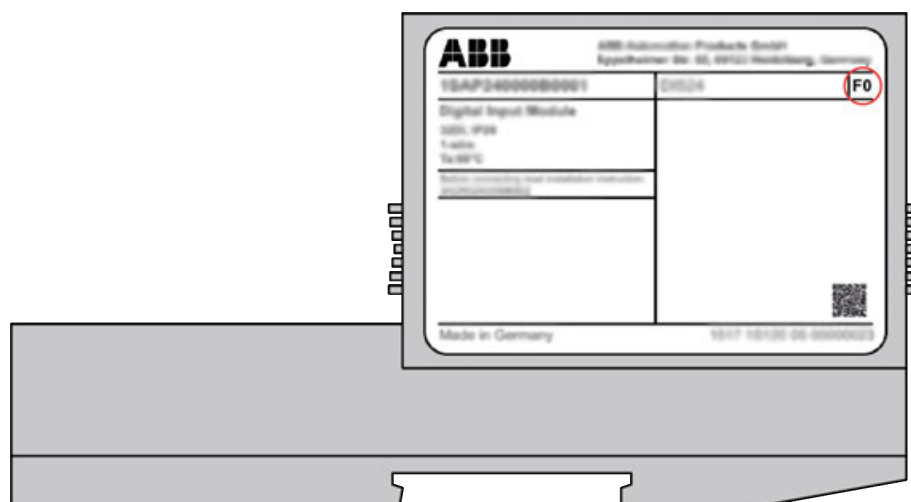
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

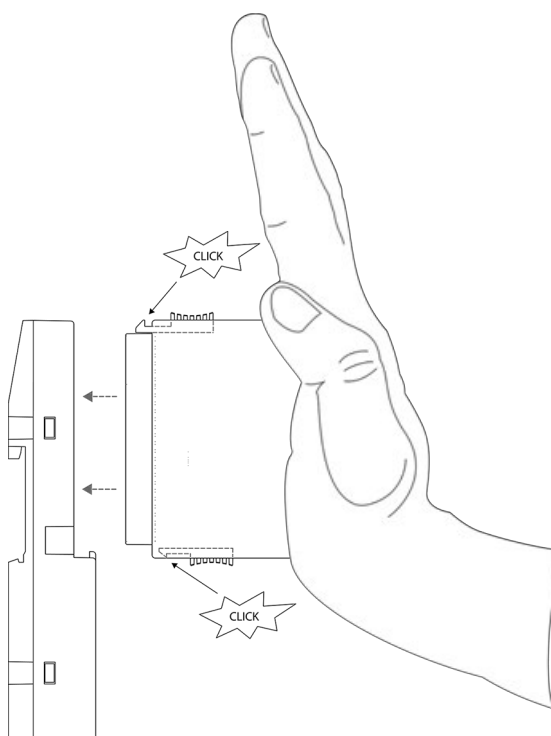
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

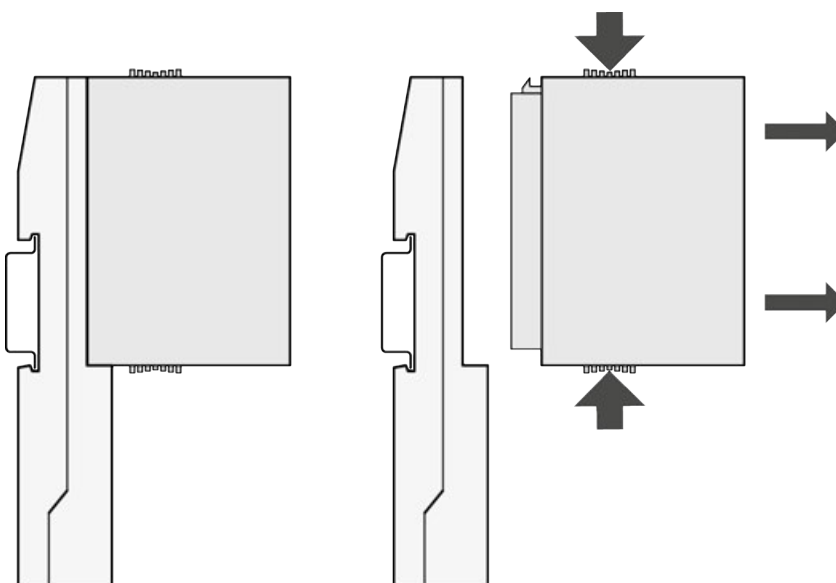
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

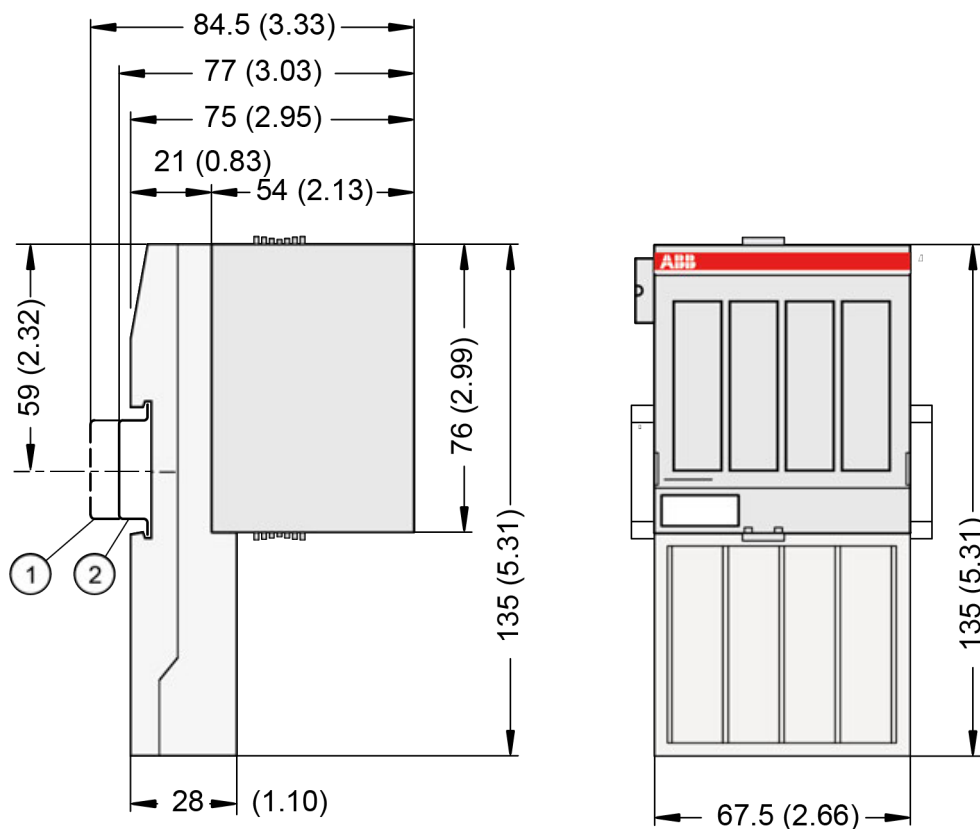
39.1 Assembly



39.2 Disassembly



39.3 Dimensions

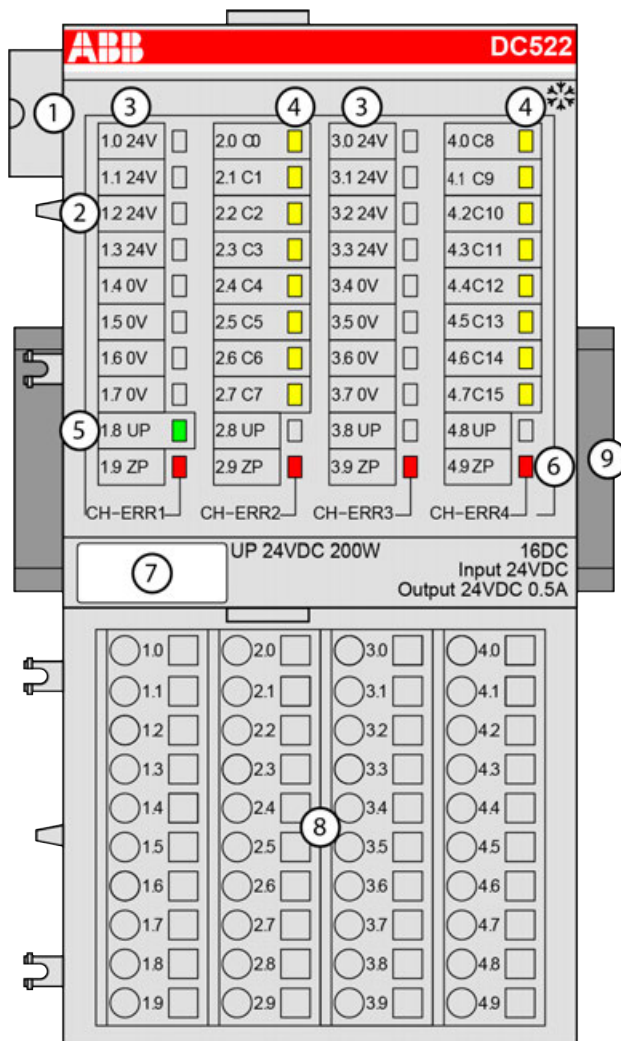


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

39.4 Connections

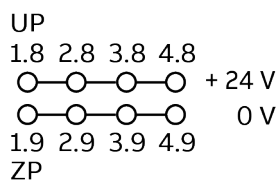


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 Sensor power supply 24 V DC / 0.5 A
- 4 16 yellow LEDs to display the signal states at the digital inputs/outputs (C0 - C15)
- 5 1 green LED to display the state of the process supply voltage UP
- 6 4 red LEDs to display errors
- 7 Label
- 8 Terminal unit
- 9 DIN rail
- 15 Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

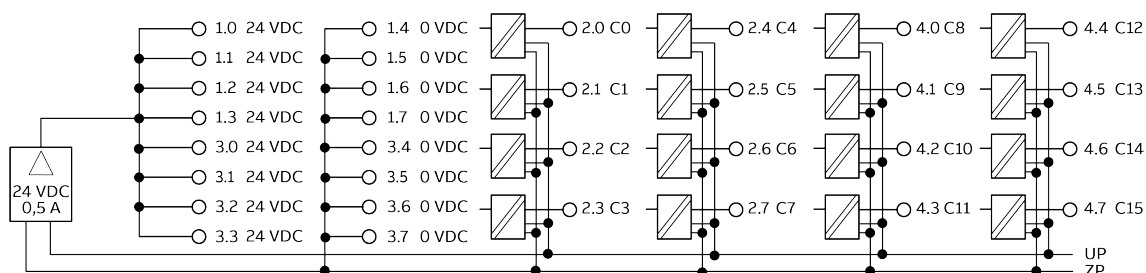
39.4.1 Process supply voltage



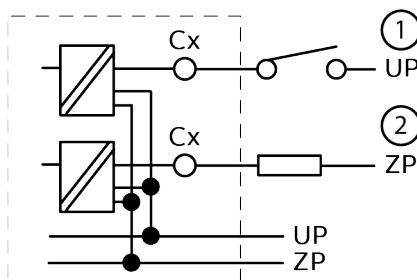
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

39.4.2 Inputs/Outputs



Example



- 1 Example of connection as an input
- 2 Example of connection as an output

39.5 Cleaning




Cleaning instruction

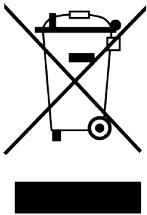
Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

39.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

39.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

40 DC523(-XC)

- DC523
- DC523-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

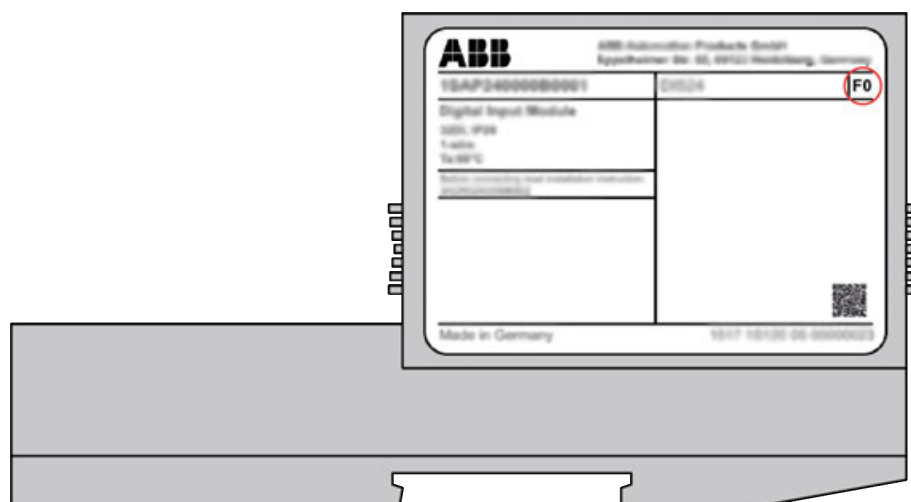
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

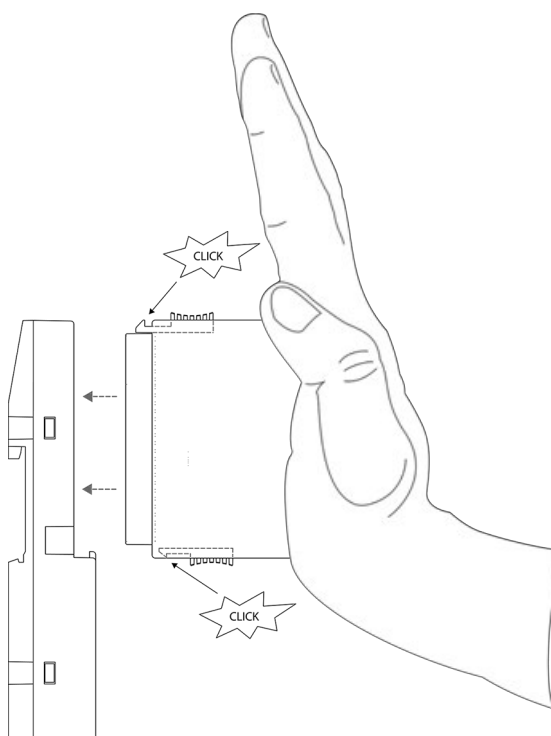
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

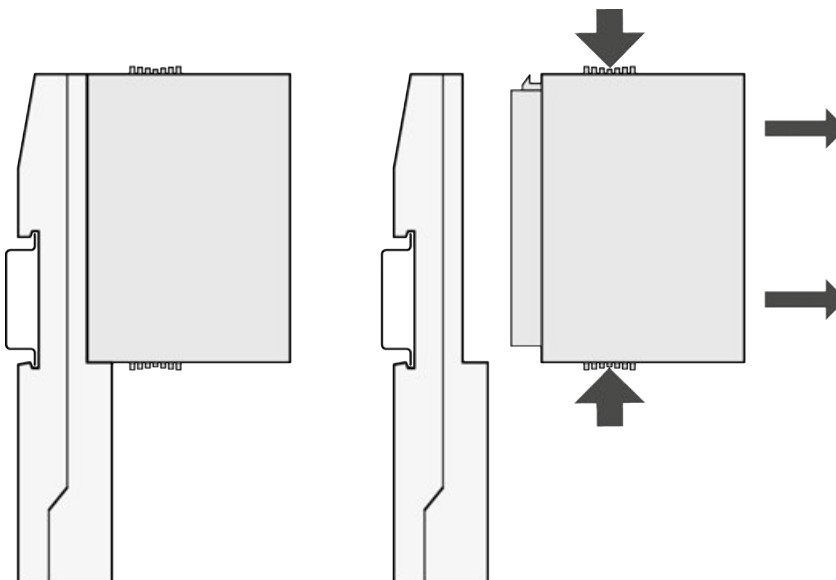
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

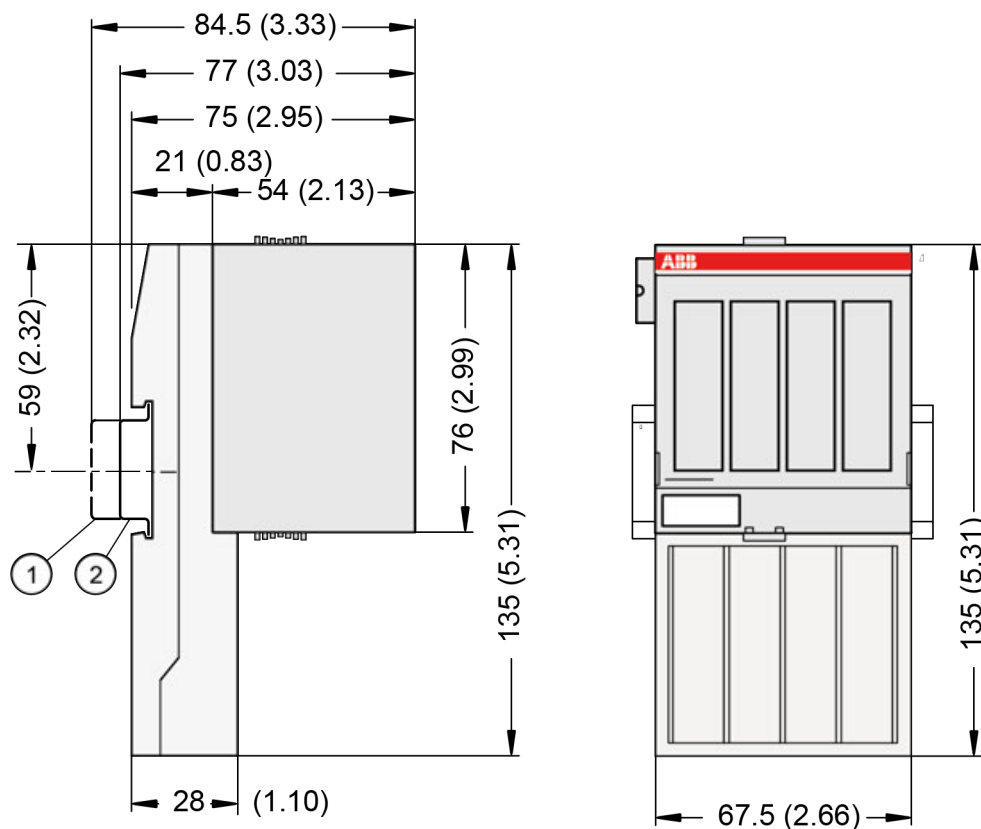
40.1 Assembly



40.2 Disassembly



40.3 Dimensions

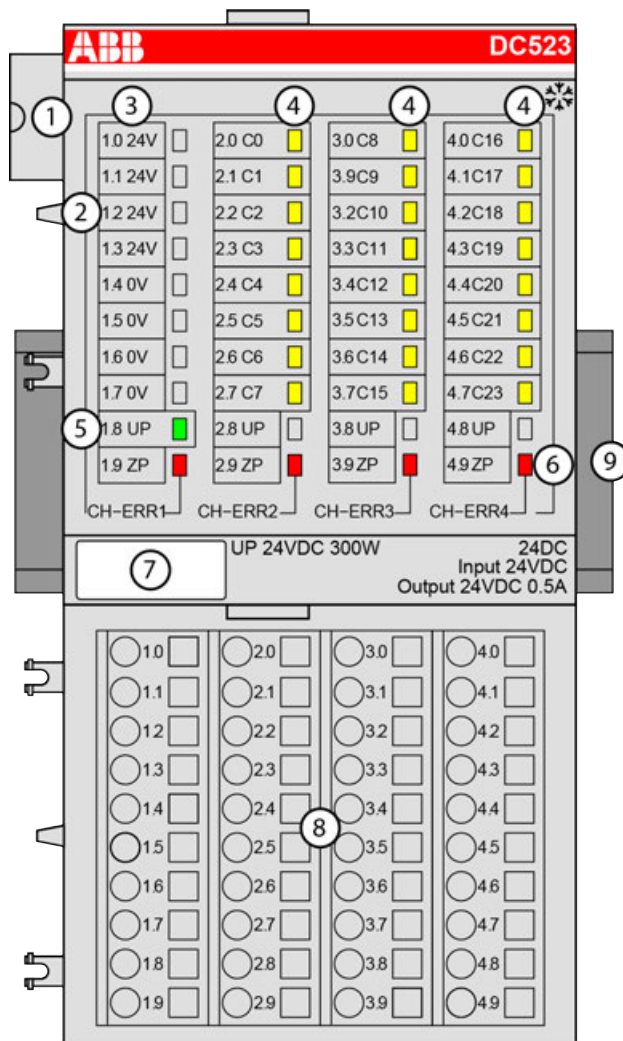


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

40.4 Connections

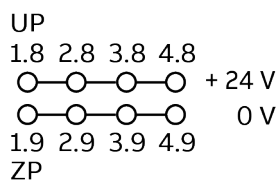


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 Sensor power supply 24 V DC / 0.5 A
- 4 24 yellow LEDs to display the signal states at the digital inputs/outputs (C0 - C23)
- 5 1 green LED to display the status of the process supply voltage UP
- 6 4 red LEDs to display errors
- 7 Label
- 8 Terminal unit
- 9 DIN rail
- ✱ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

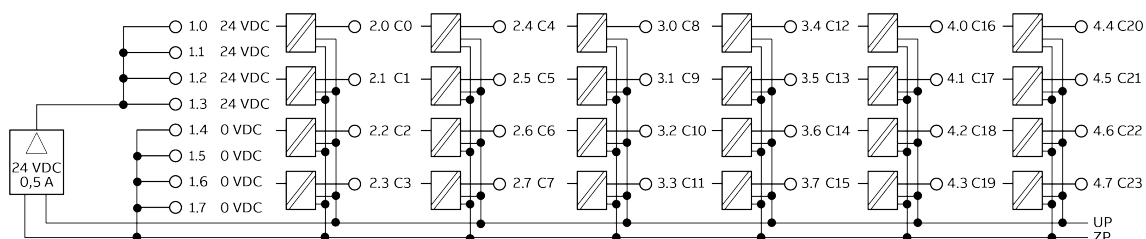
40.4.1 Process supply voltage



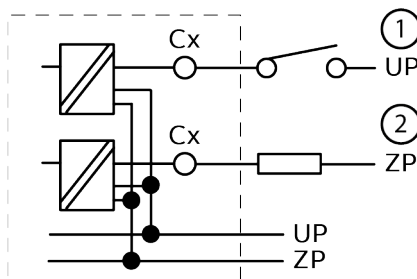
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

40.4.2 Inputs/Outputs



Example



- 1 Example of connection as an input
- 2 Example of connection as an output

40.5 Cleaning




Cleaning instruction

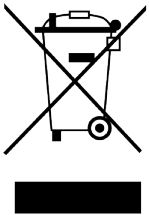
Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

40.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

40.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

41 DC532(-XC)

- DC532
- DC532-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

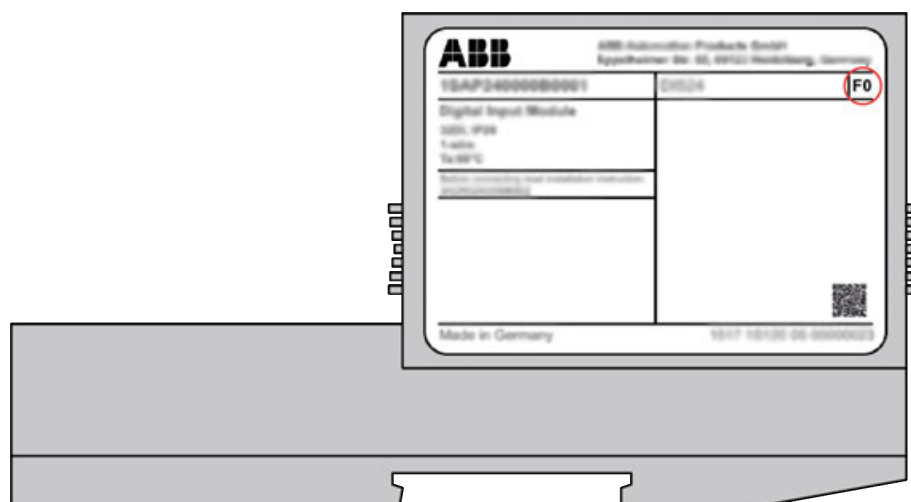
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

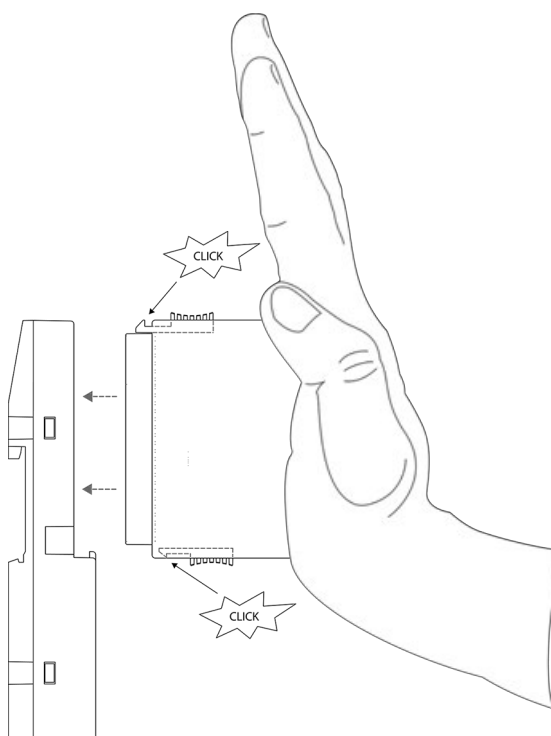
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

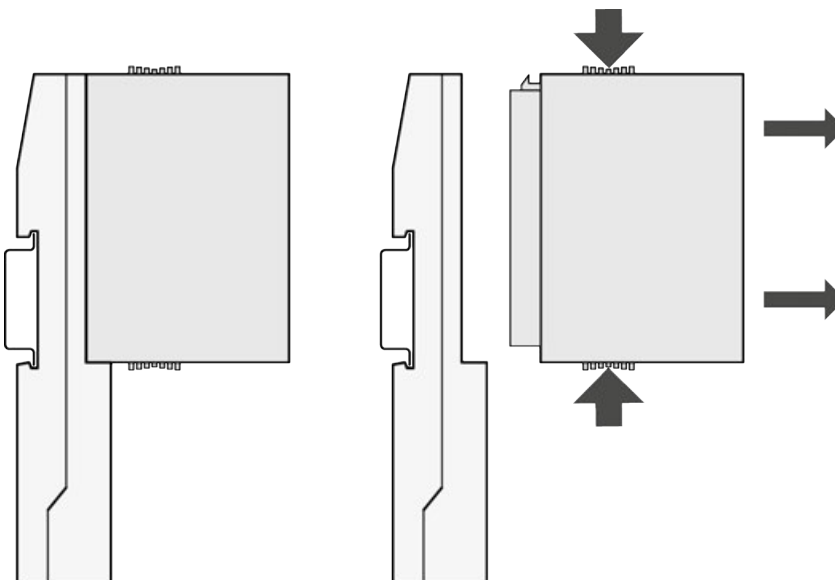
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

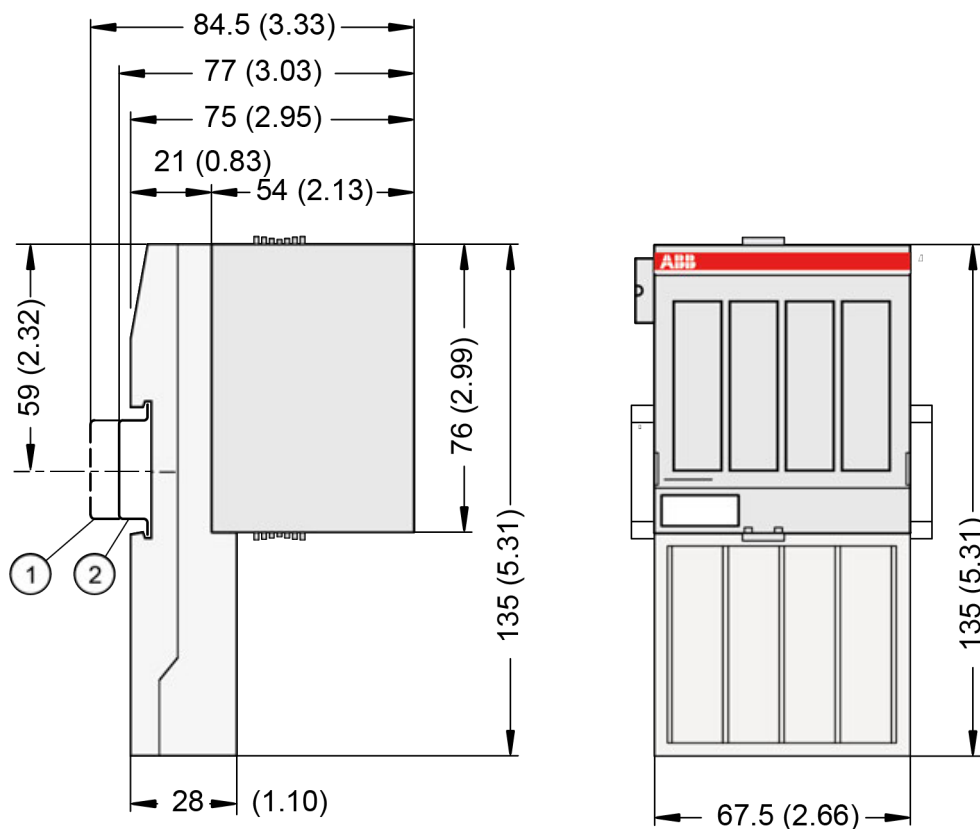
41.1 Assembly



41.2 Disassembly



41.3 Dimensions

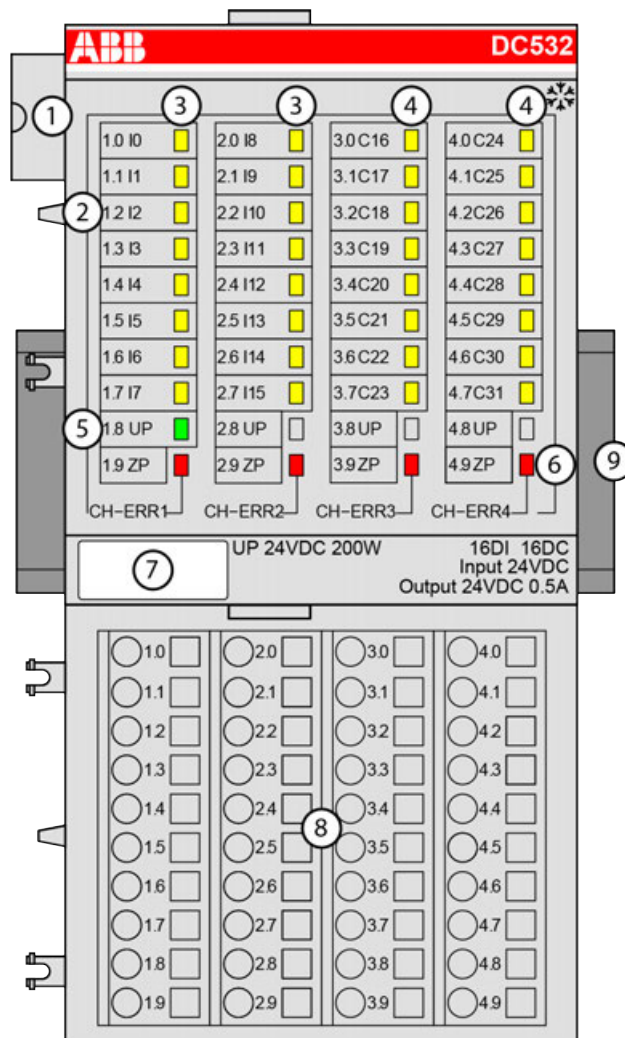


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

41.4 Connections

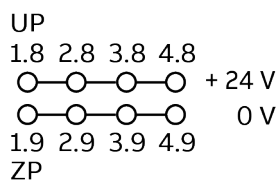


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 16 yellow LEDs to display the signal states at the digital inputs (I0 - I15)
- 4 16 yellow LEDs to display the signal states at the digital inputs/outputs (C16 - C31)
- 5 1 green LED to display the state of the process supply voltage UP
- 6 4 red LEDs to display errors
- 7 Label
- 8 Terminal unit
- 9 DIN rail
- ✱ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

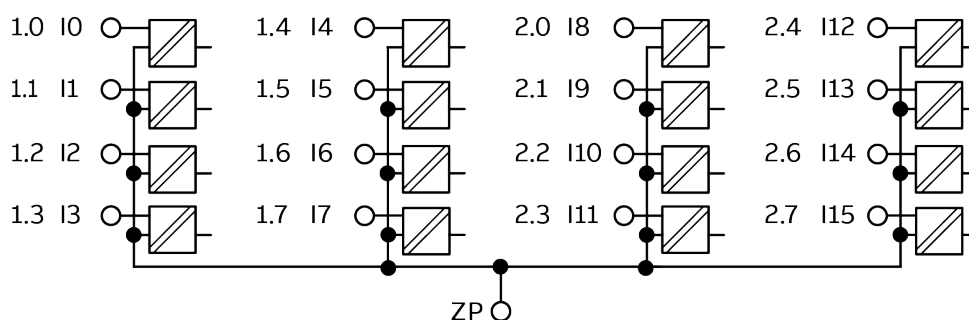
41.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

41.4.2 Inputs



Example

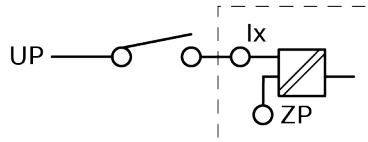
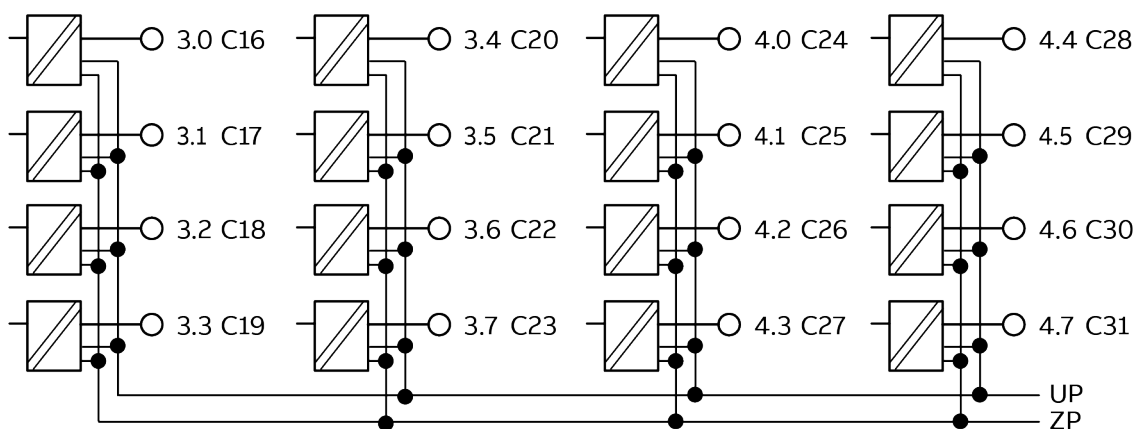
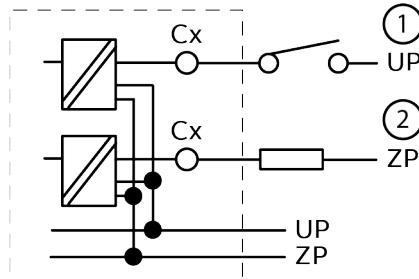


Fig. 51: Example of connection input Ix

41.4.3 Inputs/Outputs



Example



- 1 Example of connection as an input
- 2 Example of connection as an output

41.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

41.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

41.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

42 DC541-CM(-XC)

- DC541-CM
- DC541-CM-XC



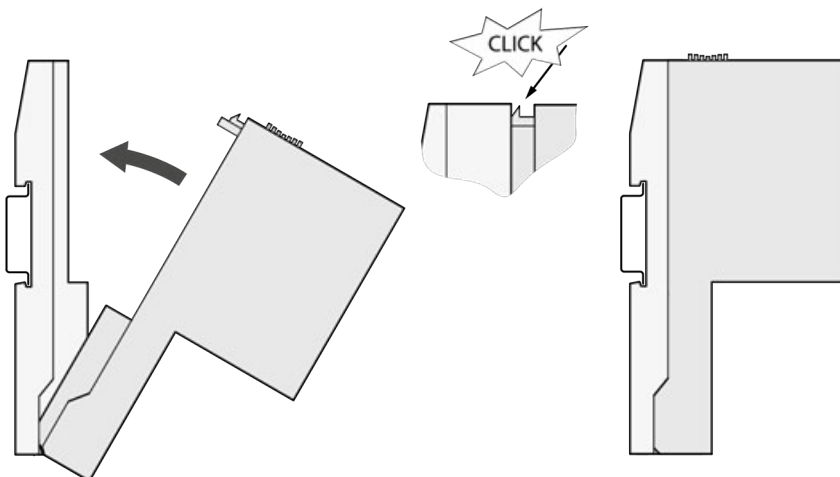
CAUTION!

Risk of injury and damaging the product!

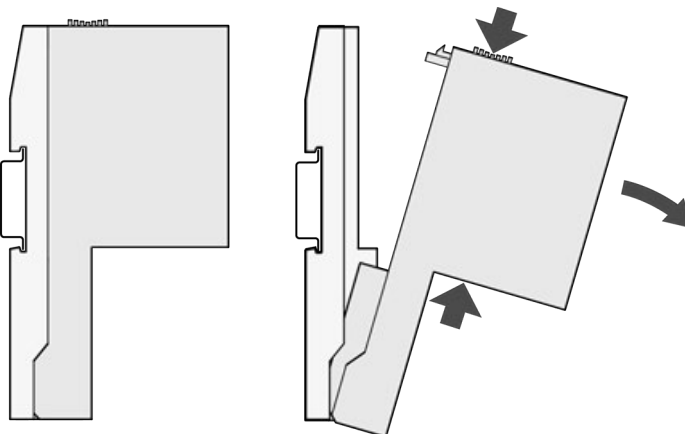
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

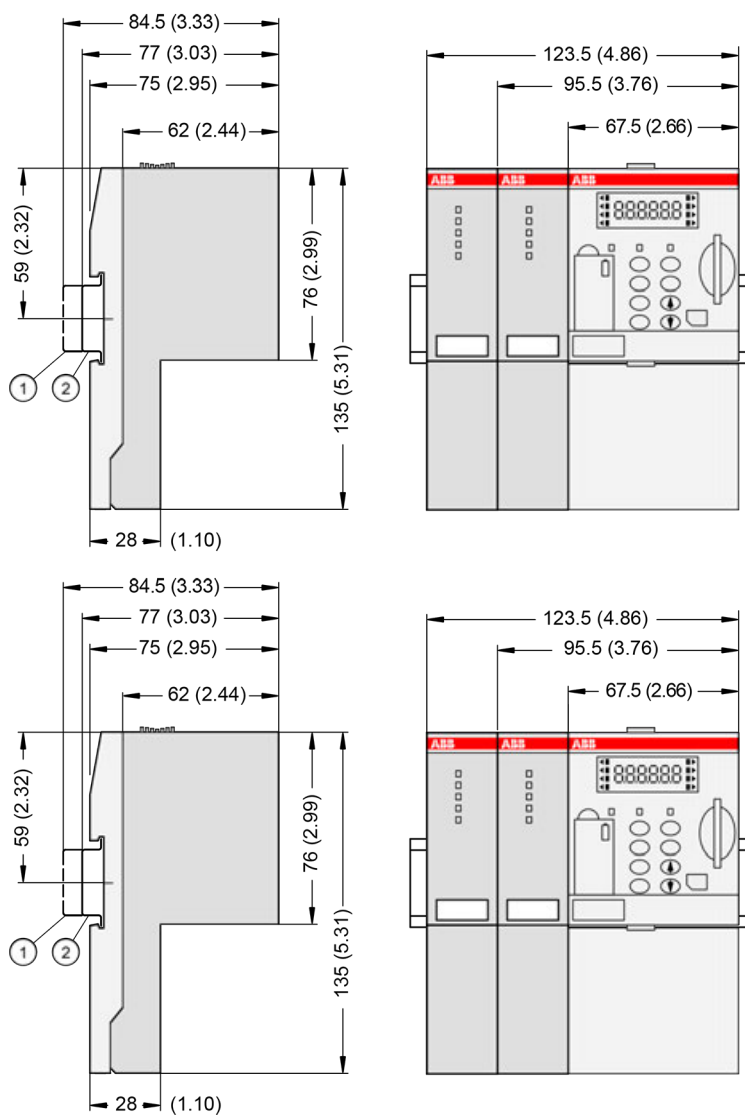
42.1 Assembly



42.2 Disassembly



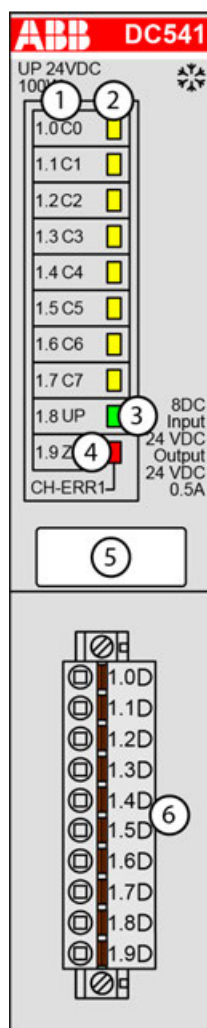
42.3 Dimensions





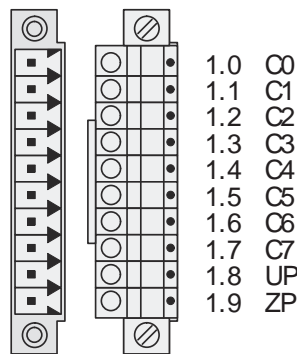
The dimensions are in mm and in brackets in inch.

42.4 Connections

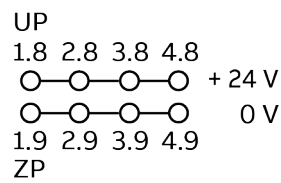


- 1 Allocation between terminal number and signal name
 - 2 8 yellow LEDs to display the signal states at the inputs/outputs C0 to C7
 - 3 1 green LED to display the state of the process supply voltage UP
 - 4 1 red LED to display errors (CH-ERR1)
 - 5 Label
 - 6 Terminal block with 10 terminals for 8 inputs/outputs and process power supply (ZP/UP)
- Sign for XC version

Terminal unit



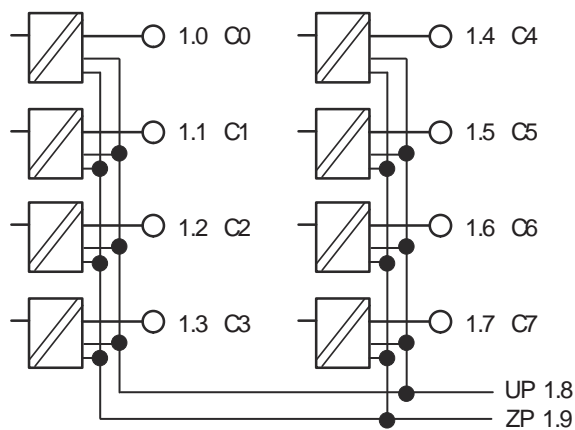
42.4.1 Process supply voltage



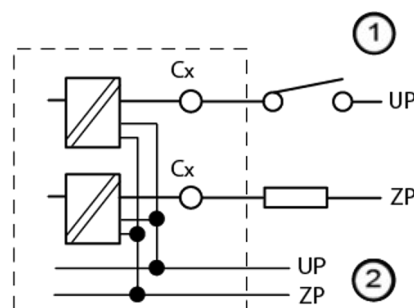
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

42.4.2 Inputs/Outputs



Examples



- 1 Example for connection as an input
- 2 Example for connection as an output

42.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

42.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

42.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

43 DC551-CS31(-XC)

- DC551-CS31
- DC551-CS31-XC



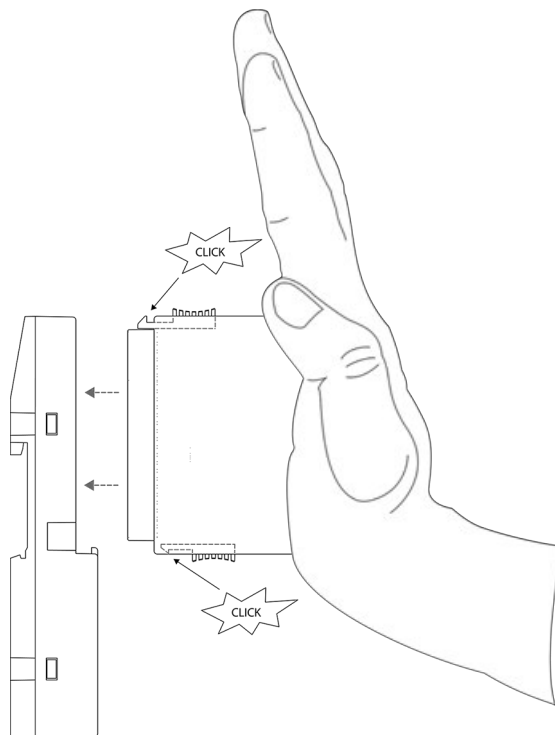
CAUTION!

Risk of injury and damaging the product!

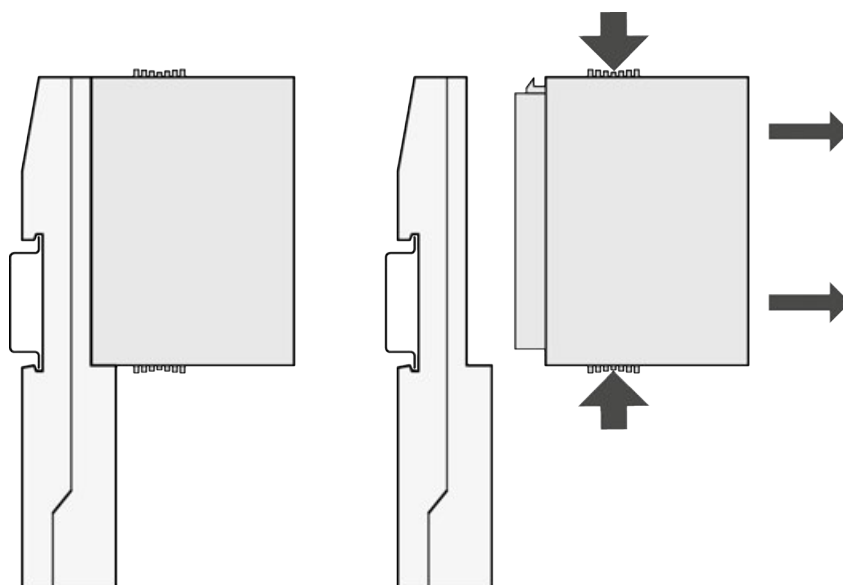
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

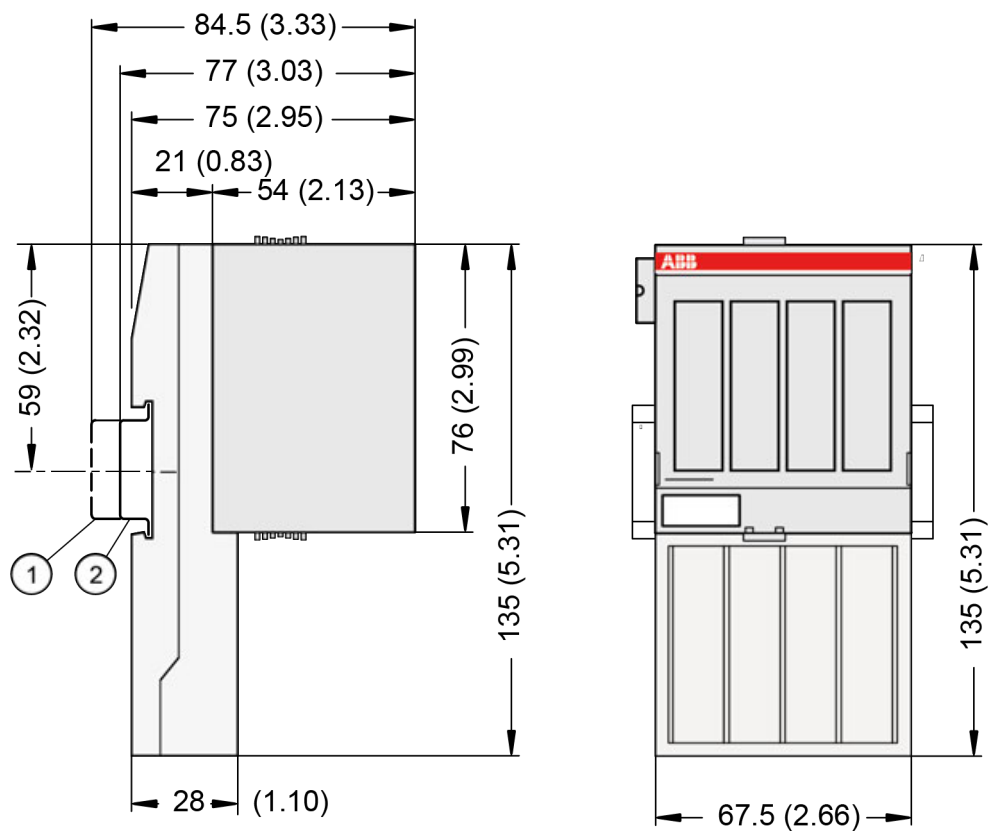
43.1 Assembly



43.2 Disassembly



43.3 Dimensions

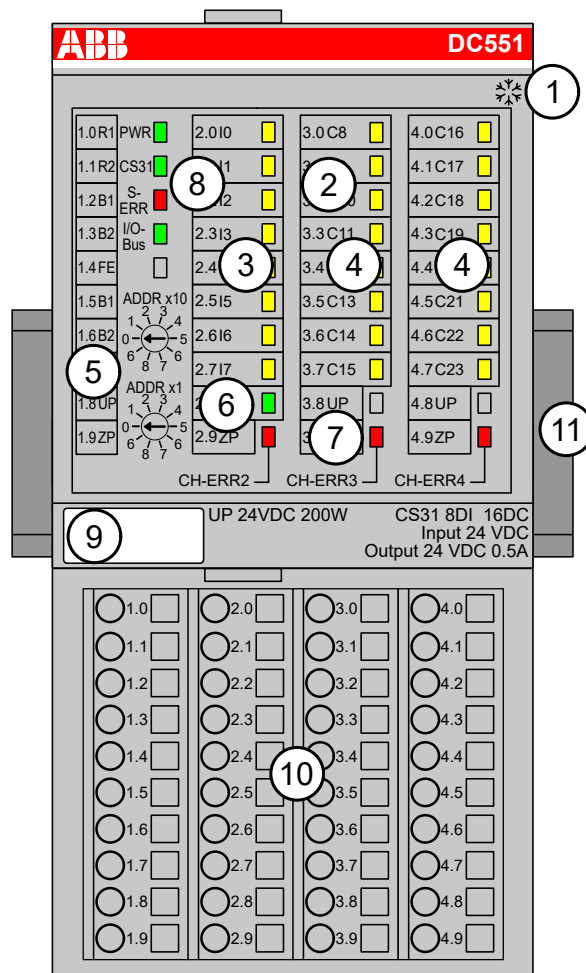


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

43.4 Connections

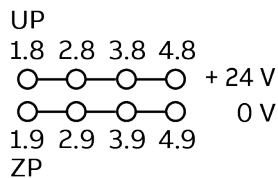


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 8 yellow LEDs to display the signal states of the digital inputs I0 to I7
- 4 16 yellow LEDs to display the signal states of the digital inputs/outputs C8 to C23
- 5 2 rotary switches to set the module's address (00d to 99d)
- 6 1 green LED to display the process voltage UP
- 7 3 red LEDs to display errors
- 8 4 system LEDs
- 9 Label
- 10 Terminal unit
- 11 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

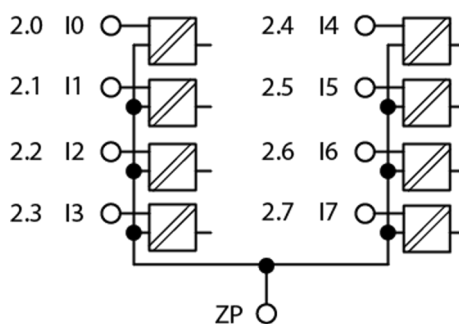
43.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

43.4.2 Inputs



Example

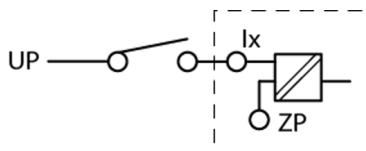
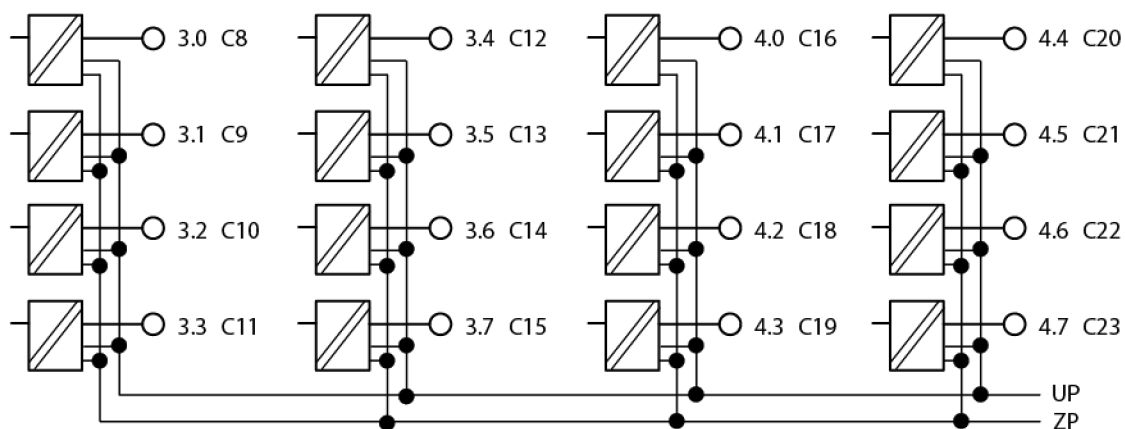
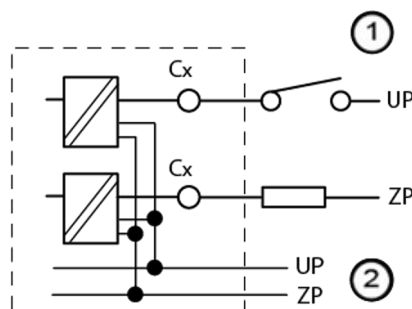


Fig. 52: Example for connection input Ix

43.4.3 Inputs/Outputs



Example



- 1 Example of connection as an input
- 2 Example of connection as an output

43.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

43.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

43.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

44 DC561

- DC561



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

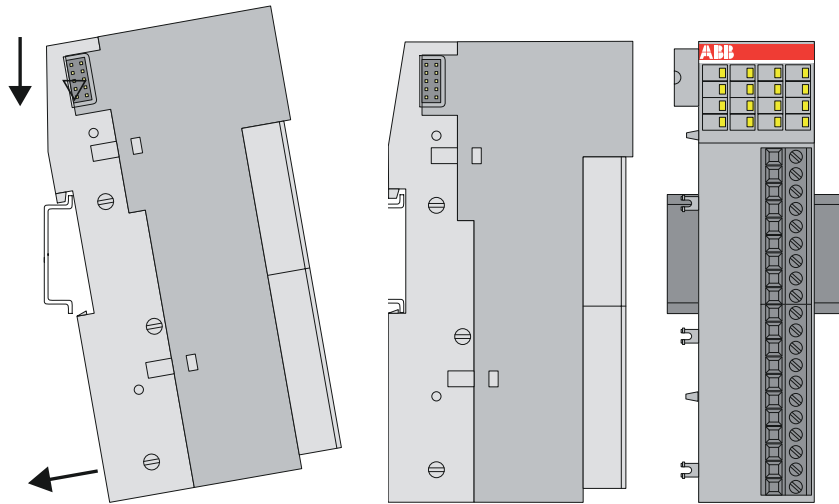
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



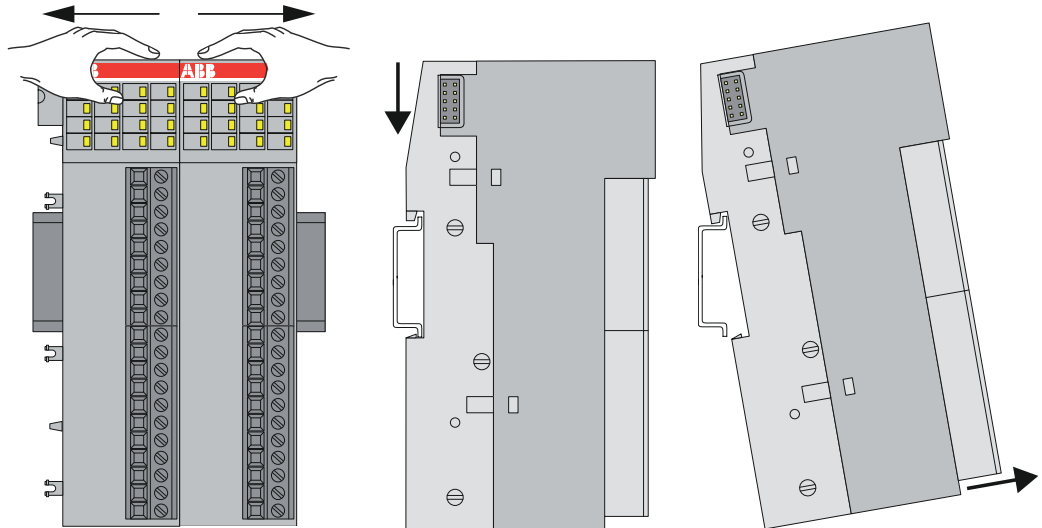
CAUTION!

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

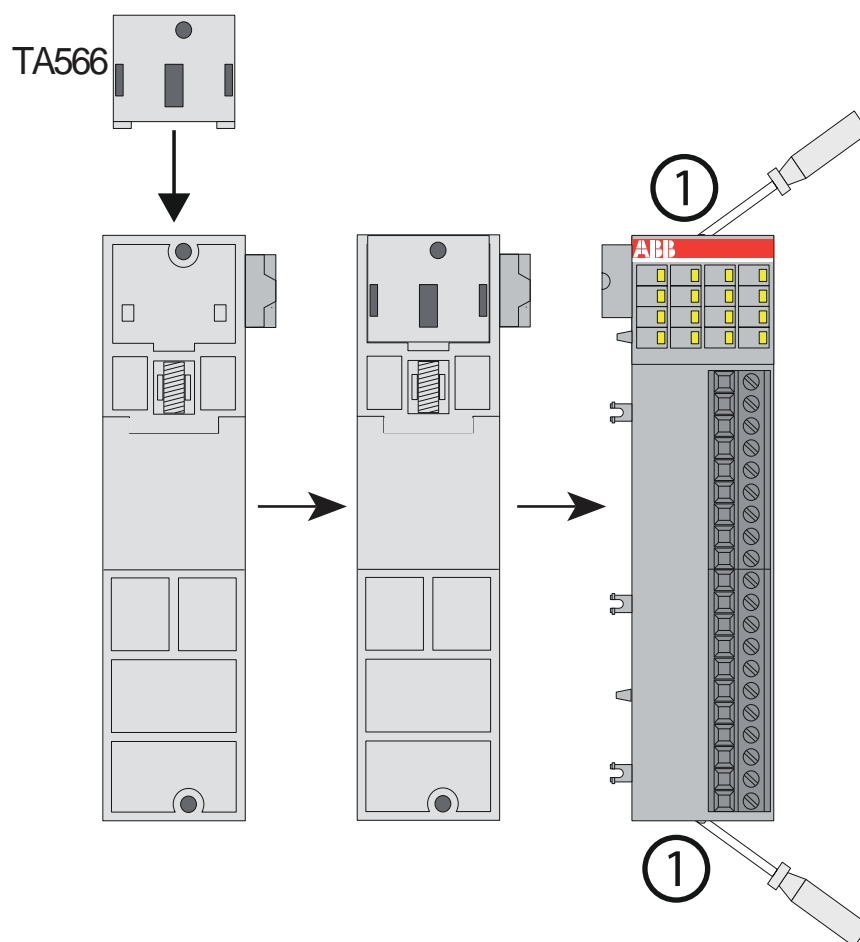
44.1 Assembly



44.2 Disassembly



44.3 Assembly with screws



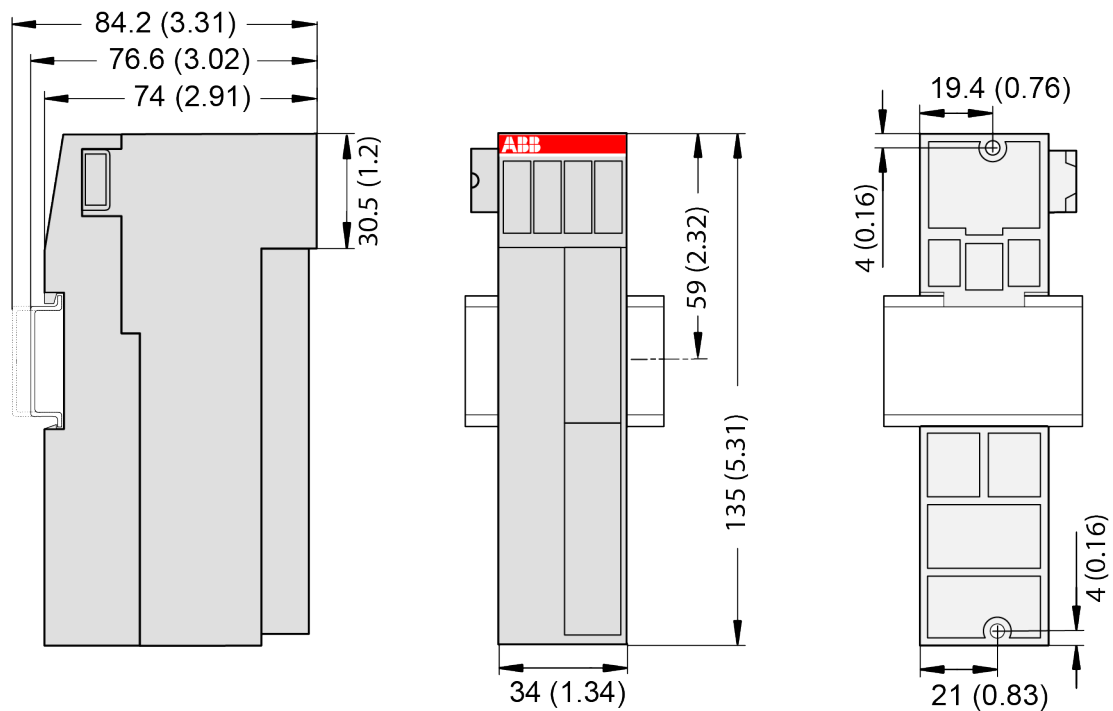
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

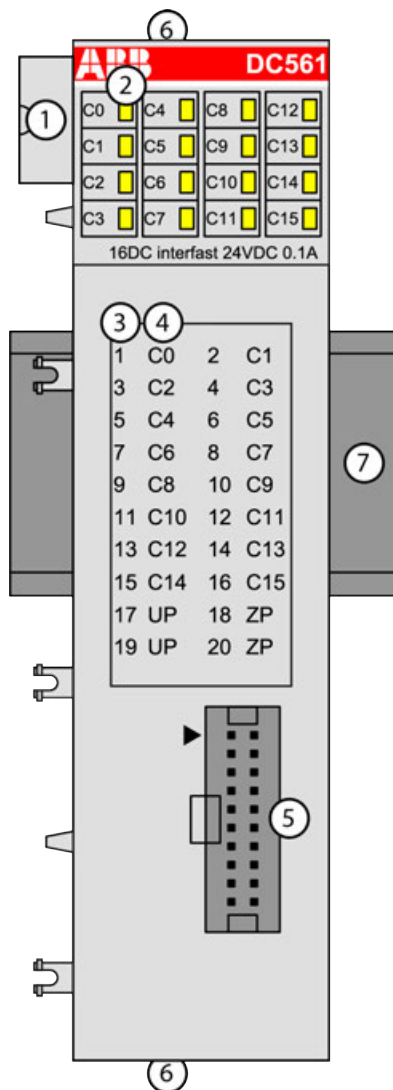
The insertion of the accessories TA566 for wall mounting is essential.

44.4 Dimensions



The dimensions are in mm and in brackets in inch.

44.5 Connections



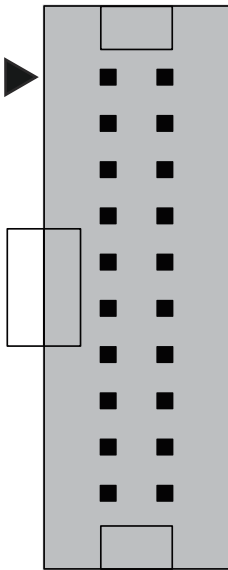
- 1 I/O bus
- 2 16 yellow LEDs to display the states of the inputs/outputs C0 to C15
- 3 Terminal number
- 4 Allocation of signal name
- 5 Interfast connector (20-pin)
- 6 2 holes for wall-mounting with screws
- 7 DIN rail



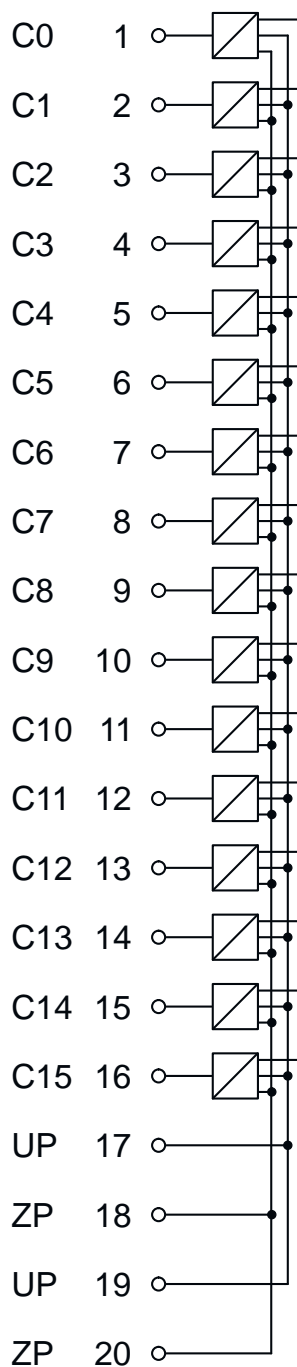
All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

44.5.1 Interfast connector

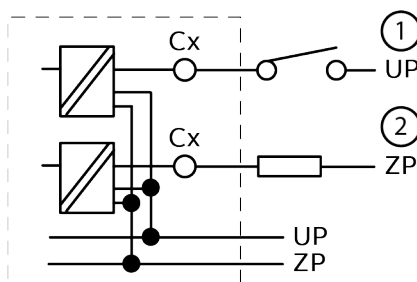
Table 5: Assignment of the terminals for DC561

	PIN	Signal	Description
	1	C0	Input/output signal C0
	2	C1	Input/output signal C1
	3	C2	Input/output signal C2
	4	C3	Input/output signal C3
	5	C4	Input/output signal C4
	6	C5	Input/output signal C5
	7	C6	Input/output signal C6
	8	C7	Input/output signal C7
	9	C8	Input/output signal C8
	10	C9	Input/output signal C9
	11	C10	Input/output signal C10
	12	C11	Input/output signal C11
	13	C12	Input/output signal C12
	14	C13	Input/output signal C13
	15	C14	Input/output signal C14
	16	C15	Input/output signal C15
	17	UP	Process voltage UP +24 V DC
	18	ZP	Process voltage ZP 0 V DC
	19	UP	Process voltage UP +24 V DC
	20	ZP	Process voltage ZP 0 V DC

44.5.2 Inputs/Outputs



Examples



- 1 Example for connection as an input
- 2 Example for connection as an output

44.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

44.7 Certification



MSIP-REI-Abb-AC500-eCo

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

44.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

45 DC562

- DC562



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

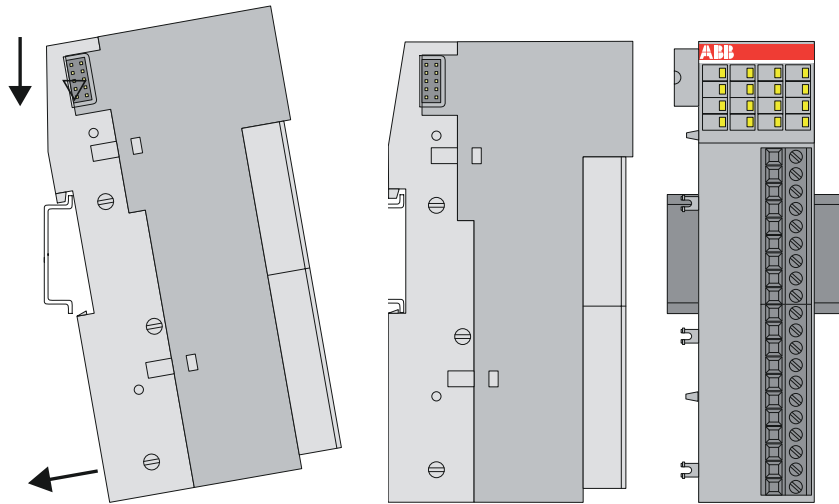
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



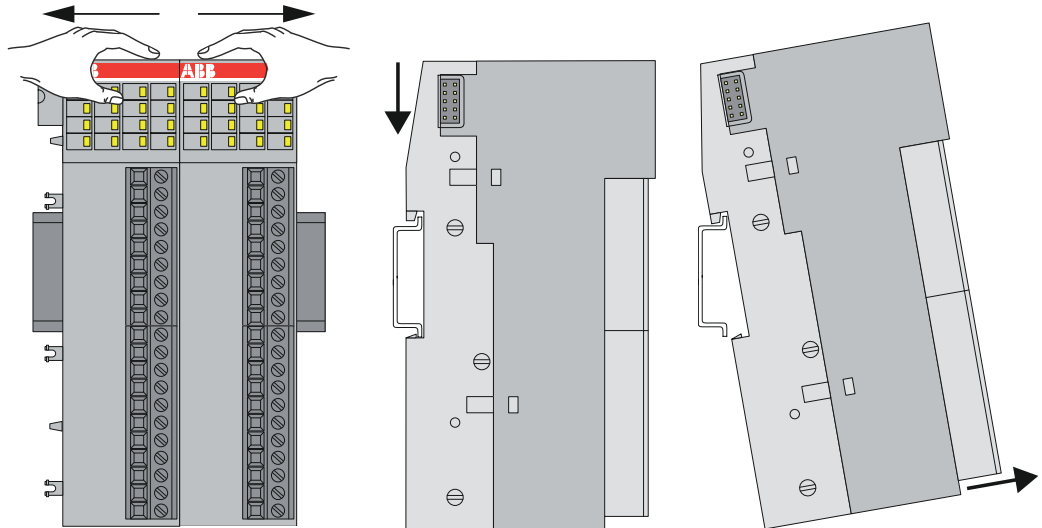
CAUTION!

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

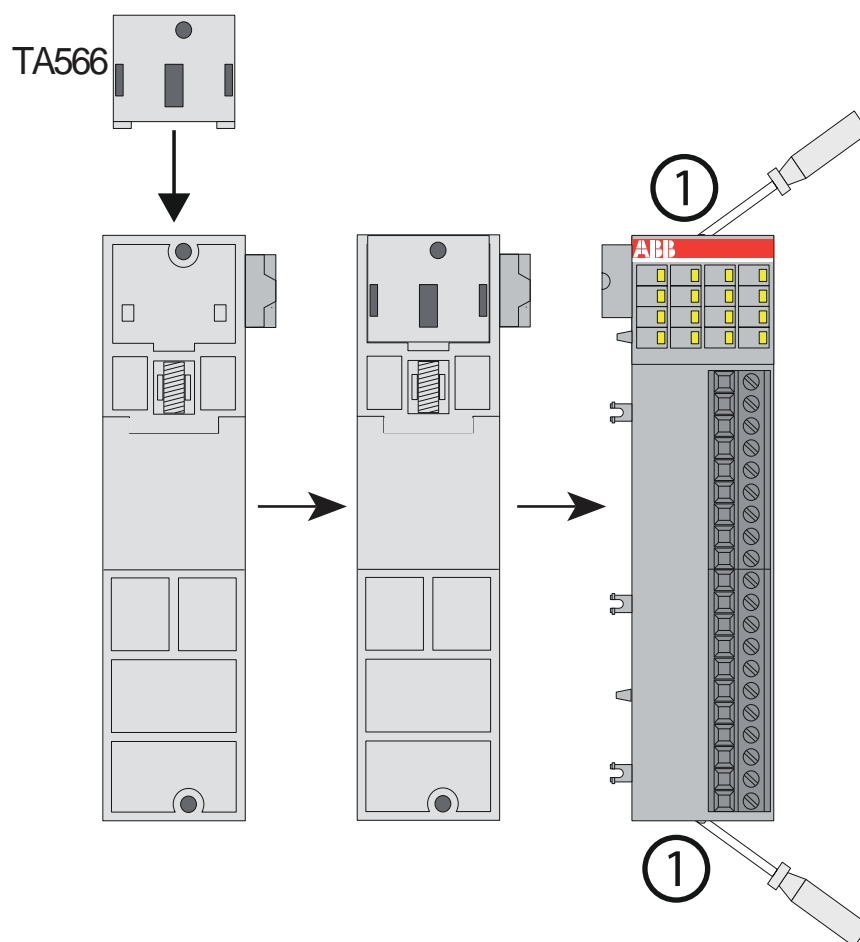
45.1 Assembly



45.2 Disassembly



45.3 Assembly with screws



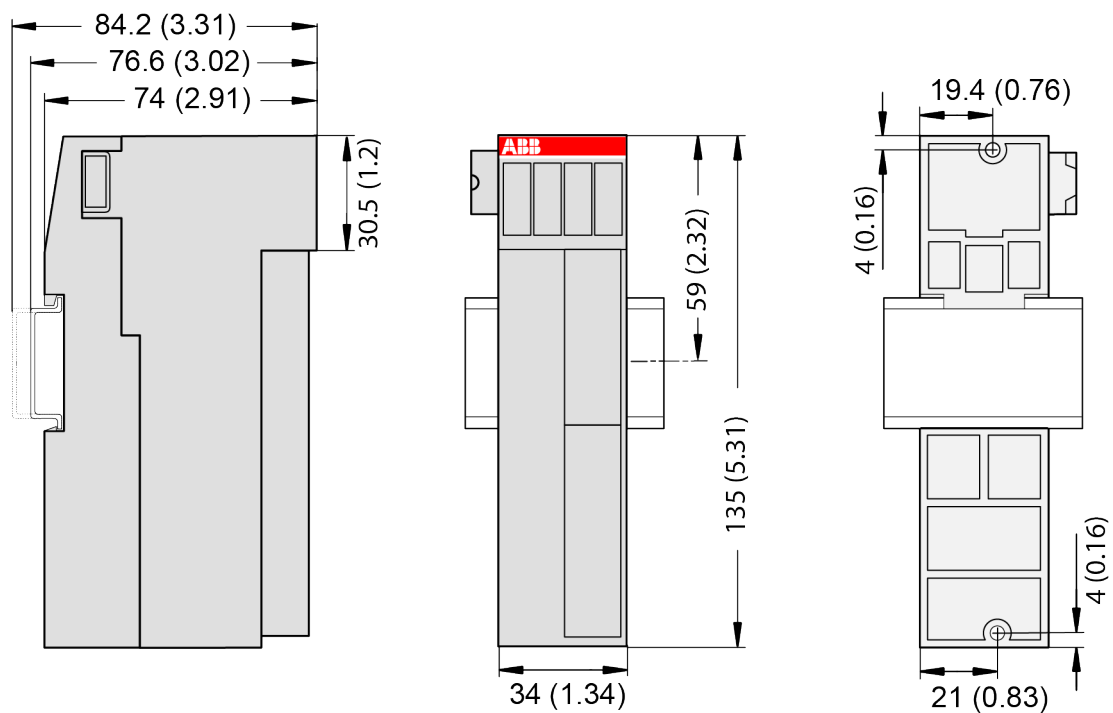
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

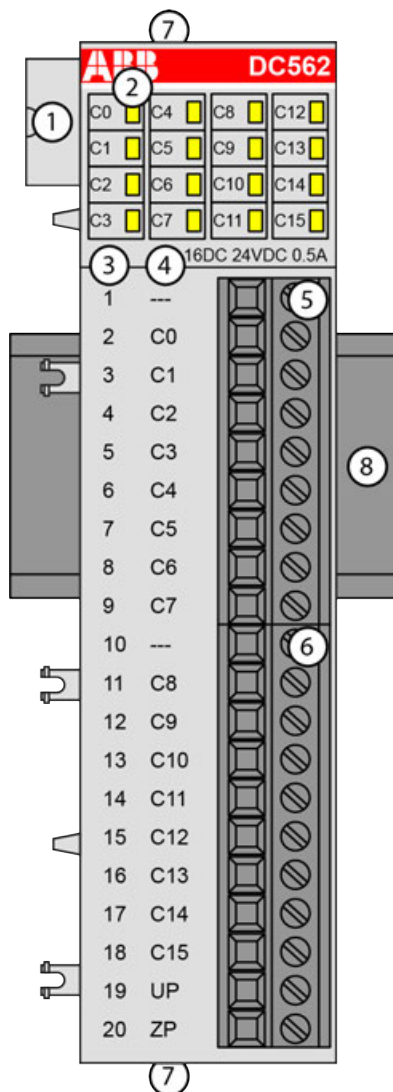
The insertion of the accessories TA566 for wall mounting is essential.

45.4 Dimensions



The dimensions are in mm and in brackets in inch.

45.5 Connections



- 1 I/O bus
- 2 16 yellow LEDs to display the states of the inputs/outputs C0 to C15
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for input and output signals (9-pin)
- 6 Terminal block for input and output signals (11-pin)
- 7 2 holes for wall-mounting with screws
- 8 DIN rail

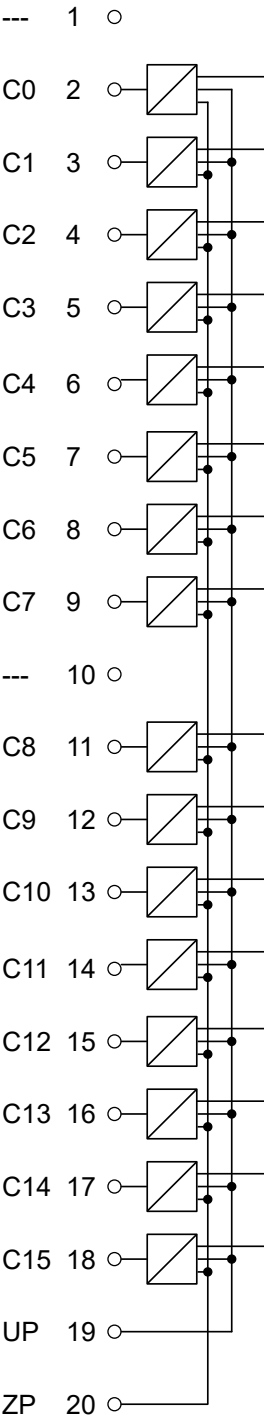


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

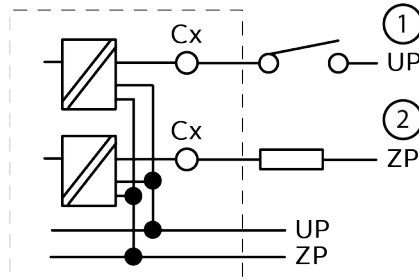
5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side

	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front

45.5.1 Inputs/Outputs



Examples



- 1 Example for connection as an input
- 2 Example for connection as an output

45.6 Cleaning



Cleaning instruction

*Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.*

45.7 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

45.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

46 DI524(-XC)

- DI524
- DI524-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

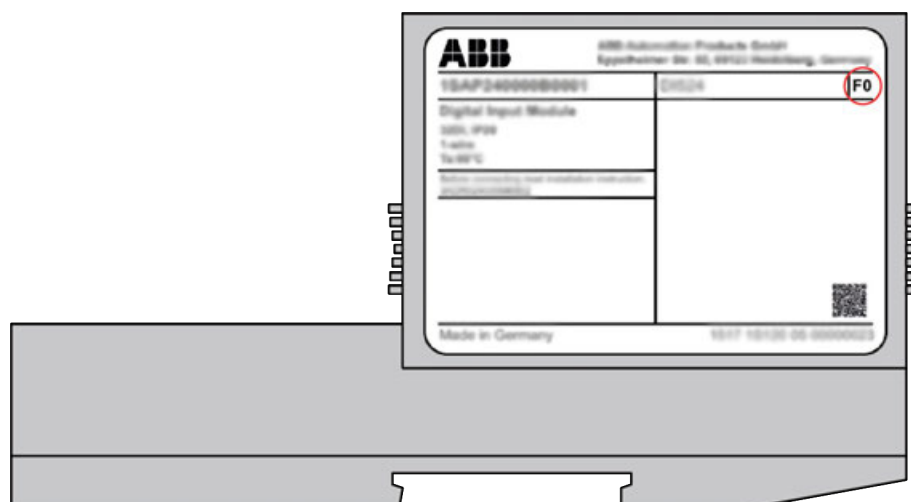
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

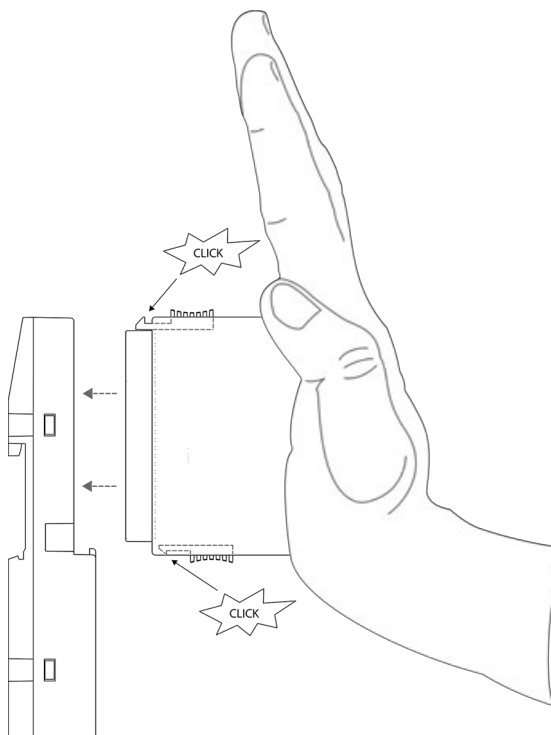
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

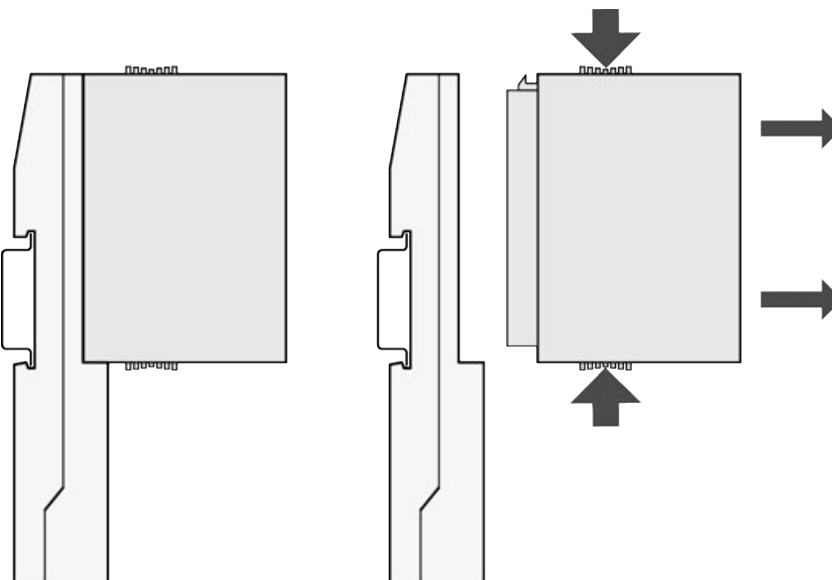
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

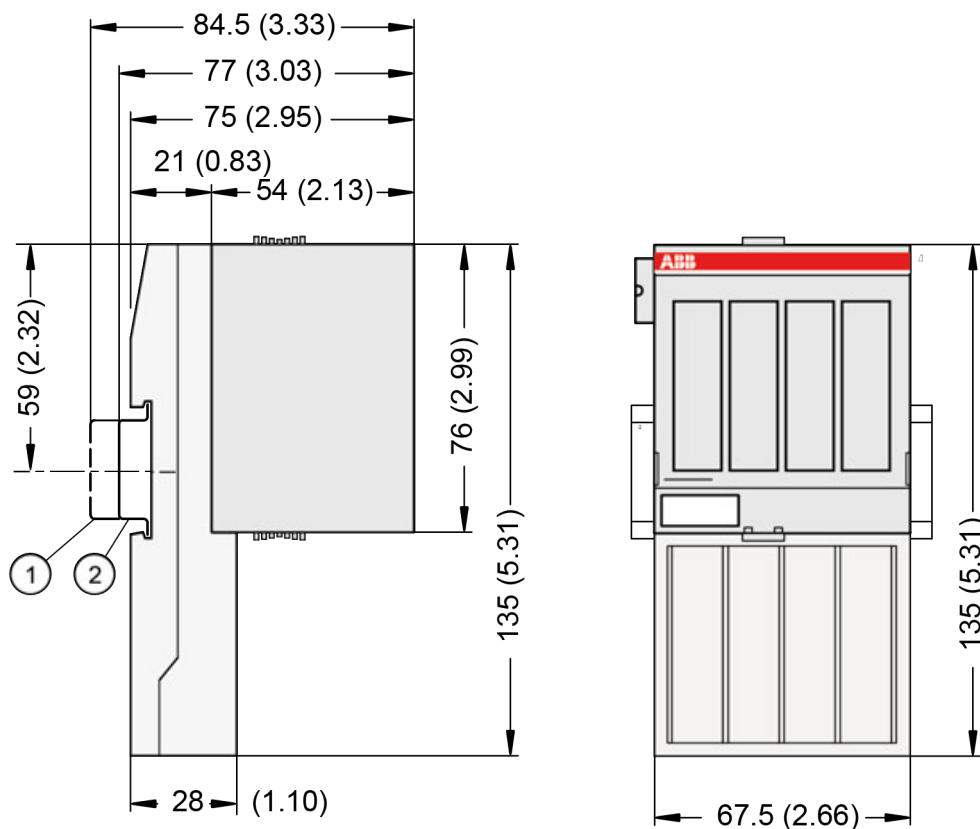
46.1 Assembly



46.2 Disassembly



46.3 Dimensions

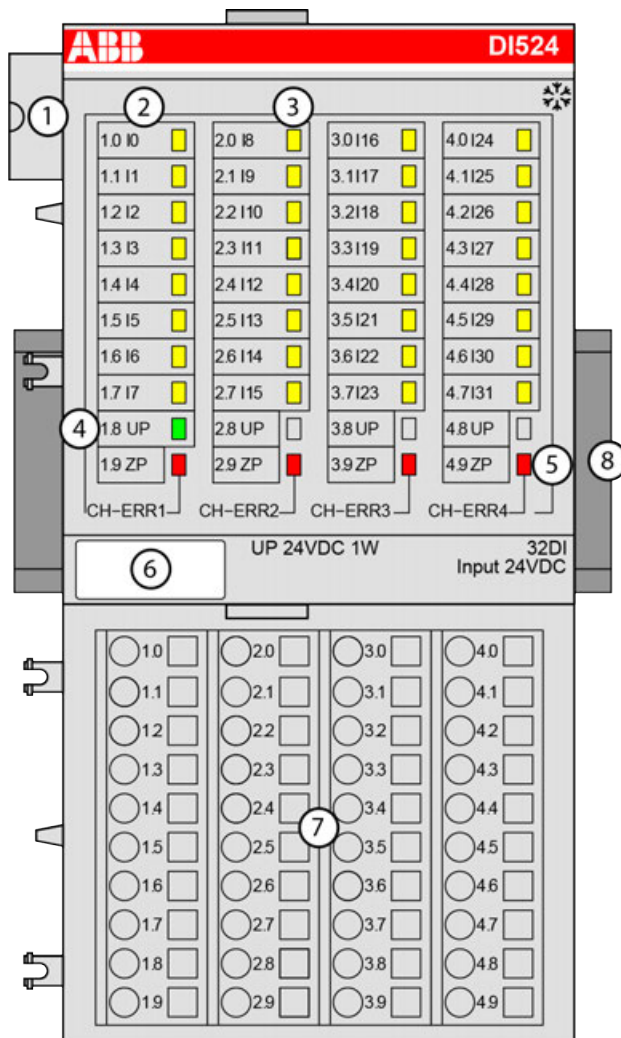


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

46.4 Connections

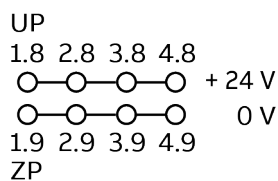


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 32 yellow LEDs to display the signal states at the digital inputs (I0 - I31)
- 4 1 green LED to display the state of the process supply voltage UP
- 5 4 red LEDs to display errors
- 6 Label
- 7 Terminal unit
- 8 DIN rail
- ✱ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

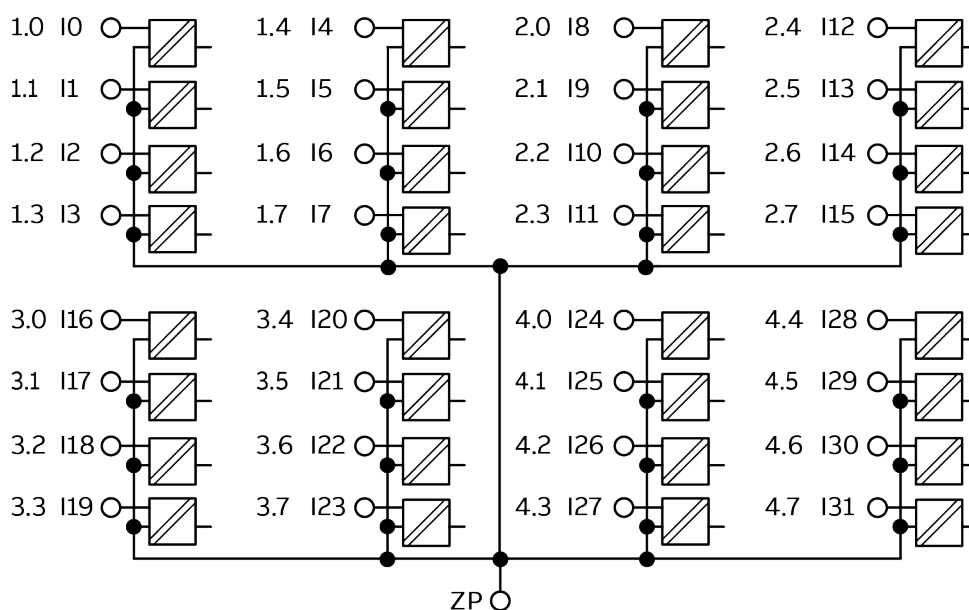
46.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

46.4.2 Inputs



Example

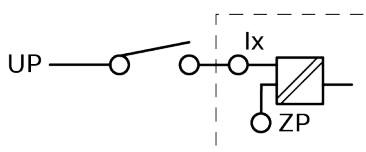


Fig. 53: Example of connection input Ix

46.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

46.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

46.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

47 DI561

- DI561

**CAUTION!****Risk of injury and damaging the product!**

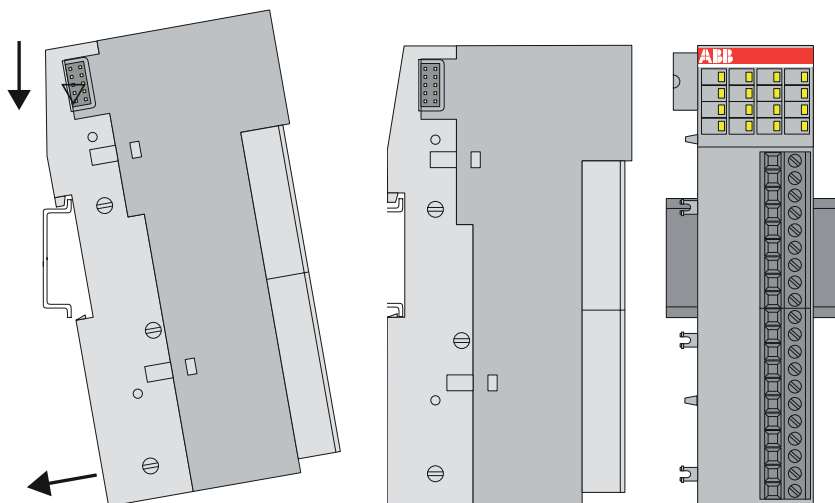
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

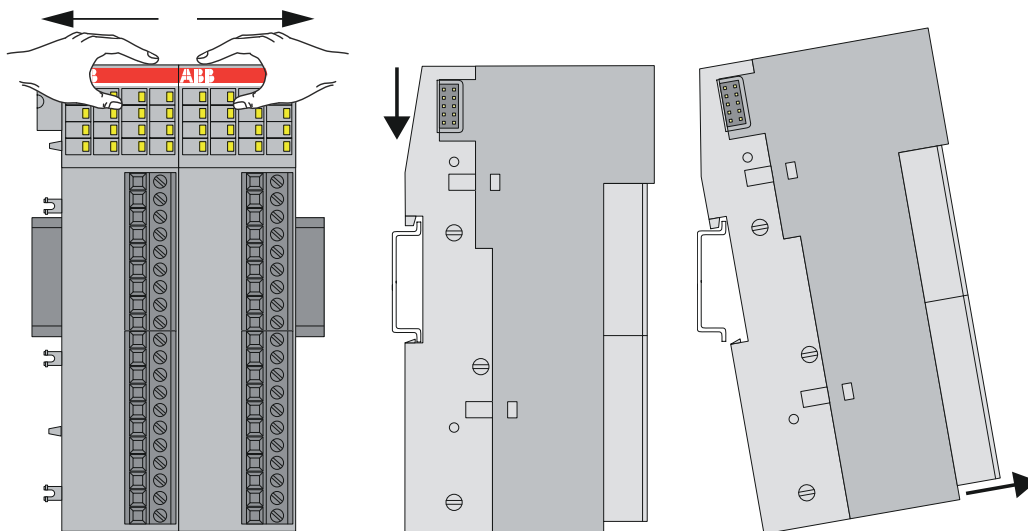
**CAUTION!**

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

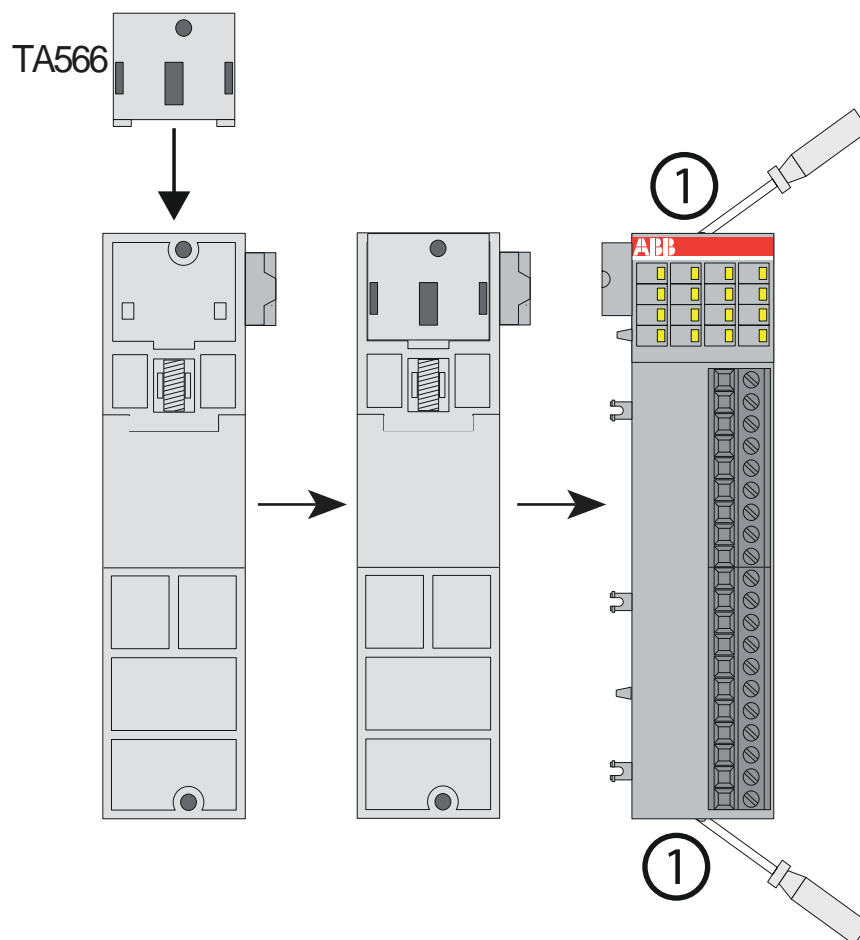
47.1 Assembly



47.2 Disassembly



47.3 Assembly with screws



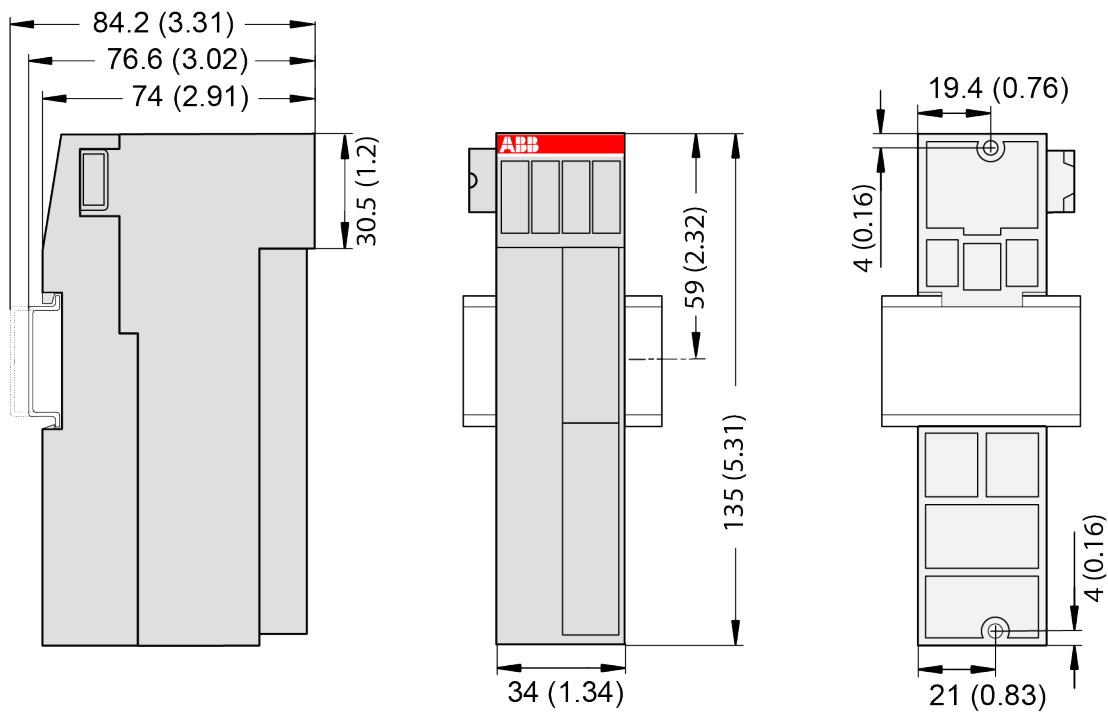
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

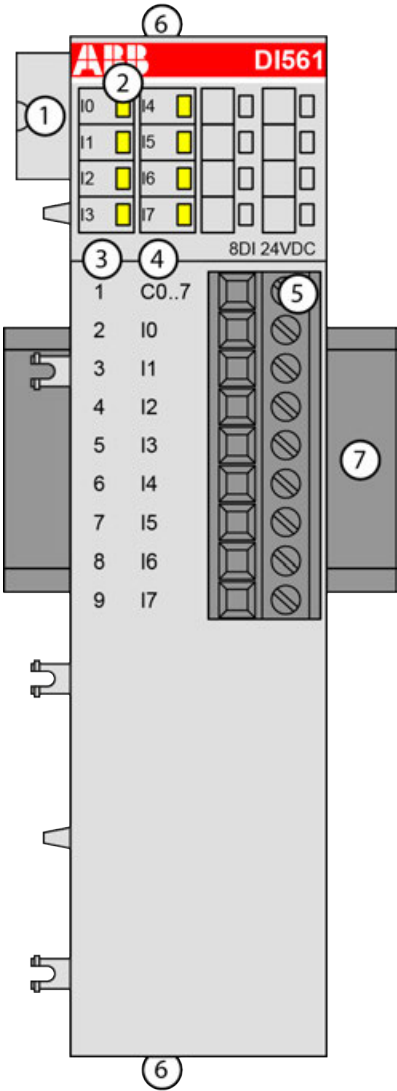
The insertion of the accessories TA566 for wall mounting is essential.

47.4 Dimensions




The dimensions are in mm and in brackets in inch.

47.5 Connections

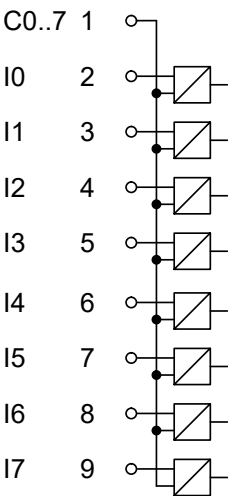


- 1 I/O bus
- 2 8 yellow LEDs to display the signal states of the inputs I0 to I7
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for input signals (9-pin)
- 6 2 holes for wall-mounting with screws
- 7 DIN rail

 All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front

47.5.1 Inputs/Outputs



Examples

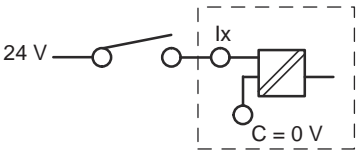


Fig. 54: DI561 used as source inputs

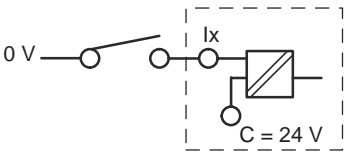



Fig. 55: DI561 used as sink inputs

47.6 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

47.7 Certification

 MSIP-REI-Abb-AC500-eCo	en	Devices with KCC sign on product sticker and packaging
	ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"
ko		KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함

47.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

48 DI562

- DI562



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

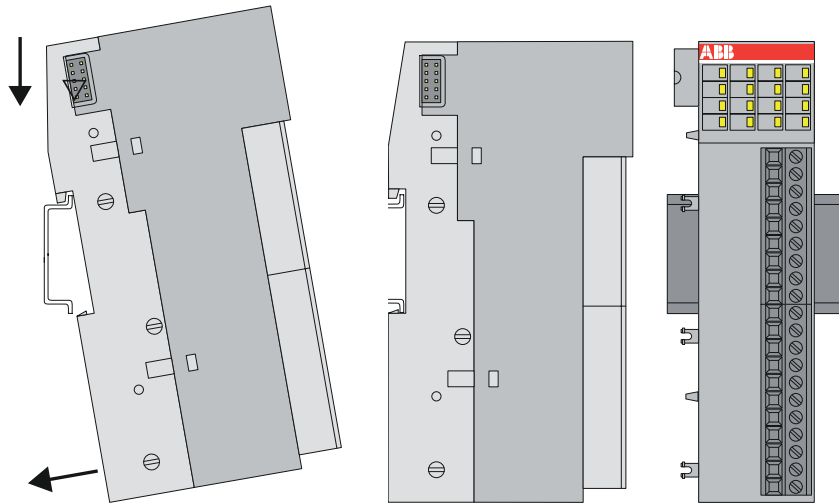
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



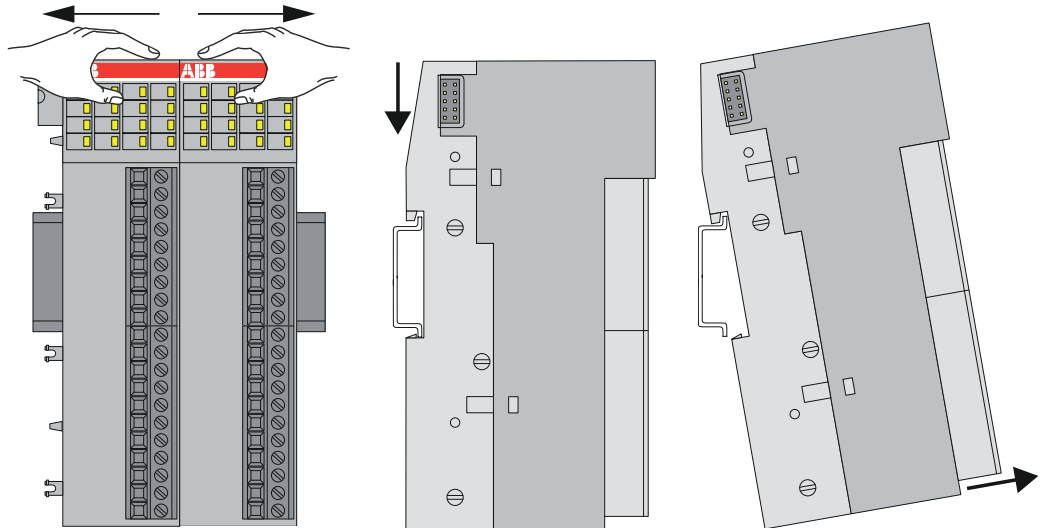
CAUTION!

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

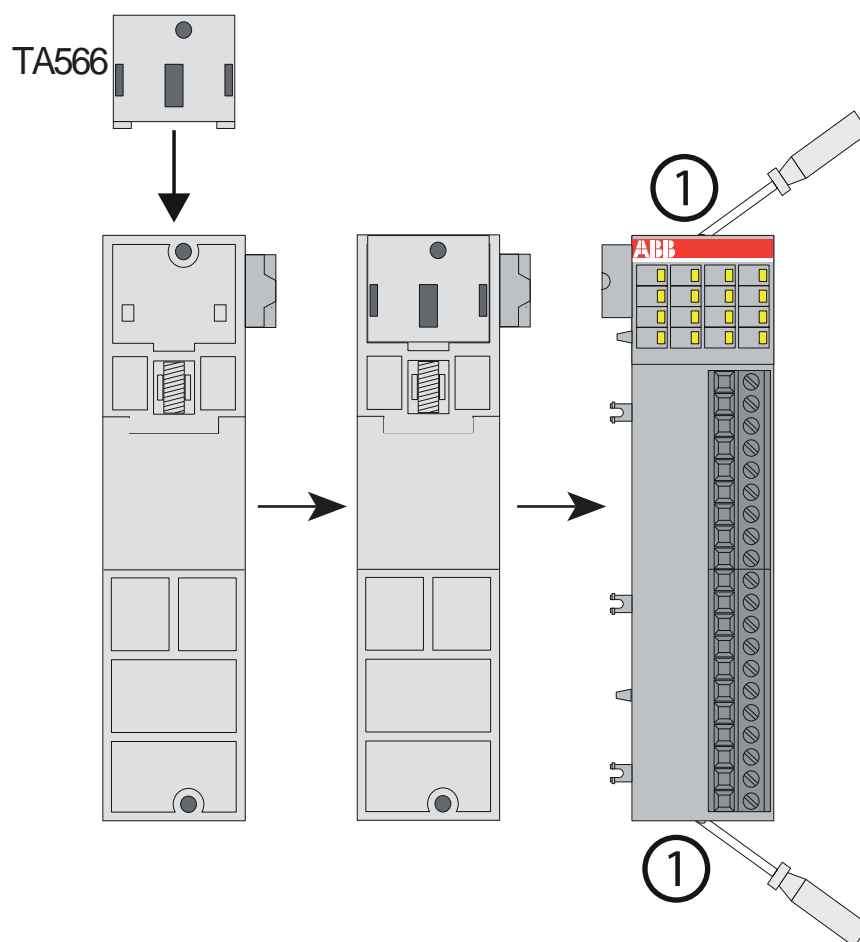
48.1 Assembly



48.2 Disassembly



48.3 Assembly with screws



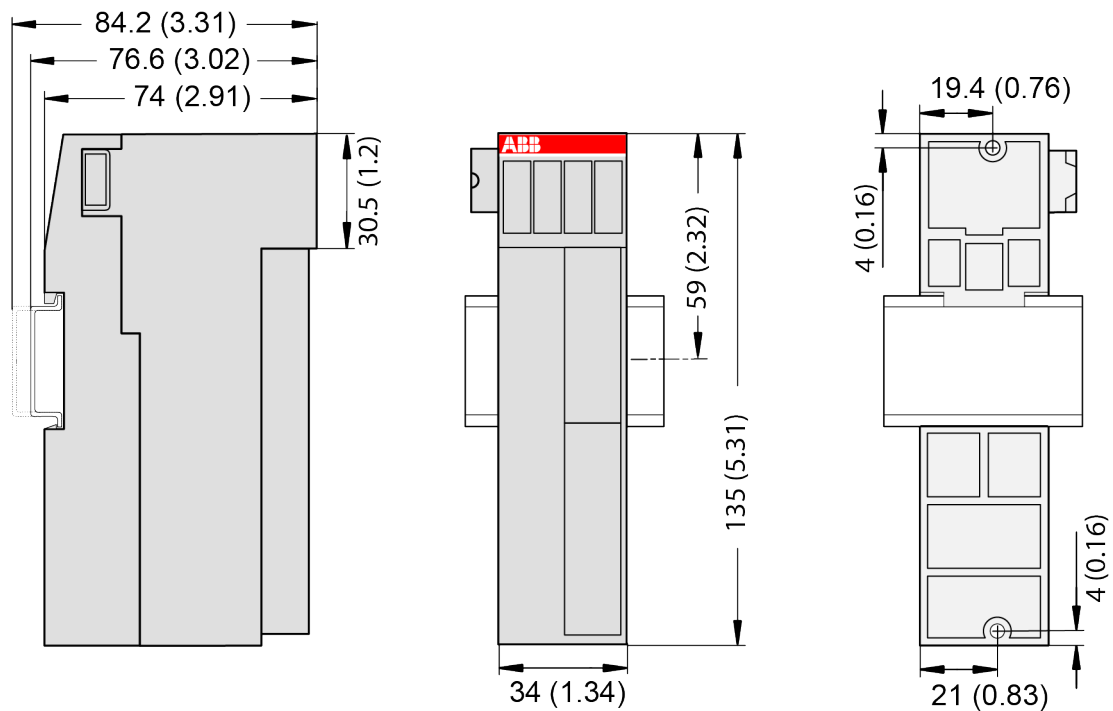
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

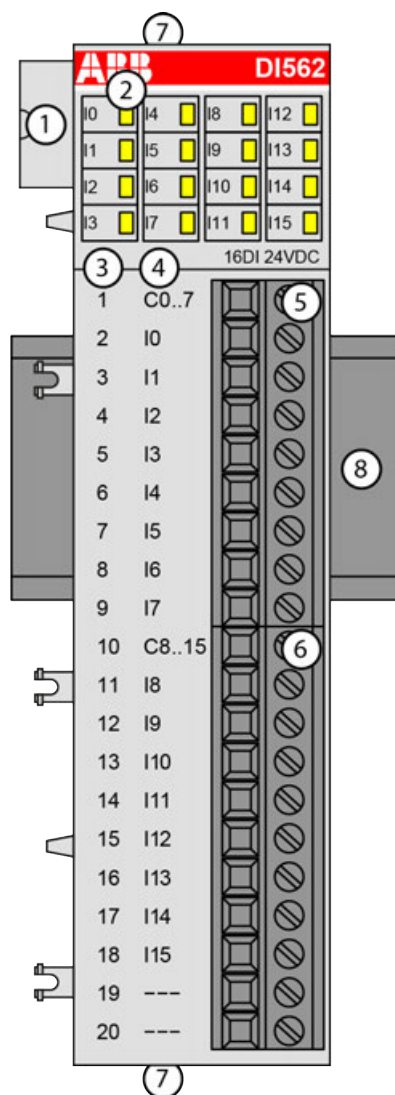
The insertion of the accessories TA566 for wall mounting is essential.

48.4 Dimensions



The dimensions are in mm and in brackets in inch.

48.5 Connections



- 1 I/O bus
- 2 16 yellow LEDs to display the signal states of the inputs I0 to I15
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for input signals (9-pin)
- 6 Terminal block for input signals (11-pin)
- 7 2 holes for wall-mounting with screws
- 8 DIN rail

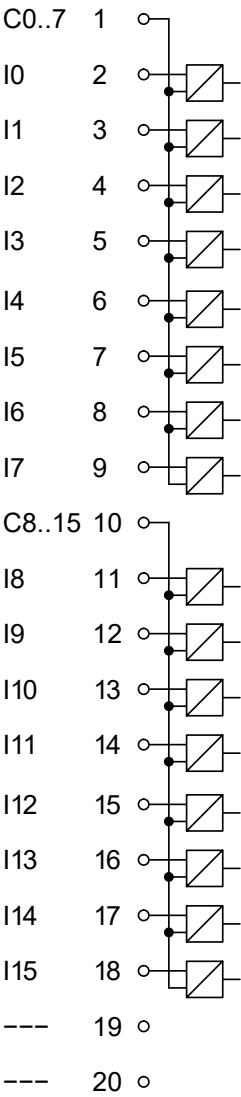


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side

	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front

48.5.1 Inputs



Examples

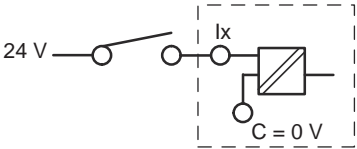


Fig. 56: DI562 used as source inputs

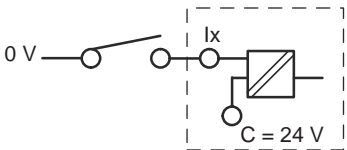


Fig. 57: DI562 used as sink inputs

48.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

48.7 Certification



MSIP-REI-Abb-AC500-eCo

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

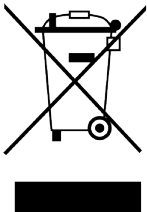
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

48.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

49 DI571

- DI571

**CAUTION!****Risk of injury and damaging the product!**

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

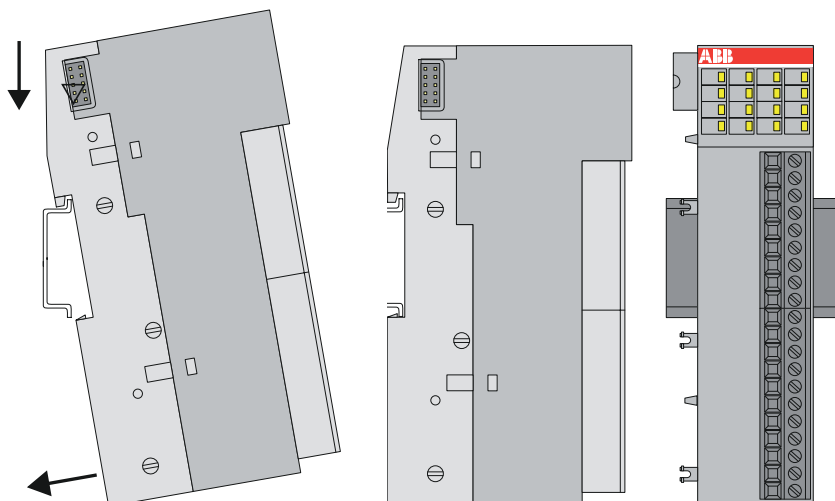
**CAUTION!**

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

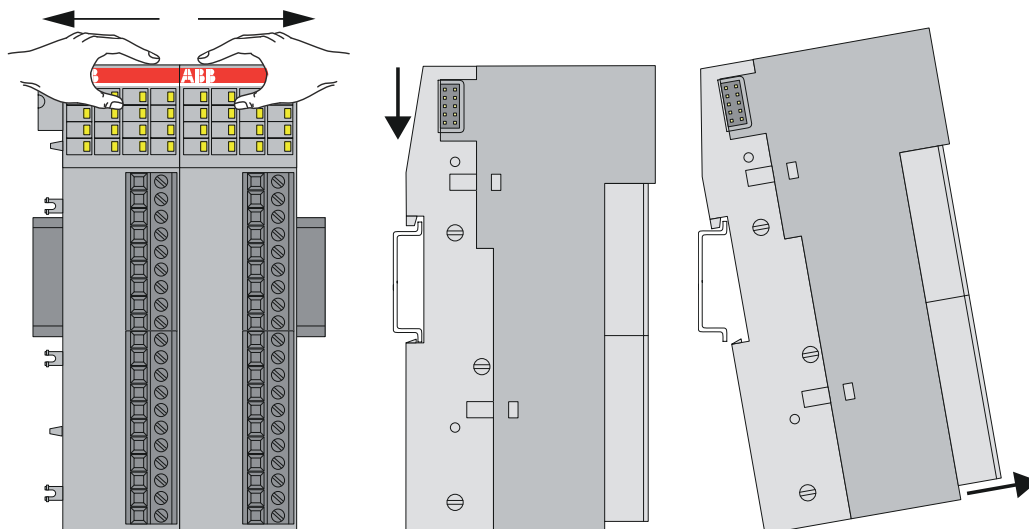
**CAUTION!**

Make sure that all channels are supplied from the same phase.

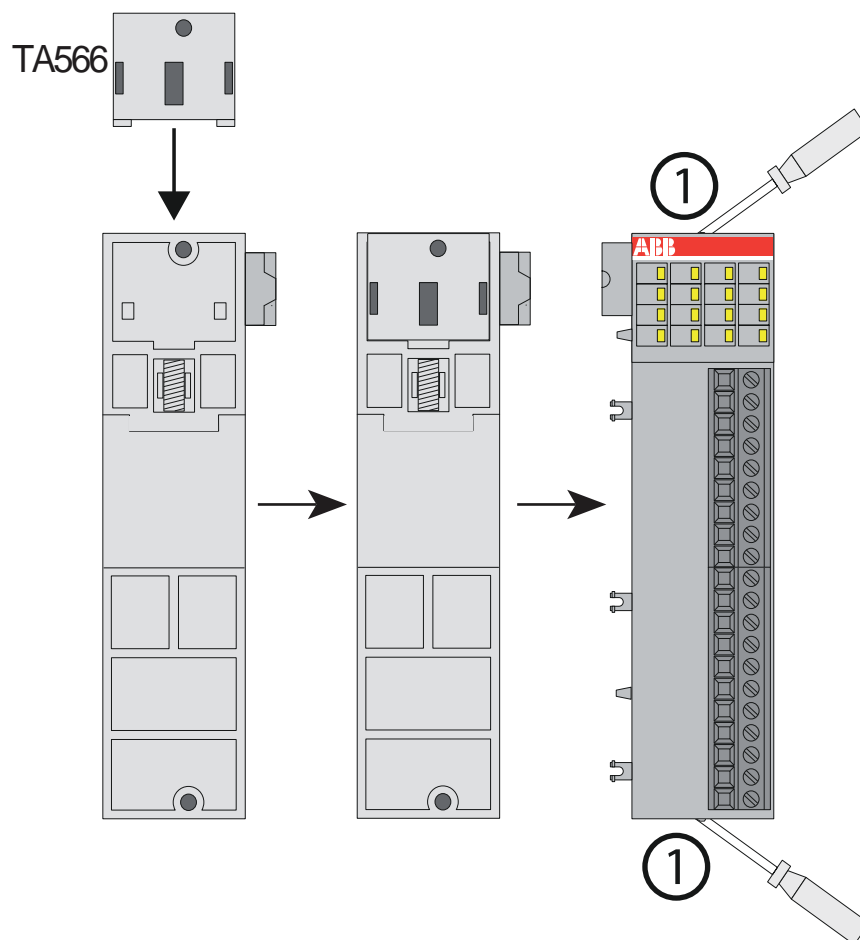
49.1 Assembly



49.2 Disassembly



49.3 Assembly with screws



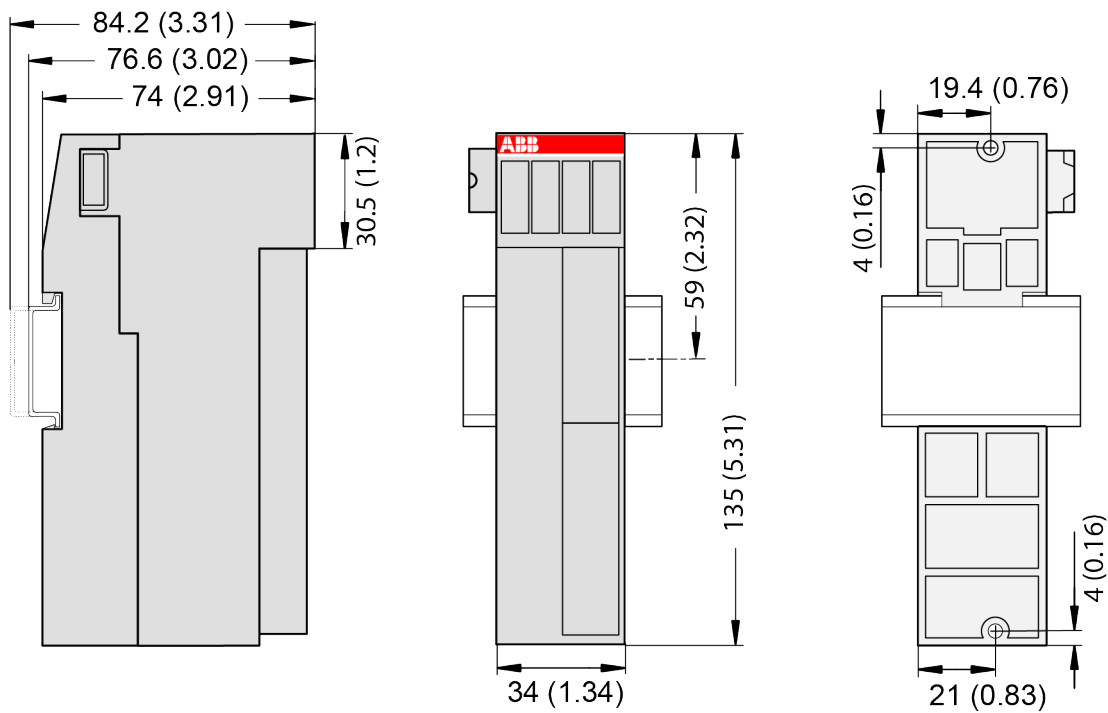
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

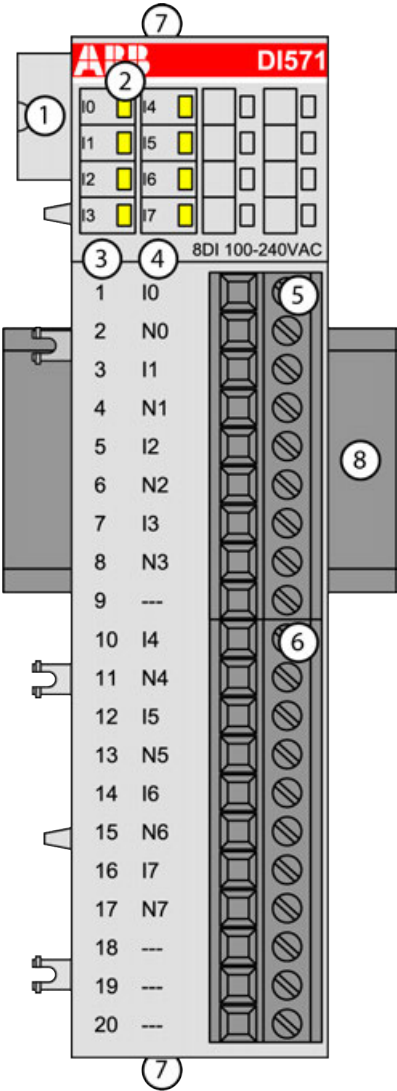
The insertion of the accessories TA566 for wall mounting is essential.

49.4 Dimensions




The dimensions are in mm and in brackets in inch.

49.5 Connections



- 1 I/O bus
- 2 8 yellow LEDs to display the signal states of the inputs I0 to I7
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for input signals (9-pin)
- 6 Terminal block for input signals (11-pin)
- 7 2 holes for wall-mounting with screws
- 8 DIN rail

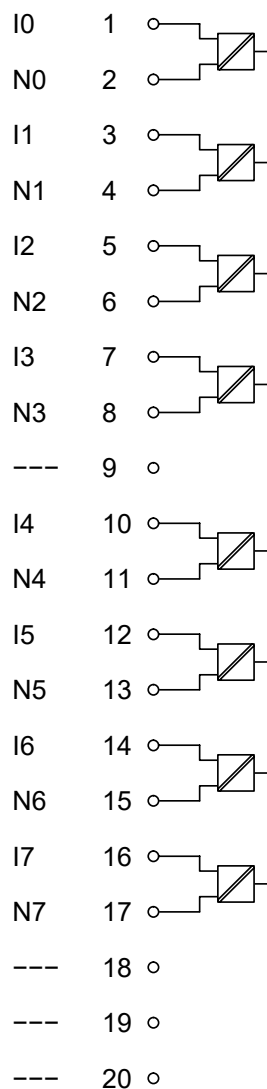


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side

	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front

49.5.1 Inputs/Outputs



Examples

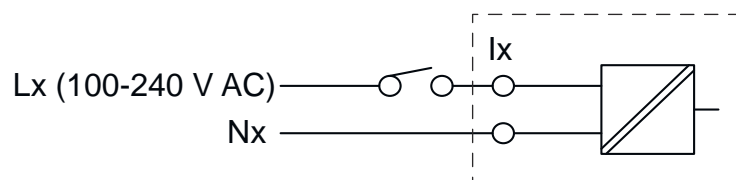


Fig. 58: Example for connection input Ix

49.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

49.7 Certification



MSIP-REI-Abb-AC500-eCo

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

49.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

50 DI572

- DI572



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



CAUTION!

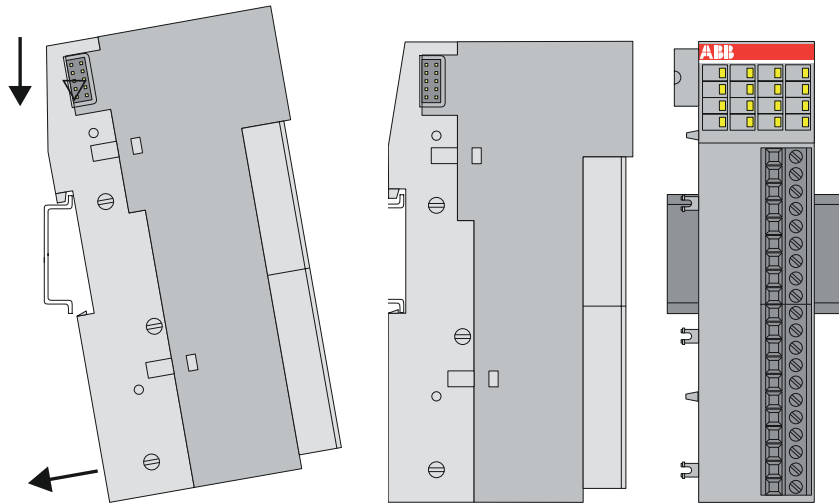
Do not use this module together with the DC505-FBP/CI590-CS31-HA module.



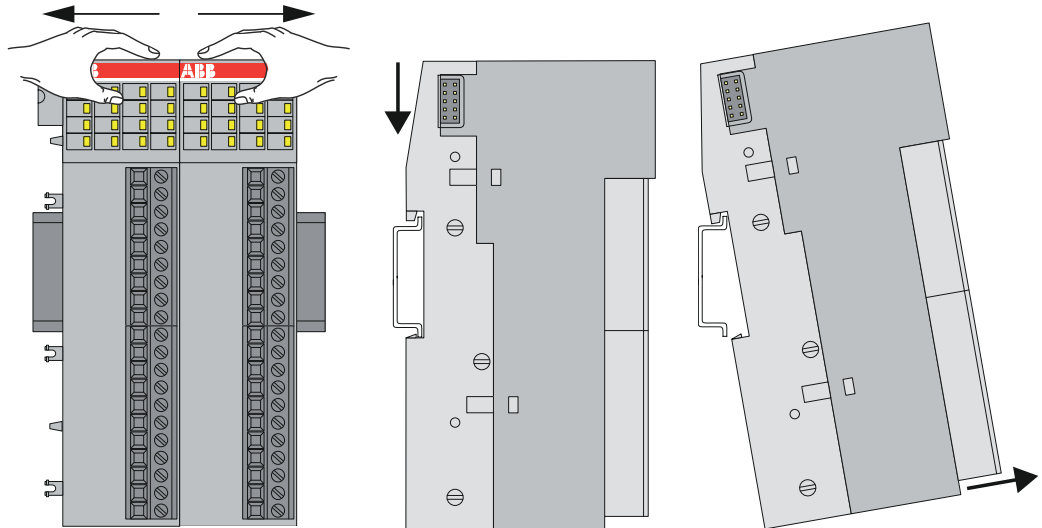
CAUTION!

Make sure that all channels are supplied from the same phase.

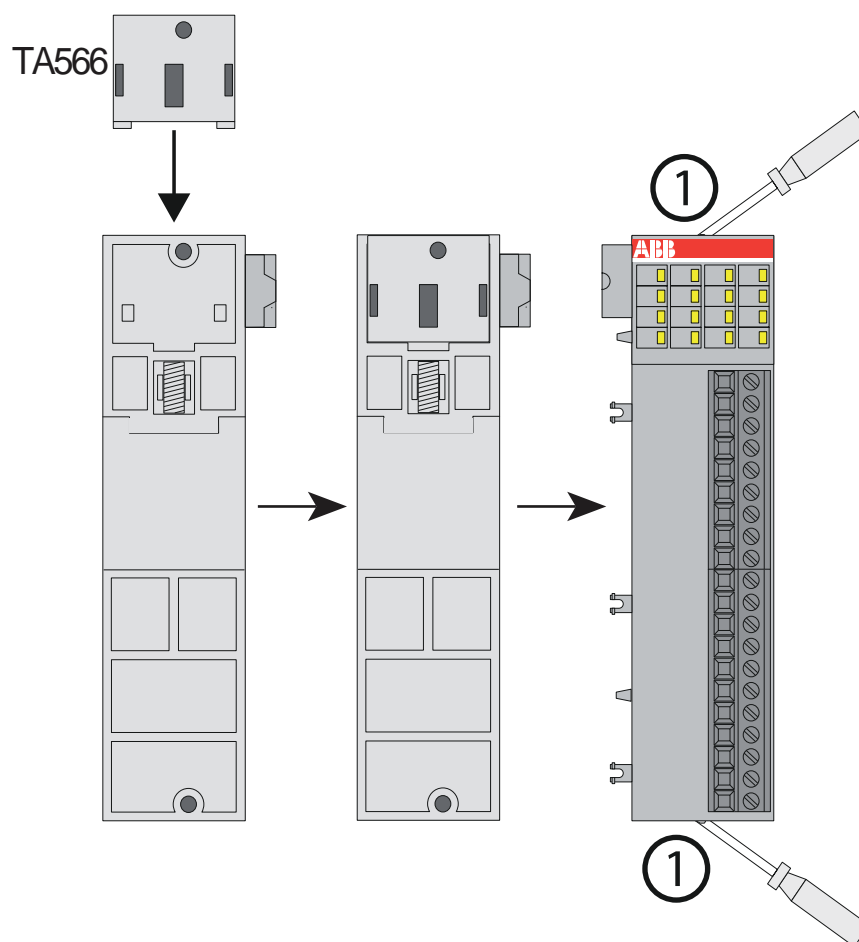
50.1 Assembly



50.2 Disassembly



50.3 Assembly with screws



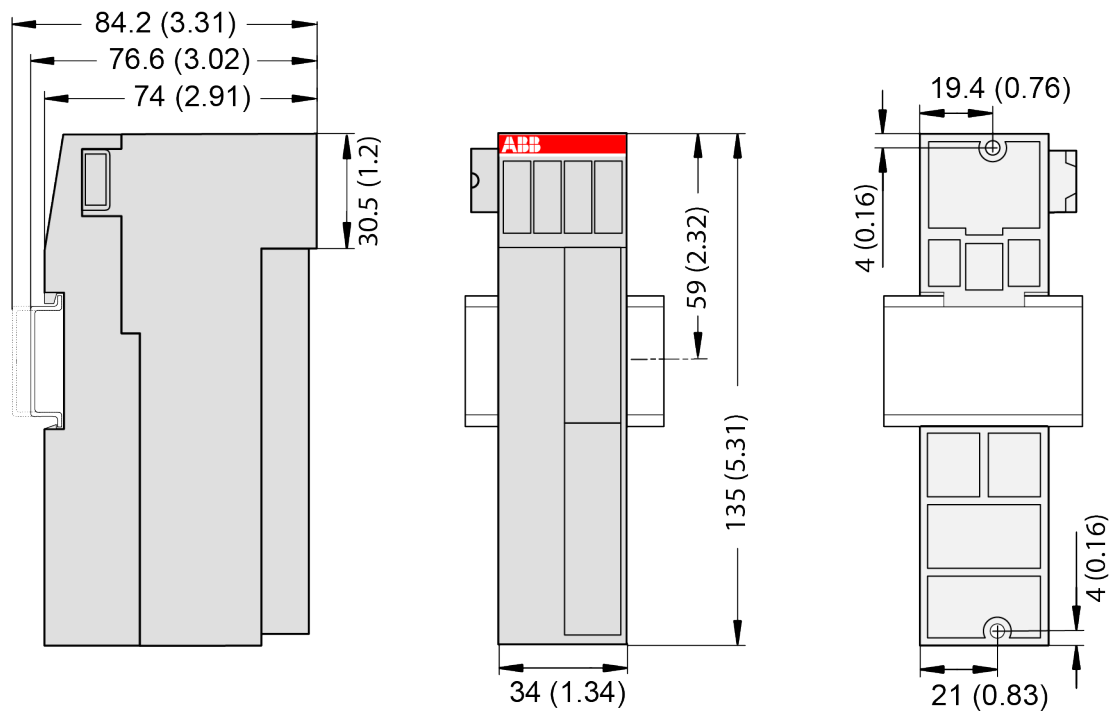
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

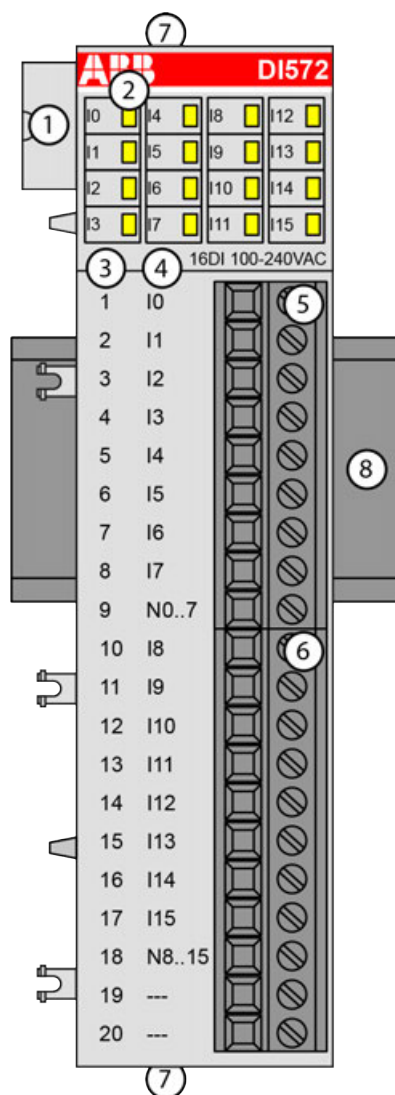
The insertion of the accessories TA566 for wall mounting is essential.

50.4 Dimensions



The dimensions are in mm and in brackets in inch.

50.5 Connections



- 1 I/O bus
- 2 16 yellow LEDs to display the signal states of the inputs I0 to I15
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for input signals (9-pin)
- 6 Terminal block for input signals (11-pin)
- 7 2 holes for wall-mounting with screws
- 8 DIN rail

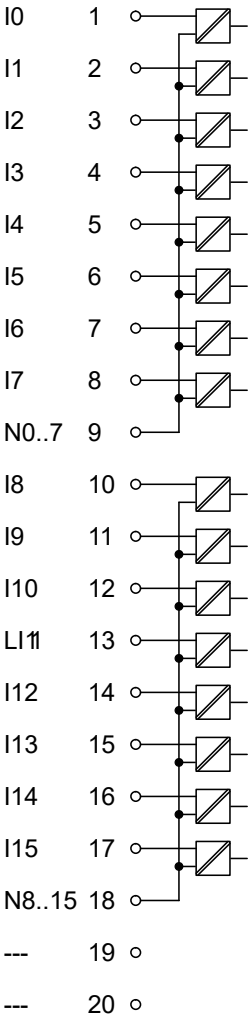


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side

	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front

50.5.1 Inputs/Outputs



Examples

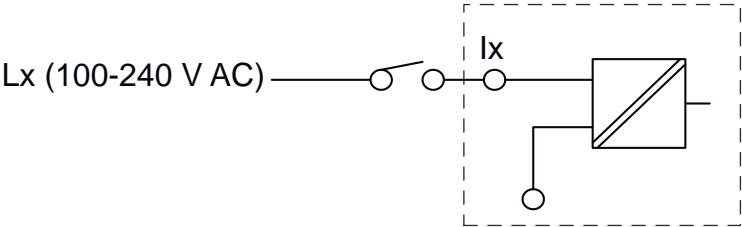


Fig. 59: Example for connection input Ix

50.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

50.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

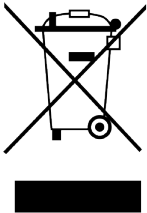
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

50.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

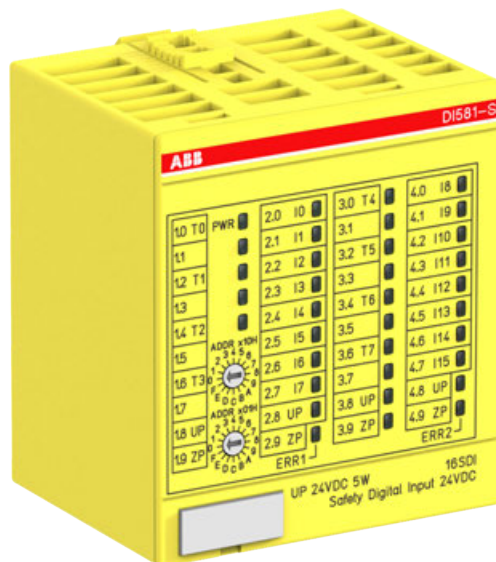
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

51 DI581-S(-XC)

- DI581-S
- DI581-S-XC



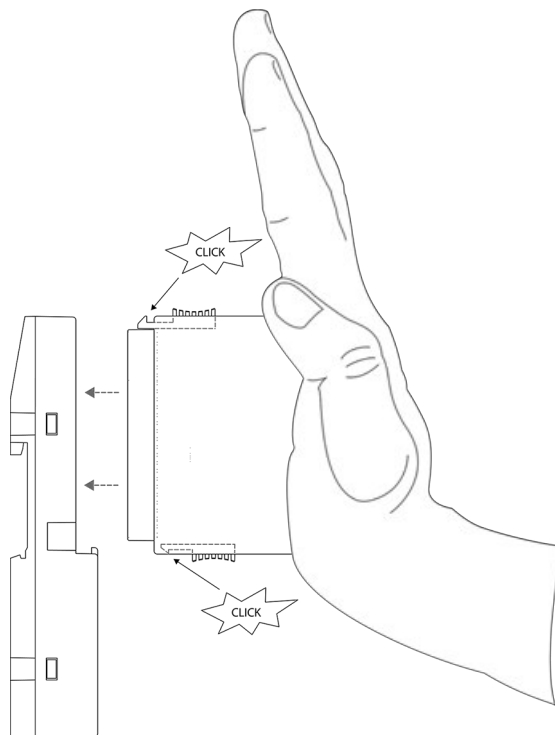
CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

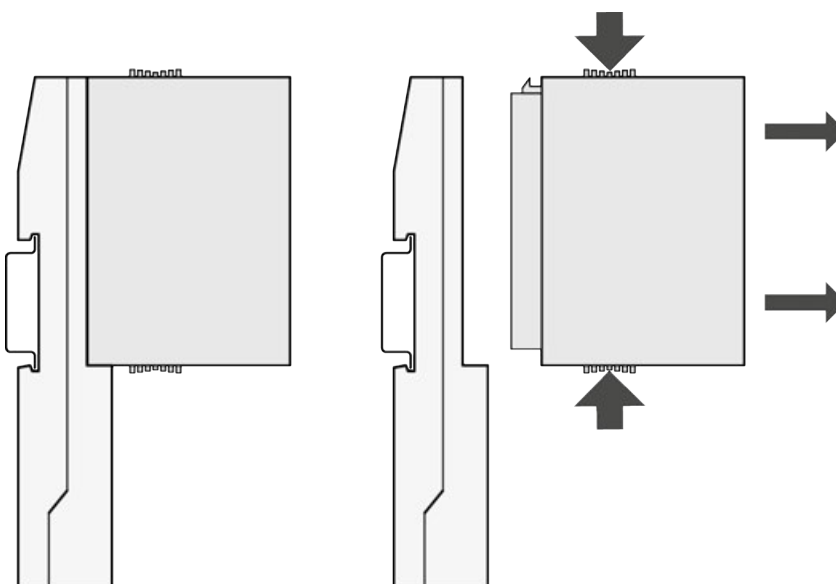
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

51.1 Assembly

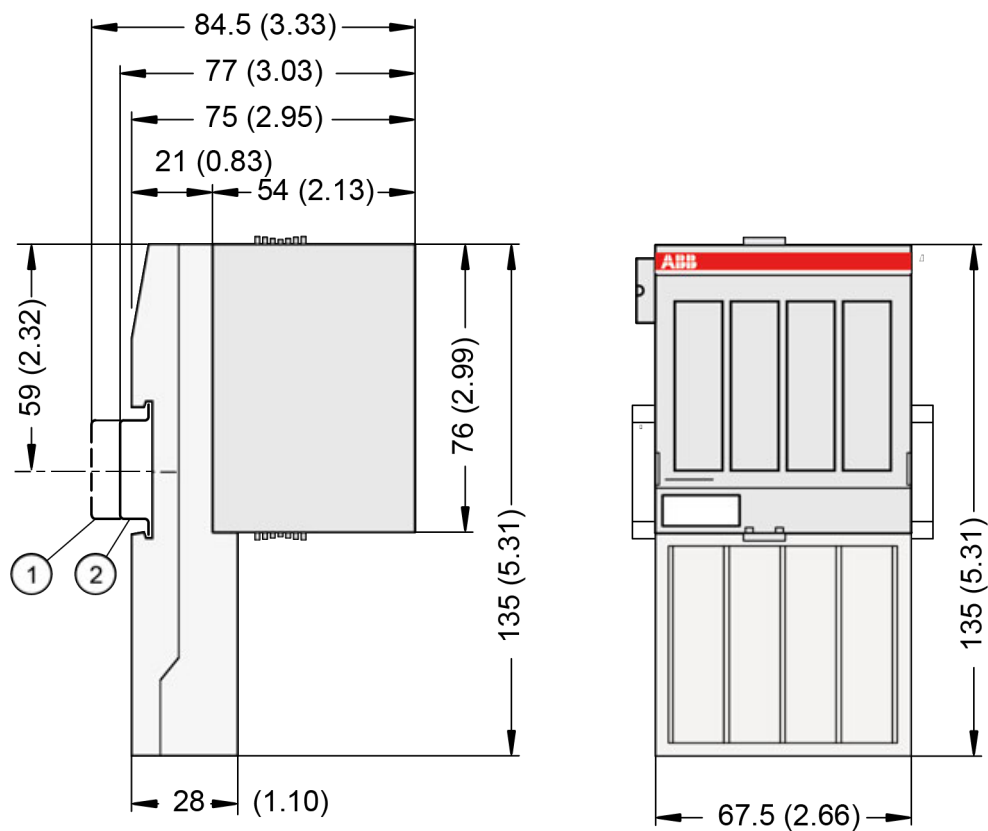


1. Put the module on the terminal unit
⇒ Module clicks in.
2. Then press the module with a force of at least 100 N into the terminal unit to achieve proper electrical contact.

51.2 Disassembly

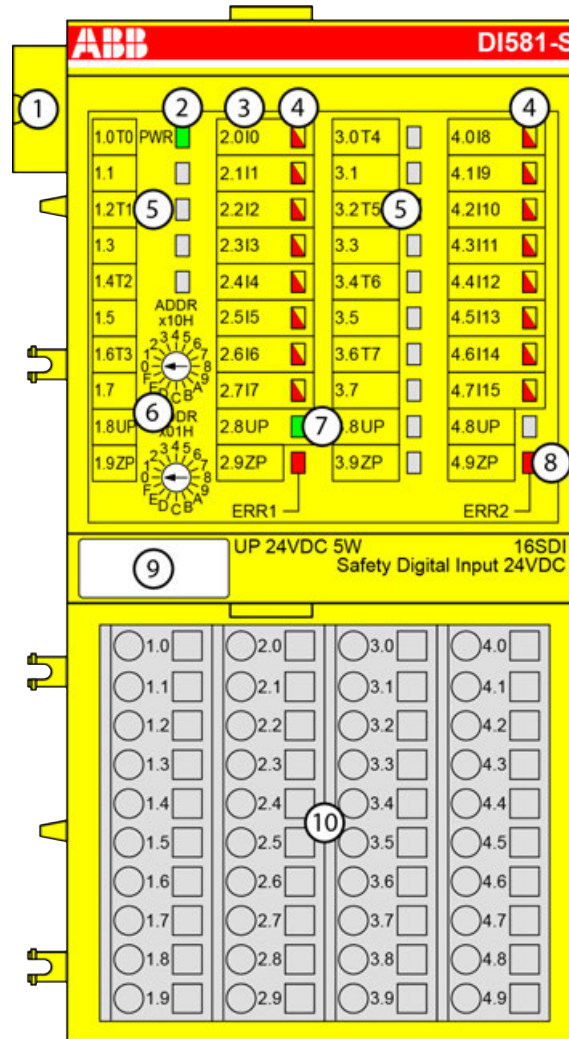


51.3 Dimensions



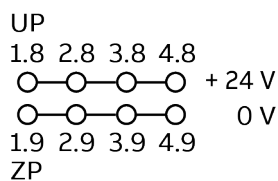
The dimensions are in mm and in brackets in inch.

51.4 Connections



- 1 I/O bus
- 2 System LED
- 3 Allocation of terminal number and signal name
- 4 16 yellow/red LEDs to display the signal states of the digital inputs I0 to I15
- 5 8 Test pulse outputs T0 to T7
- 6 2 rotary switches for setting the PROFIsafe address
- 7 1 green LED to display the state of the process supply voltage UP
- 8 2 red LEDs to display errors
- 9 Label
- 10 Terminal unit TU582-S(-XC)
- * Sign for XC version

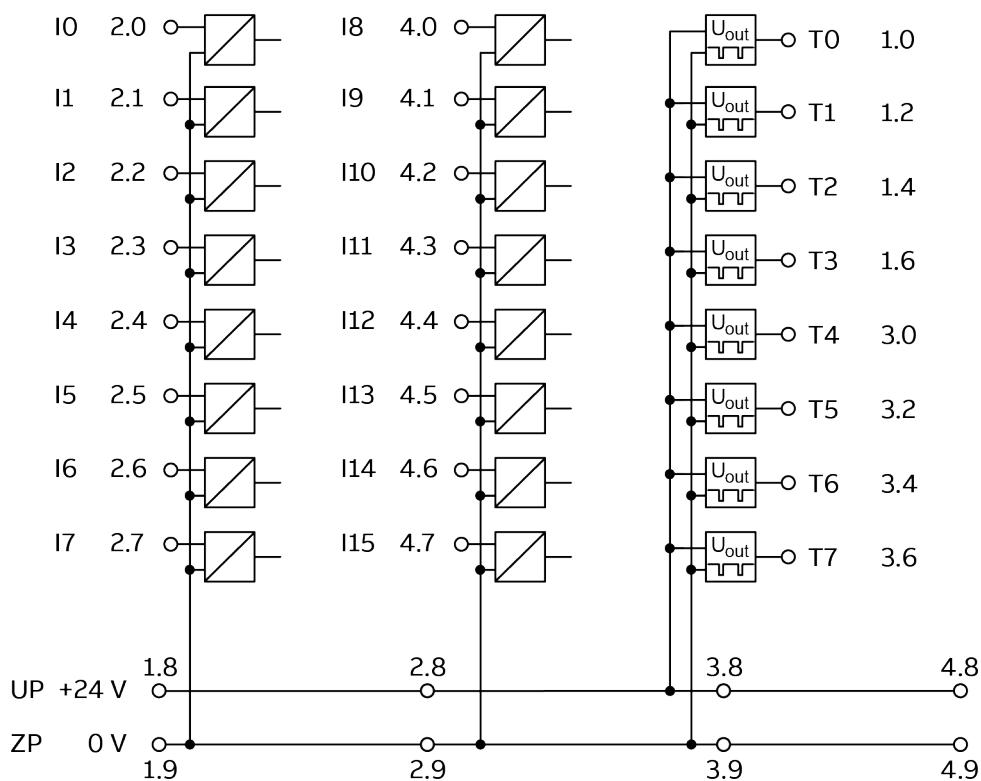
51.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

51.4.2 Inputs



Example

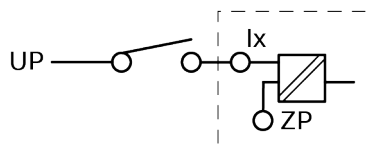


Fig. 60: Example of connection input I_x



AC500-S safety user manual

For a detailed description of the connection of the module, please refer to the "AC500-S safety user manual".

51.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

51.6 Certification



MSIP-REI-Abb-AC500

en **Devices with KCC sign on product sticker and packaging**

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 “산업 환경에 대한 내성”,
KN61000-6-4 “산업 환경 노출 기준”에 적합한

51.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

52 DO524(-XC)

- DO524
- DO524-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

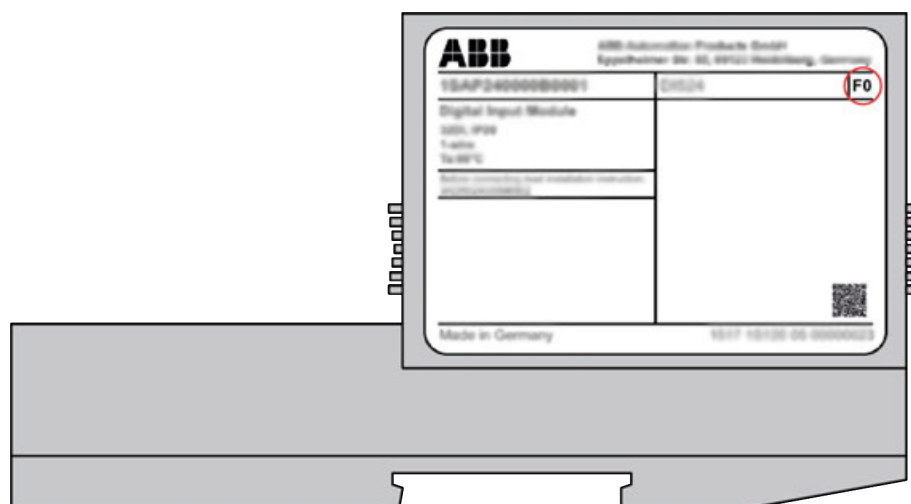
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

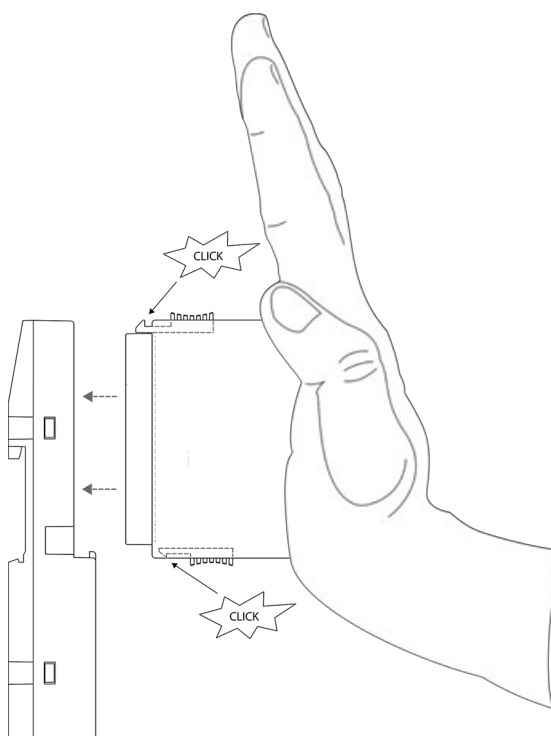
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

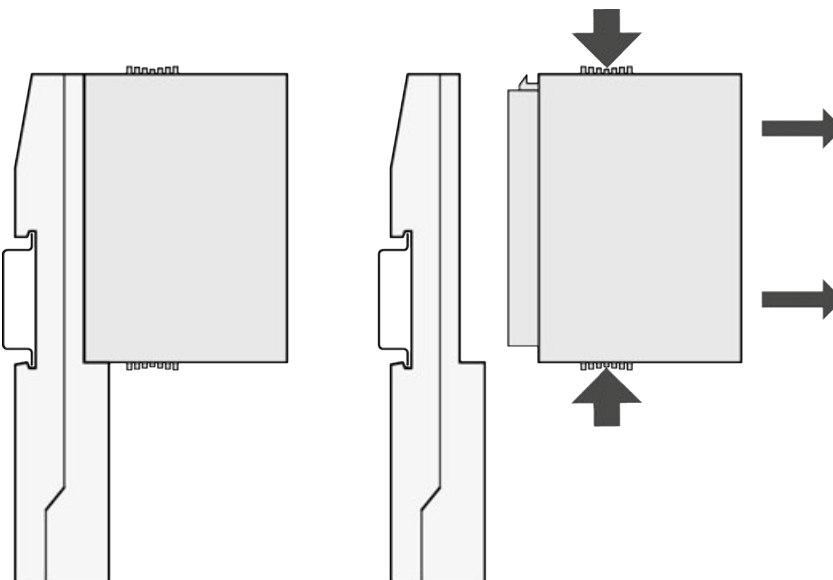
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

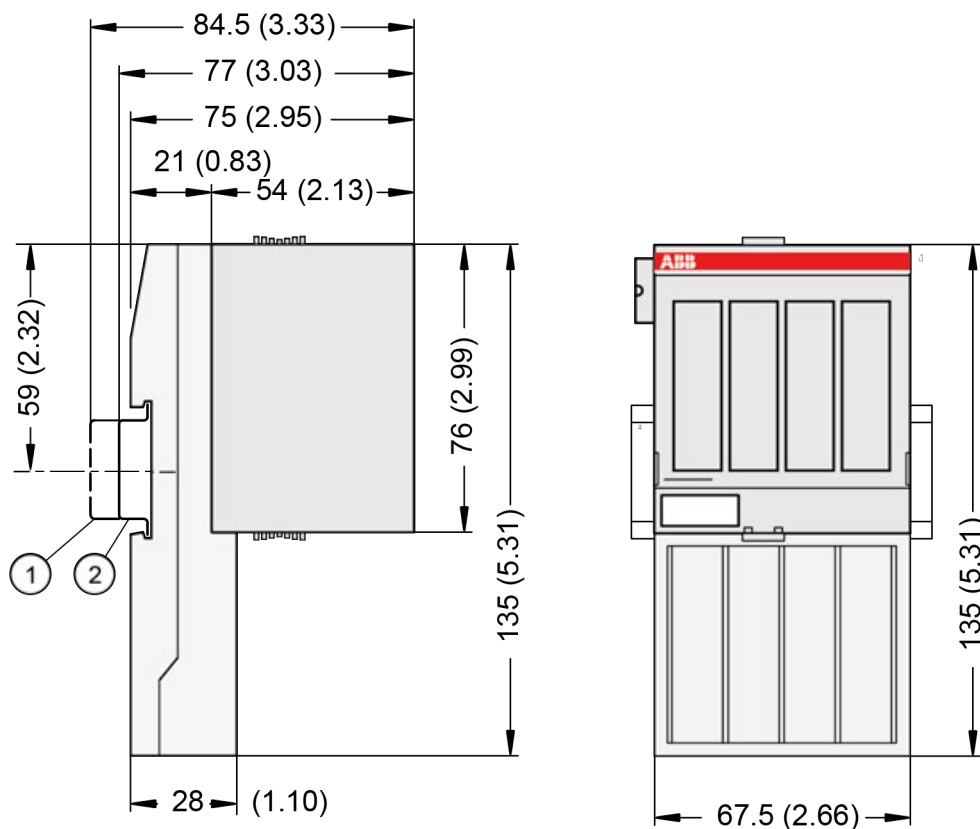
52.1 Assembly



52.2 Disassembly



52.3 Dimensions

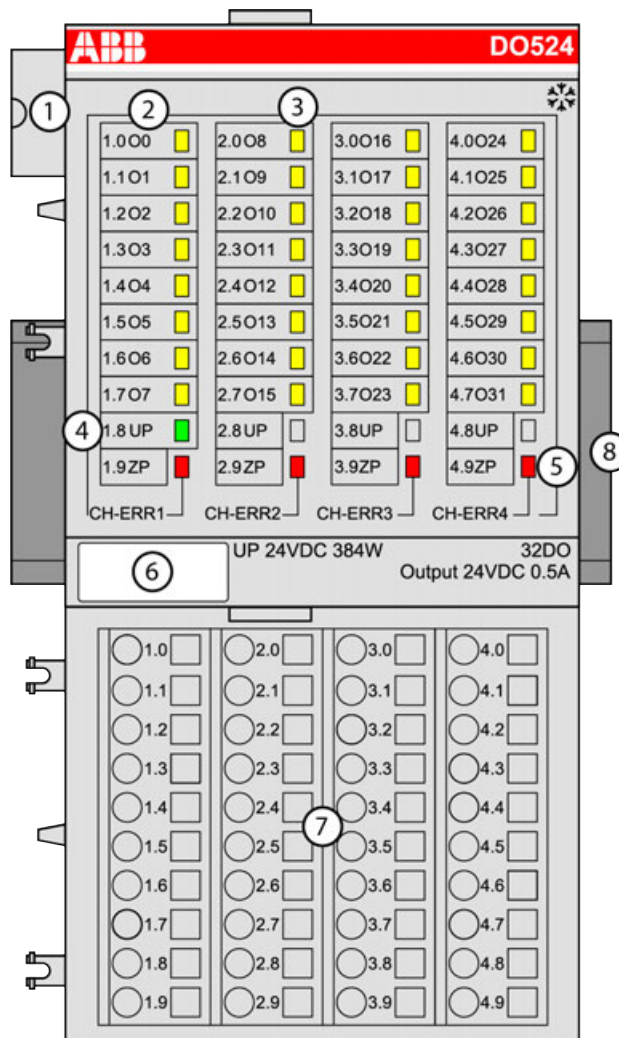


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

52.4 Connections

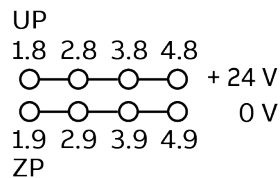


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 32 yellow LEDs to display the signal states at the digital outputs (O0 - O31)
- 4 1 green LED to display the state of the process supply voltage UP
- 5 4 red LEDs to display errors
- 6 Label
- 7 Terminal unit
- 8 DIN rail
- * Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

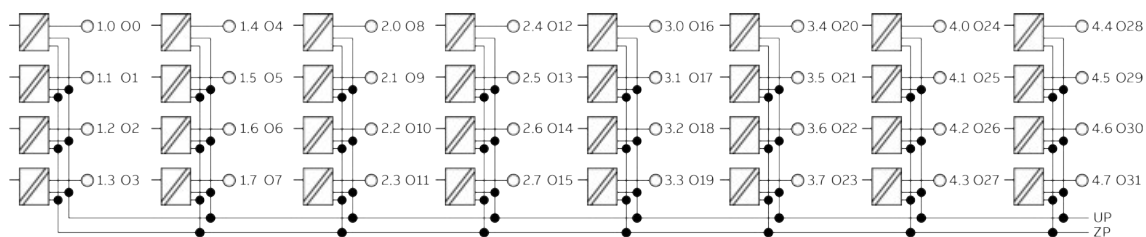
52.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

52.4.2 Outputs



Example

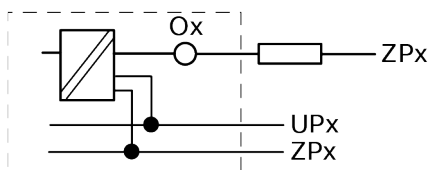


Fig. 61: Example of connection output

52.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

52.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

52.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

53 DO526(-XC)

- DO526
- DO526-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

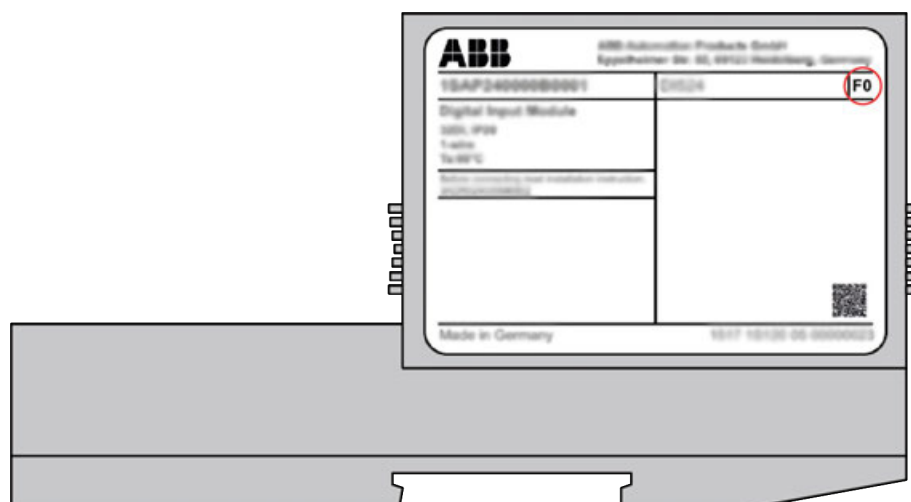
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

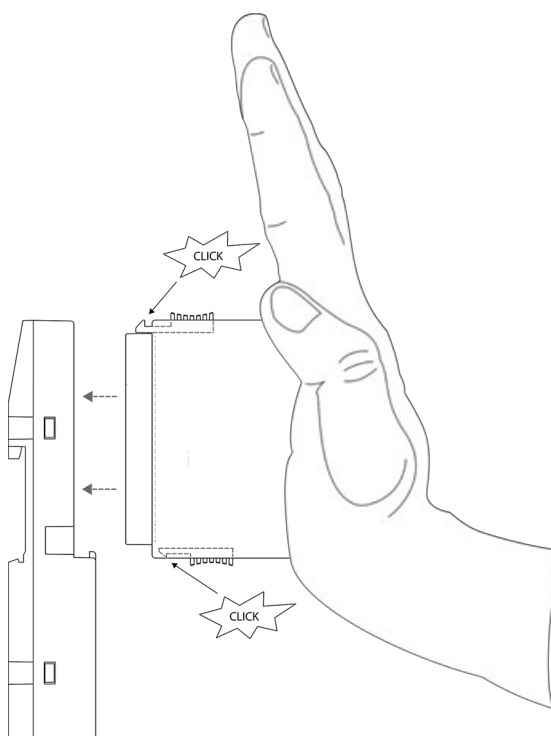
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

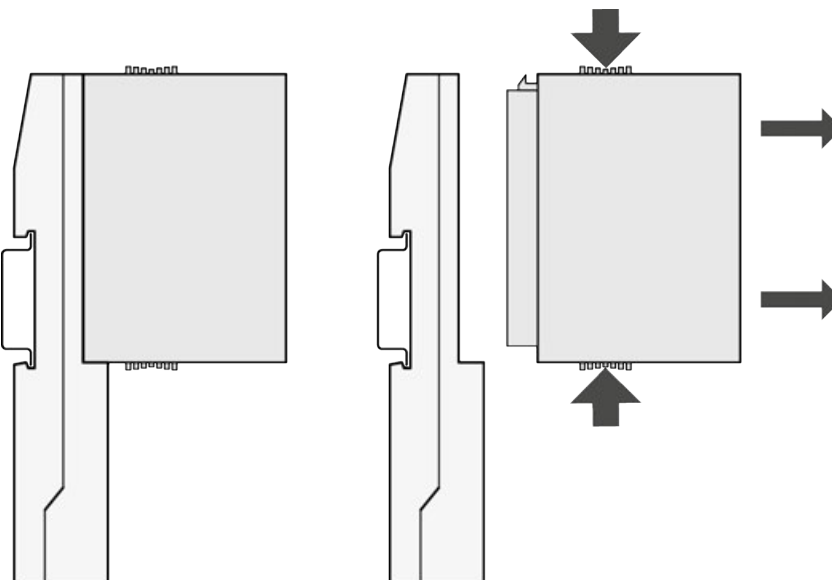
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

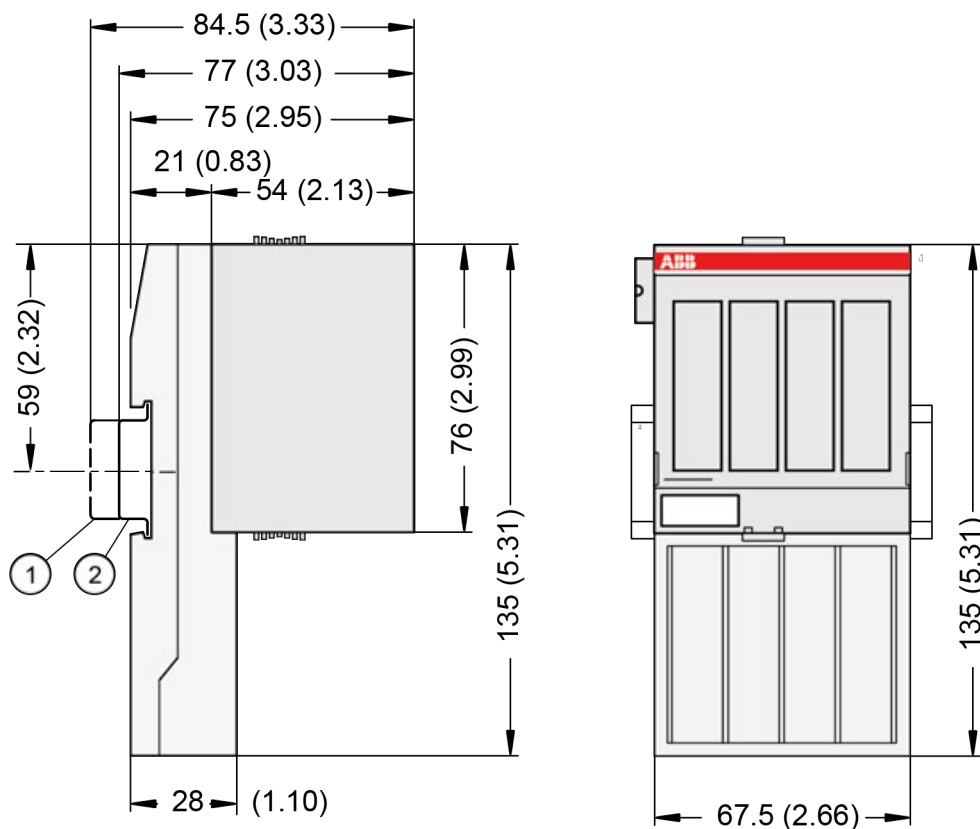
53.1 Assembly



53.2 Disassembly



53.3 Dimensions

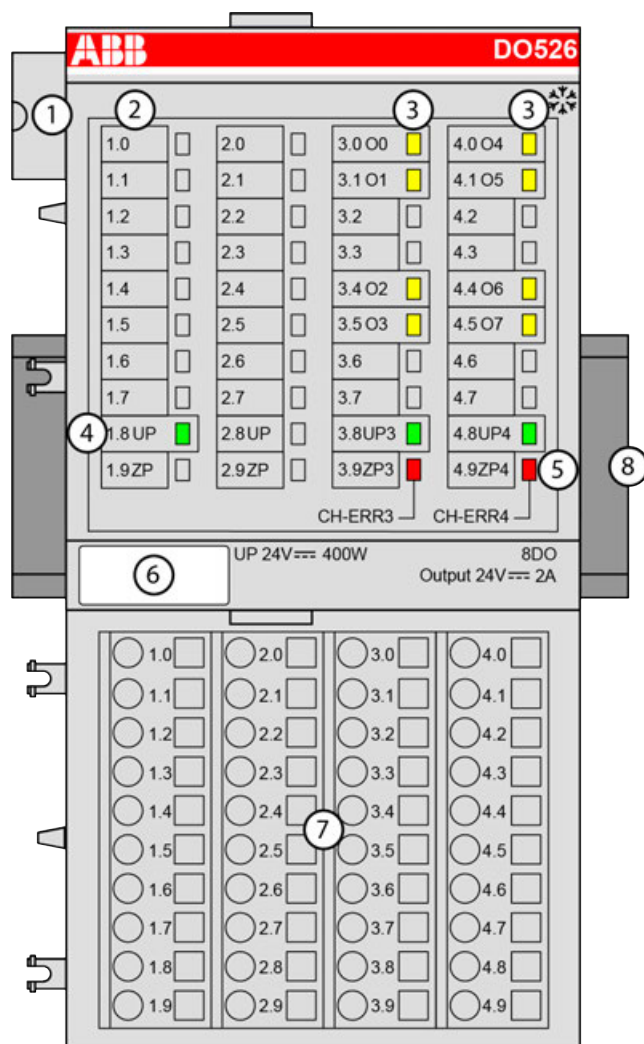


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

53.4 Connections



- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 8 yellow LEDs to display the signal states of the outputs O0 to O7
- 4 3 green LEDs to display the states of the process supply voltage UP, UP3 and UP4
- 5 2 red LEDs to display errors
- 6 Label
- 7 Terminal unit
- 8 DIN-rail
- ❄ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

53.4.1 Process supply voltage

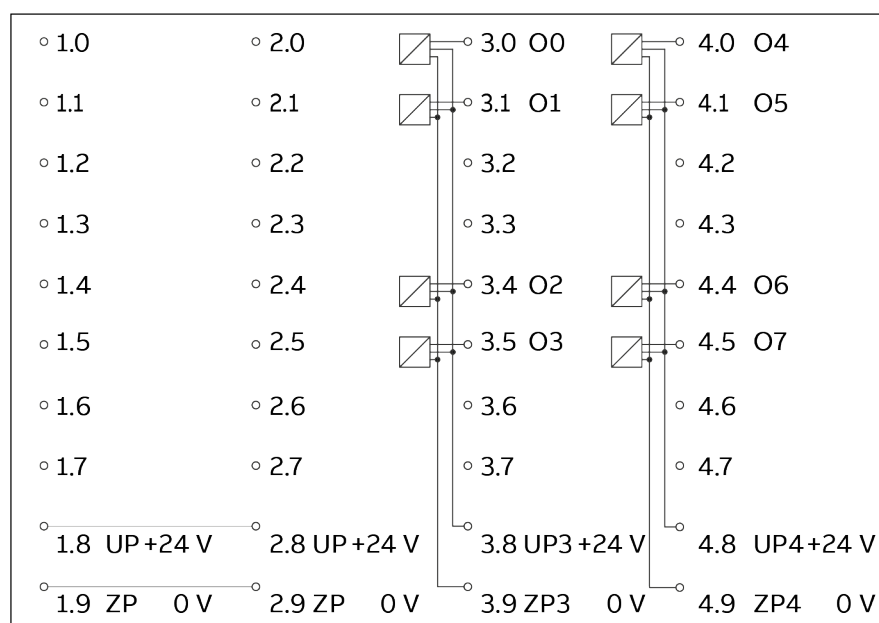
UP	UP3	UP4	
1.8 2.8	3.8 4.8		
○—○	○ ○		+ 24 V
○—○	○ ○		0 V
1.9 2.9	3.9 4.9		
ZP	ZP3 ZP4		



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

53.4.2 Outputs



Example

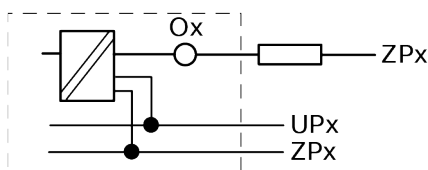


Fig. 62: Example of connection output

53.5 Cleaning




Cleaning instruction

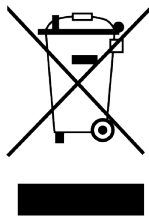
Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

53.6 Certification

		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
MSIP-REI-Abb-AC500			
en	Note		
	These devices correspond to:	KN61000-6-2	"Immunity for industrial environments",
		KN61000-6-4	"Emission standard for industrial environments"
ko	참고	KN61000-6-2	"산업 환경에 대한 내성",
	이러한 기기는	KN61000-6-4	"산업 환경 누출 기준"에 적합함

53.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

54 DO561

- DO561

**CAUTION!****Risk of injury and damaging the product!**

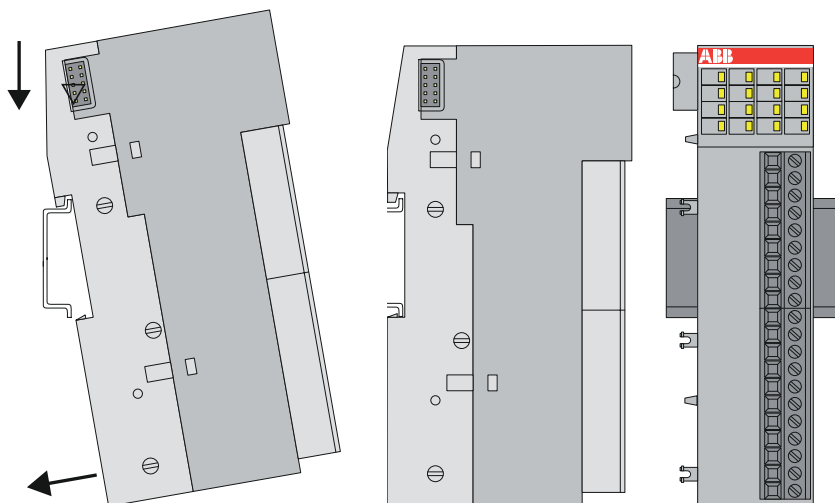
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

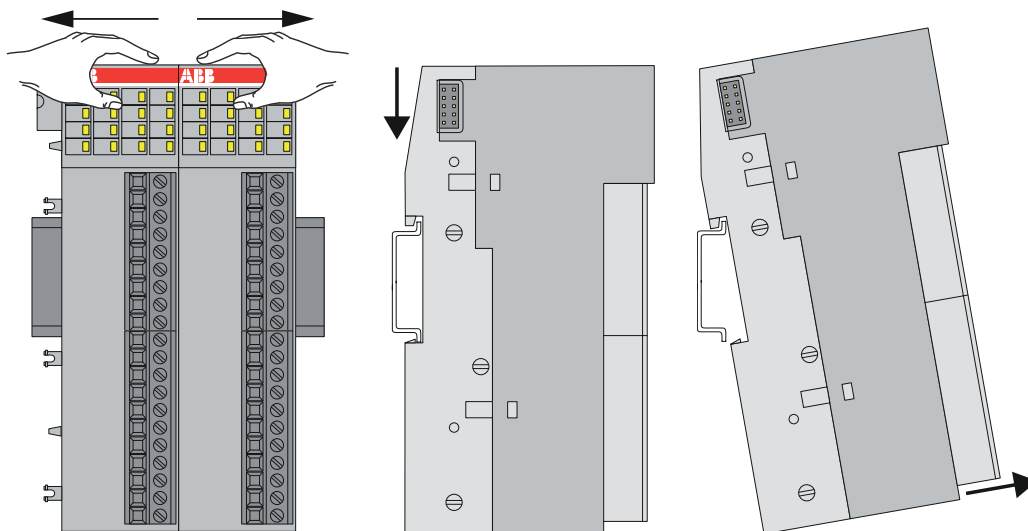
**CAUTION!**

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

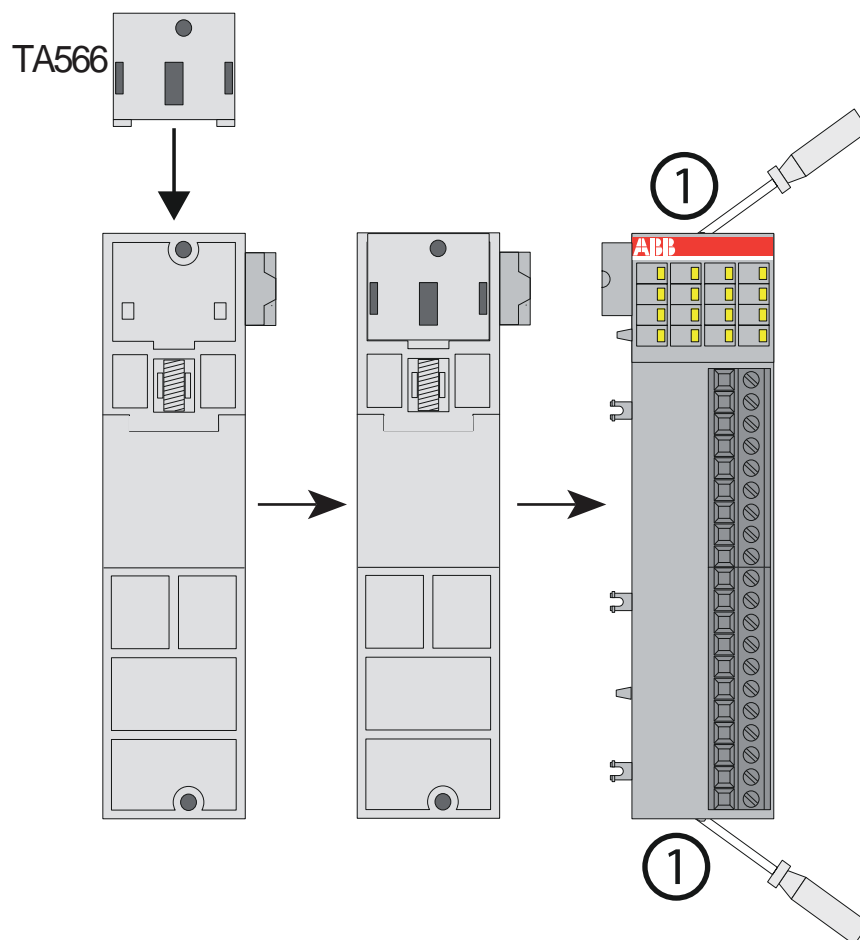
54.1 Assembly



54.2 Disassembly



54.3 Assembly with screws



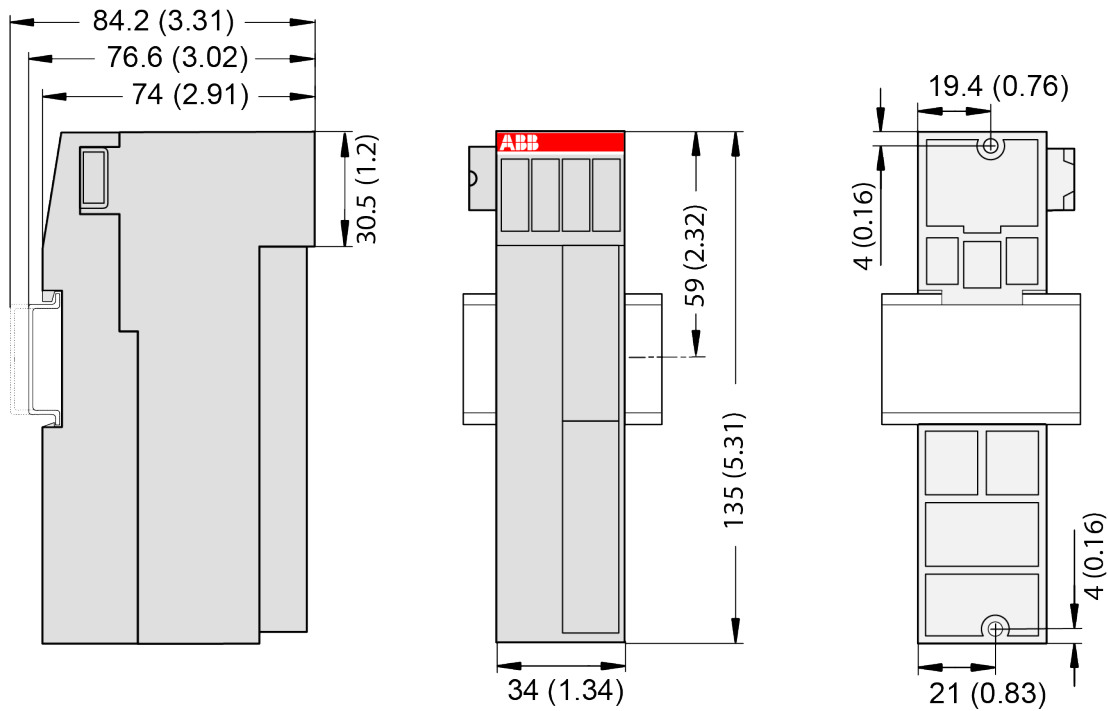
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

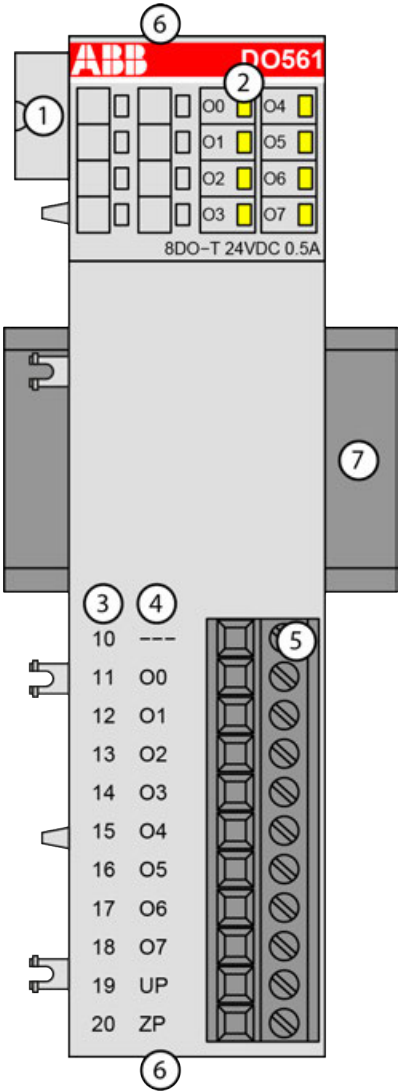
The insertion of the accessories TA566 for wall mounting is essential.

54.4 Dimensions




The dimensions are in mm and in brackets in inch.

54.5 Connections



- 1 I/O bus
- 2 8 yellow LEDs to display the signal states of the outputs O0 to O7
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for output signals (11-pin)
- 6 2 holes for wall-mounting with screws
- 7 DIN rail

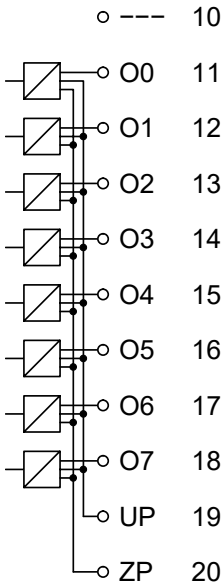


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side

	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front

54.5.1 Outputs



Examples

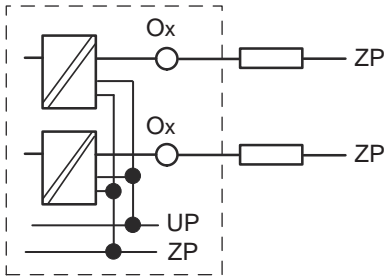



Fig. 63: Example of connection output Ox

54.6 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

54.7 Certification

		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
		MSIP-REI-Abb-AC500-eCo	
en	Note		
	These devices correspond to:	KN61000-6-2	"Immunity for industrial environments",
		KN61000-6-4	"Emission standard for industrial environments"
ko	참고 이러한 기기는	KN61000-6-2	"산업 환경에 대한 내성",
		KN61000-6-4	"산업 환경 누출 기준"에 적합함

54.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

55 DO562

- DO562



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

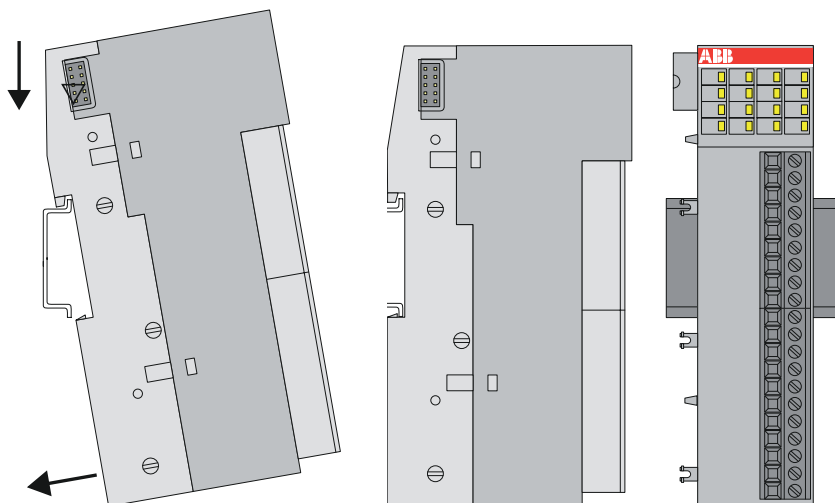
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



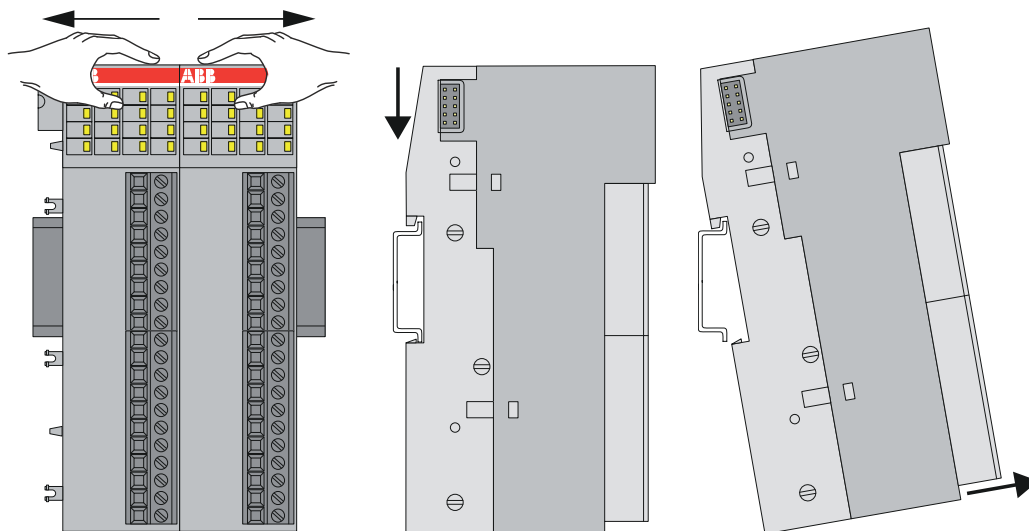
CAUTION!

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

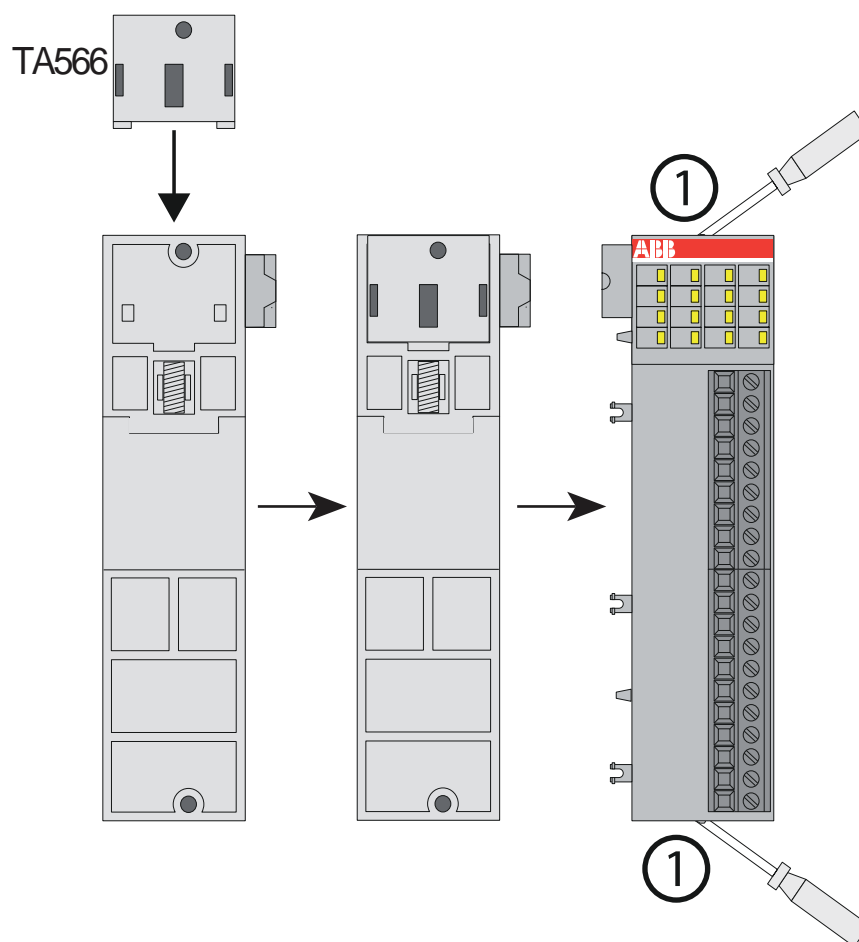
55.1 Assembly



55.2 Disassembly



55.3 Assembly with screws



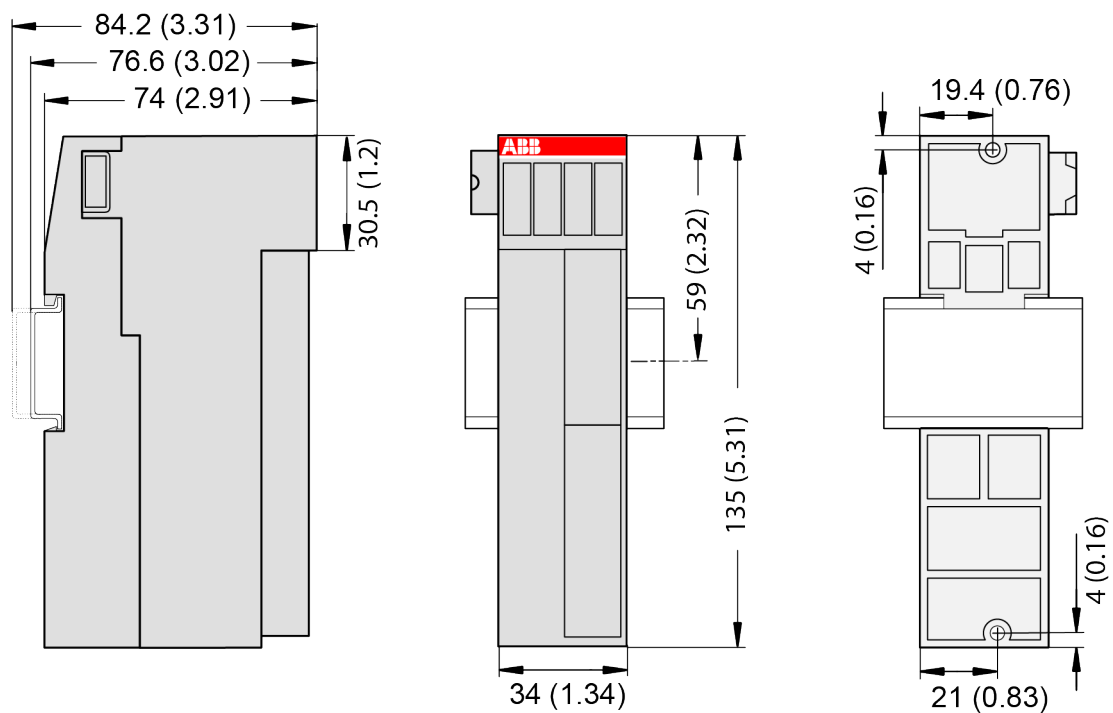
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

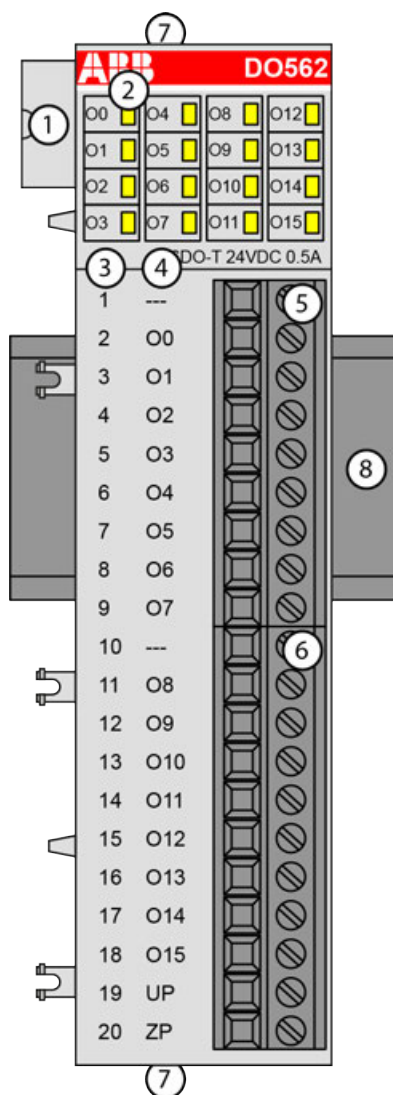
The insertion of the accessories TA566 for wall mounting is essential.

55.4 Dimensions



The dimensions are in mm and in brackets in inch.

55.5 Connections



- 1 I/O bus
- 2 16 yellow LEDs to display the signal states of the outputs O0 to O15
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for output signals (9-pin)
- 6 Terminal block for output signals (11-pin)
- 7 2 holes for wall-mounting with screws
- 8 DIN rail

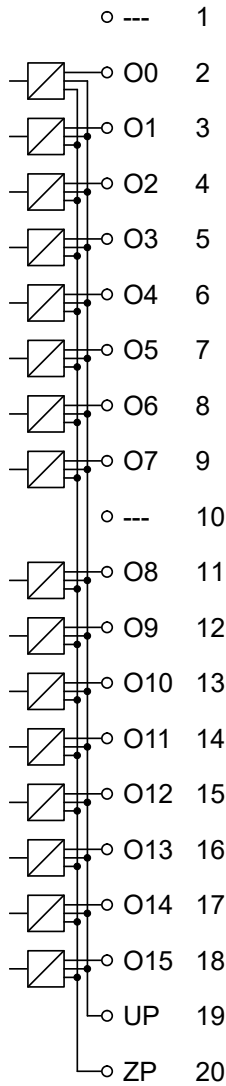


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side

	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front

55.5.1 Outputs



Examples

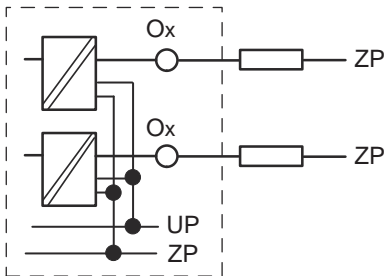


Fig. 64: Example for connection output Ox

55.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

55.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

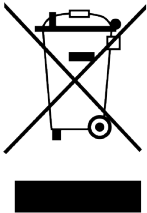
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

55.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

56 DO571

- DO571

**CAUTION!****Risk of injury and damaging the product!**

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

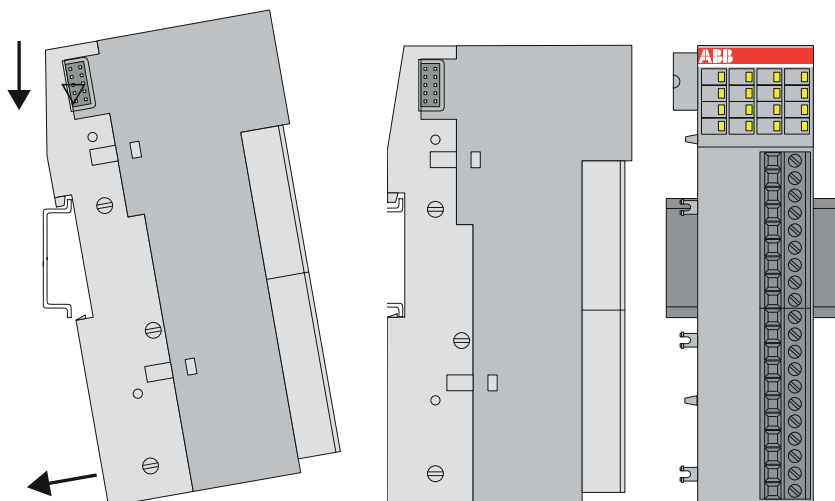
**CAUTION!**

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

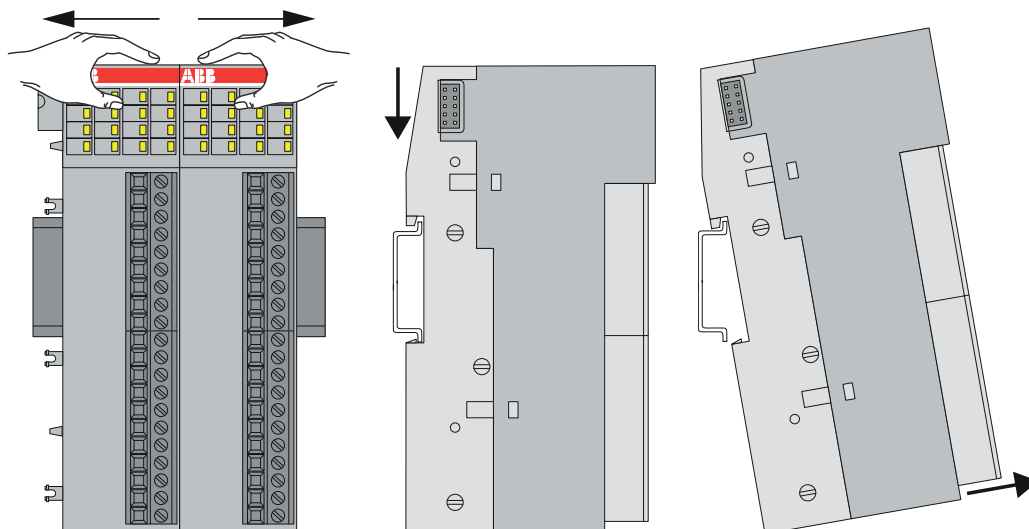
**CAUTION!**

Make sure that all channels are supplied from the same phase.

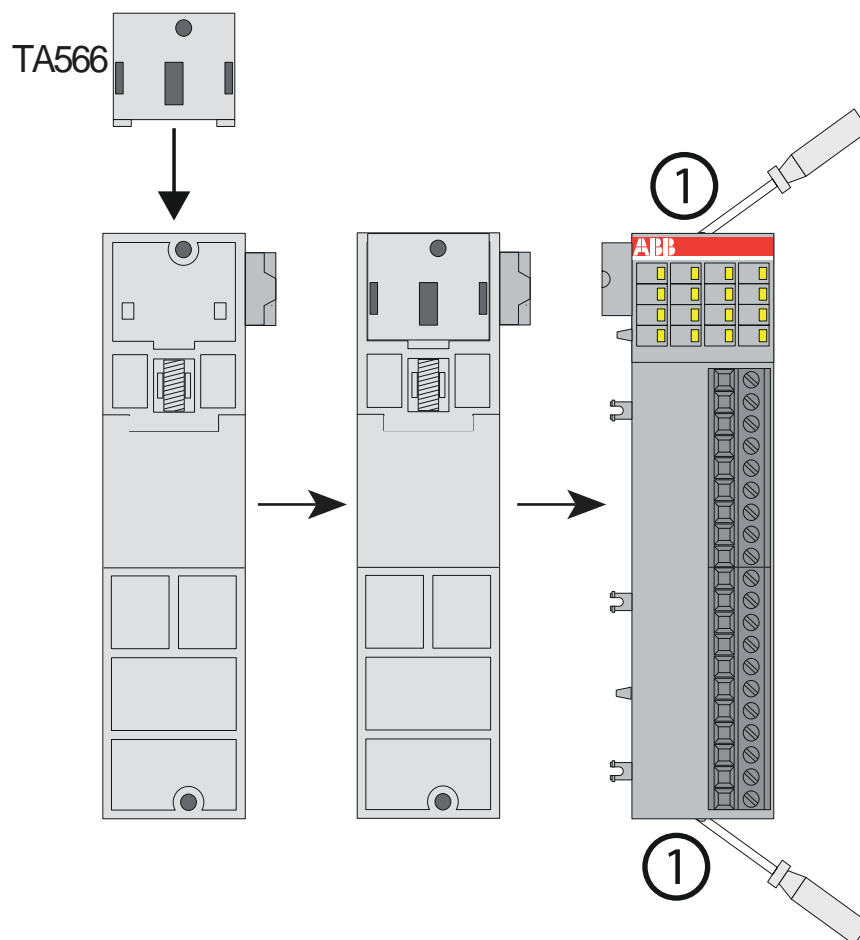
56.1 Assembly



56.2 Disassembly



56.3 Assembly with screws



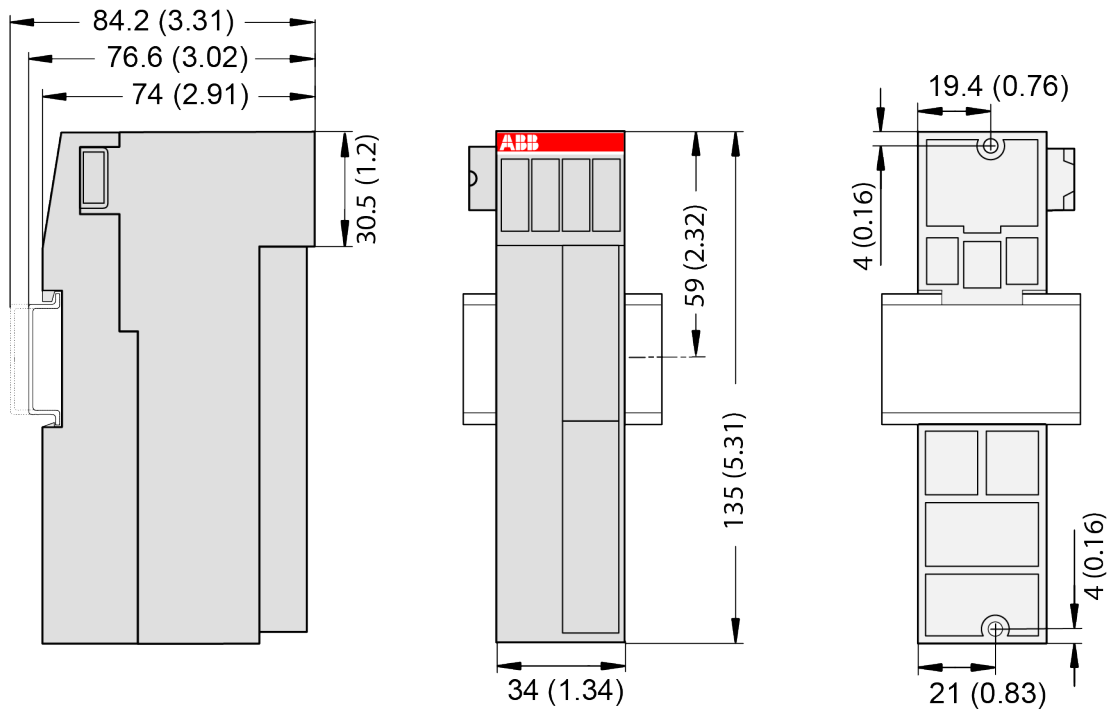
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

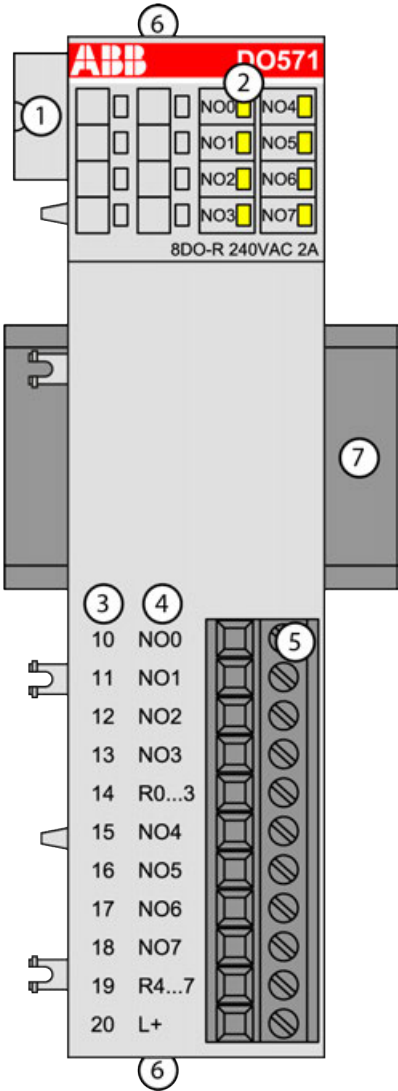
The insertion of the accessories TA566 for wall mounting is essential.

56.4 Dimensions




The dimensions are in mm and in brackets in inch.

56.5 Connections

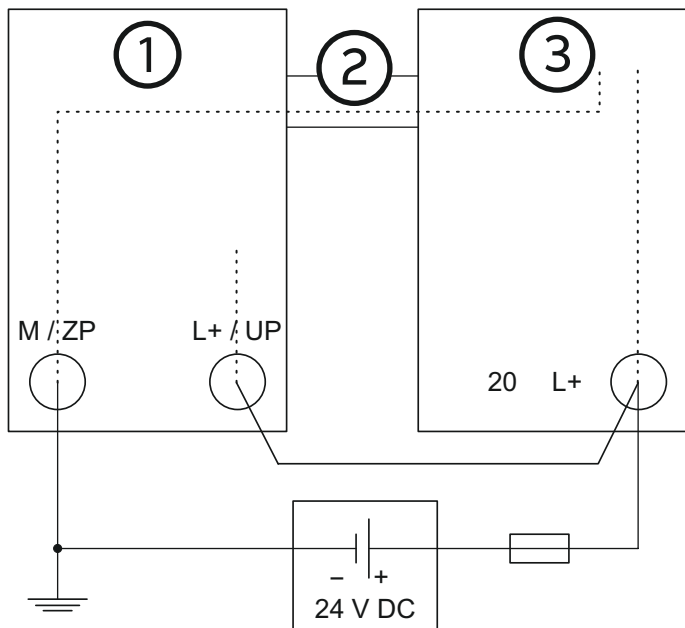


- 1 I/O bus
- 2 8 yellow LEDs to display the signal states of the outputs O0 to O7
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for output signals (11-pin)
- 6 2 holes for wall-mounting with screws
- 7 DIN rail

 All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

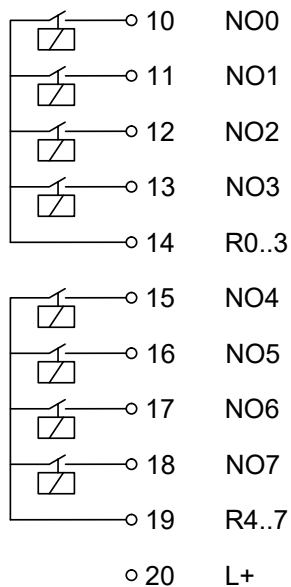
5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side

	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front



- 1 CPU or communication interface module
- 2 I/O bus
- 3 DO571

56.5.1 Inputs/Outputs



Examples

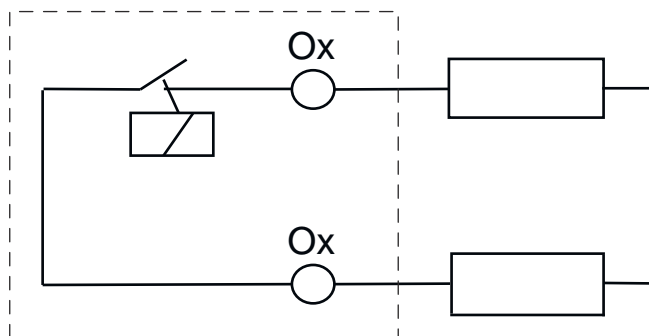


Fig. 65: Example for connection output Ox

56.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

56.7 Certification



MSIP-REI-Abb-AC500-eCo

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

56.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

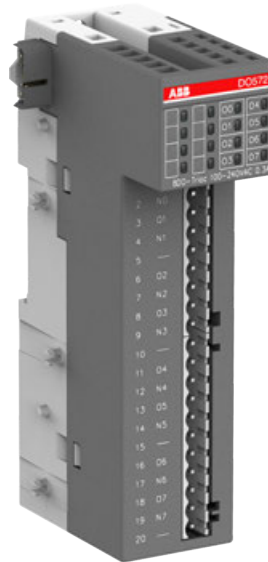
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

57 DO572

- DO572



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



CAUTION!

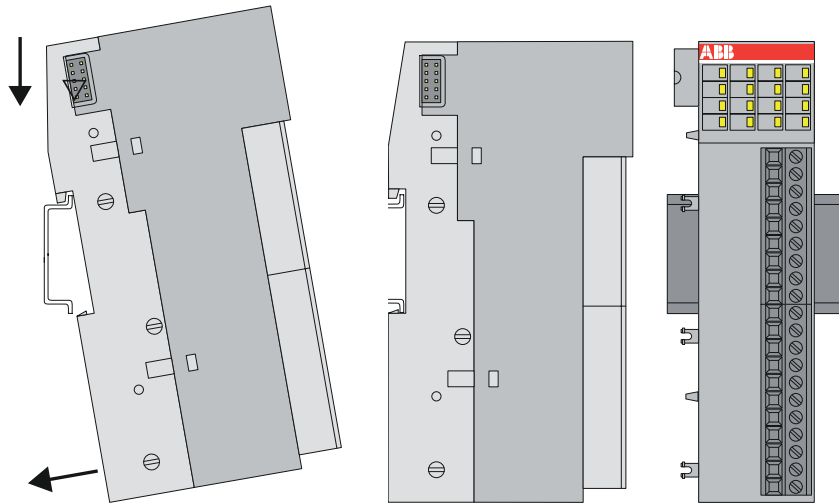
Do not use this module together with the DC505-FBP/CI590-CS31-HA module.



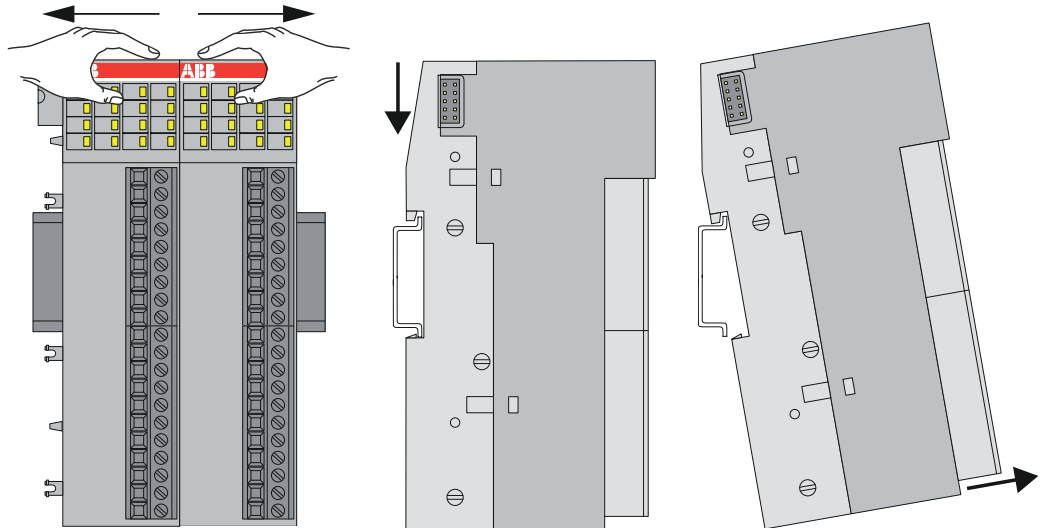
CAUTION!

Make sure that all channels are supplied from the same phase.

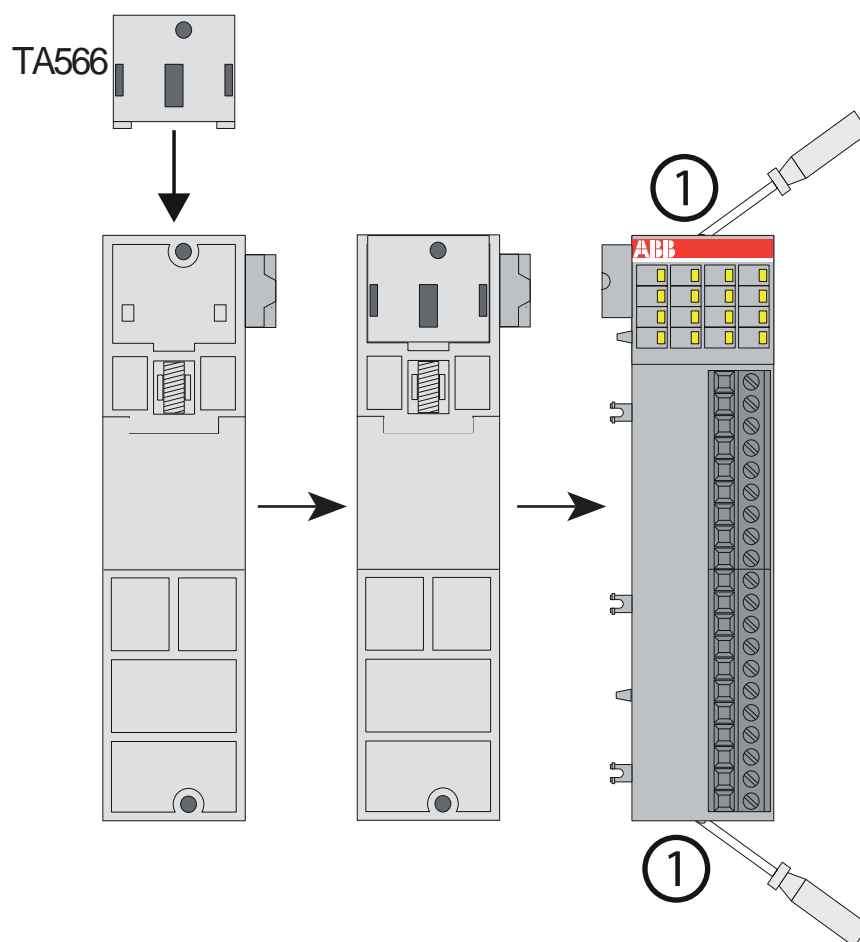
57.1 Assembly



57.2 Disassembly



57.3 Assembly with screws



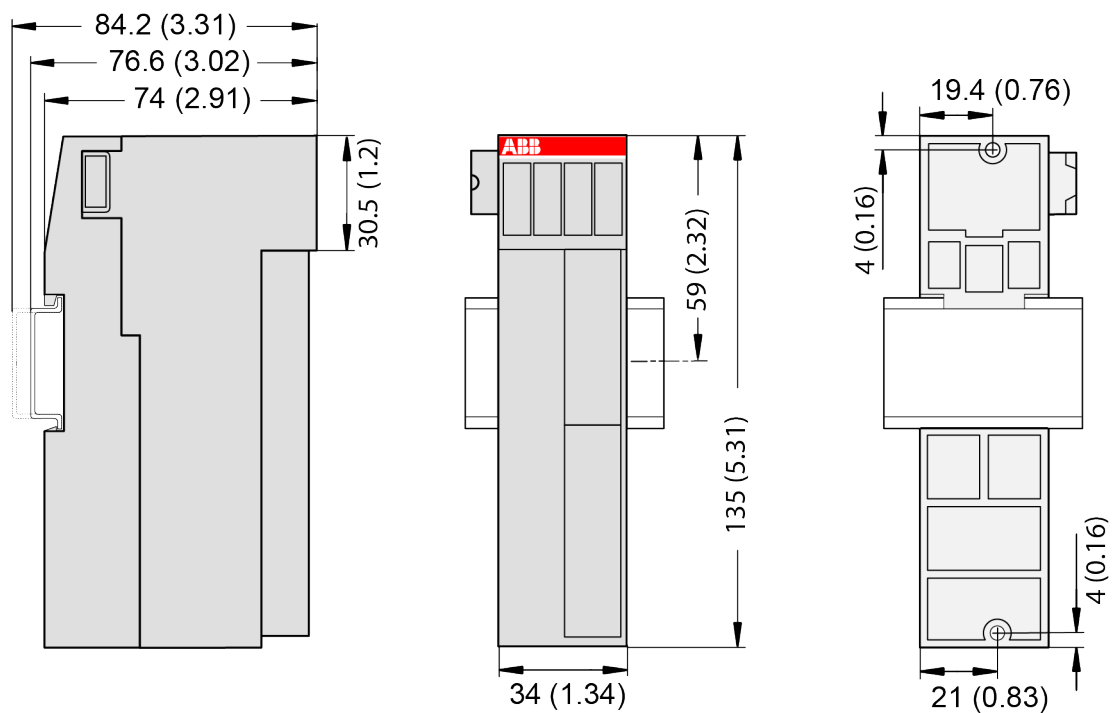
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

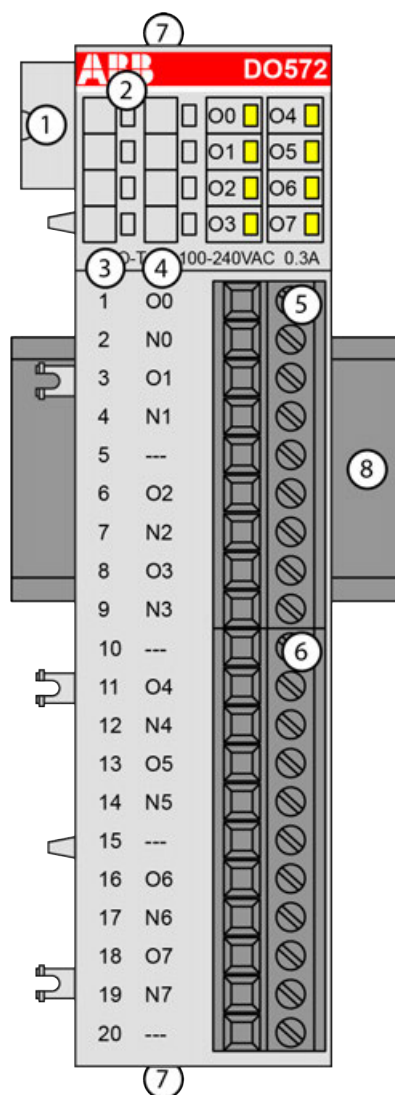
The insertion of the accessories TA566 for wall mounting is essential.

57.4 Dimensions



The dimensions are in mm and in brackets in inch.

57.5 Connections



- 1 I/O bus
- 2 8 yellow LEDs to display the signal states of the outputs O0 to O7
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for output signals (9-pin)
- 6 Terminal block for output signals (11-pin)
- 7 2 holes for wall-mounting with screws
- 8 DIN rail

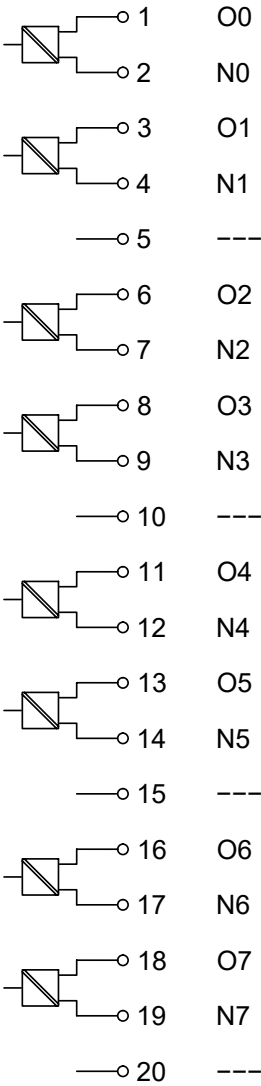


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side

	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front

57.5.1 Outputs



Examples

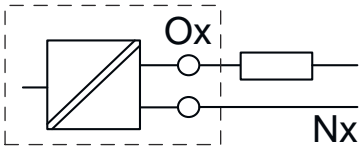


Fig. 66: Example for connection output Ox

57.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

57.7 Certification



MSIP-REI-Abb-AC500-eCo

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

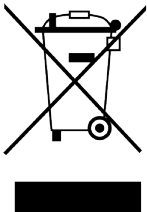
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

57.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

58 DO573

- DO573



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



CAUTION!

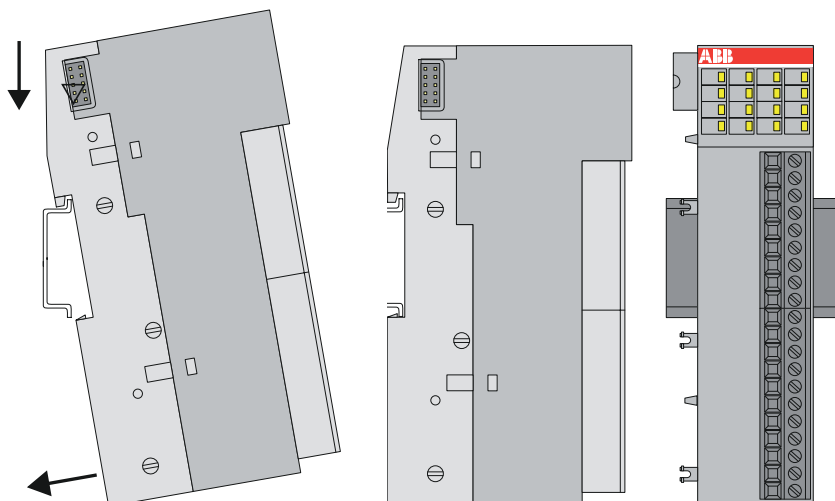
Do not use this module together with the DC505-FBP/CI590-CS31-HA module.



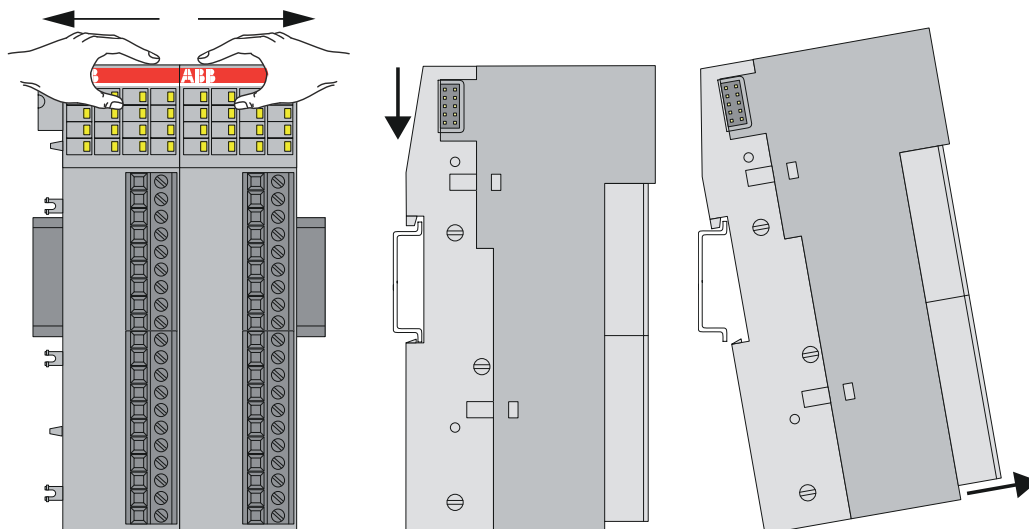
CAUTION!

Make sure that all channels are supplied from the same phase.

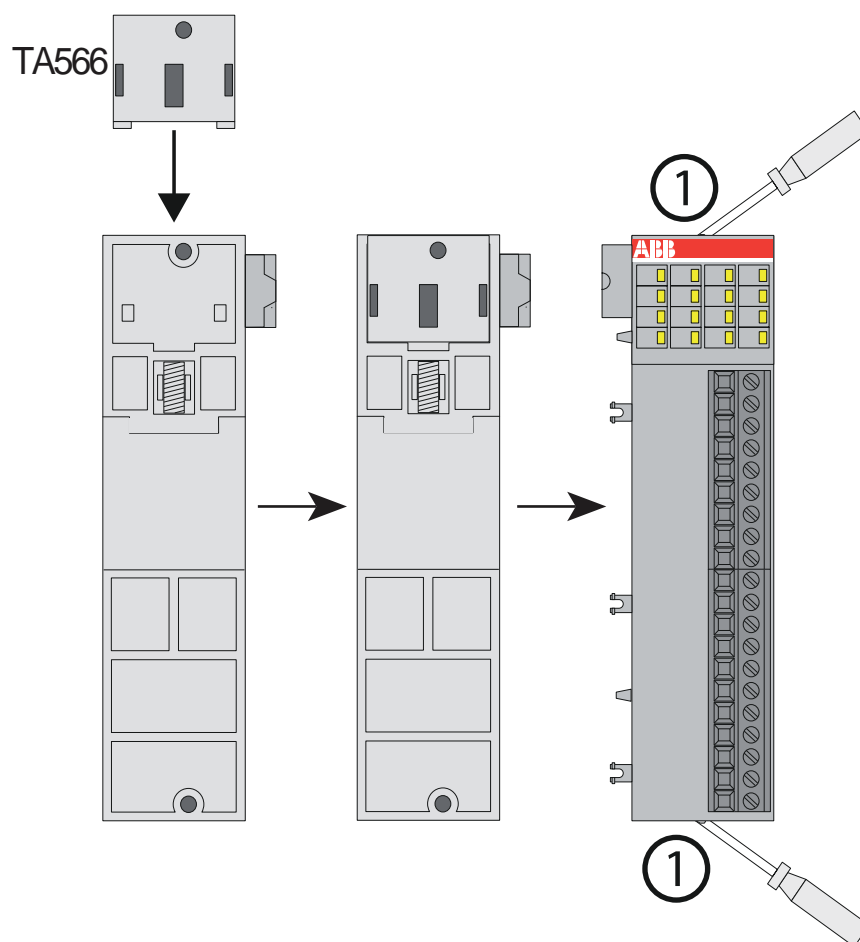
58.1 Assembly



58.2 Disassembly



58.3 Assembly with screws



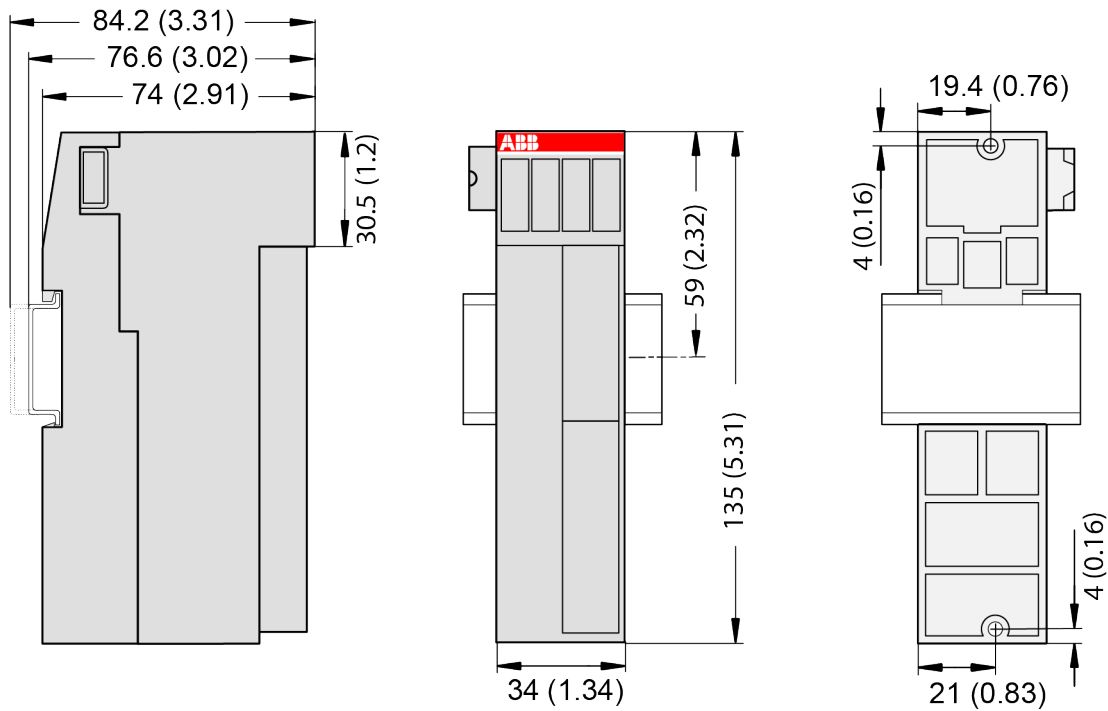
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

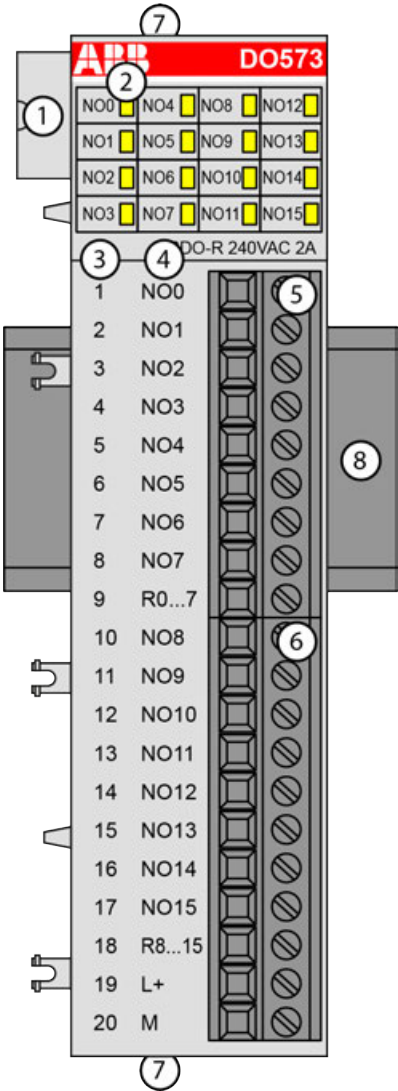
The insertion of the accessories TA566 for wall mounting is essential.

58.4 Dimensions




The dimensions are in mm and in brackets in inch.

58.5 Connections



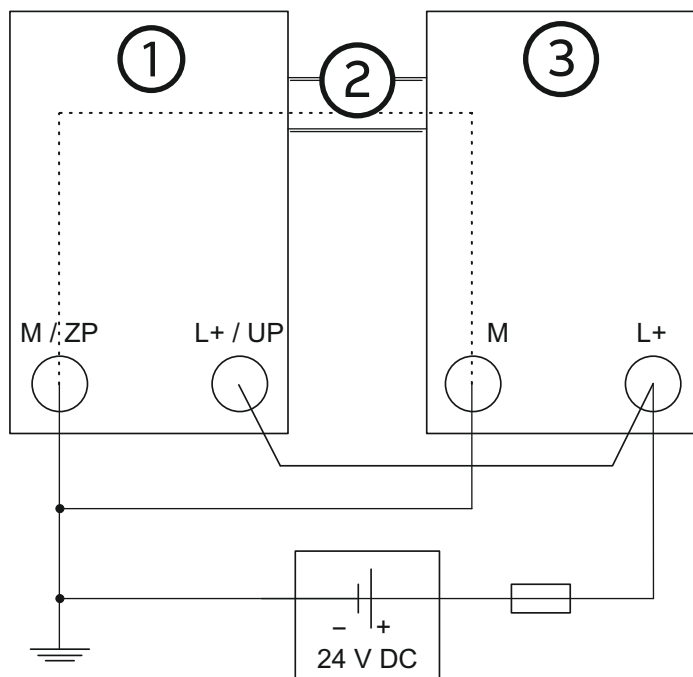
- 1 I/O bus
- 2 16 yellow LEDs to display the signal states of the outputs O0 to O15
- 3 Terminal number
- 4 Allocation of signal name
- 5 Terminal block for output signals (9-pin)
- 6 Terminal block for output signals (11-pin)
- 7 2 holes for wall-mounting with screws
- 8 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

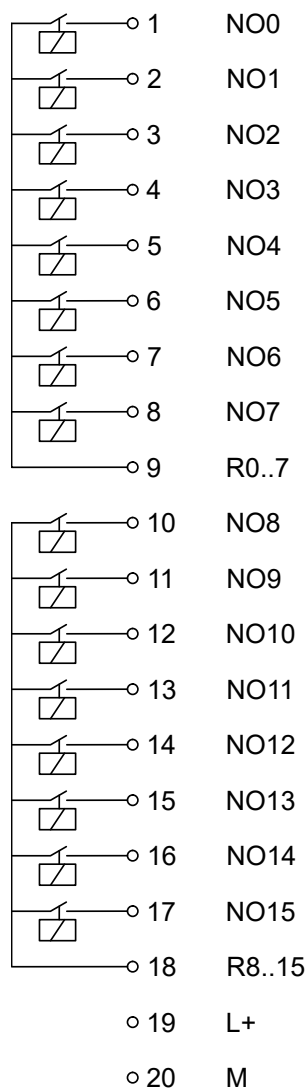
5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side

	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front



- 1 CPU or communication interface module
- 2 I/O bus
- 3 DO573

58.5.1 Outputs



Examples

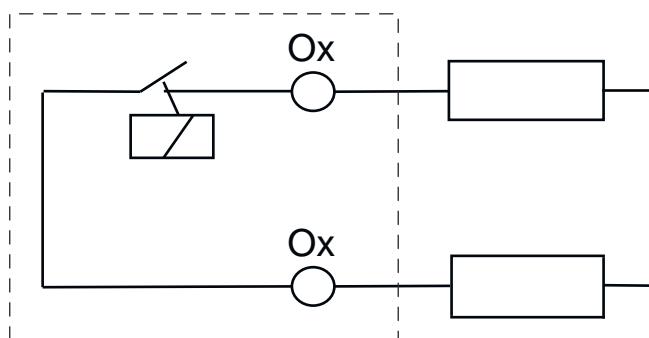


Fig. 67: Example for connection output Ox

58.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

58.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

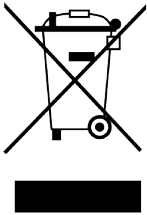
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

58.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

59 DX522(-XC)

- DX522
- DX522-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.

Electric shock due to negligent behavior during hot swapping!

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



Risk of damage to I/O modules!

Processor modules and communication interface modules must not be removed or inserted during operation.



System requirements for hot swapping of I/O modules:

- The following I/O bus masters support hot swapping of attached I/O modules:*

- 




ABB
ABB Automation Products GmbH
Appelstrasse 66, 69126 Heidelberg, Germany

1SDAP240000B0001

DIG24

Digital Input Module
24DI, 12V
1-wire
16-40°C

Before connecting read installation instructions
1SDAP240000B0001

Made in Germany

1517 15120 05 0000023

F0



The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

Risk of damage to I/O modules!

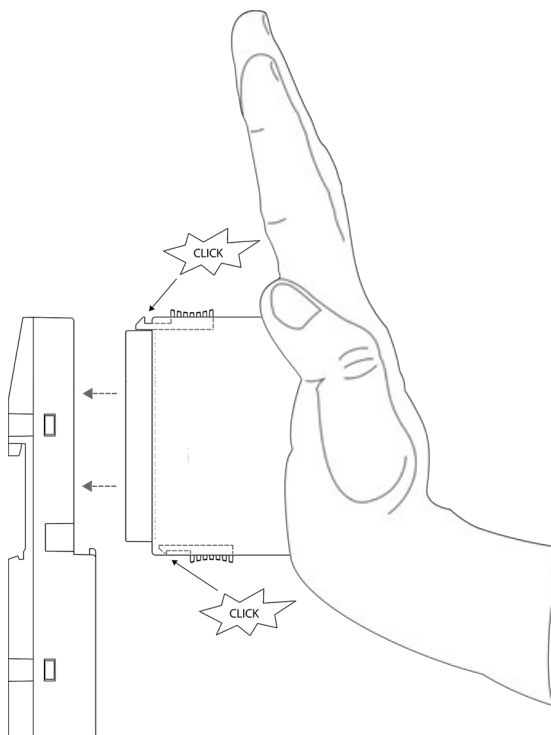
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

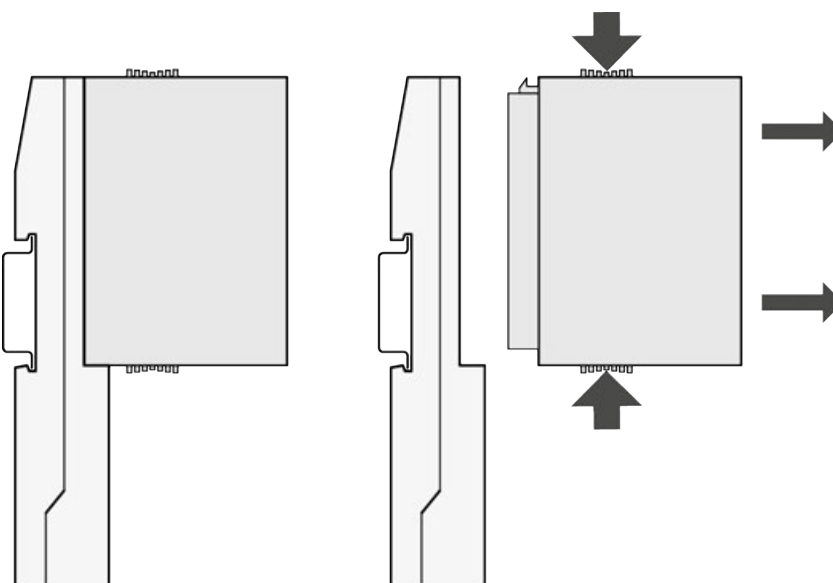
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

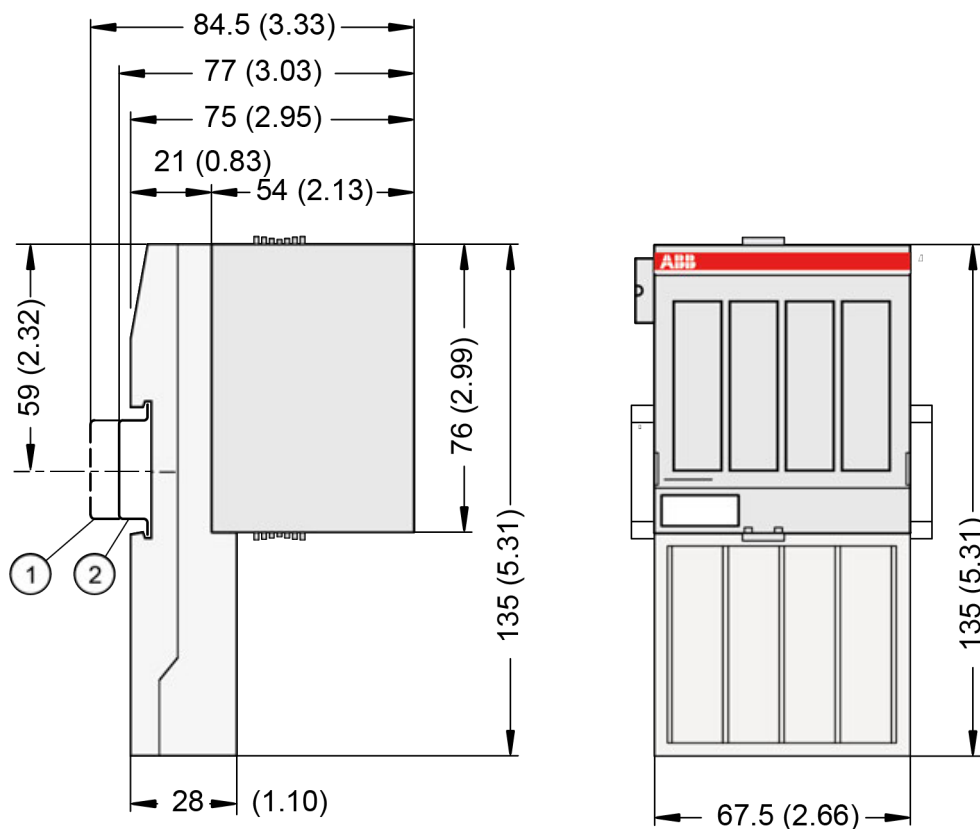
59.1 Assembly



59.2 Disassembly



59.3 Dimensions

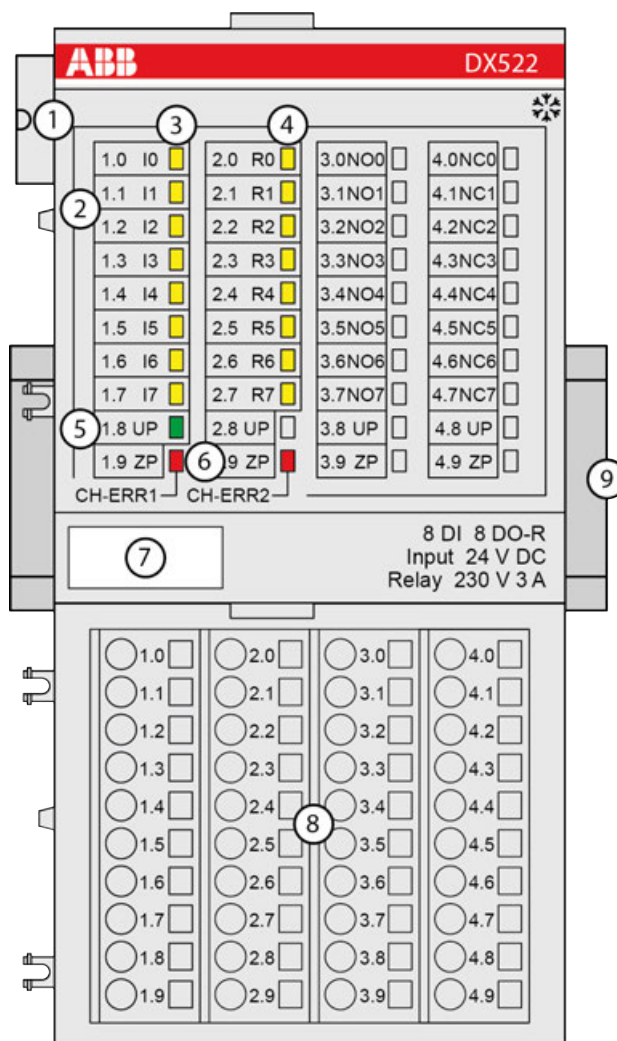


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

59.4 Connections

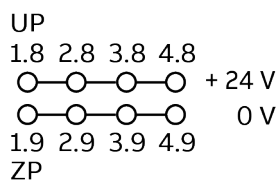


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 8 yellow LEDs to display the signal states at the digital inputs (I0 - I7)
- 4 8 yellow LEDs to display the signal states at the digital relay outputs (R0 - R7)
- 5 1 green LED to display the state of the process supply voltage UP
- 6 2 red LEDs to display errors
- 7 Label
- 8 Terminal unit
- 9 DIN rail
- ❄ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

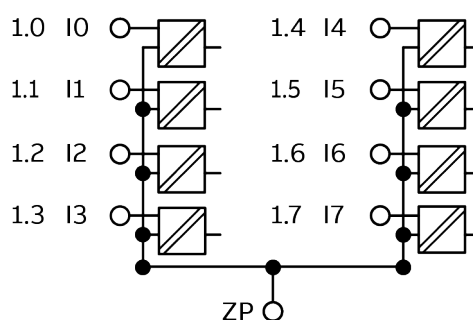
59.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

59.4.2 Inputs



Example

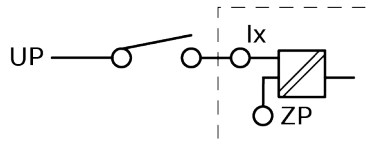
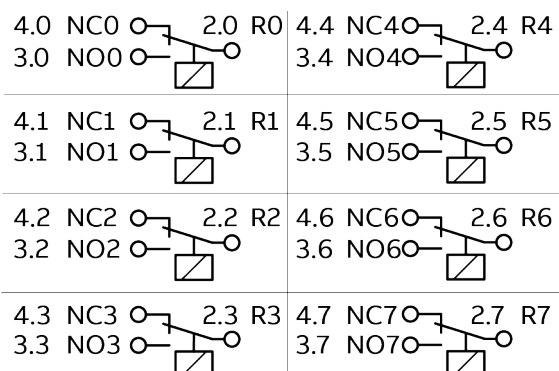


Fig. 68: Example of connection input

59.4.3 Outputs



If the relay outputs have to switch inductive DC loads, free-wheeling diodes must be circuited in parallel to these loads.



If the relay outputs have to switch inductive AC loads, spark suppressors are required.

59.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

59.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

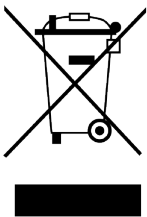
ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

59.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

60 DX531

- DX531



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

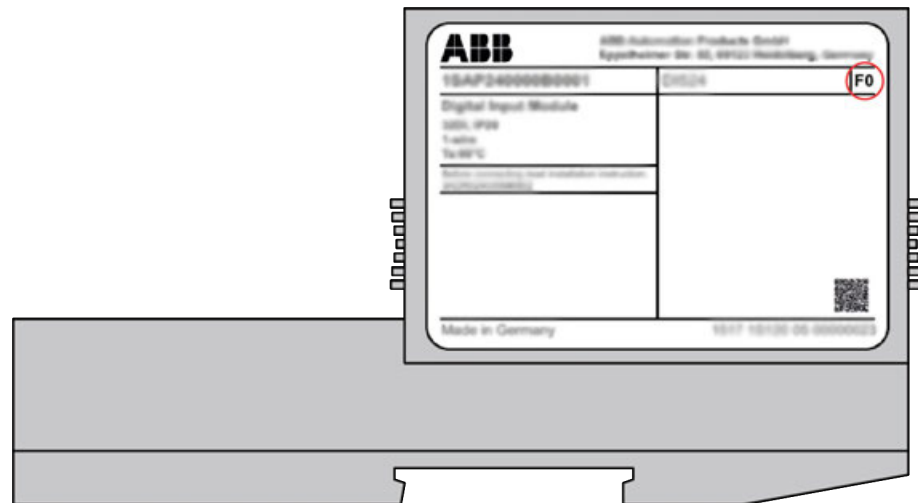
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-H.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- Communication interface modules CI5xx as of index F0.
- Processor modules PM56xx-2ETH with firmware version as of V3.2.0.



Hot swap is not supported by AC500-eCo V3 CPU!



The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

**NOTICE!****Risk of damage to I/O modules!**

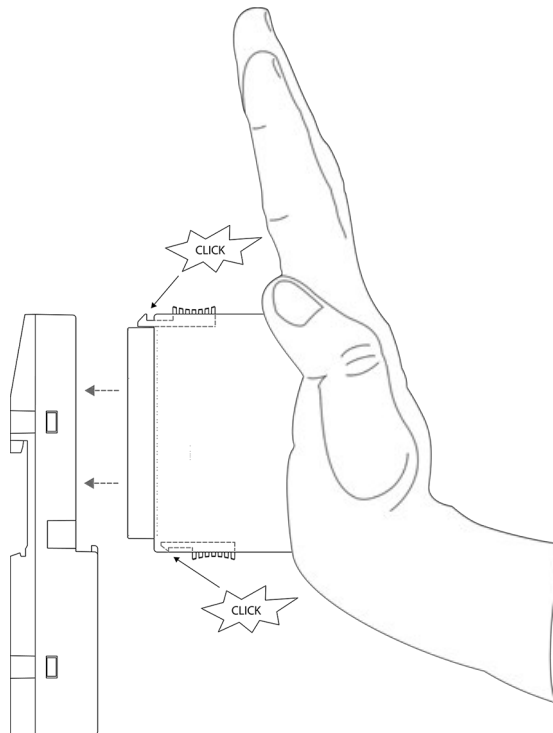
Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

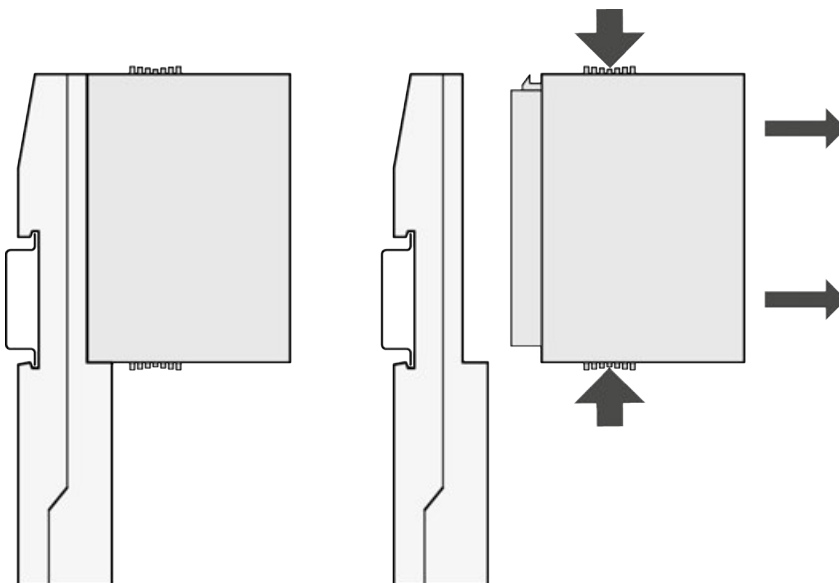
Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1

Device	Min. required device index for I/O module as of FW Version 3.0.14
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

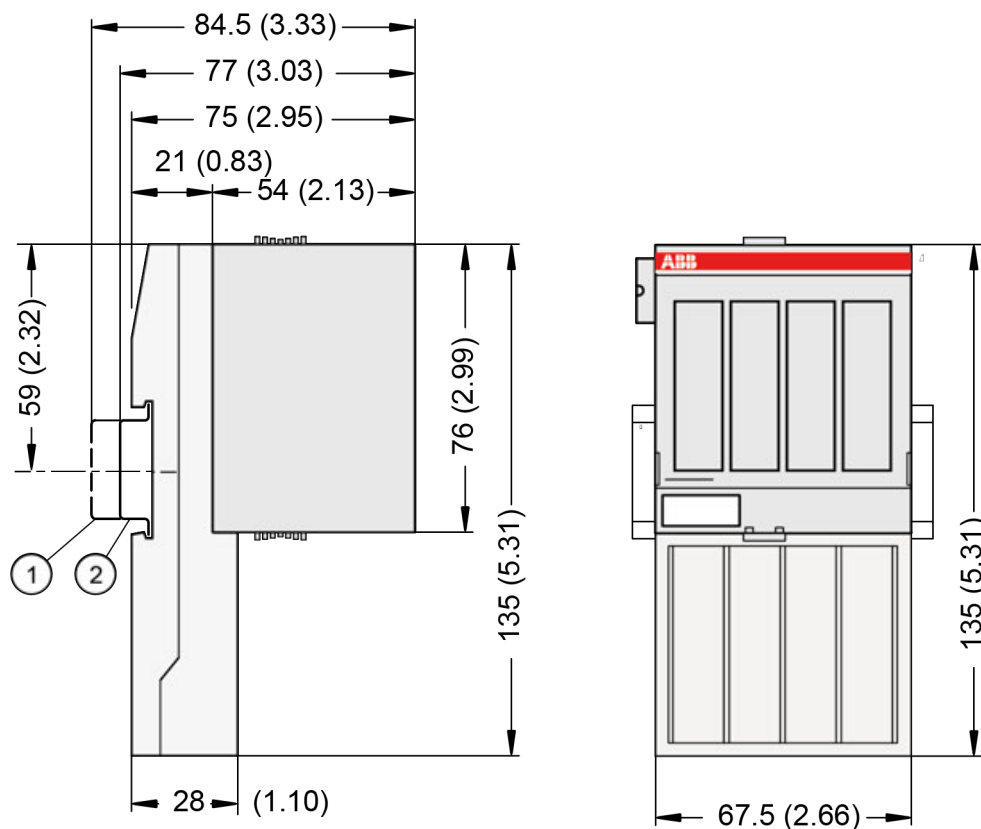
60.1 Assembly



60.2 Disassembly



60.3 Dimensions

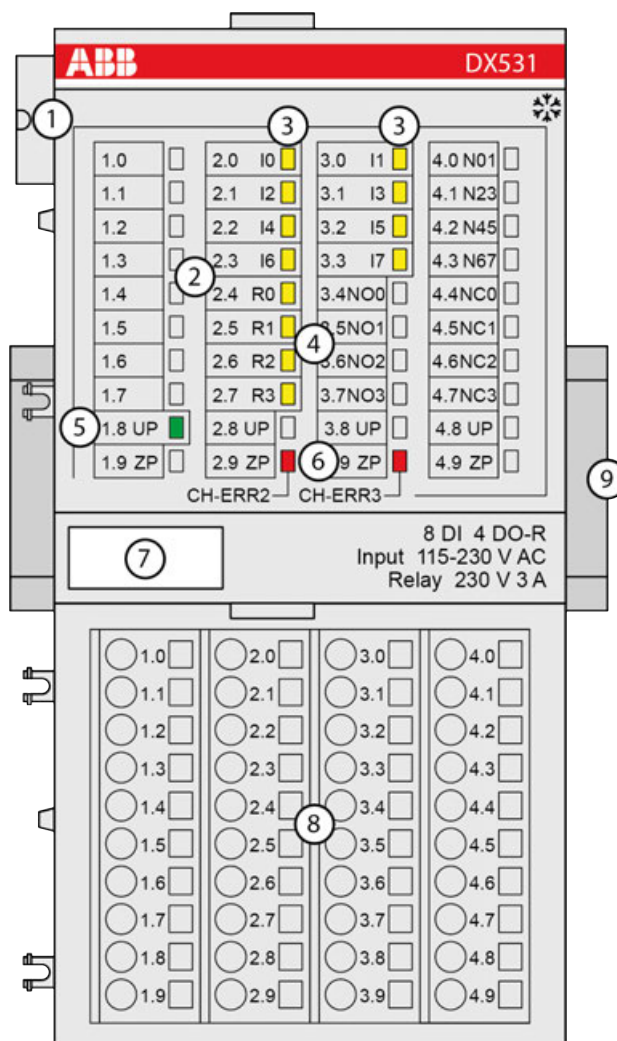


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

60.4 Connections

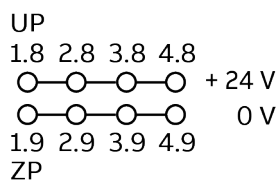


- 1 I/O bus
- 2 Allocation between terminal number and signal name
- 3 8 yellow LEDs to display the signal states at the digital inputs (I0 - I7)
- 4 4 yellow LEDs to display the signal states at the digital relay outputs (R0 - R3)
- 5 1 green LED to display the state of the process supply voltage UP
- 6 2 red LEDs to display errors
- 7 Label
- 8 Terminal unit
- 9 DIN rail
- ✱ Sign for XC version



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

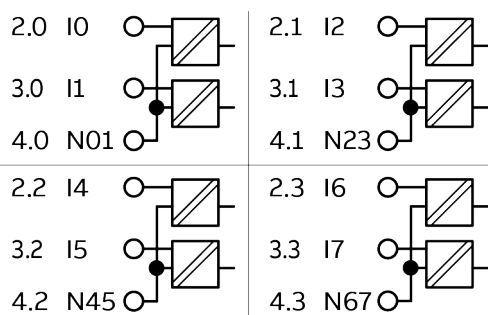
60.4.1 Process supply voltage



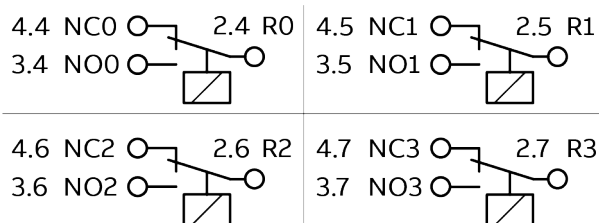
CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

60.4.2 Inputs



60.4.3 Outputs



If the relay outputs have to switch inductive DC loads, free-wheeling diodes must be circuited in parallel to these loads.



If the relay outputs have to switch inductive AC loads, spark suppressors are required.

60.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

60.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

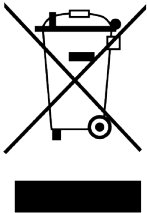
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

60.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

61 DX561

- DX561

**CAUTION!****Risk of injury and damaging the product!**

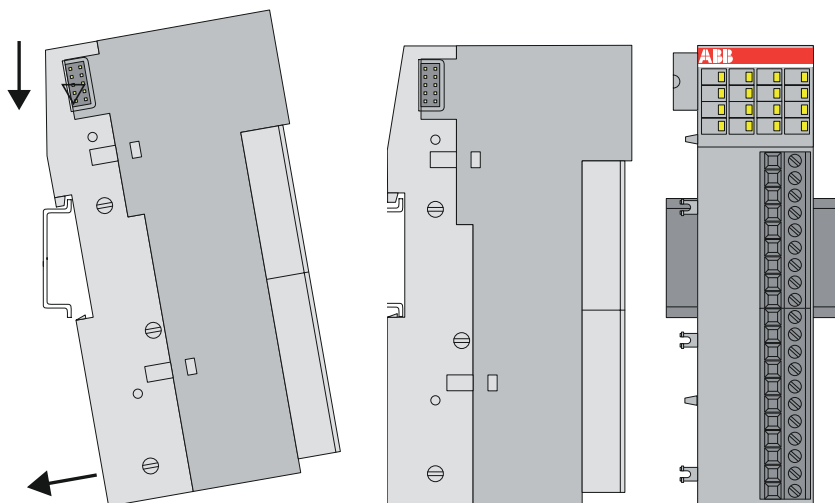
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

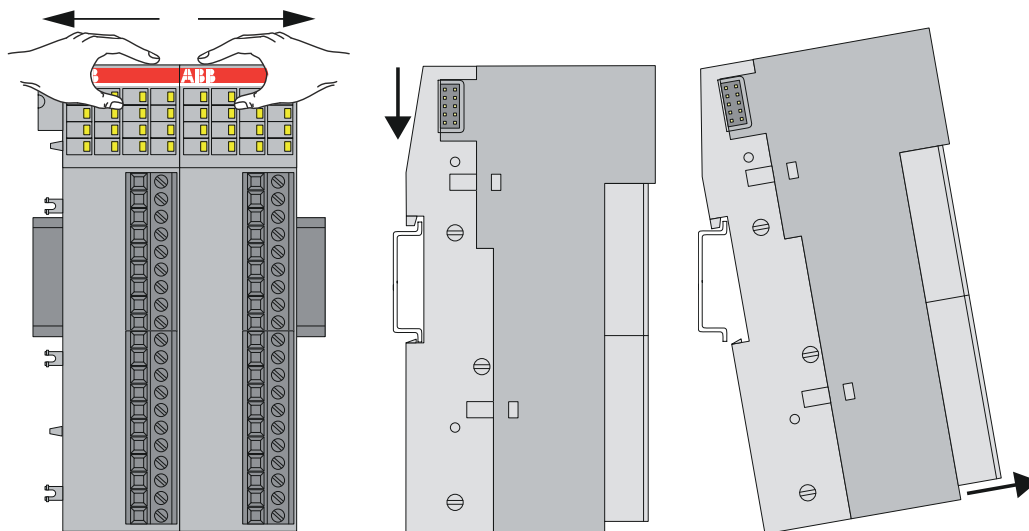
**CAUTION!**

Do not use this module together with the DC505-FBP/CI590-CS31-HA module.

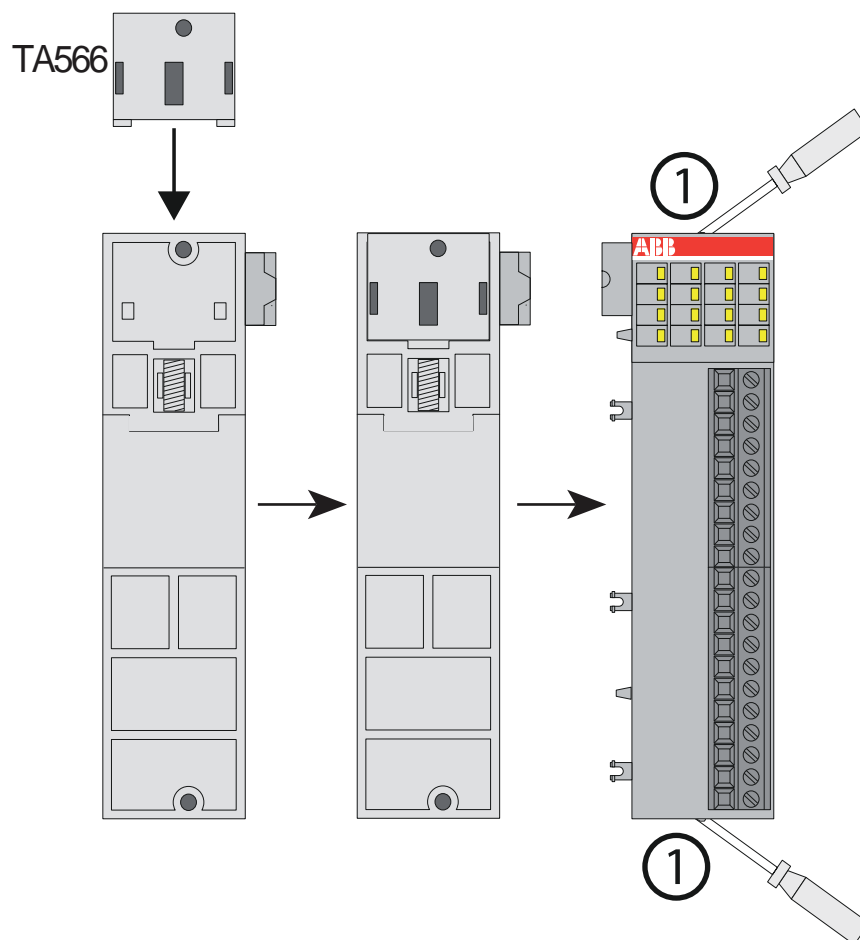
61.1 Assembly



61.2 Disassembly



61.3 Assembly with screws



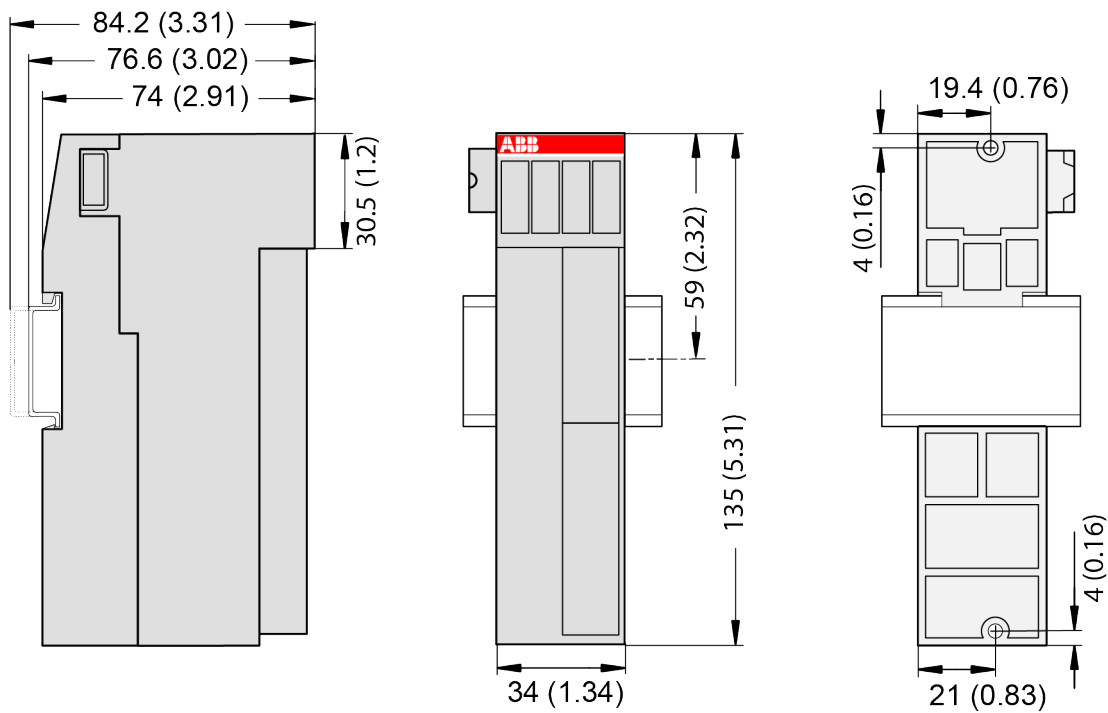
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

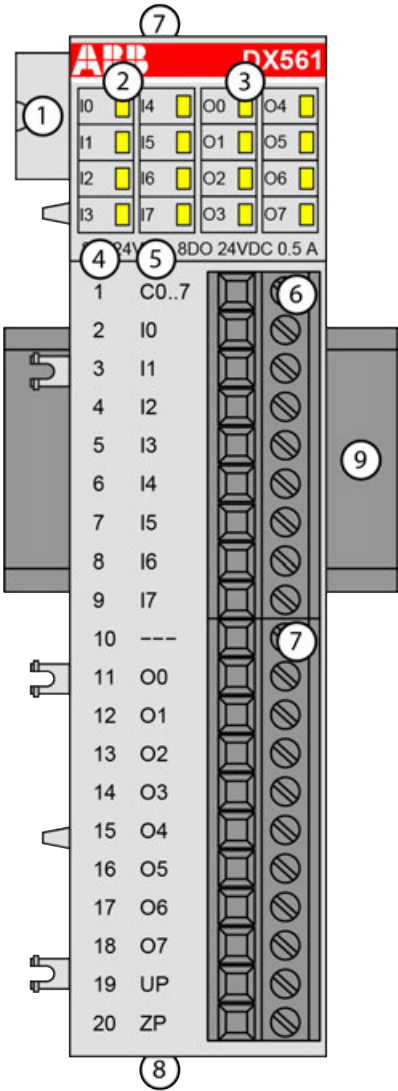
The insertion of the accessories TA566 for wall mounting is essential.

61.4 Dimensions




The dimensions are in mm and in brackets in inch.

61.5 Connections



- 1 I/O bus
- 2 8 yellow LEDs to display the signal states of the inputs I0 to I7
- 3 8 yellow LEDs to display the signal states of the outputs O0 to O7
- 4 Terminal number
- 5 Allocation of signal name
- 6 Terminal block for input signals (9-pin)
- 7 Terminal block for output signals (11-pin)
- 8 2 holes for wall-mounting with screws
- 9 DIN rail

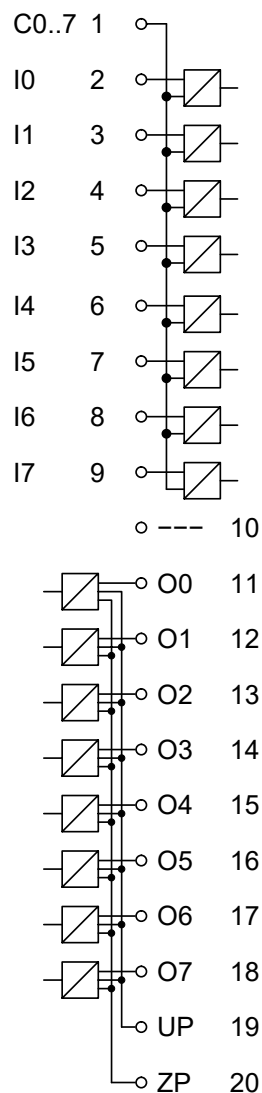


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side

	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front

61.5.1 Inputs/Outputs



Examples

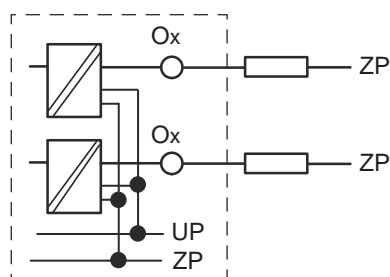


Fig. 69: Example for connection output Ox

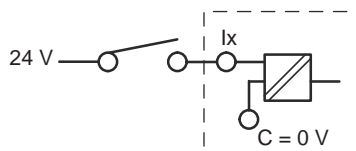


Fig. 70: DX561 used as source inputs

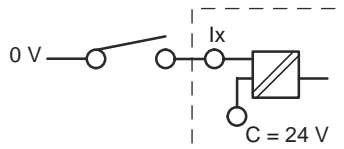


Fig. 71: DX561 used as sink inputs

61.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

61.7 Certification



MSIP-REI-Abb-AC500-eCo

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

61.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

62 DX571

- DX571



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



CAUTION!

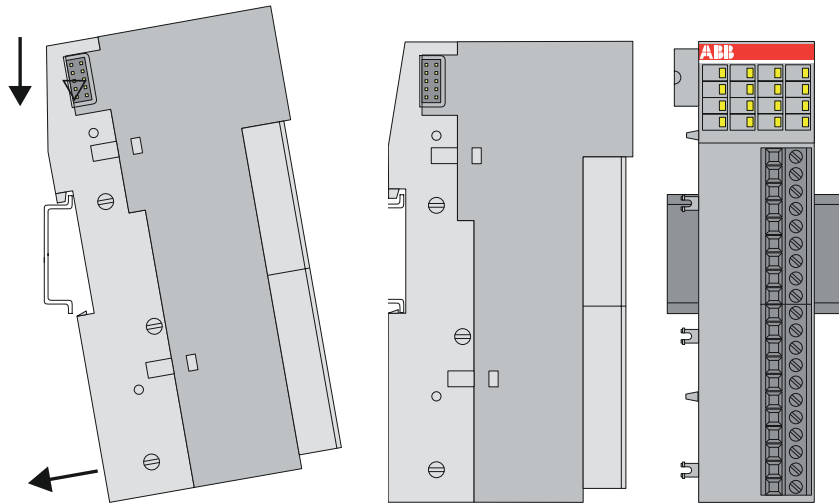
Do not use this module together with the DC505-FBP/CI590-CS31-HA module.



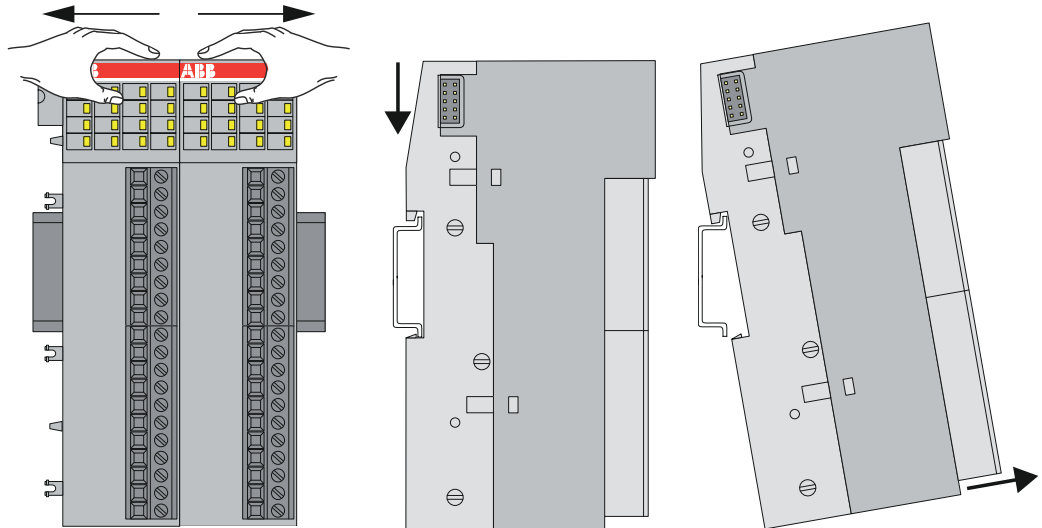
CAUTION!

Make sure that all channels are supplied from the same phase.

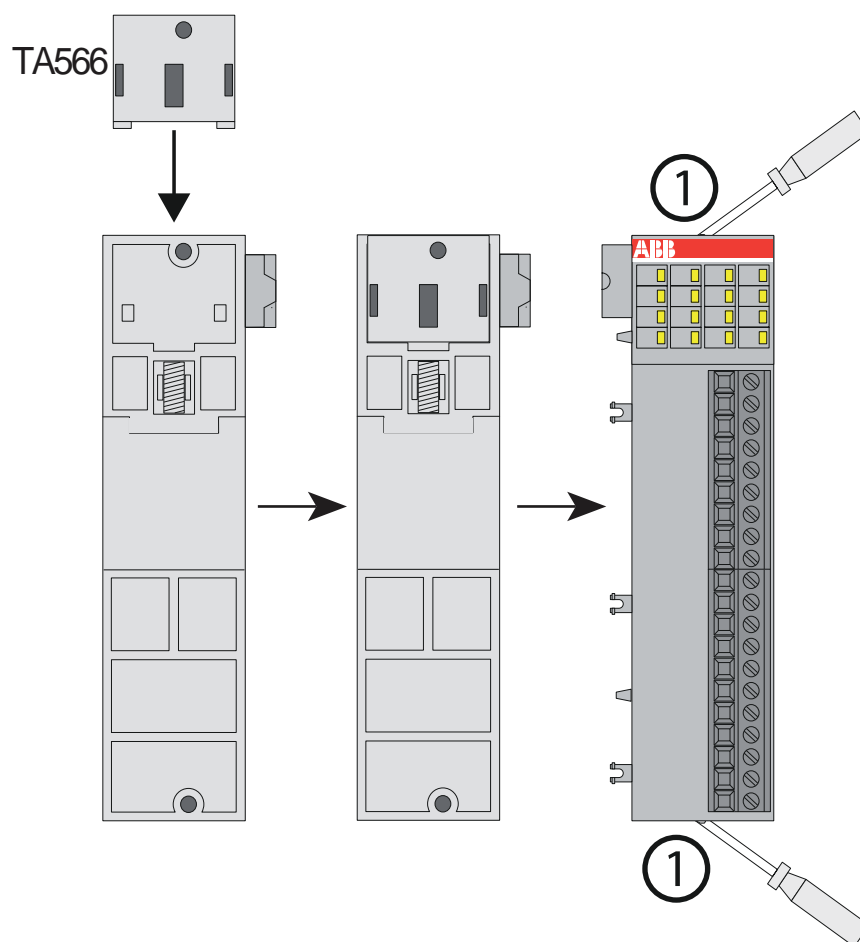
62.1 Assembly



62.2 Disassembly



62.3 Assembly with screws



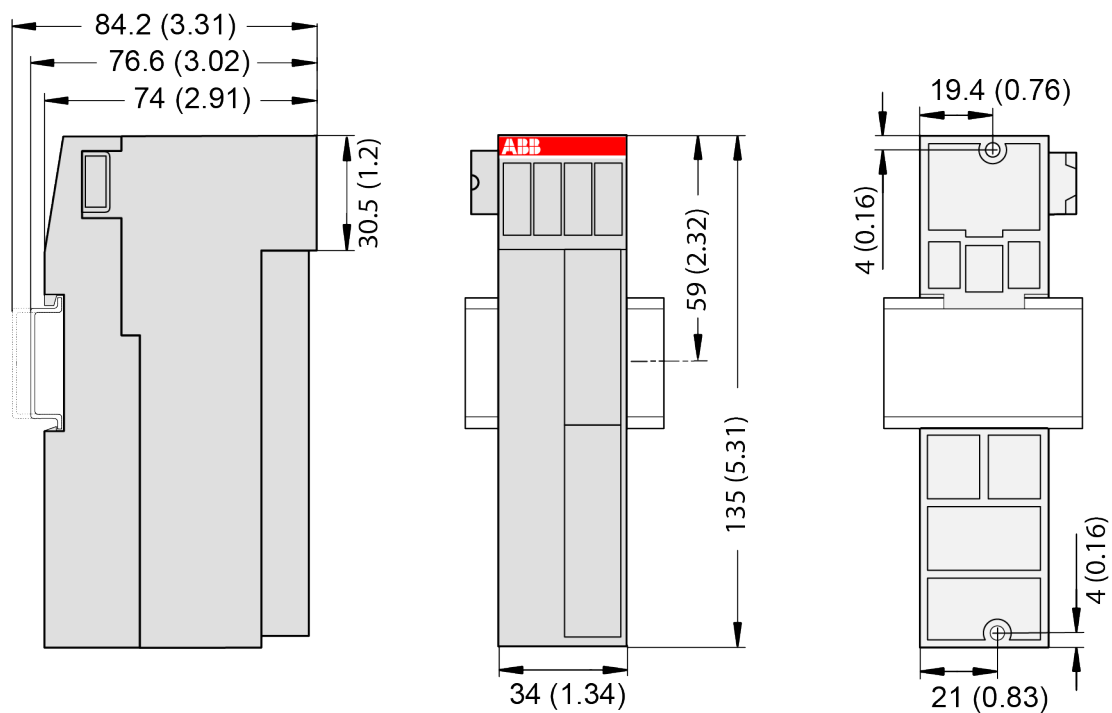
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

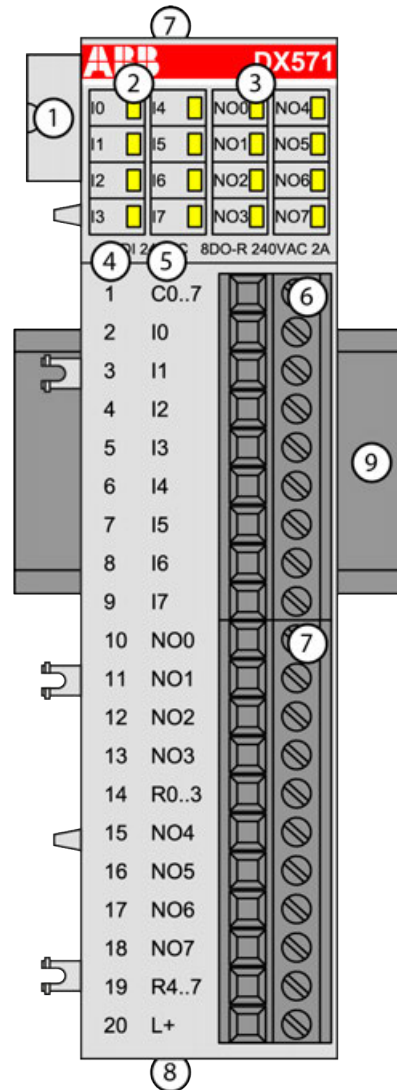
The insertion of the accessories TA566 for wall mounting is essential.

62.4 Dimensions



The dimensions are in mm and in brackets in inch.

62.5 Connections



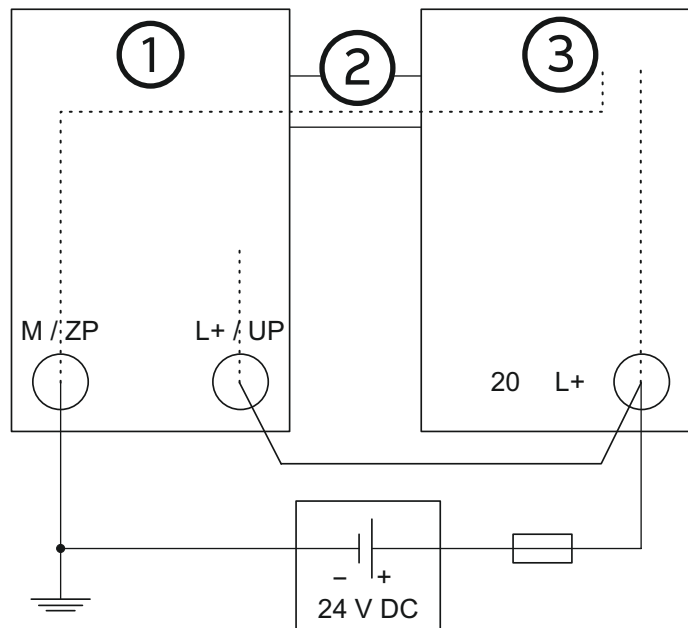
- 1 I/O bus
- 2 8 yellow LEDs to display the signal states of the inputs I0 to I7
- 3 8 yellow LEDs to display the signal states of the outputs NO0 to NO7
- 4 Terminal number
- 5 Allocation of signal name
- 6 Terminal block for input signals (9-pin)
- 7 Terminal block for output signals (11-pin)
- 8 2 holes for wall-mounting with screws
- 9 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

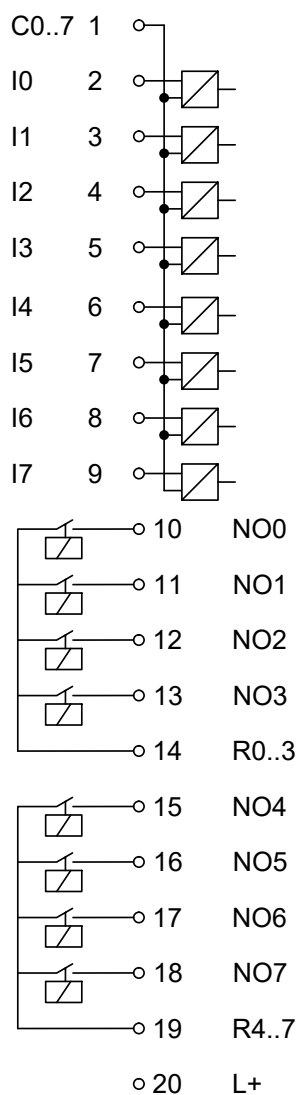
5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side

	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front



- 1 CPU or communication interface module
- 2 I/O bus
- 3 DO571

62.5.1 Inputs/Outputs



Examples

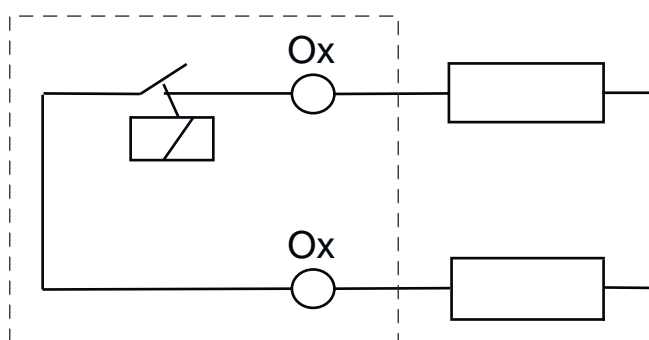


Fig. 72: Example for connection output Ox

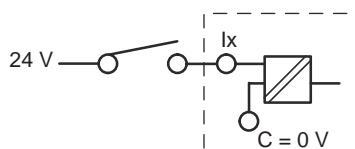


Fig. 73: DX571 used as source inputs

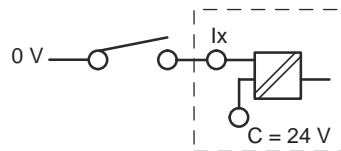


Fig. 74: DX571 used as sink inputs

62.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

62.7 Certification



MSIP-REI-Abb-AC500-eCo

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

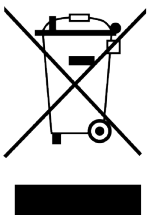
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

62.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

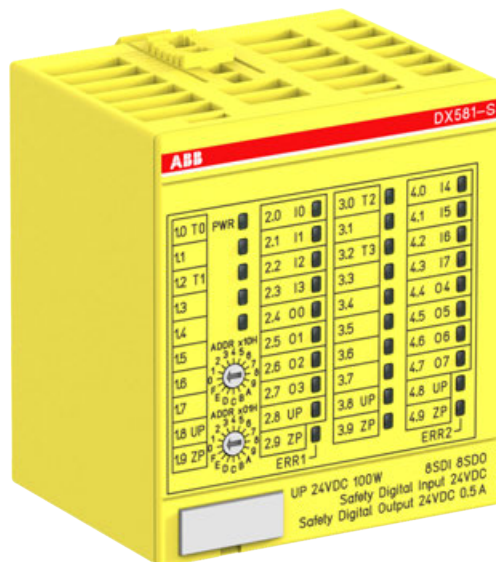
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

63 DX581-S(-XC)

- DX581-S
- DX581-S-XC



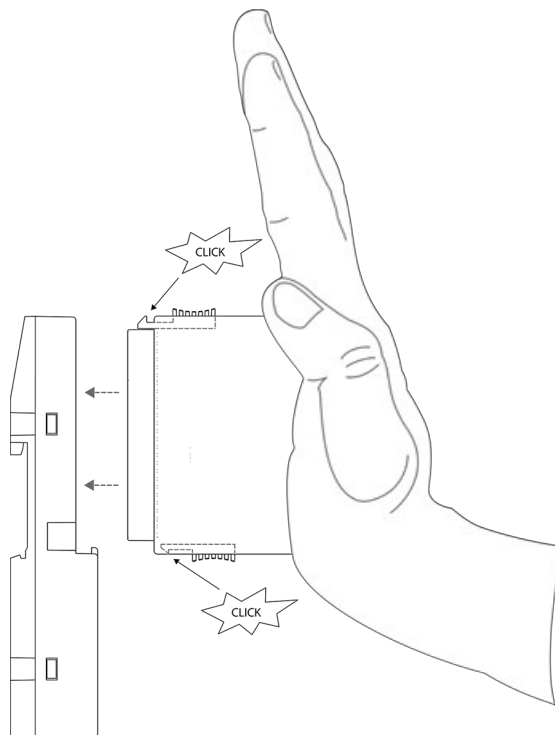
CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

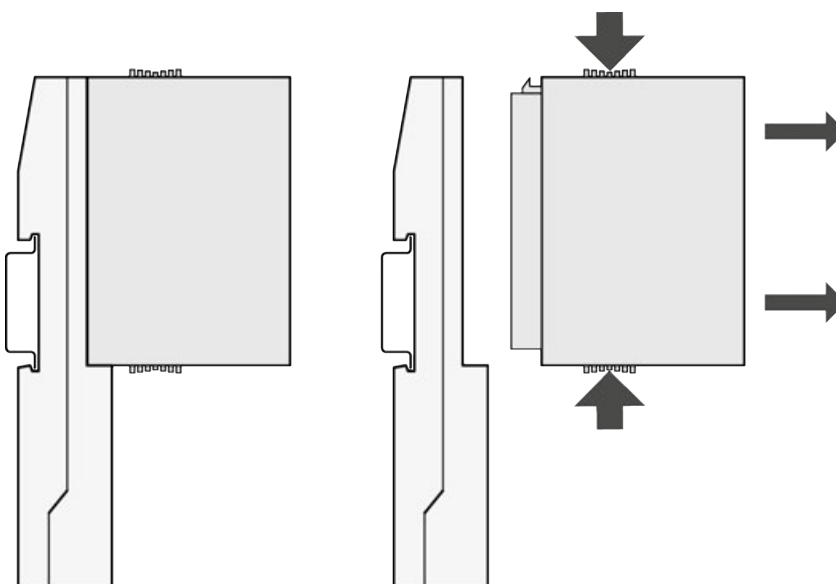
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

63.1 Assembly

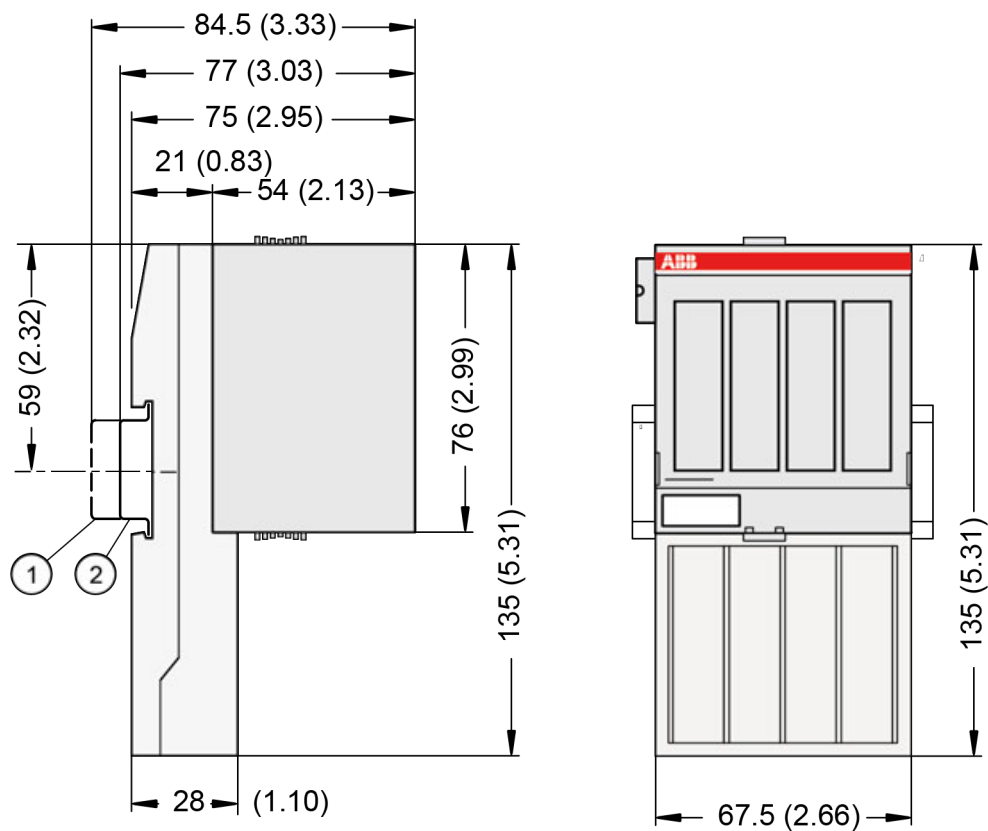


1. Put the module on the terminal unit
⇒ Module clicks in.
2. Then press the module with a force of at least 100 N into the terminal unit to achieve proper electrical contact.

63.2 Disassembly



63.3 Dimensions

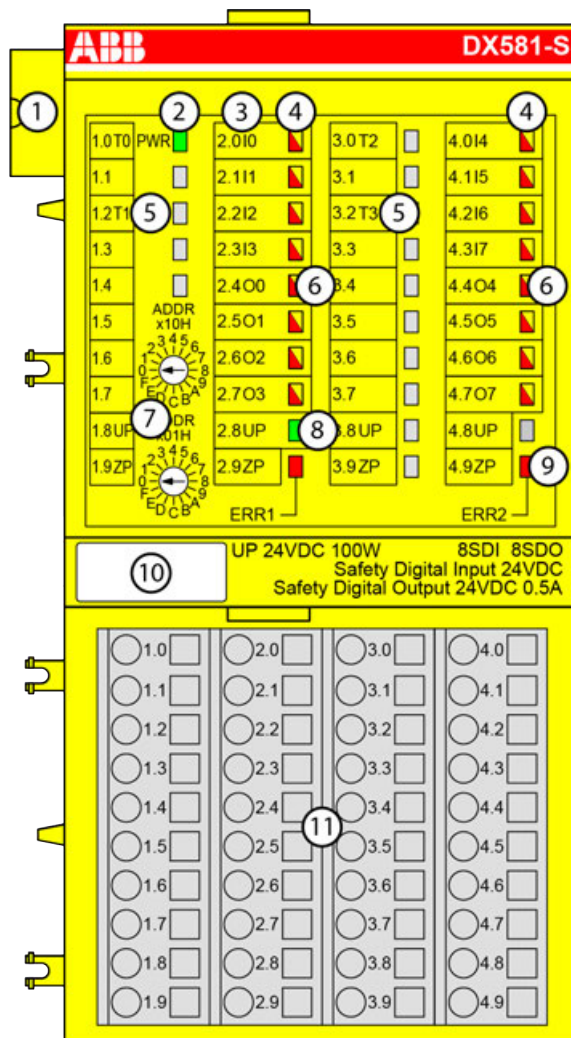


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



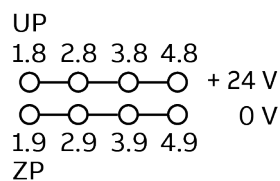
The dimensions are in mm and in brackets in inch.

63.4 Connections



- 1 I/O bus
- 2 System LED
- 3 Allocation of terminal number and signal name
- 4 8 yellow/red LEDs to display the signal states of the digital inputs I0 to I7
- 5 4 Test pulse outputs T0 to T3
- 6 8 yellow/red LEDs to display the signal states of the digital outputs O0 to O7
- 7 2 rotary switches for setting the PROFIsafe address
- 8 1 green LED to display the state of the process supply voltage UP
- 9 2 red LEDs to display errors
- 10 Label
- 11 Terminal unit TU582-S(-XC)
- * Sign for XC version

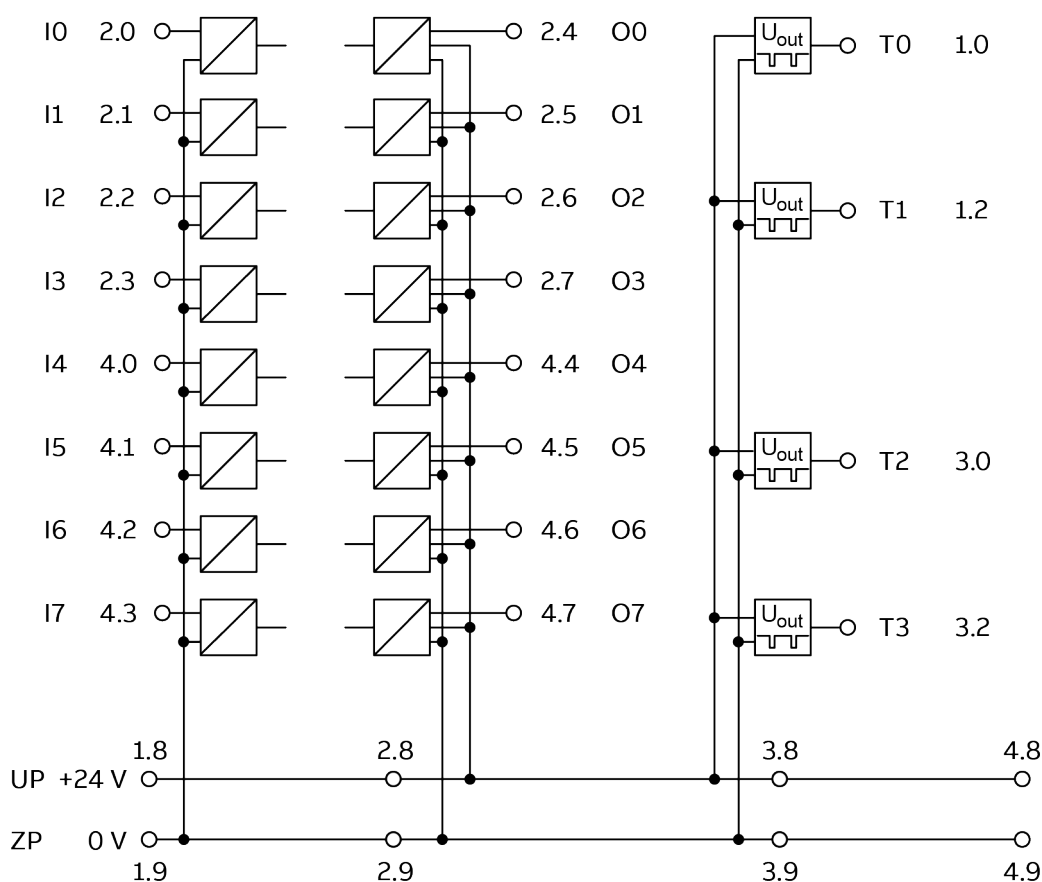
63.4.1 Process supply voltage



CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

63.4.2 Inputs/Outputs



Example input

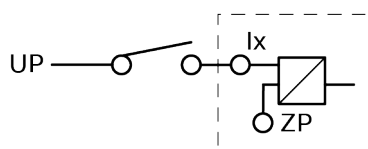


Fig. 75: Example of connection input Ix

Example output

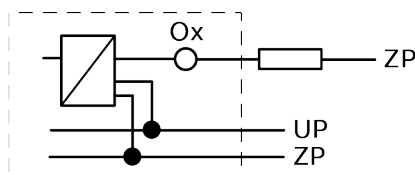


Fig. 76: Example of connection output Ox



AC500-S safety user manual

For a detailed description of the connection of the module, please refer to the "AC500-S safety user manual".

63.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

63.6 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

63.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

64 FM502-CMS(-XC)

- FM502-CMS
- FM502-CMS-XC



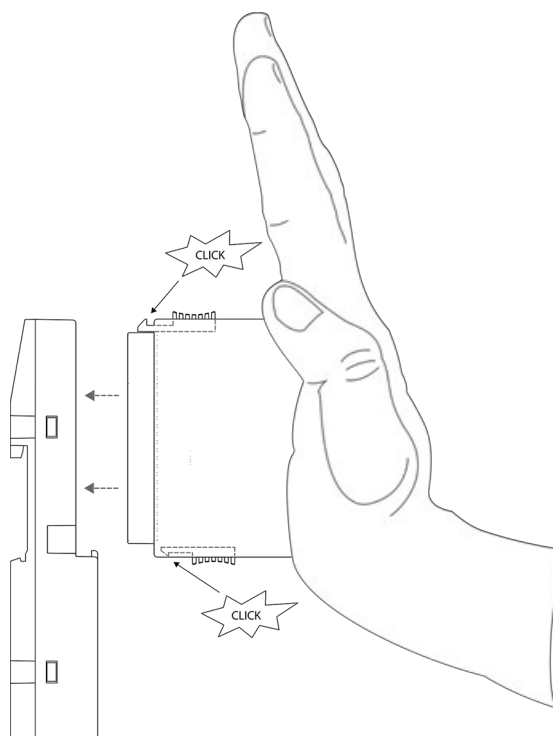
CAUTION!

Risk of injury and damaging the product!

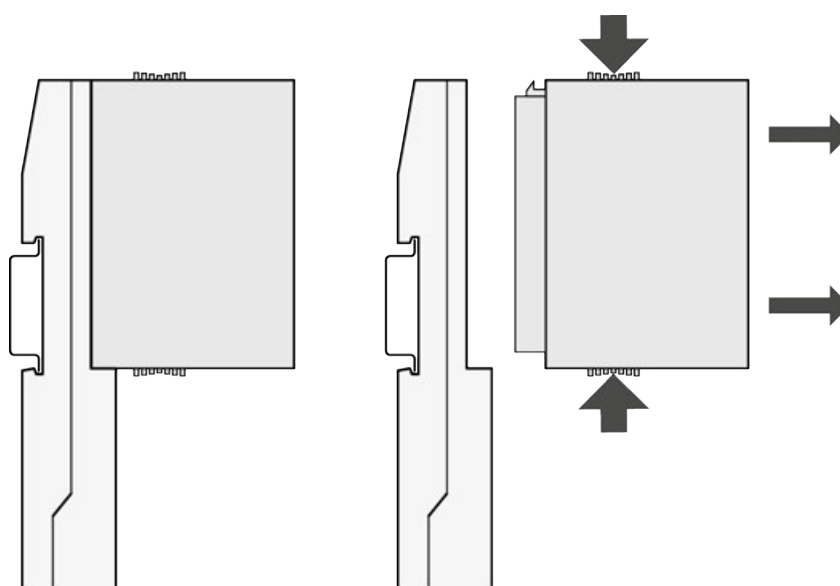
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

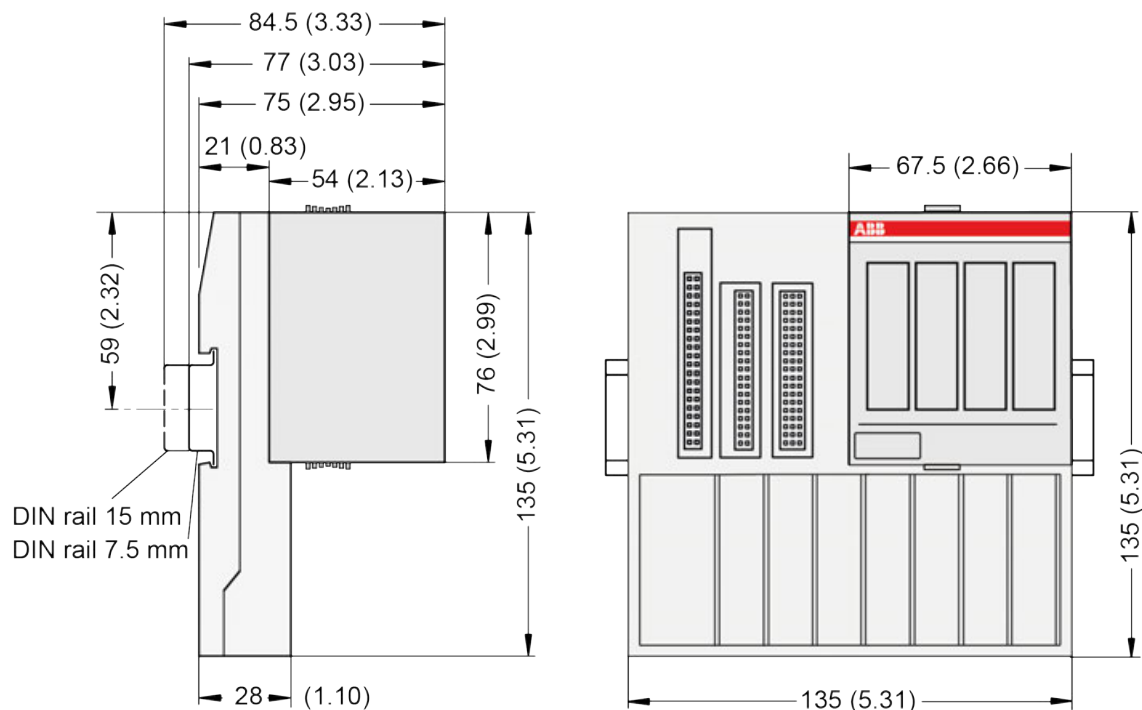
64.1 Assembly



64.2 Disassembly

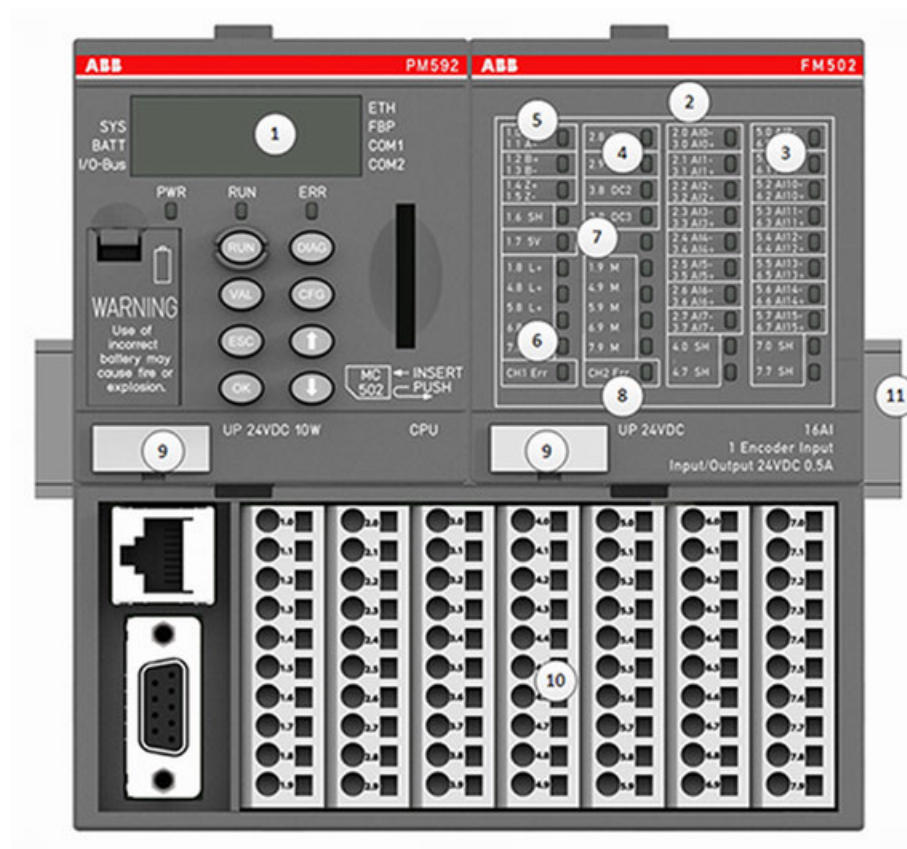


64.3 Dimensions



The dimensions are in mm and in brackets in inch.

64.4 Connections



- 1 Processor module PM592-ETH
- 2 Allocation between terminal no. and signal name
- 3 16 green/red LEDs to display the signal states at the analog inputs A0-A15
- 4 4 yellow LEDs to display digital inputs DI0, DI1 and digital inputs/outputs DC2,DC3
- 5 3 yellow LEDs display encoder/counter inputs
- 6 1 green LED to display the state of the process supply voltage L+
- 7 1 green LED to display the state of 5 V supply voltage for encoder
- 8 2 red LEDs to display errors
- 9 Label
- 10 Function module terminal base
- 11 DIN rail
- * Sign for XC version



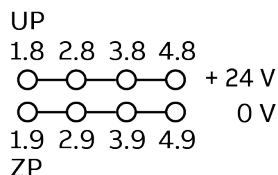
All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

Table 6: Function module terminal base - pin assignment

1.0 FE	2.0 AI0-	3.0 AI0+	4.0 SH	5.0 AI8-	6.0 AI8+	7.0 SH
1.1 A+	2.1 AI1-	3.1 AI1+	4.1 SH	5.1 AI9-	6.1 AI9+	7.1 SH
1.2 A-	2.2 AI2-	3.2 AI2+	4.2 SH	5.2 AI10-	6.2 AI10+	7.2 SH
1.3 B+	2.3 AI3-	3.3 AI3+	4.3 SH	5.3 AI11-	6.3 AI11+	7.3 SH
1.4 B-	2.4 AI4-	3.4 AI4+	4.4 SH	5.4 AI12-	6.4 AI12+	7.4 SH
1.5 Z+	2.5 AI5-	3.5 AI5+	4.5 SH	5.5 AI13-	6.5 AI13+	7.5 SH

1.6 Z-	2.6 AI6-	3.6 AI6+	4.6 SH	5.6 AI14-	6.6 AI14+	7.6 SH
1.7 5V	2.7 AI7-	3.7 AI7+	4.7 SH	5.7 AI15-	6.7 AI15+	7.7 SH
1.8 L+	2.8 DI0	3.8 DC2	4.8 L+	5.8 L+	6.8 L+	7.8 L+
1.9 M	2.9 DI1	3.9 DC3	4.9 M	5.9 M	6.9 M	7.9 M

64.4.1 Process supply voltage

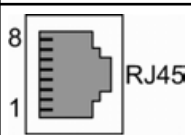


CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

64.4.2 Ethernet network interface

Pin assignment

	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NC	Not connected
	5	NC	Not connected
	6	RxD-	Receive data -
	7	NC	Not connected
	8	NC	Not connected
	Shield	Cable shield	Functional earth



NOTICE!

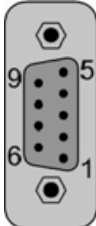
Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

64.4.3 Serial interface COM

Pin assignment

Serial Interface	Pin	Signal	Interface	Description	
	1	FE	-	Functional earth	
	2	TxD	RS-232	Transmit data	Output
	3	RxD/TxD-P	RS-485	Receive/Transmit	Positive
	4	RTS	RS-232	Request to send	Output
	5	SGND	Signal ground	0 V supply out	
	6	+5 V	-	5 V supply out	
	7	RxD	RS-232	Receive data	Input
	8	RxD/TxD-N	RS-485	Receive/Transmit	Negative
	9	CTS	RS-232	Clear to send	Input
	Shield	FE	-	Functional earth	



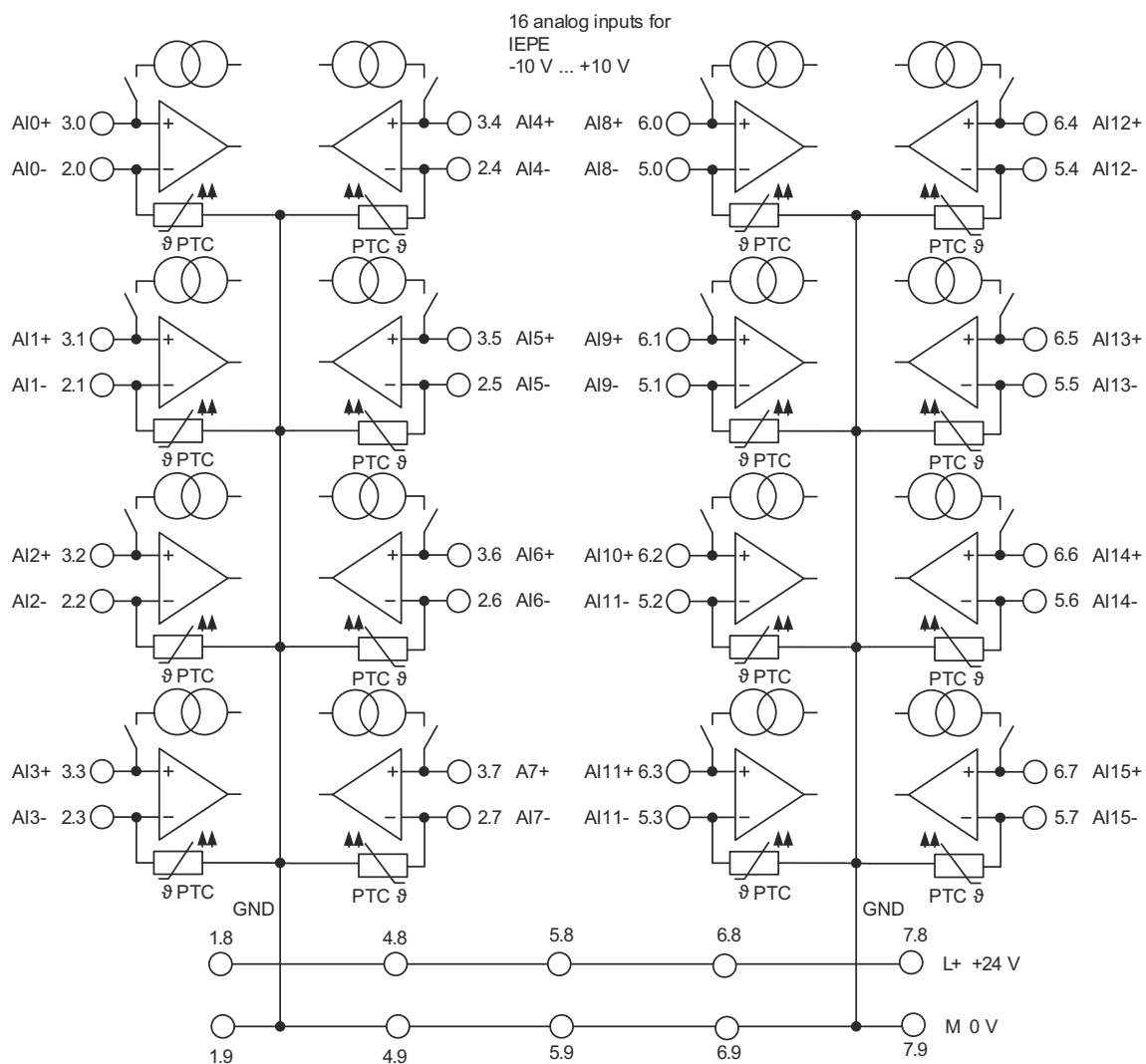
NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

64.4.4 Inputs/Outputs

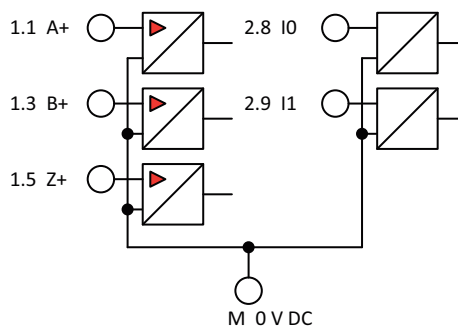


5V

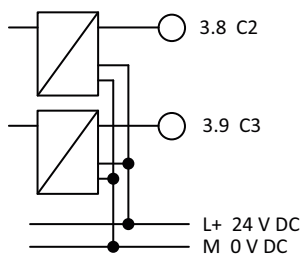
1.7 5 V DC

1.9 4.9 5.9 6.9 7.9
M 0 V DC

Inputs



In-/Outputs



64.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

64.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

64.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

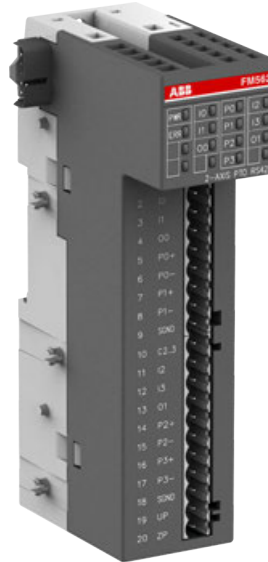
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

65 FM562

- FM562



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

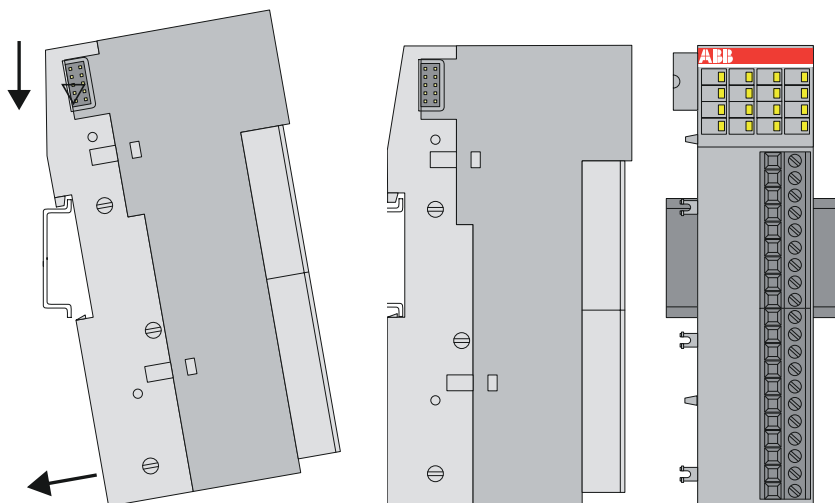
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



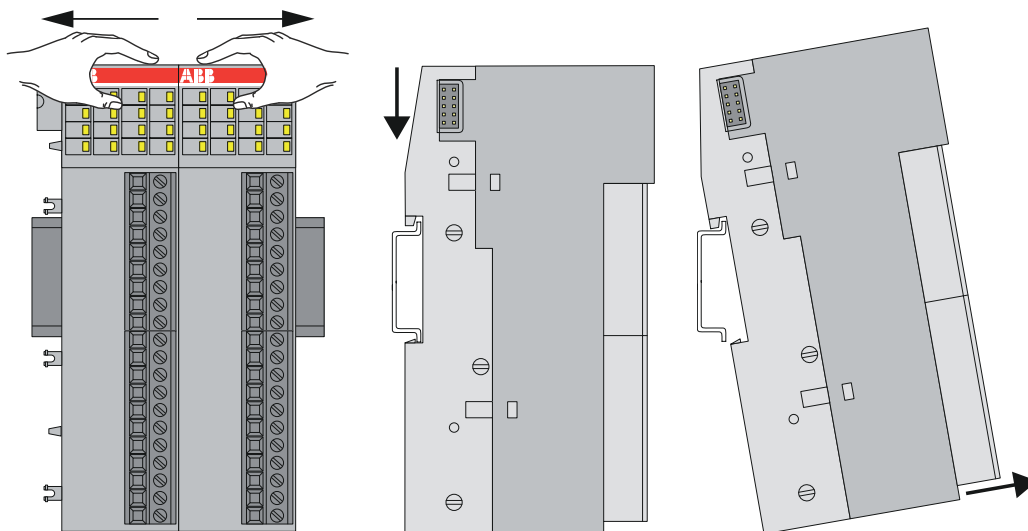
CAUTION!

This module must not be used together with the DC505-FBP/DC551- CS31/ CI51X/CI59X module.

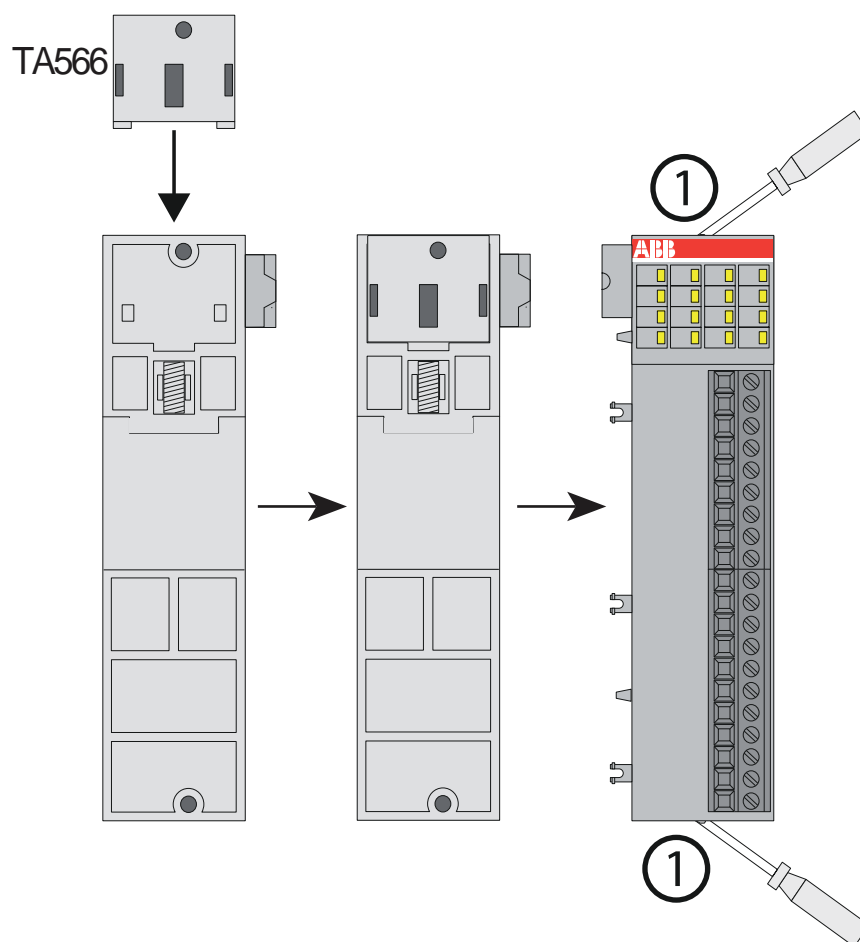
65.1 Assembly



65.2 Disassembly



65.3 Assembly with screws



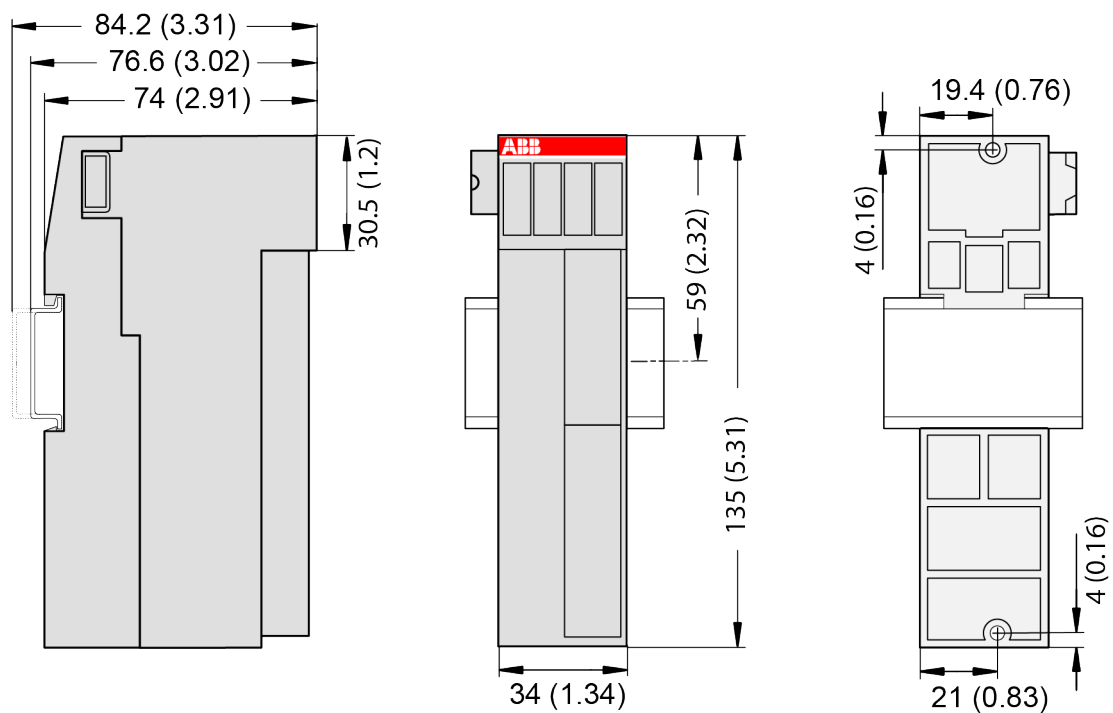
- 1 Fasten the module with two screws (max. diameter 4 mm)



NOTICE!

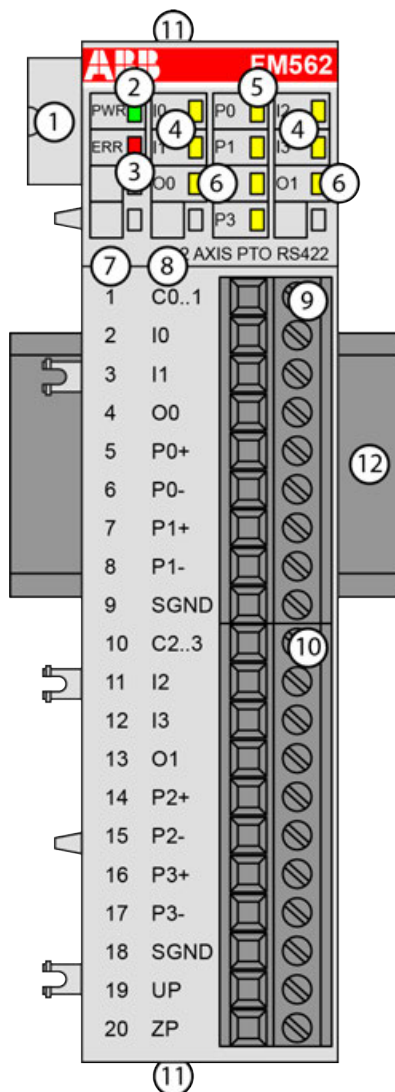
The insertion of the accessories TA566 for wall mounting is essential.

65.4 Dimensions



The dimensions are in mm and in brackets in inch.

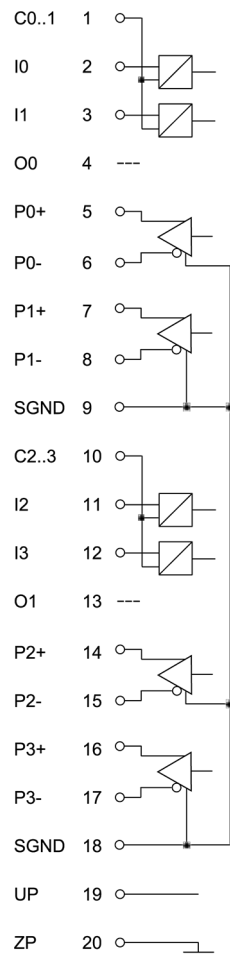
65.5 Connections



- 1 I/O bus
- 2 1 green LED to display power supply
- 3 1 red LED to display error
- 4 4 yellow LEDs to display the signal states of the inputs I0 to I3
- 5 4 yellow LEDs to display the signal states of the pulse train outputs P0 to P3
- 6 2 yellow LEDs to display the signal states of O0 to O1 (reserved)
- 7 Terminal number
- 8 Allocation of signal name
- 9 Terminal block for axis signals (9-pin)
- 10 Terminal block for axis signals and process supply voltage (11-pin)
- 11 2 holes for wall-mounting with screws
- 12 DIN rail

5	TA563-9	9-pin, screw, cable from side
	TA564-9	9-pin, screw, cable from front
	TA565-9	9-pin, spring, cable from front
6	TA563-11	11-pin, screw, cable from side
	TA564-11	11-pin, screw, cable from front
	TA565-11	11-pin, spring, cable from front

65.5.1 Inputs/Outputs



Examples

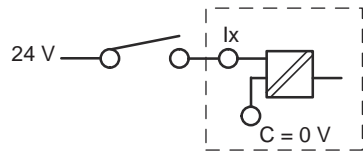


Fig. 77: FM562 used as source input

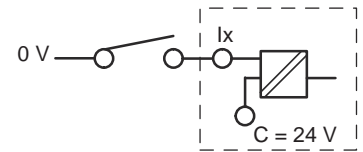


Fig. 78: FM562 used as sink input

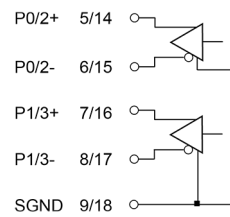


Fig. 79: Example for RS-422 differential output Px

65.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

65.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

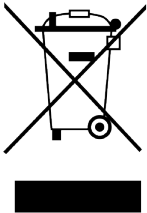
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

65.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

66 MC503 - Memory card adapter

- MC503



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



WARNING!

Removal/Insertion under power

The devices are not designed for removal or insertion under power. Because of unforeseeable consequences, it is not allowed to plug or unplug devices with the power being ON.

Make sure that all voltage sources (supply and process voltage) are switched off before you

- connect or disconnect any signal or terminal block
- remove, mount or replace a module.

Disconnecting any powered devices while energized in a hazardous location could result in an electric arc, which could create a flammable ignition resulting in fire or explosion.

Make sure that power is removed and that the area has been thoroughly checked to ensure that flammable materials are not present prior to proceeding.

The devices must not be opened when in operation. The same applies to the network interfaces.

66.1 Assembly

1. Remove the option board slot cover of the CPU totally by pushing it to the left side.



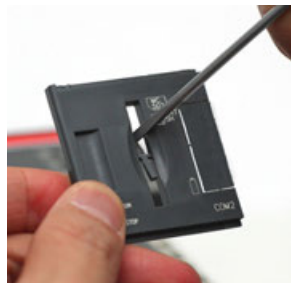
2. Plug the memory card adapter to the left slot of the CPU.



3. Make sure that the 2 noses of the extension module fit to the holes of the CPU PCB.



4. Remove the bar located in the middle of the option board slot cover with a screwdriver.

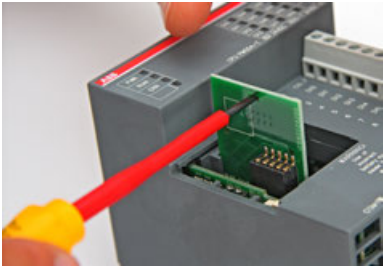


66.2 Disassembly

1. Remove the option board slot cover of the CPU totally by pushing it to the left side.



2. Remove the adapter from the CPU by lifting it up with a screwdriver.



3. Refit the option board slot cover of the CPU.




66.3 Cleaning



Cleaning instruction
*Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.*

66.4 Certification

		MSIP-REI-Abb-AC500-eCo	
en	Note	These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"
ko	참고 이러한 기기는		KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함
en	Devices with KCC sign on product sticker and packaging		
ko	제품 스티커 및 포장에 KCC 표시가 된 기기		

66.5 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

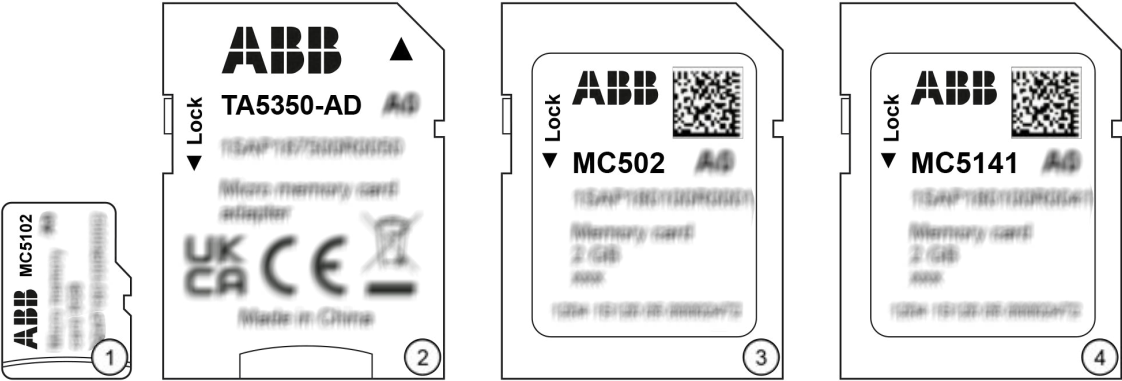
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.


For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

67 MC5xx(x) - Memory card

- MC502 memory card
- MC5141 memory card
- MC5102 micro memory card with TA5350-AD micro memory card adapter



- 1 MC5102 micro memory card
- 2 TA5350-AD micro memory card adapter
- 3 MC502 memory card
- 4 MC5141 memory card



The use of other memory cards than MC502, MC5141 and MC5102 is prohibited.

ABB is not responsible nor liable for consequences resulting from use of unapproved memory cards.

Memory card type	AC500 V2	AC500-XC V2	AC500-eCo V2 ³⁾	AC500 V3	AC500-XC V3	AC500-eCo V3
MC502	x	x	x	x	x	-
MC5141	x	x	x	x	x	-
MC5102 with TA5350-AD micro memory card adapter	x ¹⁾	x ¹⁾ ²⁾	x ¹⁾	x	x ²⁾	-
MC5102 without TA5350-AD micro memory card adapter	-	-	-	-	-	x

¹⁾ As of firmware 2.5.x

²⁾ Temporary use of MC5102 is possible under normal environmental conditions, but MC5141 should be preferred.

³⁾ A memory card can only be inserted when a MC503 memory card adapter is installed in the processor module.



CAUTION!

Risk of injury and damaging the product!

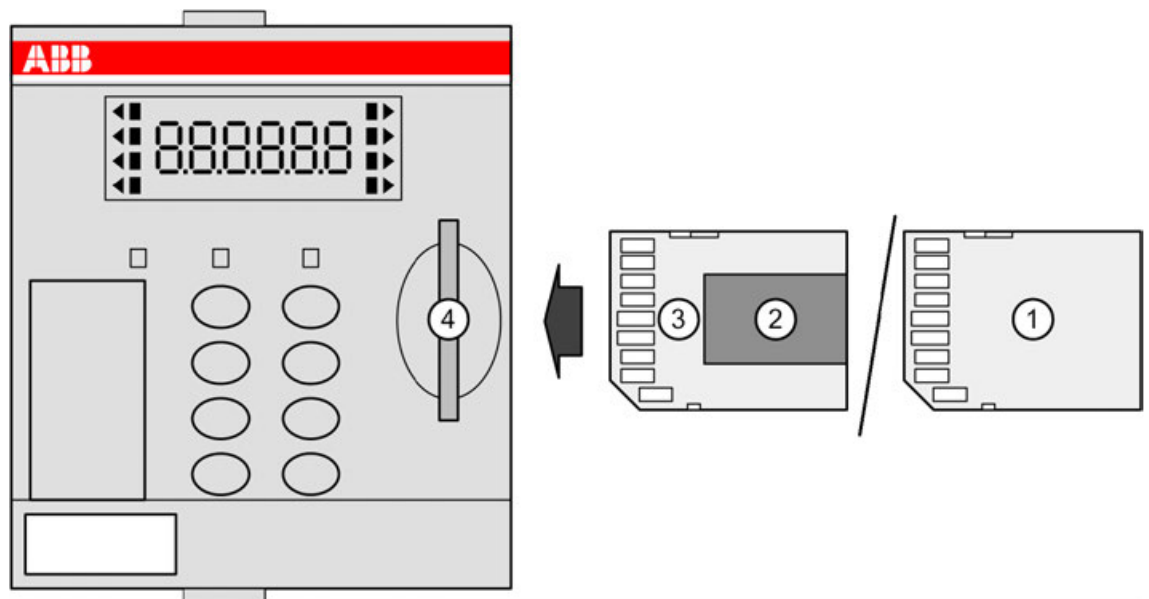
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

67.1 Assembly

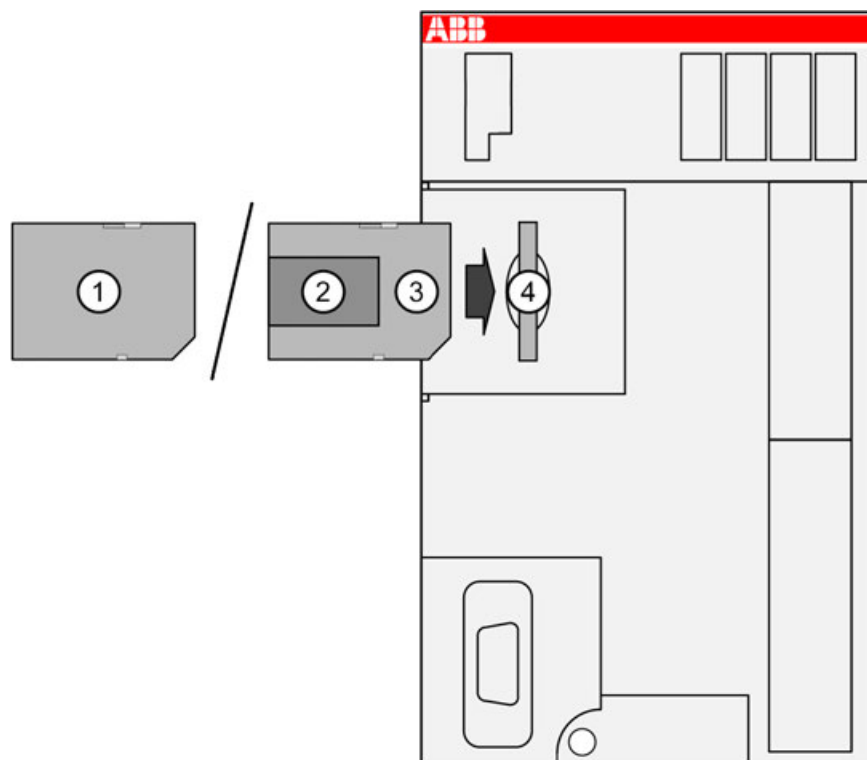
- ▷ Insert the memory card into the memory card slot of the processor module until locked.

AC500 V2 and
AC500 V3



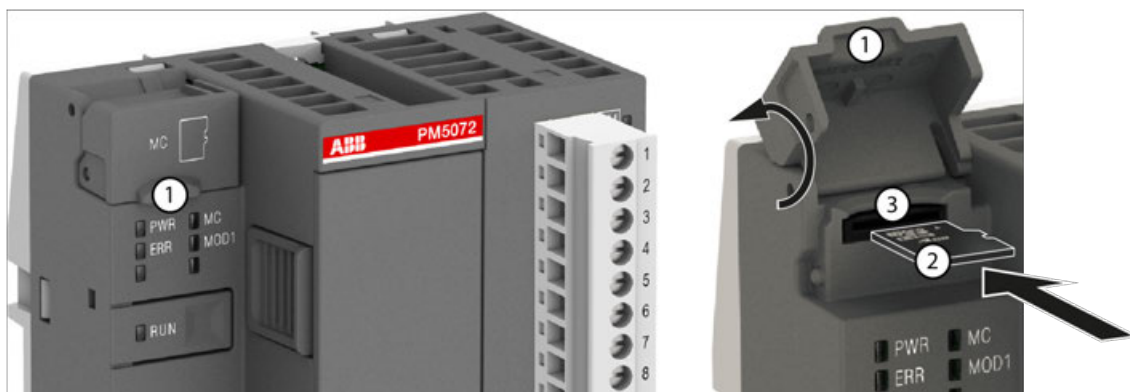
- 1 MC502 or MC5141 memory card
- 2 MC5102 micro memory card
- 3 TA5350-AD micro memory card adapter
- 4 Memory card slot

AC500-eCo V2



- 1 MC502 or MC5141 memory card
- 2 MC5102 micro memory card
- 3 TA5350-AD micro memory card adapter
- 4 MC503 memory card adapter

AC500-eCo V3



- 1 Micro memory card slot cover
 - 2 Micro memory card
 - 3 Micro memory card slot
1. Open the micro memory card slot cover by turning it upwards.
 2. Carefully insert the micro memory card into the micro memory card slot as far as it will go. Observe orientation of card.
 3. Close the micro memory card slot cover by turning it downwards.

67.2 Disassembly



NOTICE!

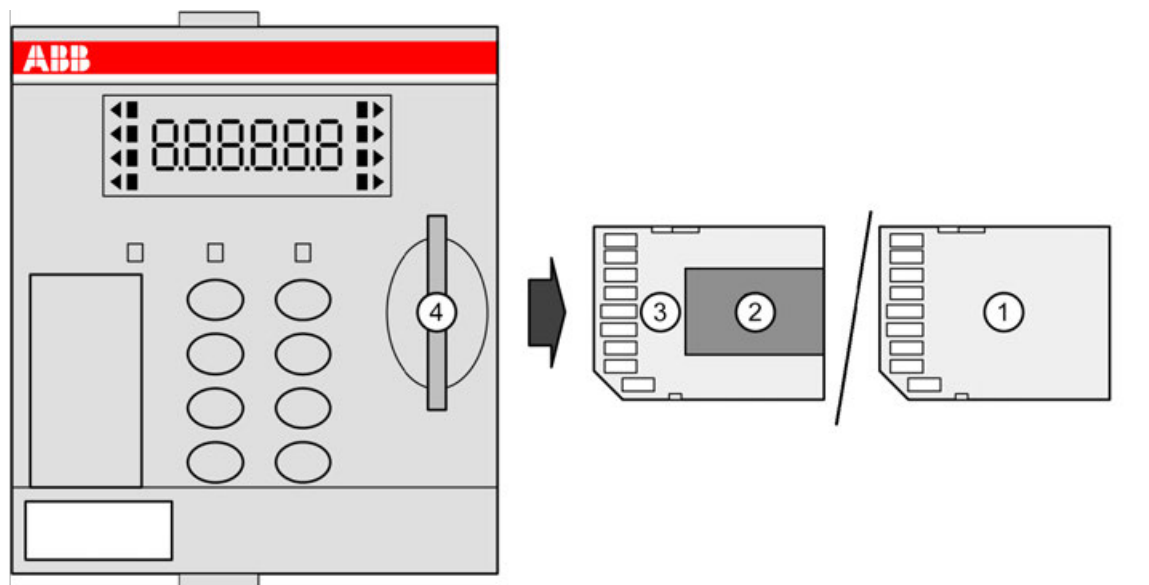
Removal of the memory card

Do not remove the memory card during access.

Otherwise the memory card and/or files on it might get corrupted and/or normal PLC operation might be disturbed.

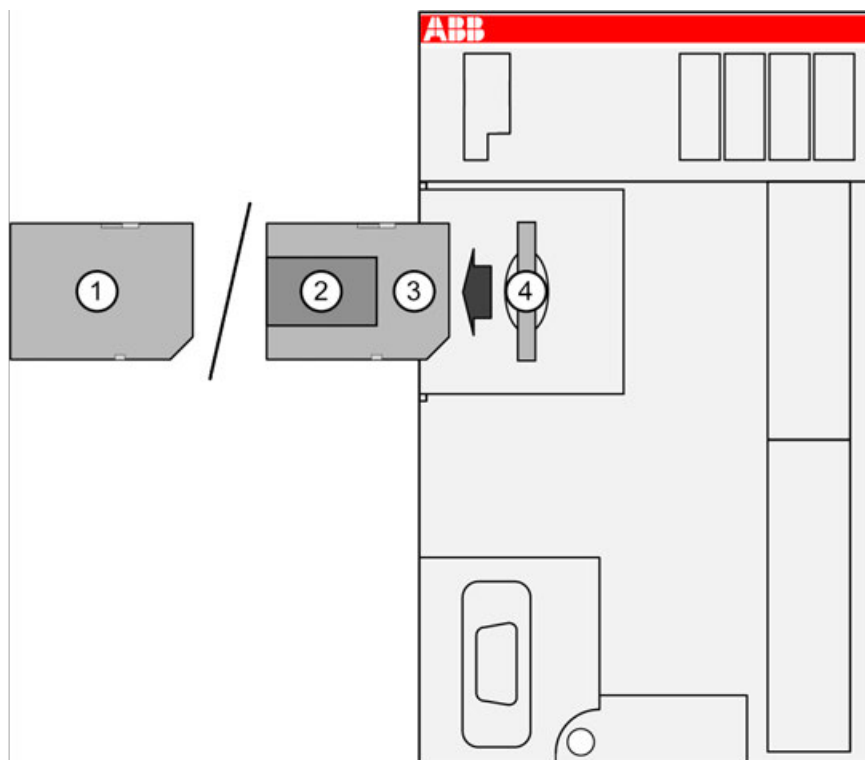
- ▷ To remove the memory card, push on the memory card until it moves forward. By this, the memory card is unlocked and can be removed.

AC500 V2 and
AC500 V3



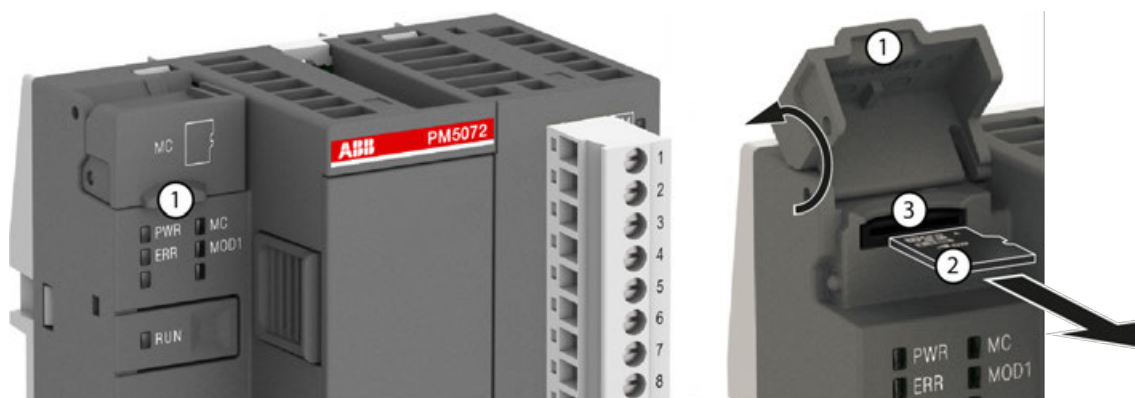
- 1 MC502 or MC5141 memory card
- 2 MC5102 micro memory card
- 3 TA5350-AD micro memory card adapter
- 4 Memory card slot

AC500-eCo V2



- 1 MC502 or MC5141 memory card
- 2 MC5102 micro memory card
- 3 TA5350-AD micro memory card adapter
- 4 MC503 memory card adapter

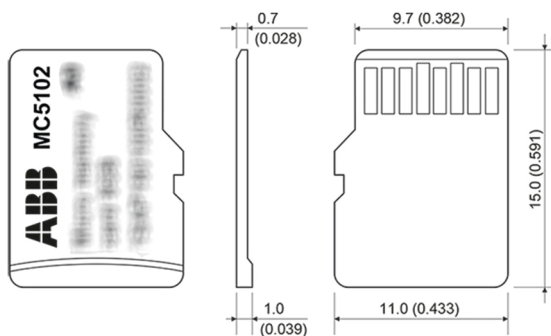
AC500-eCo V3



- 1 Micro memory card slot cover
 - 2 Micro memory card
 - 3 Micro memory card slot
1. Open the micro memory card slot cover by turning it upwards.
 2. Micro memory card can be removed from the micro memory card slot by gripping and pulling with two fingers.
 3. Close the micro memory card slot cover by turning it downwards.

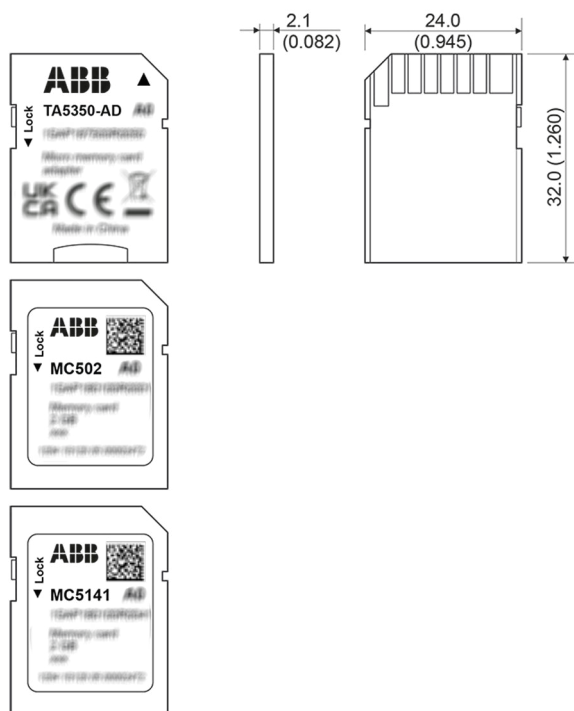
67.3 Dimensions

Micro memory card



The dimensions are in mm and in brackets in inch.

Memory card / Micro memory card adapter



The dimensions are in mm and in brackets in inch.

67.4 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

67.5 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

67.6 Recycling



Disposal and recycling information

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The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

68 PM5012-x-ETH

- PM5012-T-ETH
- PM5012-R-ETH



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



CAUTION!

Risk of injury and damaging the processor module when using unapproved terminal blocks!

Only use terminal blocks approved by ABB to avoid injury and damage to the processor module.



Terminal block set for PM50x2

Processor modules PM50x2 CPU are not delivered with terminal blocks.

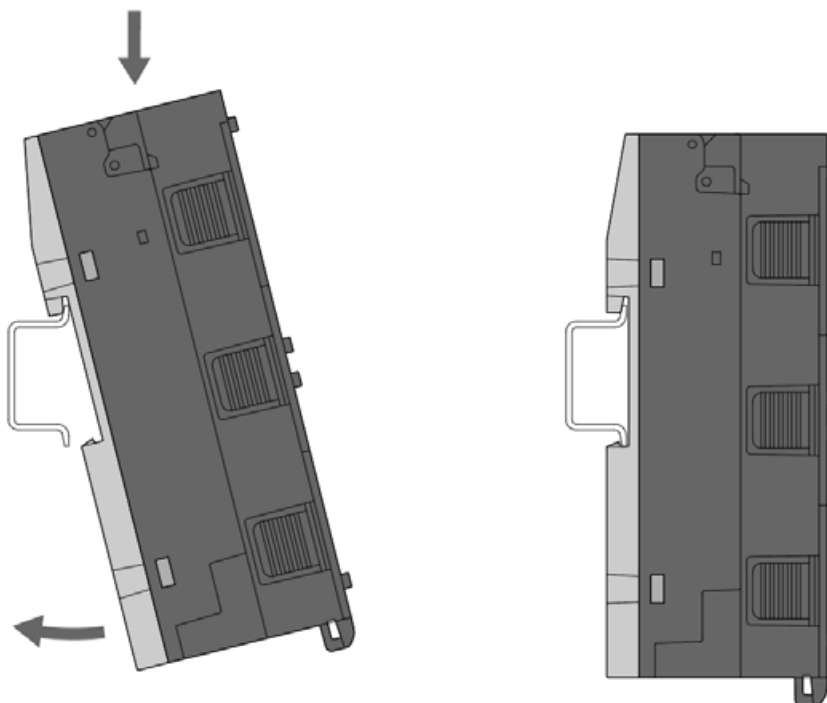
Screw type terminal block set:

- TA5211-TSCL-B (1SAP187400R0001) for PM5012-x-ETH
- TA5212-TSCL (1SAP187400R0004) for PM5032-x-ETH, PM5052-x-ETH, PM5072-T-2ETH(W)

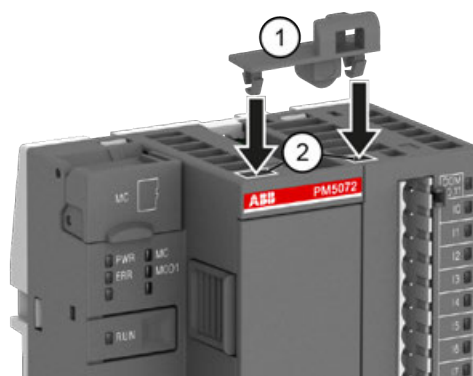
Spring type terminal block set:

- TA5211-TSPF-B (1SAP187400R0002) for PM5012-x-ETH
- TA5212-TSPF (1SAP187400R0005) for PM5032-x-ETH, PM5052-x-ETH, PM5072-T-2ETH(W)

68.1 Assembly

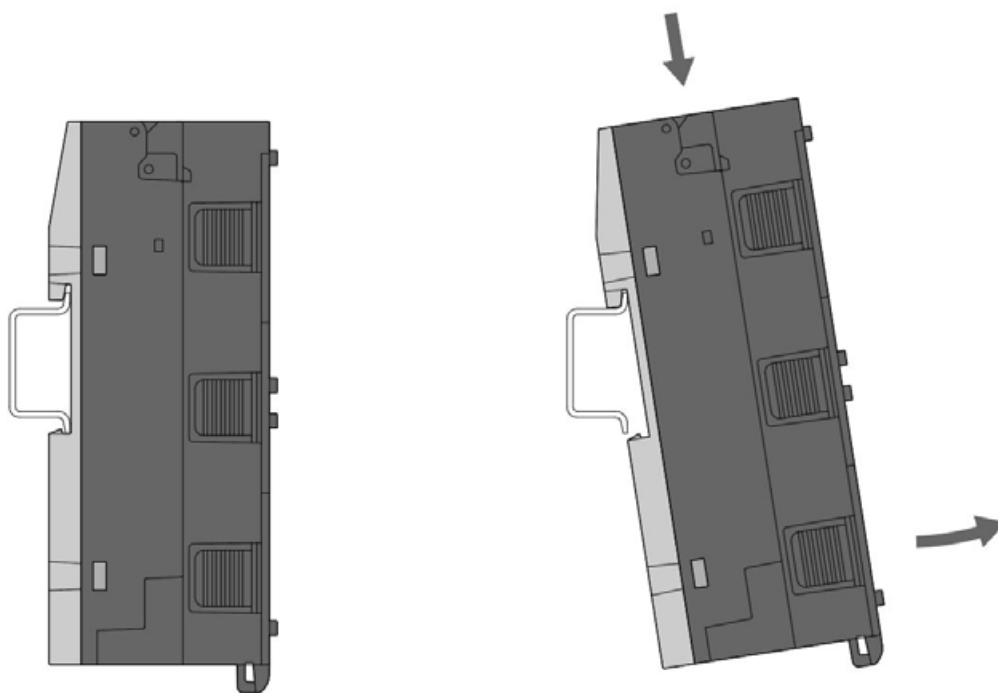


68.1.1 Assembly TA5301-CFA

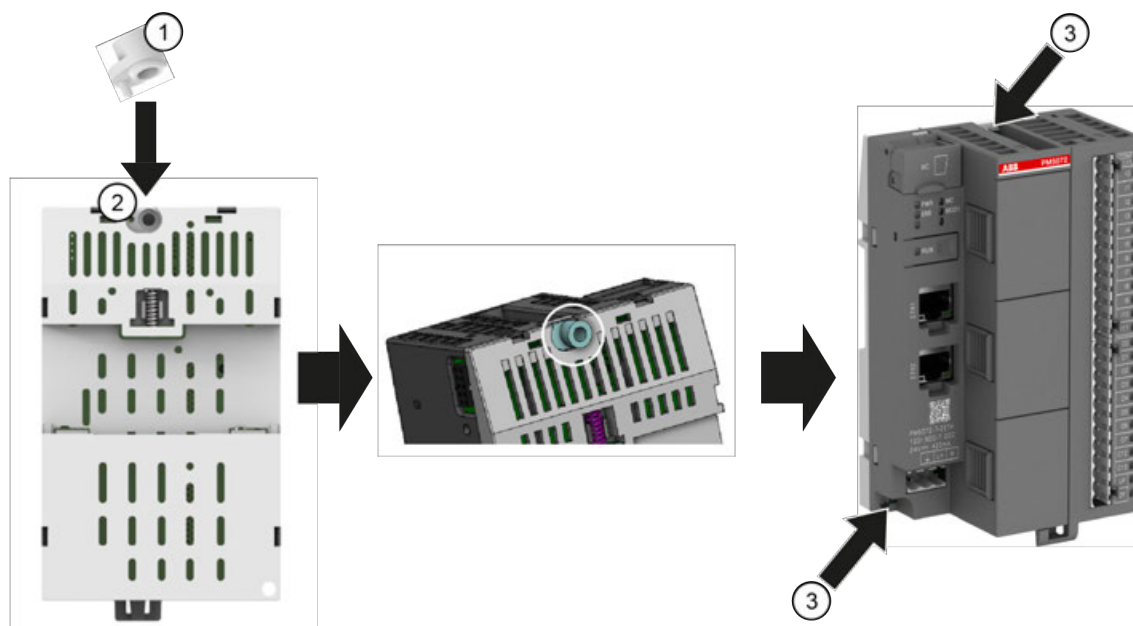


- 1 TA5301-CFA cable fixing accessory
 - 2 2 openings on the PM50x2 processor module
- ▷ Insert the TA5301-CFA cable fixing accessory into the two openings on the PM50x2 processor module marked white in the figure.

68.2 Disassembly



68.3 Assembly with screws



- 1 TA543 screw mounting accessory
- 2 Slot for TA543 screw mounting accessory
- 3 2 holes for screw mounting

1. Insert the TA543 screw mounting accessory into the slot on the back side of the processor module.



NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA543 screw mounting accessory (1SAP182800R0001) is mandatory to prevent bending and damage to the module.

2. Fasten the processor module with 2 screws (M4, max 1.2 Nm) from the front side.



With screw mounting, the processor module is grounded through the screws.

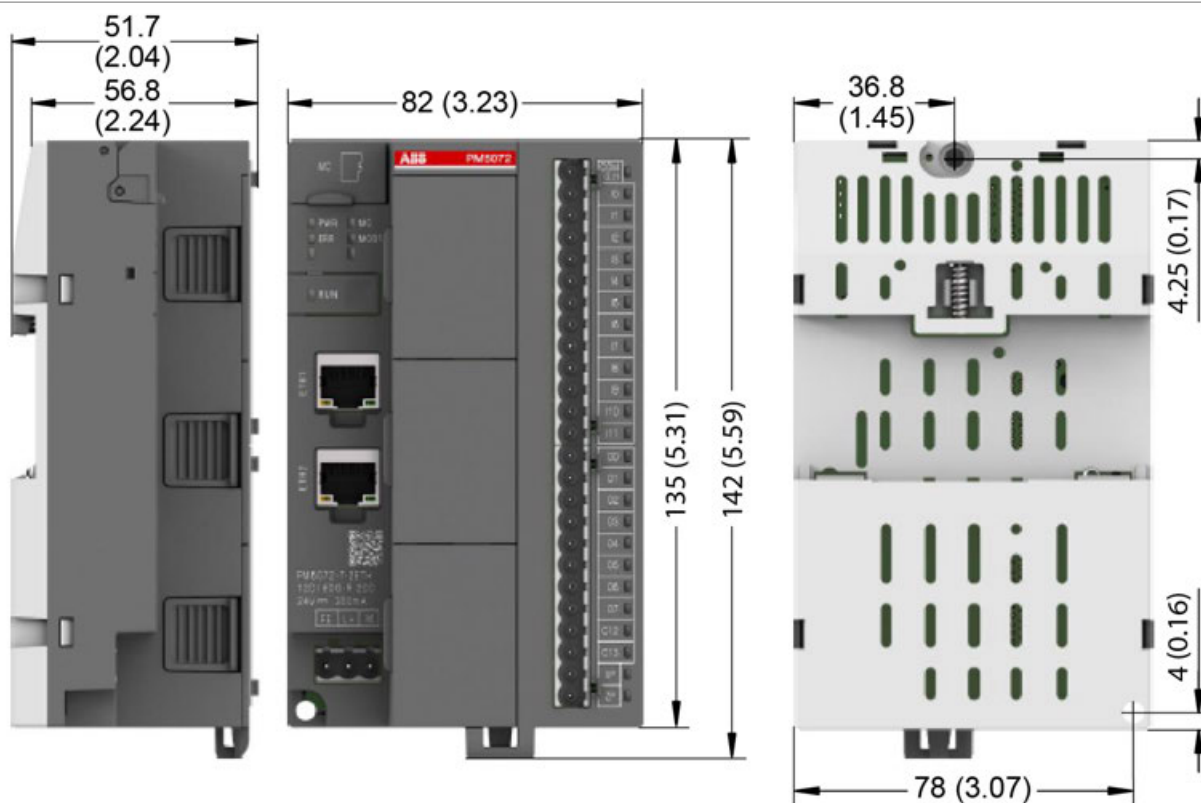
It is necessary that

- *the screws have a conductive surface (e.g. steel zinc-plated or brass nickel-plated)*
- *the mounting plate is grounded*
- *the screws have a good electrical contact to the mounting plate*



To prevent the screw from loosening after prolonged use, a thread lock washer is highly recommended.

68.4 Dimensions



The dimensions are in mm and in brackets in inch.

68.5 Connections

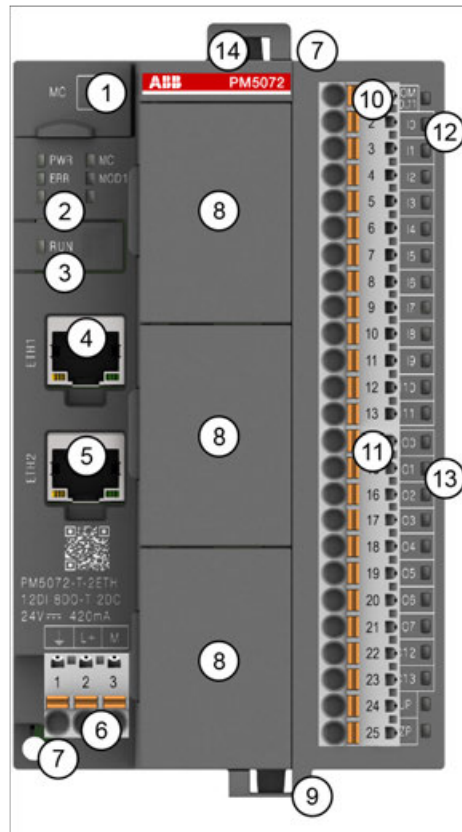


Fig. 80: Example: PM5072-T-2ETH

- 1 Micro memory card slot
- 2 5 LEDs to display the states of the processor module (Power, Error, Run, MC, MOD1)
- 3 RUN button
- 4 RJ45 female connector for Ethernet1 connection
- 5 RJ45 female connector for Ethernet2 connection (available for PM5072-T-2ETH(W))
- 6 3-pin terminal block for power supply 24 V DC
- 7 2 holes for screw mounting
- 8 Option board slot cover for option board slot (the number of available slots varies according to the CPU type)
- 9 Cable fixing
- 10 13-pin terminal block for onboard I/Os
- 11 12-pin terminal block for onboard I/Os (not available on PM5012-x-ETH)
- 12 12 LEDs to display the states of the signals
- 13 10 LEDs to display the states of the signals
- 14 Cable fixing accessory TA5301-CFA on the top of the housing (optional)



The processor module is shown with pluggable terminal blocks. These terminal blocks must be ordered separately.



*The cable fixing accessory on the top of the housing is optional.
Please use TA5301-CFA cable fixing accessory to provide strain relief.
It can also be used for AC500-eCo I/O modules.*



The PM50x2 processor modules are supplied with option board slot covers as standard.



There are various TA51xx option boards for the processor modules that can be ordered separately.

Which and how many option boards can be plugged, depends on the respective processor module.

68.5.1 Power supply

The processor modules PM50x2 can be connected to the 24 V DC supply voltage via a removable 3-pin spring terminal block or a 3-pin screw terminal block.

Table 7: Removable terminal block for the supply voltage 24 V DC


3-pin spring terminal block	3-pin screw terminal block
	

The terminal block is available as a set for AC500-eCo V3 processor modules.

Basic CPU (PM5012)		Standard CPUs (PM5032, PM5052) and Pro CPUs (PM5072)	
Spring type	Screw type	Spring type	Screw type
TA5211-TSPF-B	TA5211-TSCL-B	TA5212-TSPF	TA5212-TSCL

Further information on the terminal blocks concerning power supply and onboard inputs/outputs are provided under pluggable connectors for screw and spring connection .

Pin assignment

Pin Assignment	Pin	Label	Function	Description
 Terminal block inserted	1	\perp	FE	Functional earth
	2	L+	+24 V DC	Positive pin of the power supply voltage
	3	M	0 V	Negative pin of the power supply voltage

Faulty wiring on power supply terminals



CAUTION!

Risk of damaging the AC500-eCo V3 processor module and the connected modules!

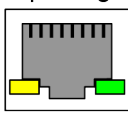
Voltages > 30 V DC might damage the processor module and the connected modules.

Make sure that the supply voltage never exceeds 30 V DC.

68.5.2 Ethernet network interface(s)

The Ethernet interface is carried out via a RJ45 jack.

Table 8: Pin assignment of the Ethernet interface

Interface	Pin	Description	
<div>1 8</div> 	1	Tx+	Transmit data +
	2	Tx-	Transmit data -
	3	Rx+	Receive data +
	4	NC	Not connected
	5	NC	Not connected
	6	Rx-	Receive data -
	7	NC	Not connected
	8	NC	Not connected
	Shield	Cable shield	Functional earth

68.5.3 Onboard I/Os

68.5.3.1 Connections



WARNING!

Risk of death by electric shock!

Hazardous voltages can be present at the terminals of the module.

Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.



NOTICE!

Risk of damaging the PLC modules!

The PLC modules must not be removed while the plant is connected to a power supply.

Make sure that all voltage sources (supply and process voltage) are switched off before you

- connect or disconnect any signal or terminal block
- remove or replace a module.



NOTICE!

Risk of damaging the PLC modules!

Overvoltages and short circuits might damage the PLC modules.

- Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.
- Never connect any voltages or signals to reserved terminals (marked with ---). Reserved terminals may carry internal voltages.



When replacing a processor module, it is recommended to mark each wire connected to the onboard I/O terminal block before disconnecting it. This should make sure that the wires can be reconnected in the same order.

The connection is carried out by using removable 12-pin and 13-pin terminal blocks.



Table 9: Assignment of the terminals for PM5012-T-ETH:

Terminal	Signal	Description
1	COM 0..5	Input common for digital input signals I0 to I5
2	I0	Digital input signal I0 (5 kHz)
3	I1	Digital input signal I1 (5 kHz)
4	I2	Digital input signal I2 (5 kHz)
5	I3	Digital input signal I3 (5 kHz)
6	I4	Digital input signal I4 (5 kHz)
7	I5	Digital input signal I5 (5 kHz)
8	O0	Digital output signal O0 (5 kHz)
9	O1	Digital output signal O1 (5 kHz)
10	O2	Digital output signal O2 (5 kHz)
11	O3	Digital output signal O3 (5 kHz)
12	UP	Process supply voltage UP +24 V DC
13	ZP	Process supply voltage ZP 0 V DC



Table 10: Assignment of the terminals for PM5012-R-ETH:

Terminal	Signal	Description
1	COM 0..5	Input common for digital input signals I0 to I5
2	I0	Digital input signal I0 (5 kHz)
3	I1	Digital input signal I1 (5 kHz)
4	I2	Digital input signal I2 (5 kHz)
5	I3	Digital input signal I3 (5 kHz)
6	I4	Digital input signal I4 (5 kHz)
7	I5	Digital input signal I5 (5 kHz)
8	NO0	Normally-open relay contact of the output NO0
9	NO1	Normally-open relay contact of the output NO1
10	R0..1	Output common for signals NO0 to NO1

Terminal	Signal	Description
11	NO2	Normally-open relay contact of the output NO2
12	NO3	Normally-open relay contact of the output NO3
13	R2..3	Output common for signals NO2 to NO3

Table 11: Assignment of the terminals for PM5032-T-ETH, PM5052-T-ETH and PM5072-T-2ETH(W):



Terminal	Signal	Description
1	COM 0..11	Input common for digital input signals I0 to I11
2	I0	Digital input signal I0 (max. 5 kHz)
3	I1	Digital input signal I1 (max. 5 kHz)
4	I2	Digital input signal I2 (max. 5 kHz)
5	I3	Digital input signal I3 (max. 5 kHz)
6	I4	Digital input signal I4 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
7	I5	Digital input signal I5 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
8	I6	Digital input signal I6 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
9	I7	Digital input signal I7 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
10	I8	Digital input signal I8
11	I9	Digital input signal I9
12	I10	Digital input signal I10
13	I11	Digital input signal I11
14	O0	Digital output signal O0 (max. 5 kHz)
15	O1	Digital output signal O1 (max. 5 kHz)
16	O2	Digital output signal O2 (max. 5 kHz)
17	O3	Digital output signal O3 (max. 5 kHz)
18	O4	Digital output signal O4 PWM (max. 100 kHz), PTO (max. 200 kHz)
19	O5	Digital output signal O5 PWM (max. 100 kHz), PTO (max. 200 kHz)
20	O6	Digital output signal O6 PWM (max. 100 kHz), PTO (max. 200 kHz)
21	O7	Digital output signal O7 PWM (max. 100 kHz), PTO (max. 200 kHz)
22	C12	Digital input/output signal configurable C12
23	C13	Digital input/output signal configurable C13

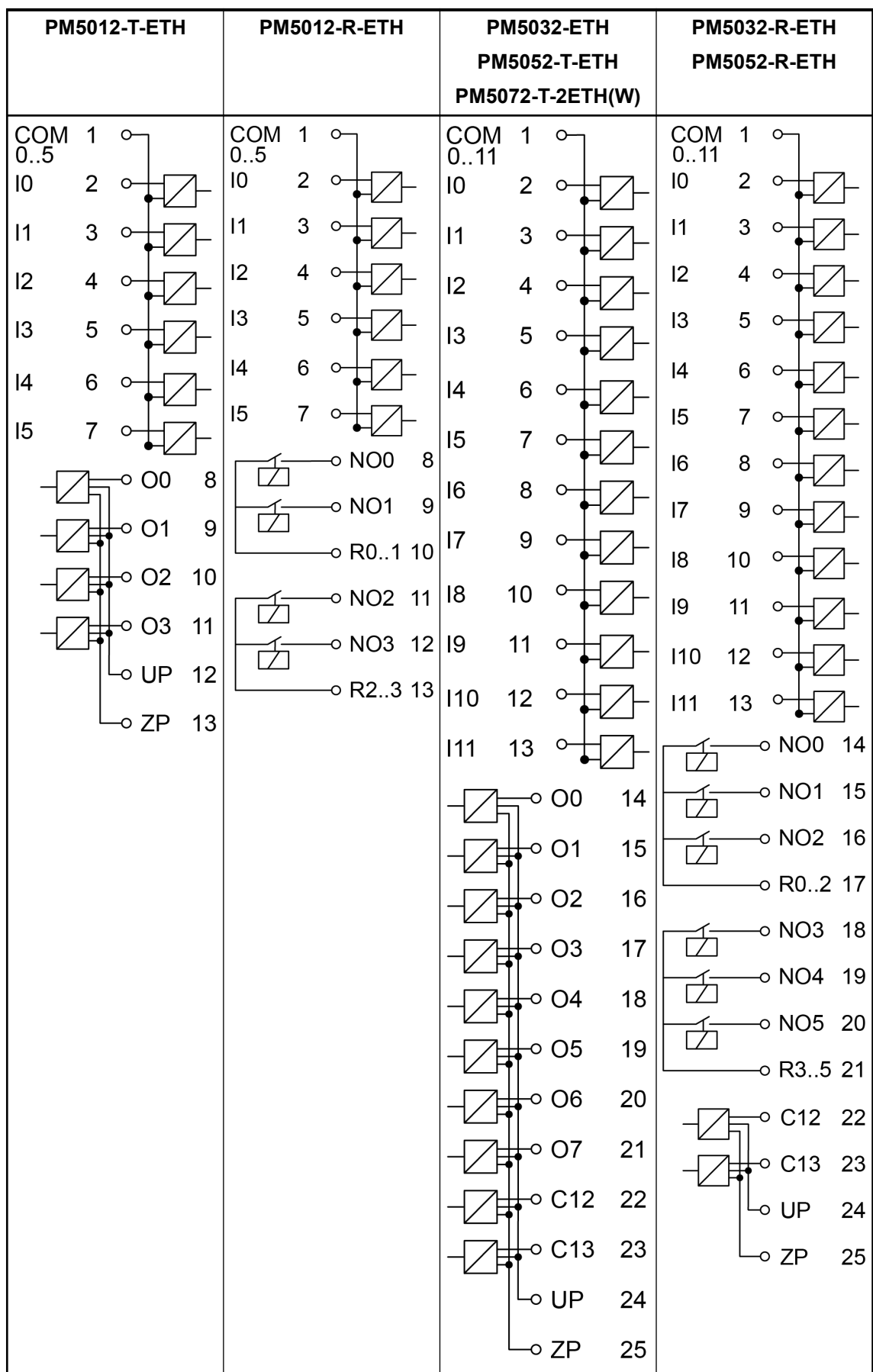
Terminal	Signal	Description
24	UP	Process supply voltage UP +24 V DC
25	ZP	Process supply voltage ZP 0 V DC



Table 12: Assignment of the terminals for PM5032-R-ETH and PM5052-R-ETH:

Terminal	Signal	Description
1	COM 0..11	Input common for digital input signals I0 to I11
2	I0	Digital input signal I0 (max. 5 kHz)
3	I1	Digital input signal I1 (max. 5 kHz)
4	I2	Digital input signal I2 (max. 5 kHz)
5	I3	Digital input signal I3 (max. 5 kHz)
6	I4	Digital input signal I4 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
7	I5	Digital input signal I5 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
8	I6	Digital input signal I6 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
9	I7	Digital input signal I7 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
10	I8	Digital input signal I8
11	I9	Digital input signal I9
12	I10	Digital input signal I10
13	I11	Digital input signal I11
14	NO0	Normally-open relay contact of the output NO0
15	NO1	Normally-open relay contact of the output NO1
16	NO2	Normally-open relay contact of the output NO2
17	R0..2	Output common for signals NO0 to NO2
18	NO3	Normally-open relay contact of the output NO3
19	NO4	Normally-open relay contact of the output NO4
20	NO5	Normally-open relay contact of the output NO5
21	R3..5	Output common for signals NO3 to NO5
22	C12	Digital input/output signal configurable C12 PWM (max. 100 kHz), PTO (max. 200 kHz)
23	C13	Digital input/output signal configurable C13 PWM (max. 100 kHz), PTO (max. 200 kHz)
24	UP	Process supply voltage UP +24 V DC
25	ZP	Process supply voltage ZP 0 V DC

Block diagrams The following block diagram shows the internal structure of the onboard I/Os.



68.5.3.1.1 Connection of the digital inputs

The digital inputs can be used as source inputs or as sink inputs.



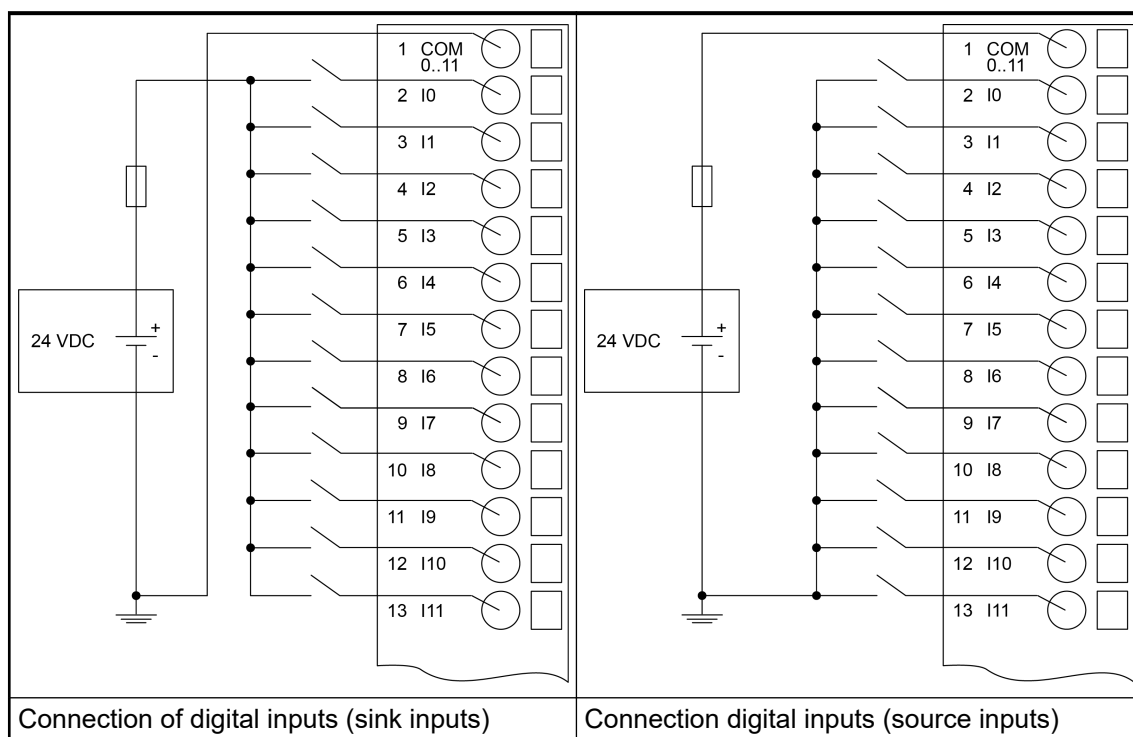
NOTICE!

Risk of malfunctions in the plant!

A ground fault, e. g. caused by a damaged cable insulation, can bridge switches accidentally.

Use sink inputs when possible or make sure that, in case of error, there will be no risks to persons or plant.

The following figure shows the connection of the digital inputs to the PM50x2 processor modules:



68.5.3.1.2 Connection of the digital transistor outputs (PM50xx-T-ETH only)

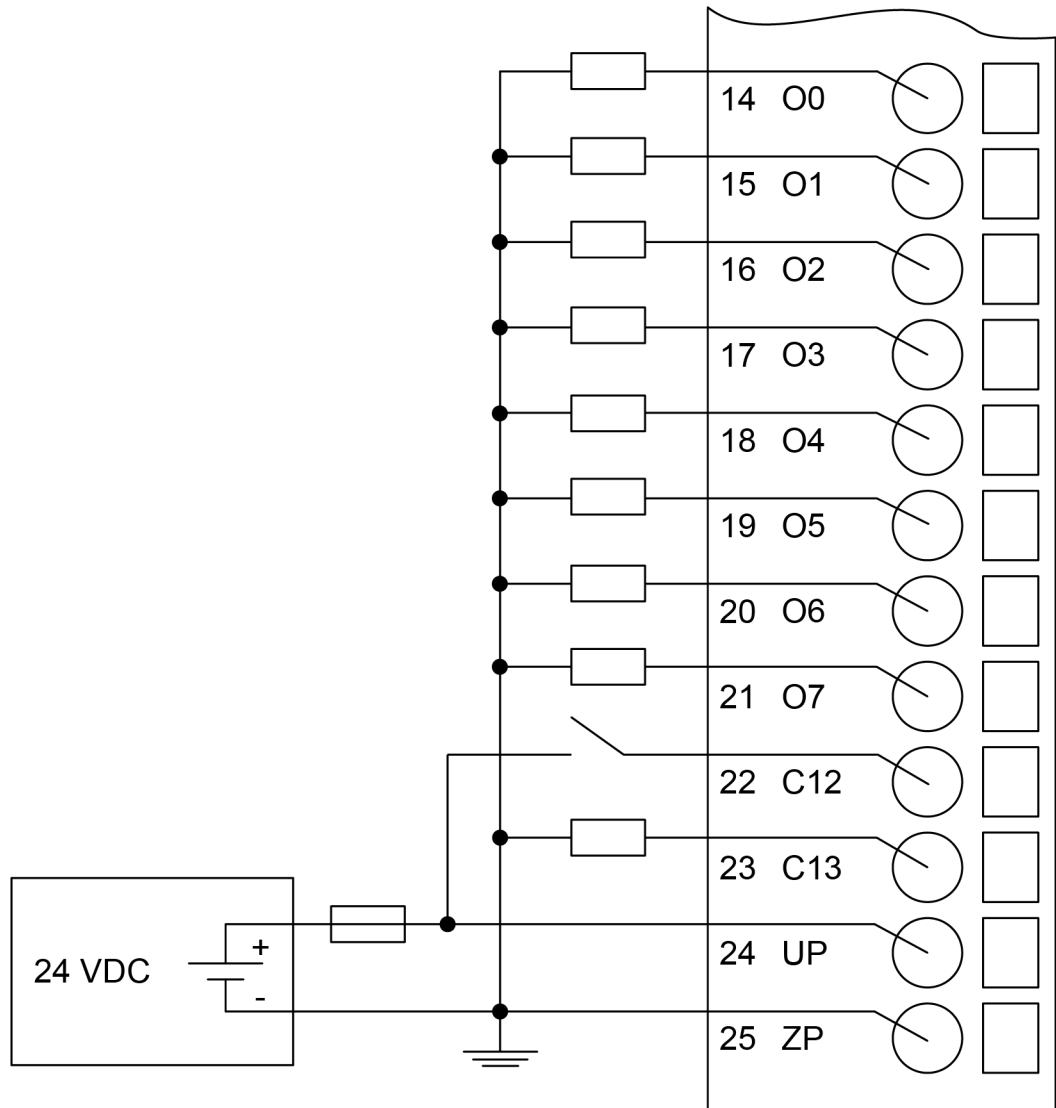


Fig. 81: Connection of digital transistor outputs and configurable digital inputs/outputs

C12 used as configurable digital input

C13 used as configurable digital transistor output



CAUTION!

Risk of damaging the processor module!

The outputs are not protected against short circuit and overload.

- Never short-circuit or overload the outputs.
- Never connect the outputs to other voltages.
- Use an external fuse for the outputs.

68.5.3.1.3 Connection of the digital relay outputs (PM50xx-R-ETH only)

The following figures show the connection of the digital relay outputs to the processor modules:

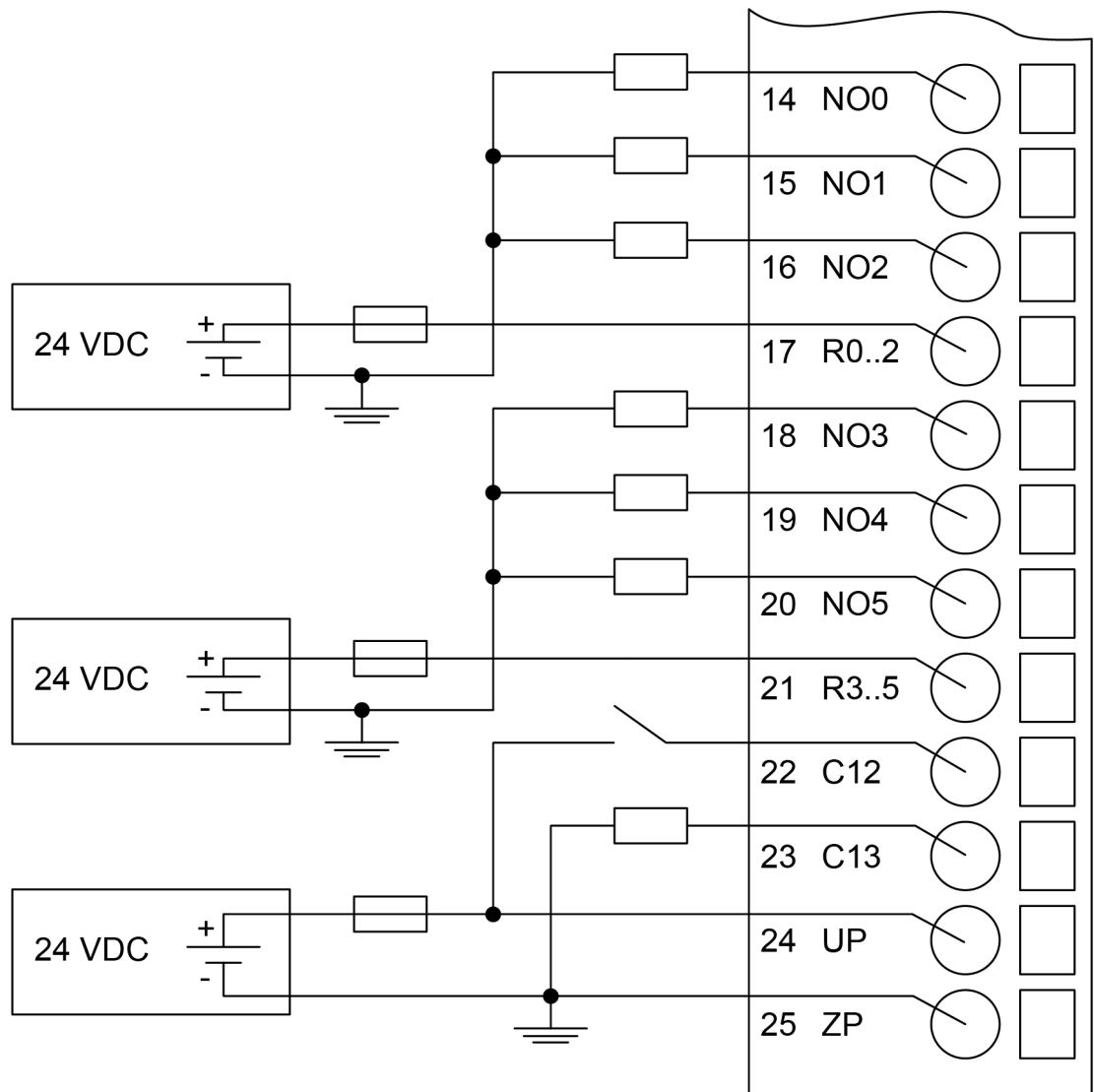


Fig. 82: Connection of digital relay outputs and configurable digital inputs/outputs

C12 used as configurable digital input

C13 used as configurable digital transistor output



WARNING!

Risk of death by electric shock!

Hazardous voltages can be present at the terminals of the module.

Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.



CAUTION!

Risk of damaging the processor module!

- Never short-circuit or overload the outputs.
- Never connect inductive loads without an external suppression against voltage peaks due to inductive kickback.
- Never connect voltages > 240 V. All outputs must be fed from the same phase.
- Use an external 5 A fast protection fuse for the outputs.

68.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

68.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",

KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

68.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

69 PM5032-x-ETH

- PM5032-T-ETH
- PM5032-R-ETH



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



CAUTION!

Risk of injury and damaging the processor module when using unapproved terminal blocks!

Only use terminal blocks approved by ABB to avoid injury and damage to the processor module.



Terminal block set for PM50x2

Processor modules PM50x2 CPU are not delivered with terminal blocks.

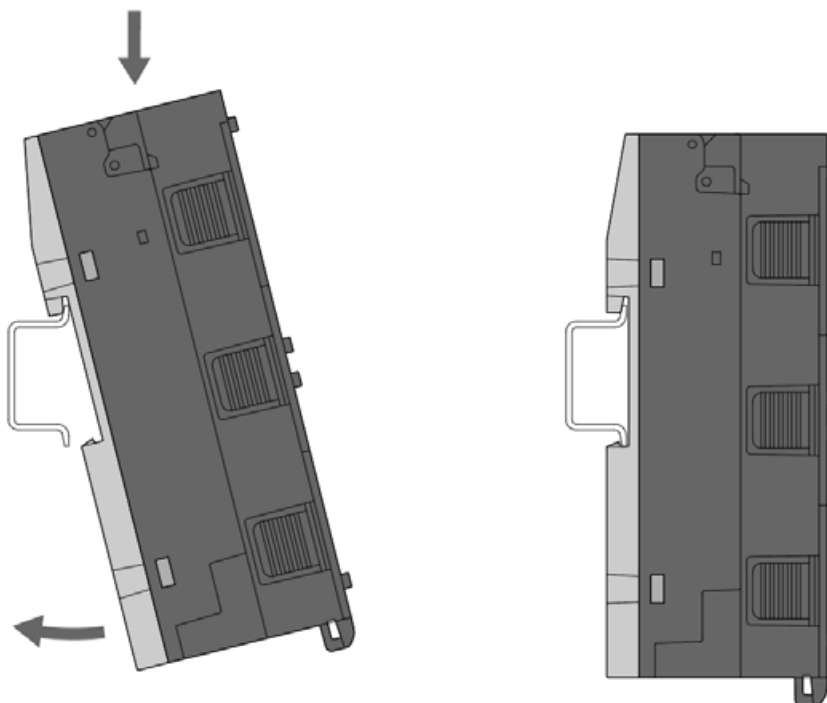
Screw type terminal block set:

- TA5211-TSCL-B (1SAP187400R0001) for PM5012-x-ETH
- TA5212-TSCL (1SAP187400R0004) for PM5032-x-ETH, PM5052-x-ETH, PM5072-T-2ETH(W)

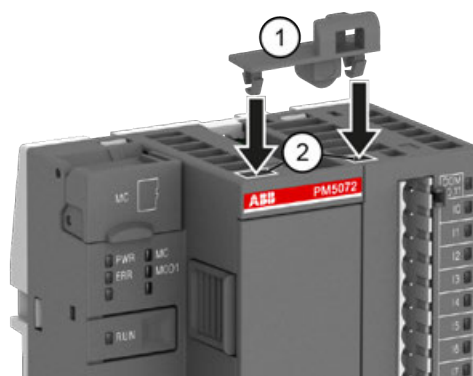
Spring type terminal block set:

- TA5211-TSPF-B (1SAP187400R0002) for PM5012-x-ETH
- TA5212-TSPF (1SAP187400R0005) for PM5032-x-ETH, PM5052-x-ETH, PM5072-T-2ETH(W)

69.1 Assembly

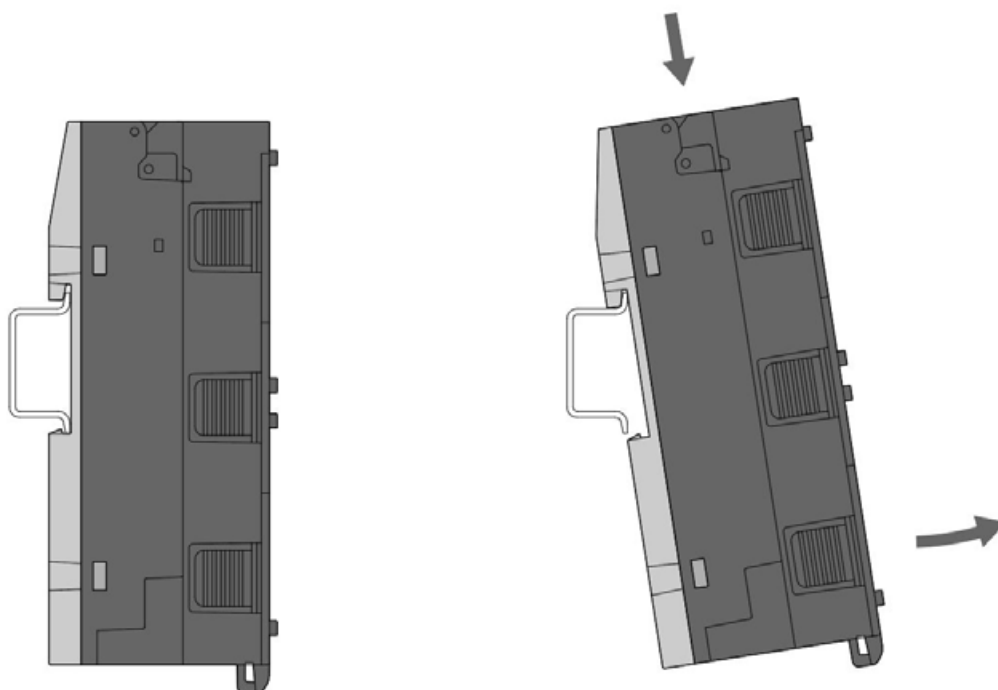


69.1.1 Assembly TA5301-CFA

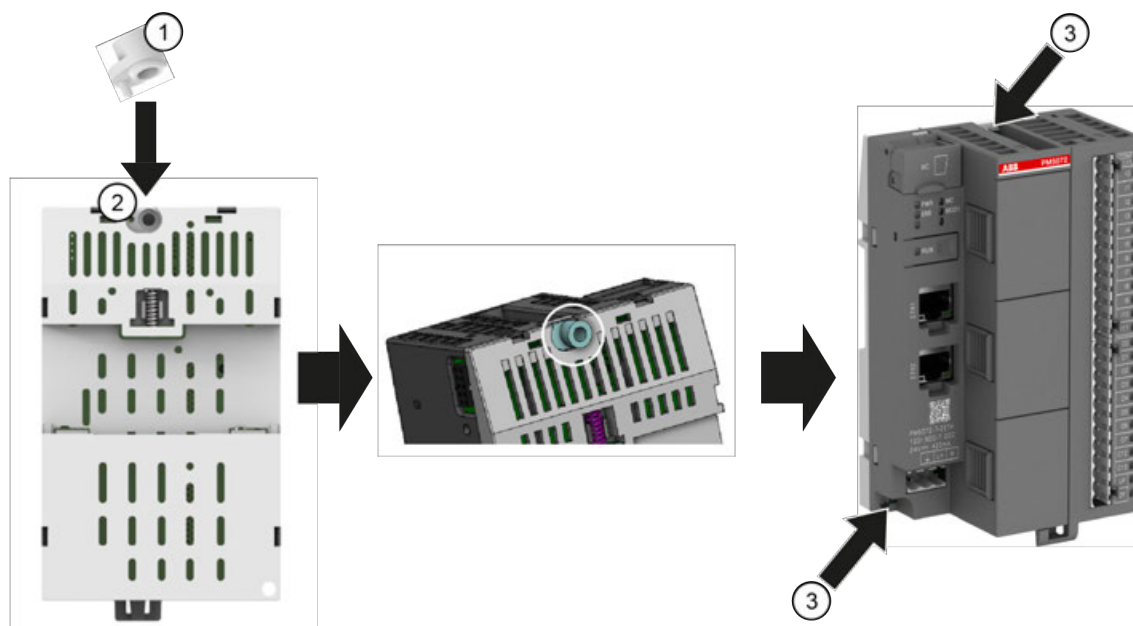


- 1 TA5301-CFA cable fixing accessory
 - 2 2 openings on the PM50x2 processor module
- ▷ Insert the TA5301-CFA cable fixing accessory into the two openings on the PM50x2 processor module marked white in the figure.

69.2 Disassembly



69.3 Assembly with screws



- 1 TA543 screw mounting accessory
- 2 Slot for TA543 screw mounting accessory
- 3 2 holes for screw mounting

1. Insert the TA543 screw mounting accessory into the slot on the back side of the processor module.



NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA543 screw mounting accessory (1SAP182800R0001) is mandatory to prevent bending and damage to the module.

2. Fasten the processor module with 2 screws (M4, max 1.2 Nm) from the front side.



With screw mounting, the processor module is grounded through the screws.

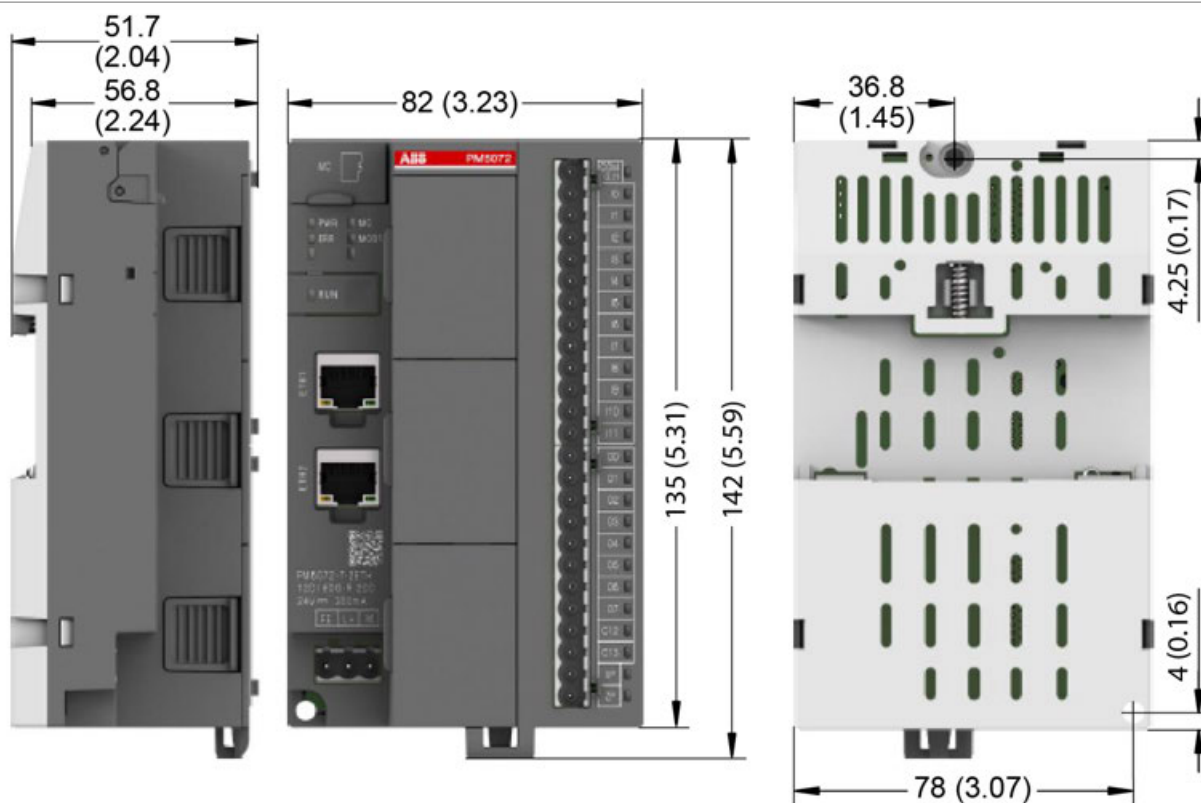
It is necessary that

- *the screws have a conductive surface (e.g. steel zinc-plated or brass nickel-plated)*
- *the mounting plate is grounded*
- *the screws have a good electrical contact to the mounting plate*



To prevent the screw from loosening after prolonged use, a thread lock washer is highly recommended.

69.4 Dimensions



The dimensions are in mm and in brackets in inch.

69.5 Connections

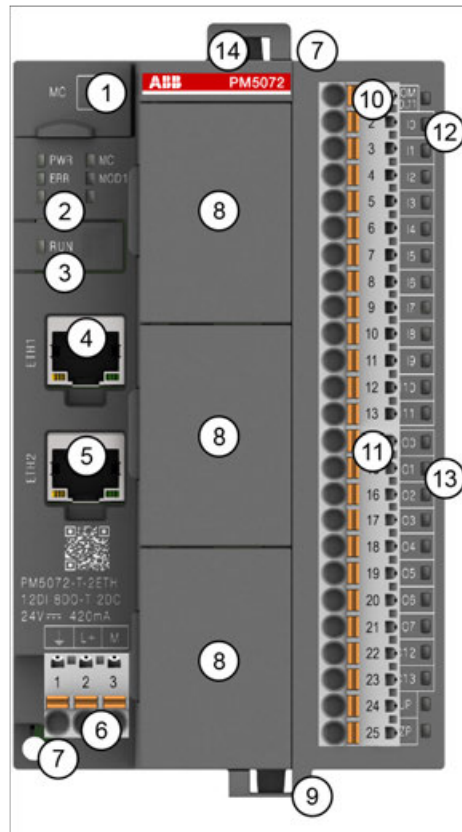


Fig. 83: Example: PM5072-T-2ETH

- 1 Micro memory card slot
- 2 5 LEDs to display the states of the processor module (Power, Error, Run, MC, MOD1)
- 3 RUN button
- 4 RJ45 female connector for Ethernet1 connection
- 5 RJ45 female connector for Ethernet2 connection (available for PM5072-T-2ETH(W))
- 6 3-pin terminal block for power supply 24 V DC
- 7 2 holes for screw mounting
- 8 Option board slot cover for option board slot (the number of available slots varies according to the CPU type)
- 9 Cable fixing
- 10 13-pin terminal block for onboard I/Os
- 11 12-pin terminal block for onboard I/Os (not available on PM5012-x-ETH)
- 12 12 LEDs to display the states of the signals
- 13 10 LEDs to display the states of the signals
- 14 Cable fixing accessory TA5301-CFA on the top of the housing (optional)



The processor module is shown with pluggable terminal blocks. These terminal blocks must be ordered separately.



*The cable fixing accessory on the top of the housing is optional.
Please use TA5301-CFA cable fixing accessory to provide strain relief.
It can also be used for AC500-eCo I/O modules.*



The PM50x2 processor modules are supplied with option board slot covers as standard.



There are various TA51xx option boards for the processor modules that can be ordered separately.

Which and how many option boards can be plugged, depends on the respective processor module.

69.5.1 Power supply

The processor modules PM50x2 can be connected to the 24 V DC supply voltage via a removable 3-pin spring terminal block or a 3-pin screw terminal block.

Table 13: Removable terminal block for the supply voltage 24 V DC


3-pin spring terminal block	3-pin screw terminal block
	

The terminal block is available as a set for AC500-eCo V3 processor modules.

Basic CPU (PM5012)		Standard CPUs (PM5032, PM5052) and Pro CPUs (PM5072)	
Spring type	Screw type	Spring type	Screw type
TA5211-TSPF-B	TA5211-TSCL-B	TA5212-TSPF	TA5212-TSCL

Further information on the terminal blocks concerning power supply and onboard inputs/outputs are provided under pluggable connectors for screw and spring connection .

Pin assignment

Pin Assignment	Pin	Label	Function	Description
 Terminal block inserted	1	\perp	FE	Functional earth
	2	L+	+24 V DC	Positive pin of the power supply voltage
	3	M	0 V	Negative pin of the power supply voltage

Faulty wiring on power supply terminals



CAUTION!

Risk of damaging the AC500-eCo V3 processor module and the connected modules!

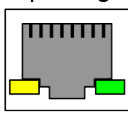
Voltages > 30 V DC might damage the processor module and the connected modules.

Make sure that the supply voltage never exceeds 30 V DC.

69.5.2 Ethernet network interface(s)

The Ethernet interface is carried out via a RJ45 jack.

Table 14: Pin assignment of the Ethernet interface

Interface	Pin	Description	
<div>1 8</div> 	1	Tx+	Transmit data +
	2	Tx-	Transmit data -
	3	Rx+	Receive data +
	4	NC	Not connected
	5	NC	Not connected
	6	Rx-	Receive data -
	7	NC	Not connected
	8	NC	Not connected
	Shield	Cable shield	Functional earth

69.5.3 Onboard I/Os

69.5.3.1 Connections



WARNING!

Risk of death by electric shock!

Hazardous voltages can be present at the terminals of the module.

Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.



NOTICE!

Risk of damaging the PLC modules!

The PLC modules must not be removed while the plant is connected to a power supply.

Make sure that all voltage sources (supply and process voltage) are switched off before you

- connect or disconnect any signal or terminal block
- remove or replace a module.



NOTICE!

Risk of damaging the PLC modules!

Overvoltages and short circuits might damage the PLC modules.

- Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.
- Never connect any voltages or signals to reserved terminals (marked with ---). Reserved terminals may carry internal voltages.



When replacing a processor module, it is recommended to mark each wire connected to the onboard I/O terminal block before disconnecting it. This should make sure that the wires can be reconnected in the same order.

The connection is carried out by using removable 12-pin and 13-pin terminal blocks.



Table 15: Assignment of the terminals for PM5012-T-ETH:

Terminal	Signal	Description
1	COM 0..5	Input common for digital input signals I0 to I5
2	I0	Digital input signal I0 (5 kHz)
3	I1	Digital input signal I1 (5 kHz)
4	I2	Digital input signal I2 (5 kHz)
5	I3	Digital input signal I3 (5 kHz)
6	I4	Digital input signal I4 (5 kHz)
7	I5	Digital input signal I5 (5 kHz)
8	O0	Digital output signal O0 (5 kHz)
9	O1	Digital output signal O1 (5 kHz)
10	O2	Digital output signal O2 (5 kHz)
11	O3	Digital output signal O3 (5 kHz)
12	UP	Process supply voltage UP +24 V DC
13	ZP	Process supply voltage ZP 0 V DC



Table 16: Assignment of the terminals for PM5012-R-ETH:

Terminal	Signal	Description
1	COM 0..5	Input common for digital input signals I0 to I5
2	I0	Digital input signal I0 (5 kHz)
3	I1	Digital input signal I1 (5 kHz)
4	I2	Digital input signal I2 (5 kHz)
5	I3	Digital input signal I3 (5 kHz)
6	I4	Digital input signal I4 (5 kHz)
7	I5	Digital input signal I5 (5 kHz)
8	NO0	Normally-open relay contact of the output NO0
9	NO1	Normally-open relay contact of the output NO1
10	R0..1	Output common for signals NO0 to NO1

Terminal	Signal	Description
11	NO2	Normally-open relay contact of the output NO2
12	NO3	Normally-open relay contact of the output NO3
13	R2..3	Output common for signals NO2 to NO3



Table 17: Assignment of the terminals for PM5032-T-ETH, PM5052-T-ETH and PM5072-T-2ETH(W):

Terminal	Signal	Description
1	COM 0..11	Input common for digital input signals I0 to I11
2	I0	Digital input signal I0 (max. 5 kHz)
3	I1	Digital input signal I1 (max. 5 kHz)
4	I2	Digital input signal I2 (max. 5 kHz)
5	I3	Digital input signal I3 (max. 5 kHz)
6	I4	Digital input signal I4 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
7	I5	Digital input signal I5 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
8	I6	Digital input signal I6 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
9	I7	Digital input signal I7 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
10	I8	Digital input signal I8
11	I9	Digital input signal I9
12	I10	Digital input signal I10
13	I11	Digital input signal I11
14	O0	Digital output signal O0 (max. 5 kHz)
15	O1	Digital output signal O1 (max. 5 kHz)
16	O2	Digital output signal O2 (max. 5 kHz)
17	O3	Digital output signal O3 (max. 5 kHz)
18	O4	Digital output signal O4 PWM (max. 100 kHz), PTO (max. 200 kHz)
19	O5	Digital output signal O5 PWM (max. 100 kHz), PTO (max. 200 kHz)
20	O6	Digital output signal O6 PWM (max. 100 kHz), PTO (max. 200 kHz)
21	O7	Digital output signal O7 PWM (max. 100 kHz), PTO (max. 200 kHz)
22	C12	Digital input/output signal configurable C12
23	C13	Digital input/output signal configurable C13

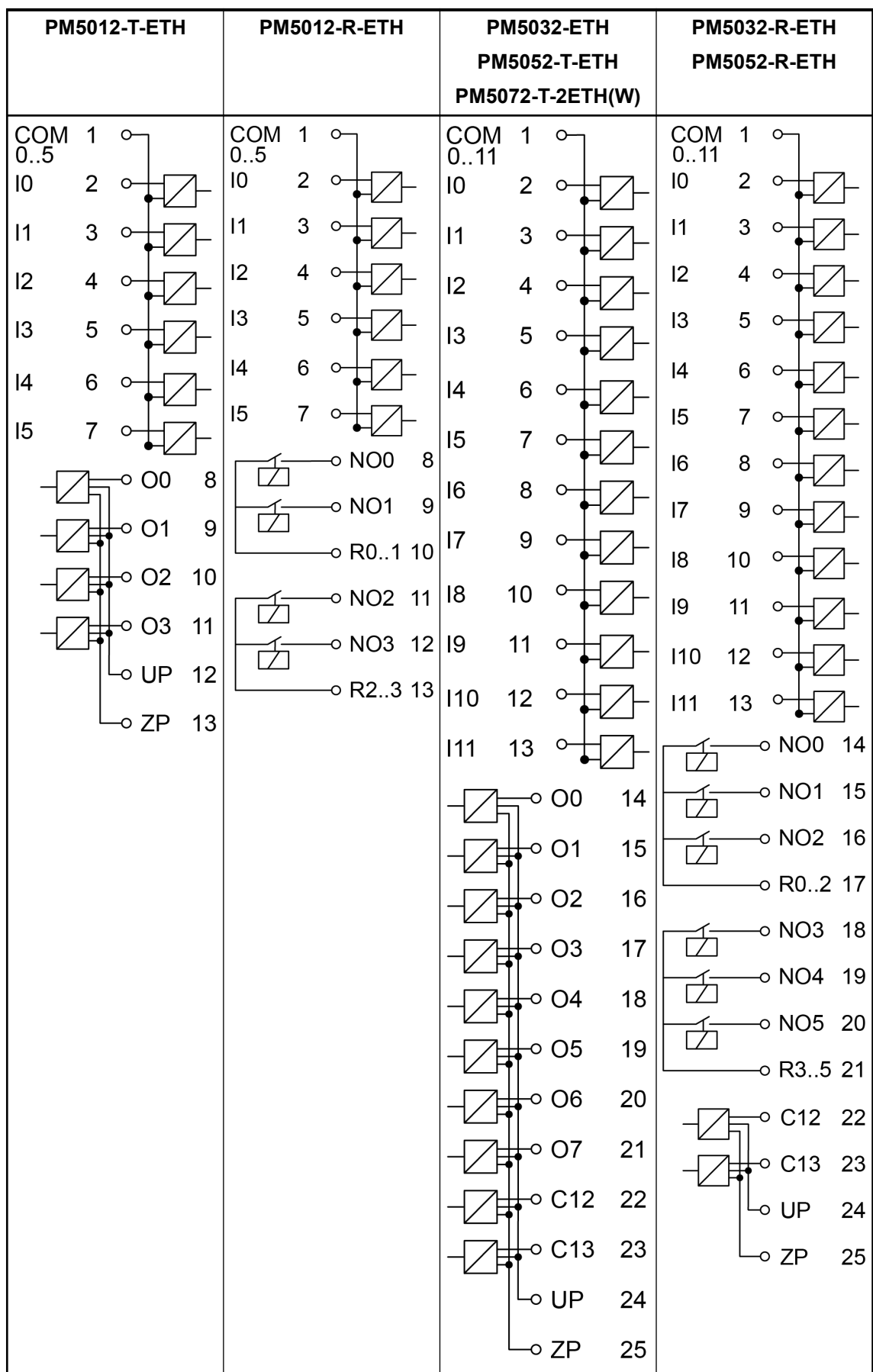
Terminal	Signal	Description
24	UP	Process supply voltage UP +24 V DC
25	ZP	Process supply voltage ZP 0 V DC



Table 18: Assignment of the terminals for PM5032-R-ETH and PM5052-R-ETH:

Terminal	Signal	Description
1	COM 0..11	Input common for digital input signals I0 to I11
2	I0	Digital input signal I0 (max. 5 kHz)
3	I1	Digital input signal I1 (max. 5 kHz)
4	I2	Digital input signal I2 (max. 5 kHz)
5	I3	Digital input signal I3 (max. 5 kHz)
6	I4	Digital input signal I4 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
7	I5	Digital input signal I5 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
8	I6	Digital input signal I6 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
9	I7	Digital input signal I7 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
10	I8	Digital input signal I8
11	I9	Digital input signal I9
12	I10	Digital input signal I10
13	I11	Digital input signal I11
14	NO0	Normally-open relay contact of the output NO0
15	NO1	Normally-open relay contact of the output NO1
16	NO2	Normally-open relay contact of the output NO2
17	R0..2	Output common for signals NO0 to NO2
18	NO3	Normally-open relay contact of the output NO3
19	NO4	Normally-open relay contact of the output NO4
20	NO5	Normally-open relay contact of the output NO5
21	R3..5	Output common for signals NO3 to NO5
22	C12	Digital input/output signal configurable C12 PWM (max. 100 kHz), PTO (max. 200 kHz)
23	C13	Digital input/output signal configurable C13 PWM (max. 100 kHz), PTO (max. 200 kHz)
24	UP	Process supply voltage UP +24 V DC
25	ZP	Process supply voltage ZP 0 V DC

Block diagrams The following block diagram shows the internal structure of the onboard I/Os.



69.5.3.1.1 Connection of the digital inputs

The digital inputs can be used as source inputs or as sink inputs.



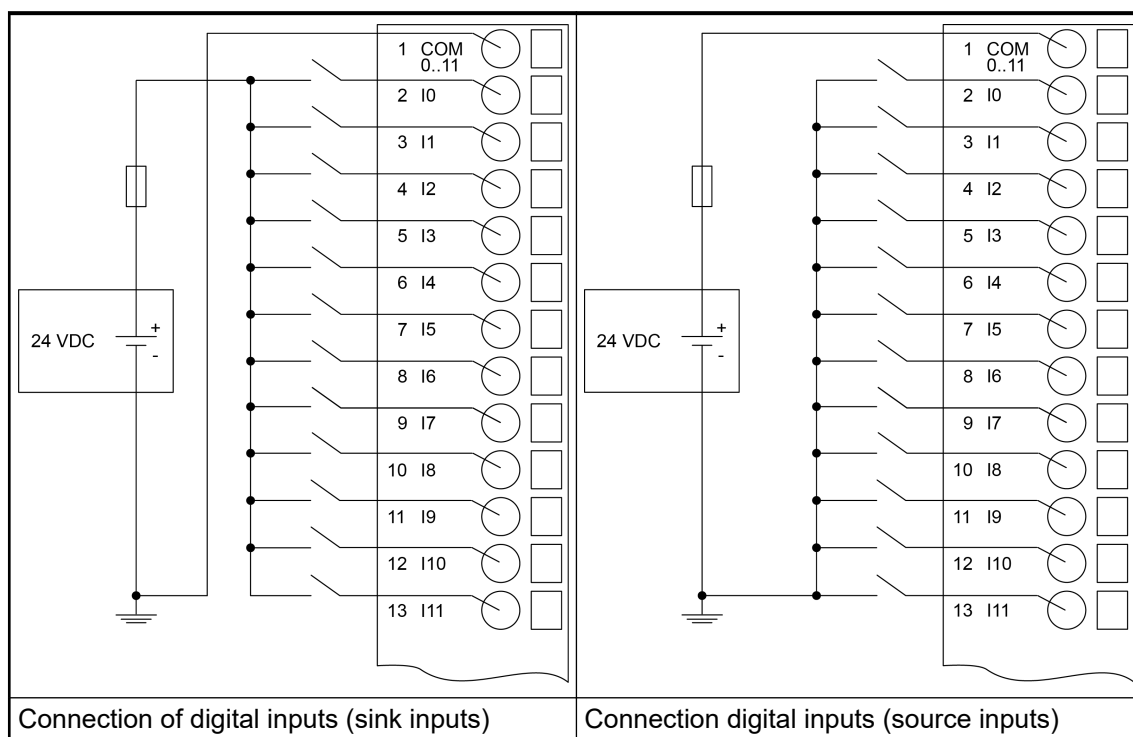
NOTICE!

Risk of malfunctions in the plant!

A ground fault, e. g. caused by a damaged cable insulation, can bridge switches accidentally.

Use sink inputs when possible or make sure that, in case of error, there will be no risks to persons or plant.

The following figure shows the connection of the digital inputs to the PM50x2 processor modules:



69.5.3.1.2 Connection of the digital transistor outputs (PM50xx-T-ETH only)

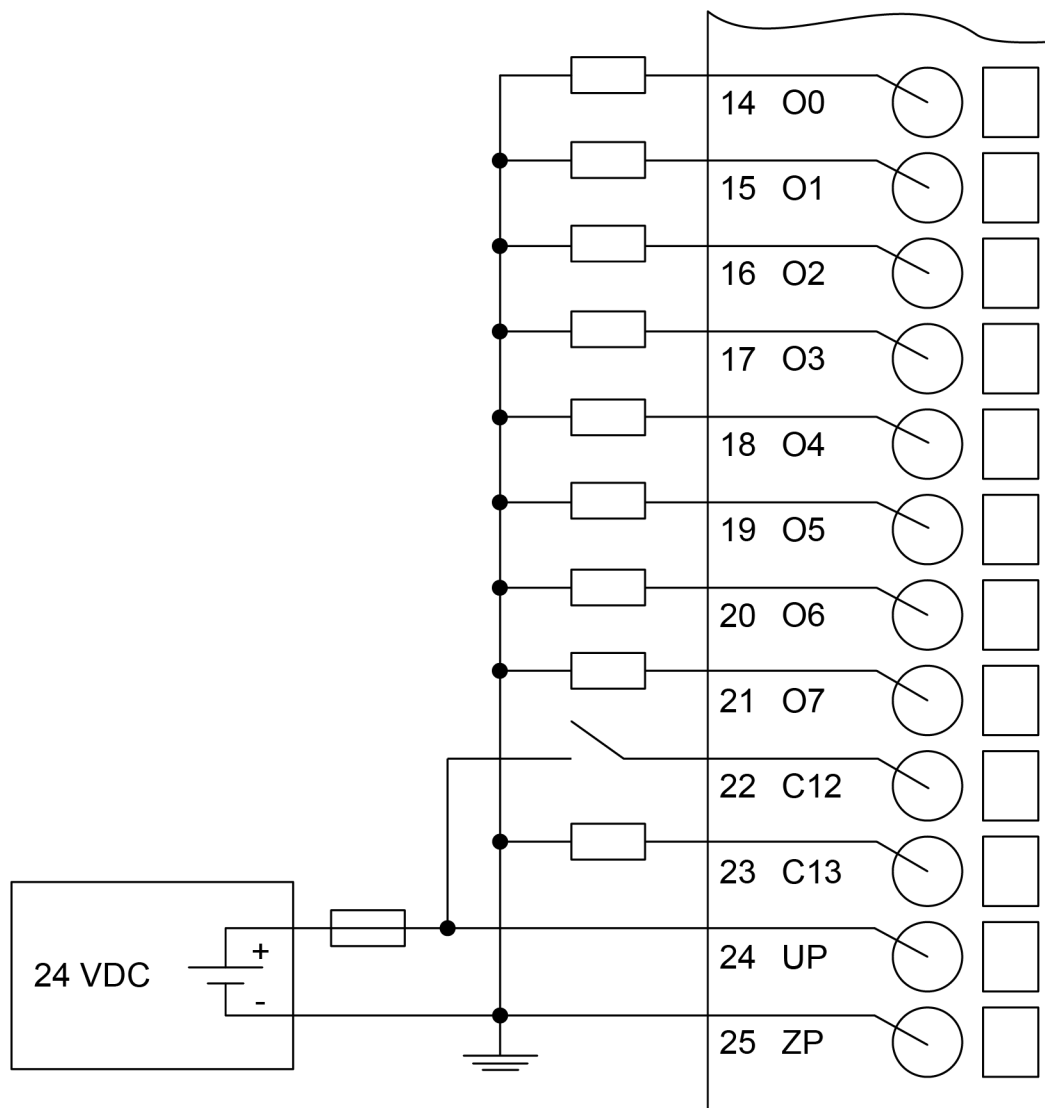


Fig. 84: Connection of digital transistor outputs and configurable digital inputs/outputs

C12 used as configurable digital input

C13 used as configurable digital transistor output



CAUTION!

Risk of damaging the processor module!

The outputs are not protected against short circuit and overload.

- Never short-circuit or overload the outputs.
- Never connect the outputs to other voltages.
- Use an external fuse for the outputs.

69.5.3.1.3 Connection of the digital relay outputs (PM50xx-R-ETH only)

The following figures show the connection of the digital relay outputs to the processor modules:

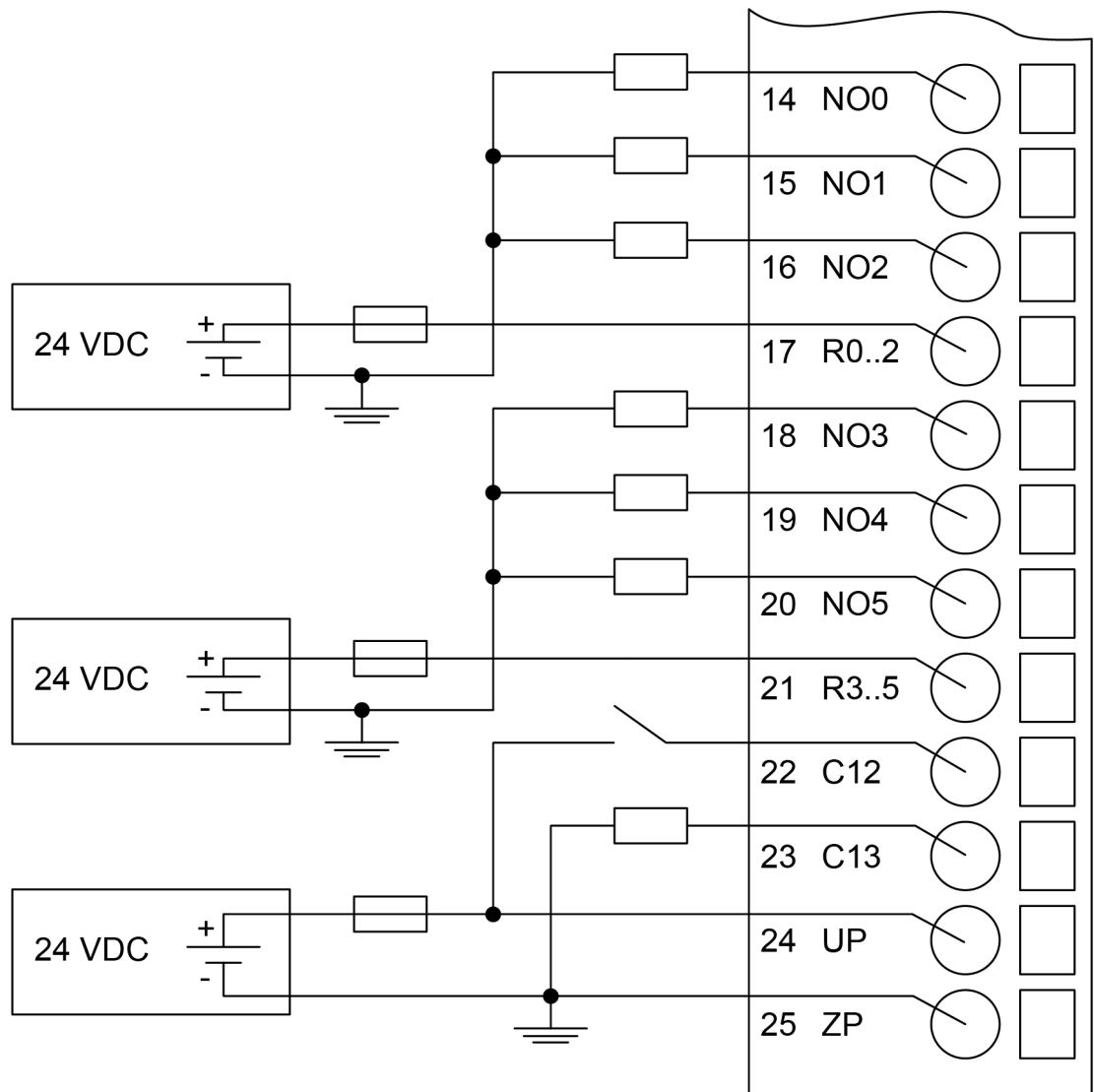


Fig. 85: Connection of digital relay outputs and configurable digital inputs/outputs

C12 used as configurable digital input

C13 used as configurable digital transistor output



WARNING!

Risk of death by electric shock!

Hazardous voltages can be present at the terminals of the module.

Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.



CAUTION!

Risk of damaging the processor module!

- Never short-circuit or overload the outputs.
- Never connect inductive loads without an external suppression against voltage peaks due to inductive kickback.
- Never connect voltages > 240 V. All outputs must be fed from the same phase.
- Use an external 5 A fast protection fuse for the outputs.

69.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

69.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

69.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

70 PM5052-x-ETH

- PM5052-T-ETH
- PM5052-R-ETH



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



CAUTION!

Risk of injury and damaging the processor module when using unapproved terminal blocks!

Only use terminal blocks approved by ABB to avoid injury and damage to the processor module.



Terminal block set for PM50x2

Processor modules PM50x2 CPU are not delivered with terminal blocks.

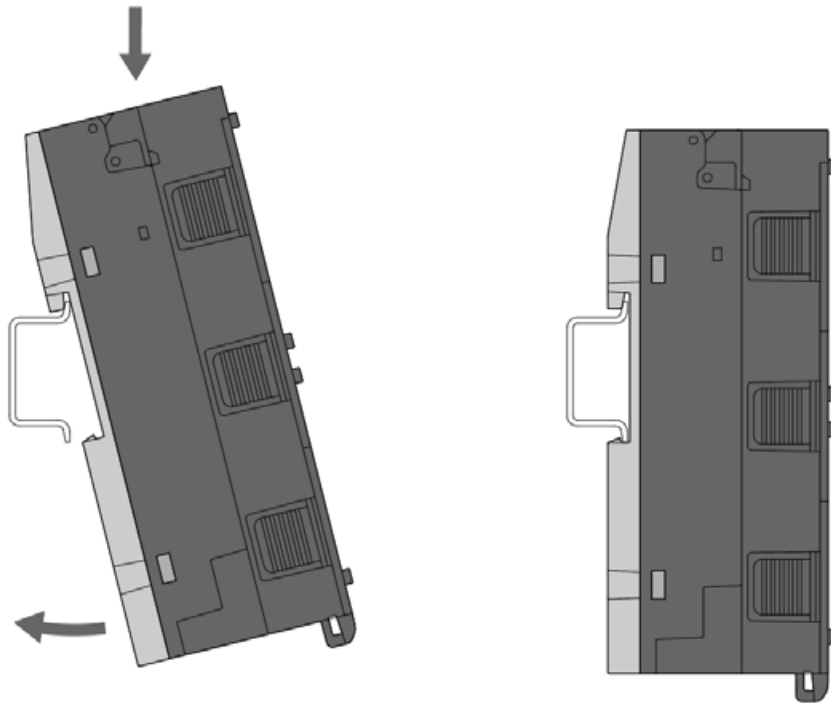
Screw type terminal block set:

- TA5211-TSCL-B (1SAP187400R0001) for PM5012-x-ETH
- TA5212-TSCL (1SAP187400R0004) for PM5032-x-ETH, PM5052-x-ETH, PM5072-T-2ETH(W)

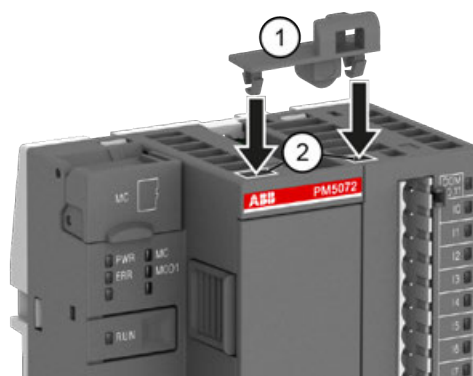
Spring type terminal block set:

- TA5211-TSPF-B (1SAP187400R0002) for PM5012-x-ETH
- TA5212-TSPF (1SAP187400R0005) for PM5032-x-ETH, PM5052-x-ETH, PM5072-T-2ETH(W)

70.1 Assembly

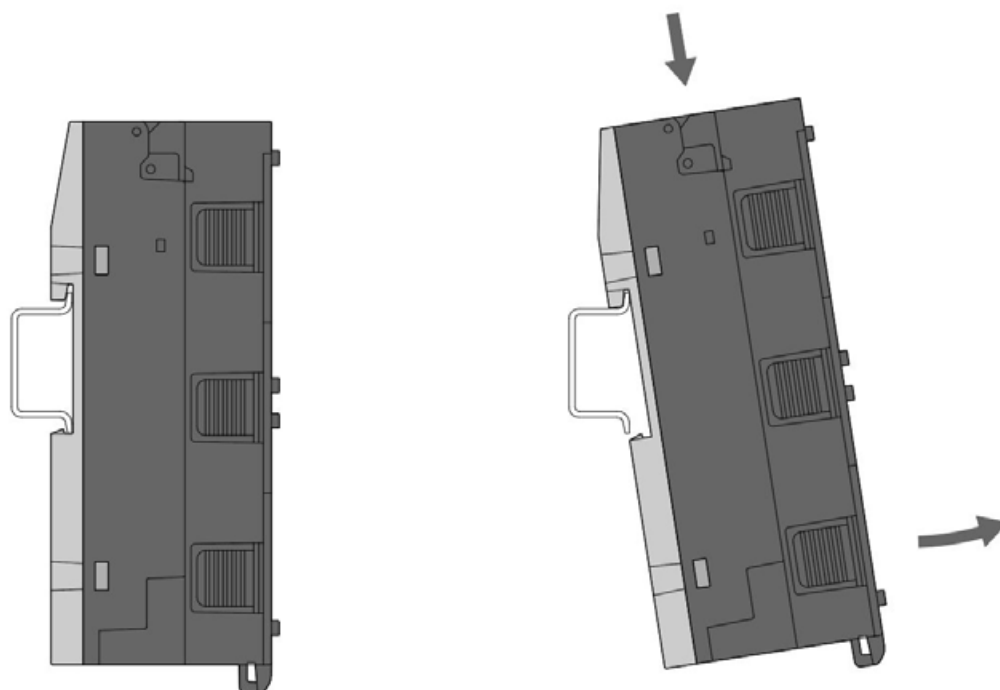


70.1.1 Assembly TA5301-CFA

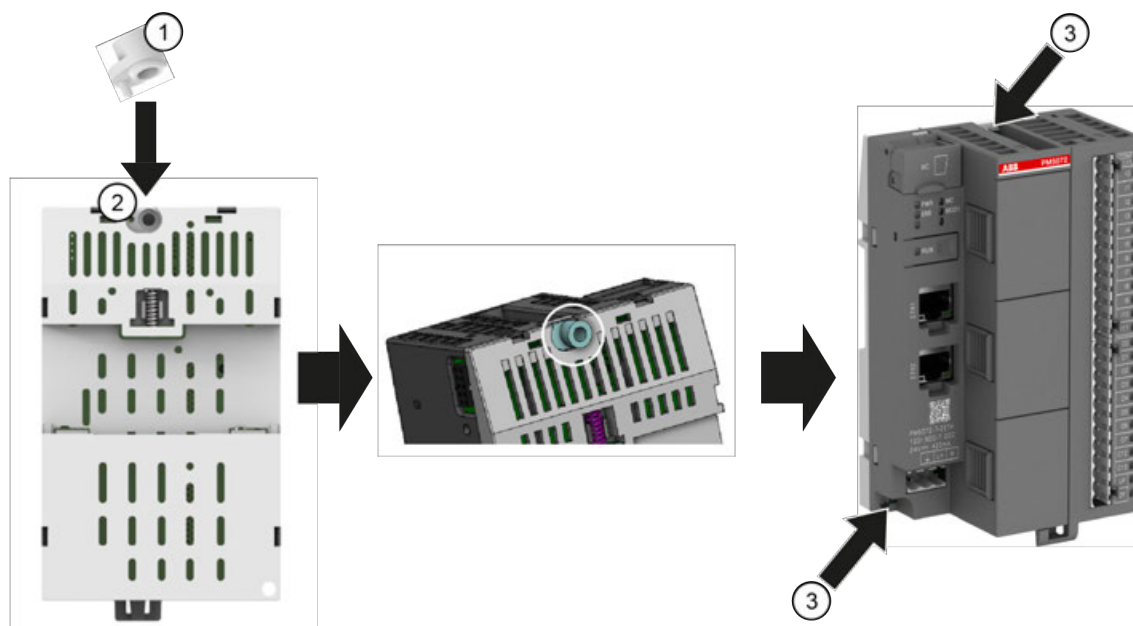


- 1 TA5301-CFA cable fixing accessory
 - 2 2 openings on the PM50x2 processor module
- ▷ Insert the TA5301-CFA cable fixing accessory into the two openings on the PM50x2 processor module marked white in the figure.

70.2 Disassembly



70.3 Assembly with screws



- 1 TA543 screw mounting accessory
- 2 Slot for TA543 screw mounting accessory
- 3 2 holes for screw mounting

1. Insert the TA543 screw mounting accessory into the slot on the back side of the processor module.



NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA543 screw mounting accessory (1SAP182800R0001) is mandatory to prevent bending and damage to the module.

2. Fasten the processor module with 2 screws (M4, max 1.2 Nm) from the front side.



With screw mounting, the processor module is grounded through the screws.

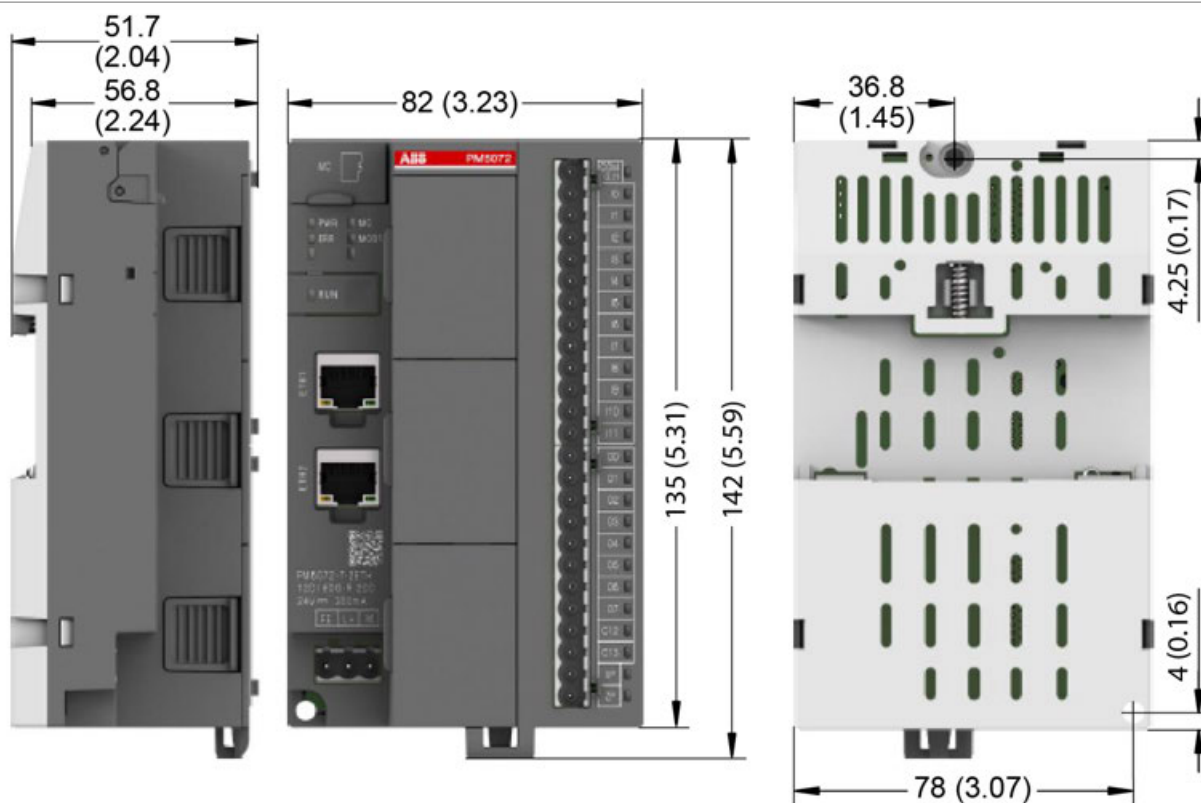
It is necessary that

- the screws have a conductive surface (e.g. steel zinc-plated or brass nickel-plated)
- the mounting plate is grounded
- the screws have a good electrical contact to the mounting plate



To prevent the screw from loosening after prolonged use, a thread lock washer is highly recommended.

70.4 Dimensions



The dimensions are in mm and in brackets in inch.

70.5 Connections

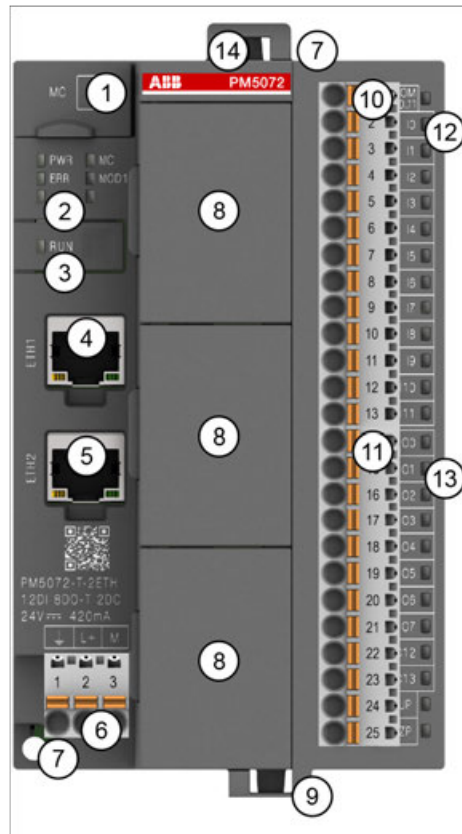


Fig. 86: Example: PM5072-T-2ETH

- 1 Micro memory card slot
- 2 5 LEDs to display the states of the processor module (Power, Error, Run, MC, MOD1)
- 3 RUN button
- 4 RJ45 female connector for Ethernet1 connection
- 5 RJ45 female connector for Ethernet2 connection (available for PM5072-T-2ETH(W))
- 6 3-pin terminal block for power supply 24 V DC
- 7 2 holes for screw mounting
- 8 Option board slot cover for option board slot (the number of available slots varies according to the CPU type)
- 9 Cable fixing
- 10 13-pin terminal block for onboard I/Os
- 11 12-pin terminal block for onboard I/Os (not available on PM5012-x-ETH)
- 12 12 LEDs to display the states of the signals
- 13 10 LEDs to display the states of the signals
- 14 Cable fixing accessory TA5301-CFA on the top of the housing (optional)



The processor module is shown with pluggable terminal blocks. These terminal blocks must be ordered separately.



*The cable fixing accessory on the top of the housing is optional.
Please use TA5301-CFA cable fixing accessory to provide strain relief.
It can also be used for AC500-eCo I/O modules.*



The PM50x2 processor modules are supplied with option board slot covers as standard.



There are various TA51xx option boards for the processor modules that can be ordered separately.

Which and how many option boards can be plugged, depends on the respective processor module.

70.5.1 Power supply

The processor modules PM50x2 can be connected to the 24 V DC supply voltage via a removable 3-pin spring terminal block or a 3-pin screw terminal block.

Table 19: Removable terminal block for the supply voltage 24 V DC


3-pin spring terminal block	3-pin screw terminal block
	

The terminal block is available as a set for AC500-eCo V3 processor modules.

Basic CPU (PM5012)		Standard CPUs (PM5032, PM5052) and Pro CPUs (PM5072)	
Spring type	Screw type	Spring type	Screw type
TA5211-TSPF-B	TA5211-TSCL-B	TA5212-TSPF	TA5212-TSCL

Further information on the terminal blocks concerning power supply and onboard inputs/outputs are provided under pluggable connectors for screw and spring connection .

Pin assignment

Pin Assignment	Pin	Label	Function	Description
 Terminal block inserted	1	\perp	FE	Functional earth
	2	L+	+24 V DC	Positive pin of the power supply voltage
	3	M	0 V	Negative pin of the power supply voltage

Faulty wiring on power supply terminals



CAUTION!

Risk of damaging the AC500-eCo V3 processor module and the connected modules!

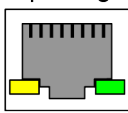
Voltages > 30 V DC might damage the processor module and the connected modules.

Make sure that the supply voltage never exceeds 30 V DC.

70.5.2 Ethernet network interface(s)

The Ethernet interface is carried out via a RJ45 jack.

Table 20: Pin assignment of the Ethernet interface

Interface	Pin	Description	
<div>1 8</div> 	1	Tx+	Transmit data +
	2	Tx-	Transmit data -
	3	Rx+	Receive data +
	4	NC	Not connected
	5	NC	Not connected
	6	Rx-	Receive data -
	7	NC	Not connected
	8	NC	Not connected
	Shield	Cable shield	Functional earth

70.5.3 Onboard I/Os

70.5.3.1 Connections



WARNING!

Risk of death by electric shock!

Hazardous voltages can be present at the terminals of the module.

Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.



NOTICE!

Risk of damaging the PLC modules!

The PLC modules must not be removed while the plant is connected to a power supply.

Make sure that all voltage sources (supply and process voltage) are switched off before you

- connect or disconnect any signal or terminal block
- remove or replace a module.



NOTICE!

Risk of damaging the PLC modules!

Overvoltages and short circuits might damage the PLC modules.

- Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.
- Never connect any voltages or signals to reserved terminals (marked with ---). Reserved terminals may carry internal voltages.



When replacing a processor module, it is recommended to mark each wire connected to the onboard I/O terminal block before disconnecting it. This should make sure that the wires can be reconnected in the same order.

The connection is carried out by using removable 12-pin and 13-pin terminal blocks.



Table 21: Assignment of the terminals for PM5012-T-ETH:

Terminal	Signal	Description
1	COM 0..5	Input common for digital input signals I0 to I5
2	I0	Digital input signal I0 (5 kHz)
3	I1	Digital input signal I1 (5 kHz)
4	I2	Digital input signal I2 (5 kHz)
5	I3	Digital input signal I3 (5 kHz)
6	I4	Digital input signal I4 (5 kHz)
7	I5	Digital input signal I5 (5 kHz)
8	O0	Digital output signal O0 (5 kHz)
9	O1	Digital output signal O1 (5 kHz)
10	O2	Digital output signal O2 (5 kHz)
11	O3	Digital output signal O3 (5 kHz)
12	UP	Process supply voltage UP +24 V DC
13	ZP	Process supply voltage ZP 0 V DC



Table 22: Assignment of the terminals for PM5012-R-ETH:

Terminal	Signal	Description
1	COM 0..5	Input common for digital input signals I0 to I5
2	I0	Digital input signal I0 (5 kHz)
3	I1	Digital input signal I1 (5 kHz)
4	I2	Digital input signal I2 (5 kHz)
5	I3	Digital input signal I3 (5 kHz)
6	I4	Digital input signal I4 (5 kHz)
7	I5	Digital input signal I5 (5 kHz)
8	NO0	Normally-open relay contact of the output NO0
9	NO1	Normally-open relay contact of the output NO1
10	R0..1	Output common for signals NO0 to NO1

Terminal	Signal	Description
11	NO2	Normally-open relay contact of the output NO2
12	NO3	Normally-open relay contact of the output NO3
13	R2..3	Output common for signals NO2 to NO3



Table 23: Assignment of the terminals for PM5032-T-ETH, PM5052-T-ETH and PM5072-T-2ETH(W):

Terminal	Signal	Description
1	COM 0..11	Input common for digital input signals I0 to I11
2	I0	Digital input signal I0 (max. 5 kHz)
3	I1	Digital input signal I1 (max. 5 kHz)
4	I2	Digital input signal I2 (max. 5 kHz)
5	I3	Digital input signal I3 (max. 5 kHz)
6	I4	Digital input signal I4 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
7	I5	Digital input signal I5 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
8	I6	Digital input signal I6 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
9	I7	Digital input signal I7 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
10	I8	Digital input signal I8
11	I9	Digital input signal I9
12	I10	Digital input signal I10
13	I11	Digital input signal I11
14	O0	Digital output signal O0 (max. 5 kHz)
15	O1	Digital output signal O1 (max. 5 kHz)
16	O2	Digital output signal O2 (max. 5 kHz)
17	O3	Digital output signal O3 (max. 5 kHz)
18	O4	Digital output signal O4 PWM (max. 100 kHz), PTO (max. 200 kHz)
19	O5	Digital output signal O5 PWM (max. 100 kHz), PTO (max. 200 kHz)
20	O6	Digital output signal O6 PWM (max. 100 kHz), PTO (max. 200 kHz)
21	O7	Digital output signal O7 PWM (max. 100 kHz), PTO (max. 200 kHz)
22	C12	Digital input/output signal configurable C12
23	C13	Digital input/output signal configurable C13

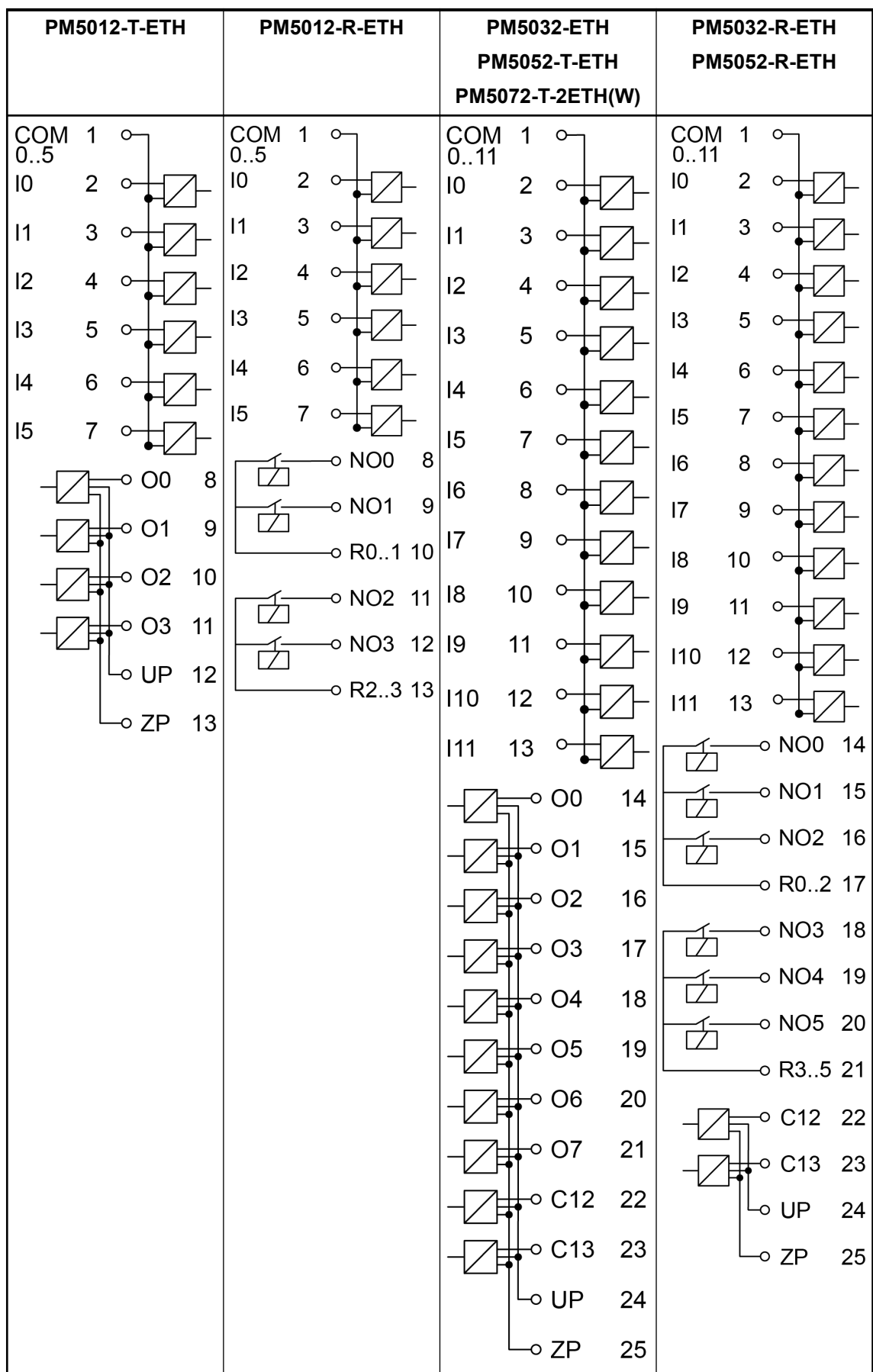
Terminal	Signal	Description
24	UP	Process supply voltage UP +24 V DC
25	ZP	Process supply voltage ZP 0 V DC



Table 24: Assignment of the terminals for PM5032-R-ETH and PM5052-R-ETH:

Terminal	Signal	Description
1	COM 0..11	Input common for digital input signals I0 to I11
2	I0	Digital input signal I0 (max. 5 kHz)
3	I1	Digital input signal I1 (max. 5 kHz)
4	I2	Digital input signal I2 (max. 5 kHz)
5	I3	Digital input signal I3 (max. 5 kHz)
6	I4	Digital input signal I4 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
7	I5	Digital input signal I5 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
8	I6	Digital input signal I6 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
9	I7	Digital input signal I7 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
10	I8	Digital input signal I8
11	I9	Digital input signal I9
12	I10	Digital input signal I10
13	I11	Digital input signal I11
14	NO0	Normally-open relay contact of the output NO0
15	NO1	Normally-open relay contact of the output NO1
16	NO2	Normally-open relay contact of the output NO2
17	R0..2	Output common for signals NO0 to NO2
18	NO3	Normally-open relay contact of the output NO3
19	NO4	Normally-open relay contact of the output NO4
20	NO5	Normally-open relay contact of the output NO5
21	R3..5	Output common for signals NO3 to NO5
22	C12	Digital input/output signal configurable C12 PWM (max. 100 kHz), PTO (max. 200 kHz)
23	C13	Digital input/output signal configurable C13 PWM (max. 100 kHz), PTO (max. 200 kHz)
24	UP	Process supply voltage UP +24 V DC
25	ZP	Process supply voltage ZP 0 V DC

Block diagrams The following block diagram shows the internal structure of the onboard I/Os.



70.5.3.1.1 Connection of the digital inputs

The digital inputs can be used as source inputs or as sink inputs.



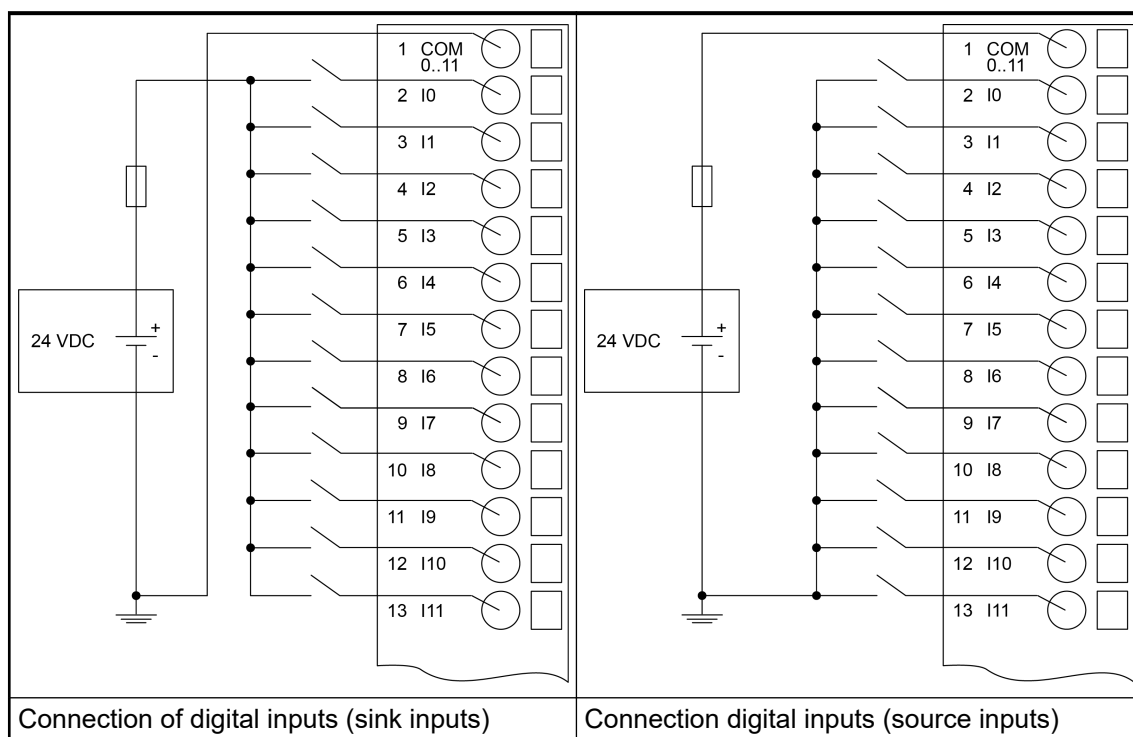
NOTICE!

Risk of malfunctions in the plant!

A ground fault, e. g. caused by a damaged cable insulation, can bridge switches accidentally.

Use sink inputs when possible or make sure that, in case of error, there will be no risks to persons or plant.

The following figure shows the connection of the digital inputs to the PM50x2 processor modules:



70.5.3.1.2 Connection of the digital transistor outputs (PM50xx-T-ETH only)

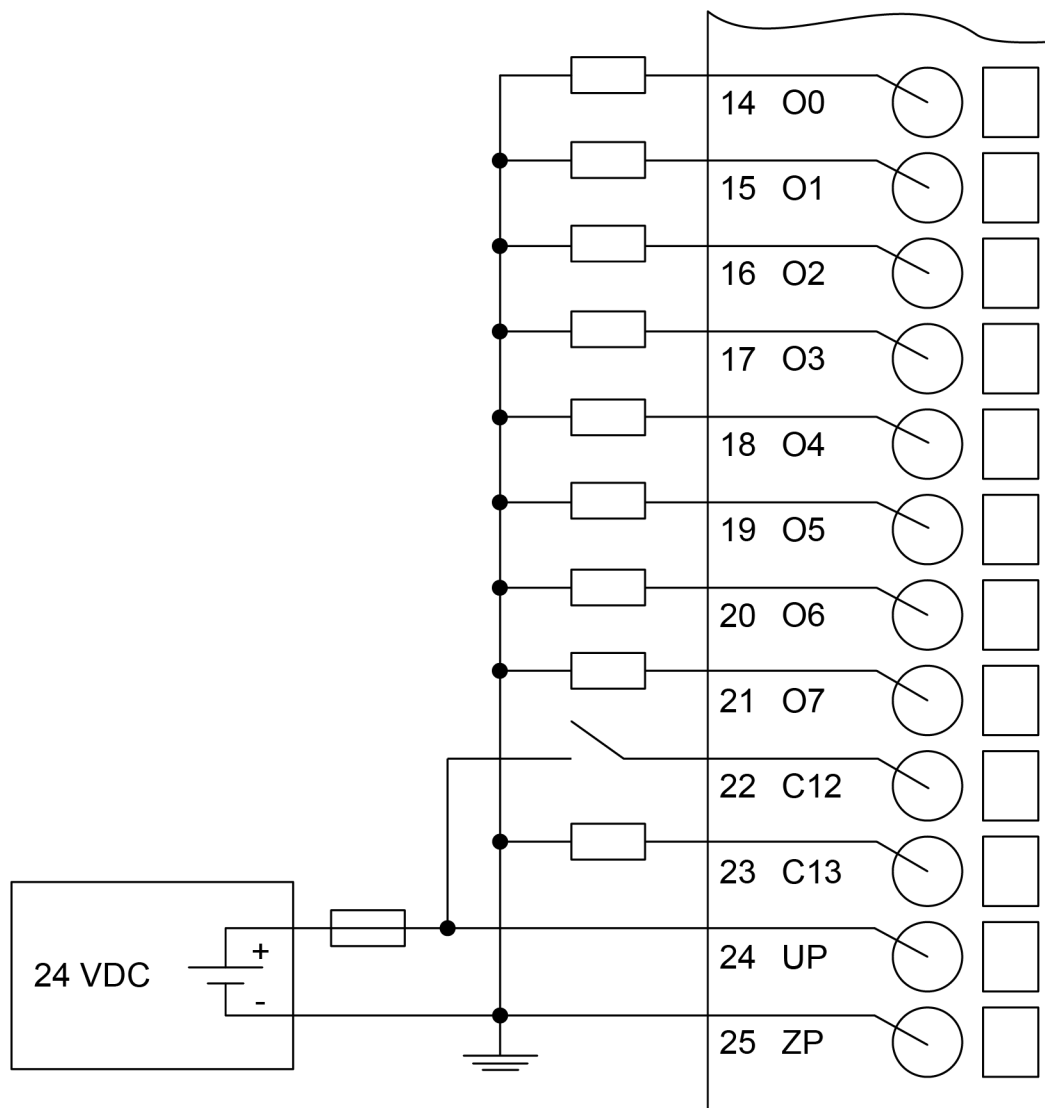


Fig. 87: Connection of digital transistor outputs and configurable digital inputs/outputs

C12 used as configurable digital input

C13 used as configurable digital transistor output



CAUTION!

Risk of damaging the processor module!

The outputs are not protected against short circuit and overload.

- Never short-circuit or overload the outputs.
- Never connect the outputs to other voltages.
- Use an external fuse for the outputs.

70.5.3.1.3 Connection of the digital relay outputs (PM50xx-R-ETH only)

The following figures show the connection of the digital relay outputs to the processor modules:

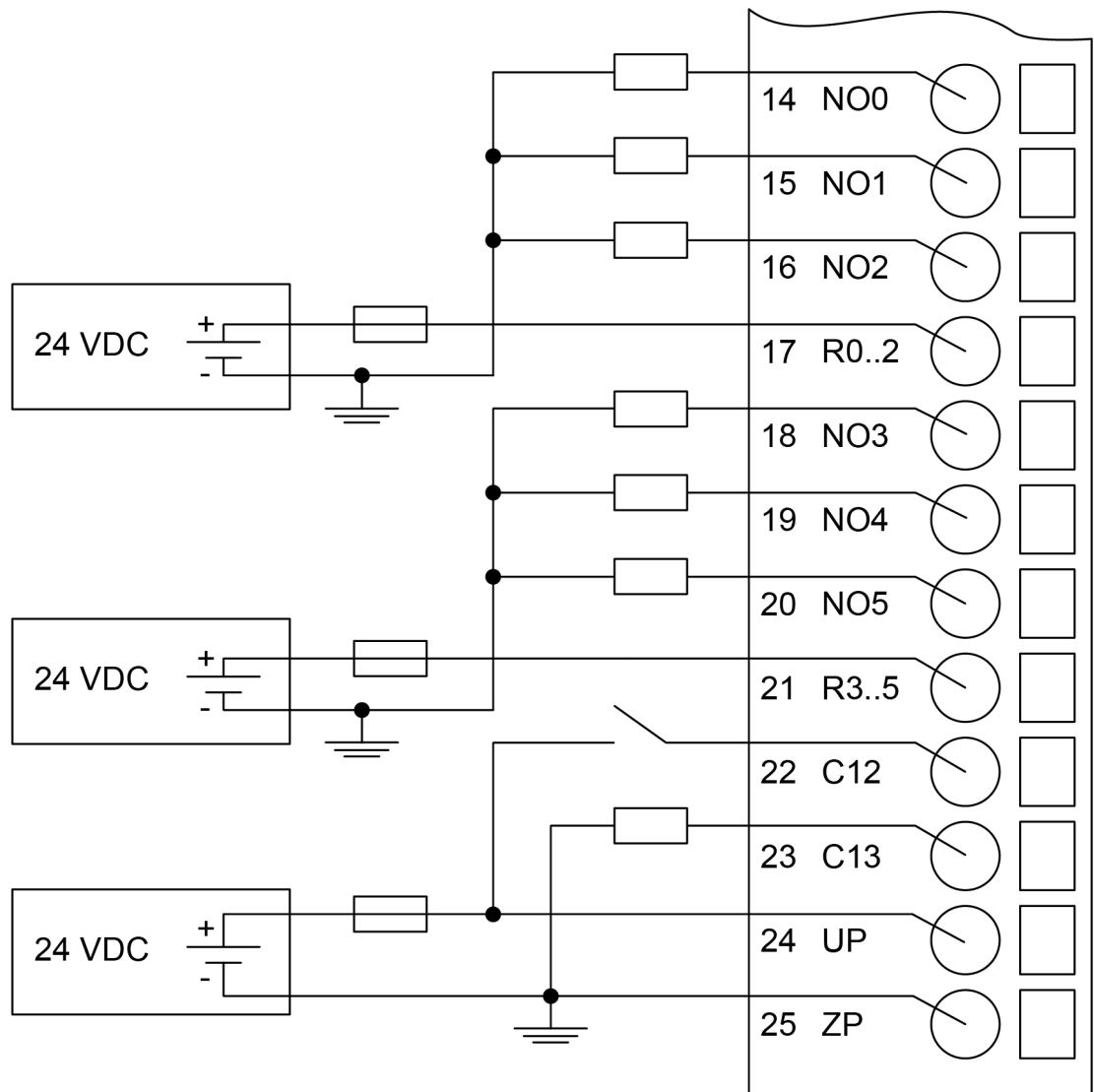


Fig. 88: Connection of digital relay outputs and configurable digital inputs/outputs

C12 used as configurable digital input

C13 used as configurable digital transistor output



WARNING!

Risk of death by electric shock!

Hazardous voltages can be present at the terminals of the module.

Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.



CAUTION!

Risk of damaging the processor module!

- Never short-circuit or overload the outputs.
- Never connect inductive loads without an external suppression against voltage peaks due to inductive kickback.
- Never connect voltages > 240 V. All outputs must be fed from the same phase.
- Use an external 5 A fast protection fuse for the outputs.

70.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

70.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

70.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

71 PM5072-T-2ETH(W)

- PM5072-T-2ETH
- PM5072-T-2ETHW



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



CAUTION!

Risk of injury and damaging the processor module when using unapproved terminal blocks!

Only use terminal blocks approved by ABB to avoid injury and damage to the processor module.



Terminal block set for PM50x2

Processor modules PM50x2 CPU are not delivered with terminal blocks.

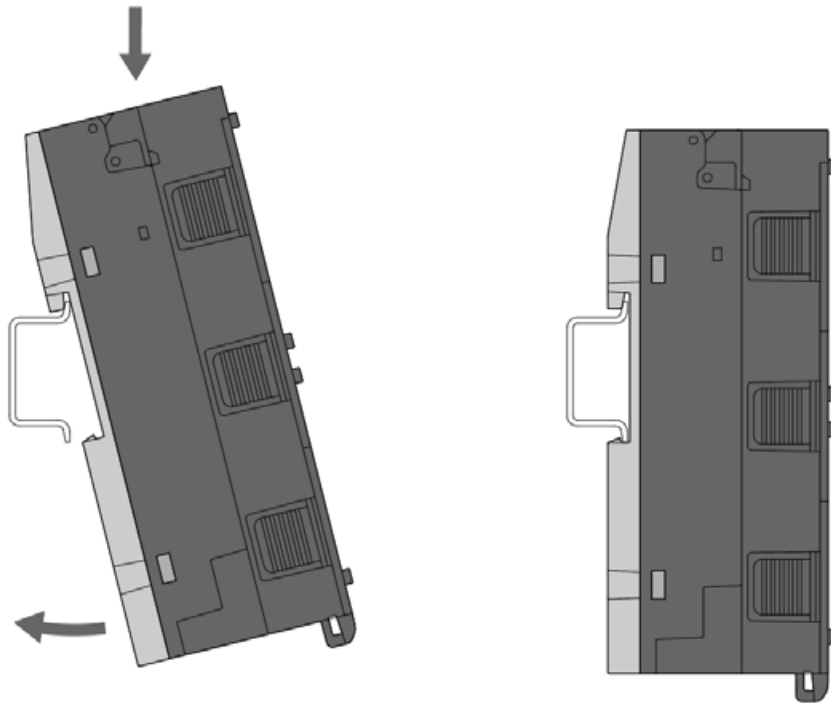
Screw type terminal block set:

- TA5211-TSCL-B (1SAP187400R0001) for PM5012-x-ETH
- TA5212-TSCL (1SAP187400R0004) for PM5032-x-ETH, PM5052-x-ETH, PM5072-T-2ETH(W)

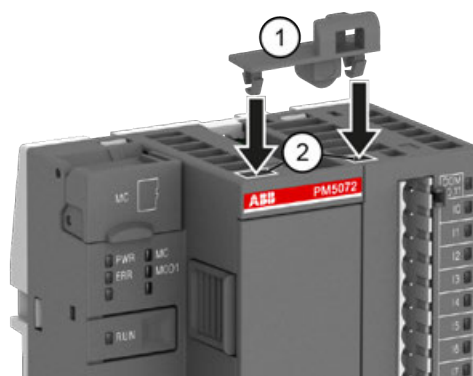
Spring type terminal block set:

- TA5211-TSPF-B (1SAP187400R0002) for PM5012-x-ETH
- TA5212-TSPF (1SAP187400R0005) for PM5032-x-ETH, PM5052-x-ETH, PM5072-T-2ETH(W)

71.1 Assembly

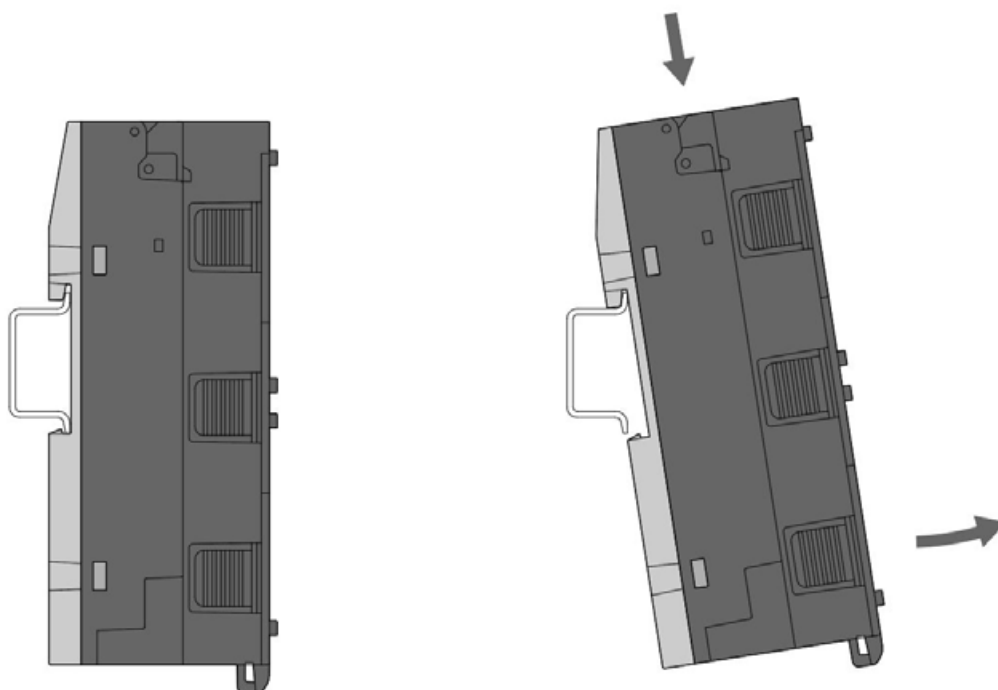


71.1.1 Assembly TA5301-CFA

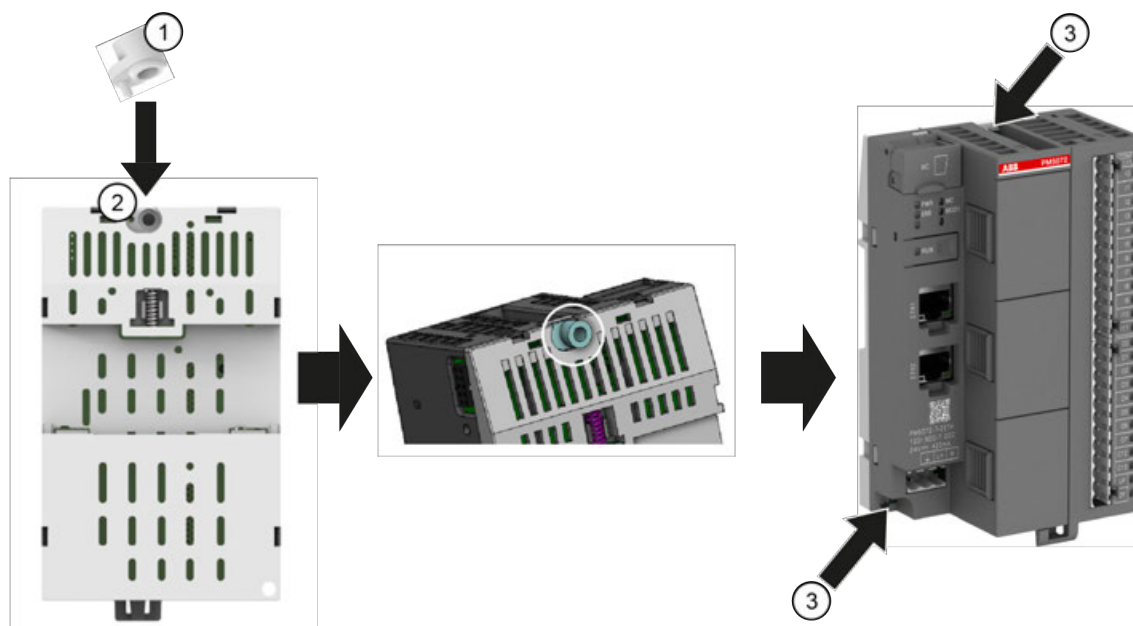


- 1 TA5301-CFA cable fixing accessory
 - 2 2 openings on the PM50x2 processor module
- ▷ Insert the TA5301-CFA cable fixing accessory into the two openings on the PM50x2 processor module marked white in the figure.

71.2 Disassembly



71.3 Assembly with screws



- 1 TA543 screw mounting accessory
- 2 Slot for TA543 screw mounting accessory
- 3 2 holes for screw mounting

1. Insert the TA543 screw mounting accessory into the slot on the back side of the processor module.



NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA543 screw mounting accessory (1SAP182800R0001) is mandatory to prevent bending and damage to the module.

2. Fasten the processor module with 2 screws (M4, max 1.2 Nm) from the front side.



With screw mounting, the processor module is grounded through the screws.

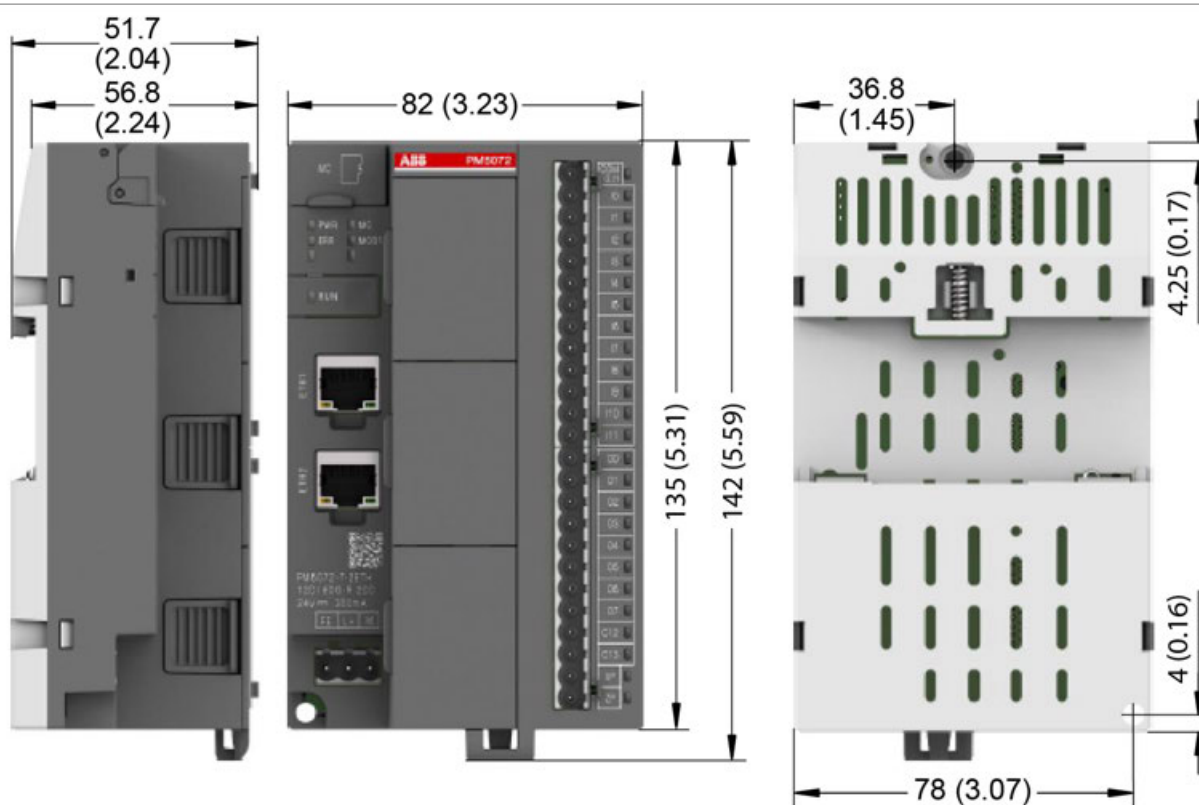
It is necessary that

- *the screws have a conductive surface (e.g. steel zinc-plated or brass nickel-plated)*
- *the mounting plate is grounded*
- *the screws have a good electrical contact to the mounting plate*



To prevent the screw from loosening after prolonged use, a thread lock washer is highly recommended.

71.4 Dimensions



The dimensions are in mm and in brackets in inch.

71.5 Connections

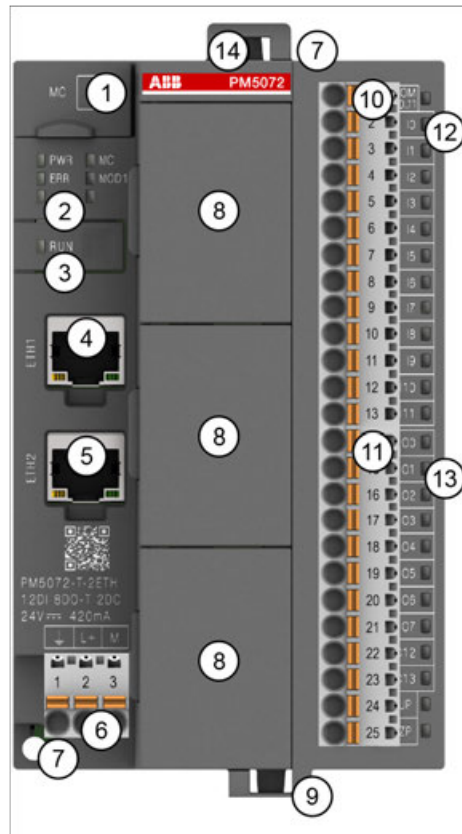


Fig. 89: Example: PM5072-T-2ETH

- 1 Micro memory card slot
- 2 5 LEDs to display the states of the processor module (Power, Error, Run, MC, MOD1)
- 3 RUN button
- 4 RJ45 female connector for Ethernet1 connection
- 5 RJ45 female connector for Ethernet2 connection (available for PM5072-T-2ETH(W))
- 6 3-pin terminal block for power supply 24 V DC
- 7 2 holes for screw mounting
- 8 Option board slot cover for option board slot (the number of available slots varies according to the CPU type)
- 9 Cable fixing
- 10 13-pin terminal block for onboard I/Os
- 11 12-pin terminal block for onboard I/Os (not available on PM5012-x-ETH)
- 12 12 LEDs to display the states of the signals
- 13 10 LEDs to display the states of the signals
- 14 Cable fixing accessory TA5301-CFA on the top of the housing (optional)



The processor module is shown with pluggable terminal blocks. These terminal blocks must be ordered separately.



*The cable fixing accessory on the top of the housing is optional.
Please use TA5301-CFA cable fixing accessory to provide strain relief.
It can also be used for AC500-eCo I/O modules.*



The PM50x2 processor modules are supplied with option board slot covers as standard.



There are various TA51xx option boards for the processor modules that can be ordered separately.

Which and how many option boards can be plugged, depends on the respective processor module.

71.5.1 Power supply

The processor modules PM50x2 can be connected to the 24 V DC supply voltage via a removable 3-pin spring terminal block or a 3-pin screw terminal block.

Table 25: Removable terminal block for the supply voltage 24 V DC


3-pin spring terminal block	3-pin screw terminal block
	

The terminal block is available as a set for AC500-eCo V3 processor modules.

Basic CPU (PM5012)		Standard CPUs (PM5032, PM5052) and Pro CPUs (PM5072)	
Spring type	Screw type	Spring type	Screw type
TA5211-TSPF-B	TA5211-TSCL-B	TA5212-TSPF	TA5212-TSCL

Further information on the terminal blocks concerning power supply and onboard inputs/outputs are provided under pluggable connectors for screw and spring connection .

Pin assignment

Pin Assignment	Pin	Label	Function	Description
 Terminal block inserted	1	\perp	FE	Functional earth
	2	L+	+24 V DC	Positive pin of the power supply voltage
	3	M	0 V	Negative pin of the power supply voltage

Faulty wiring on power supply terminals



CAUTION!

Risk of damaging the AC500-eCo V3 processor module and the connected modules!

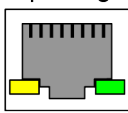
Voltages > 30 V DC might damage the processor module and the connected modules.

Make sure that the supply voltage never exceeds 30 V DC.

71.5.2 Ethernet network interface(s)

The Ethernet interface is carried out via a RJ45 jack.

Table 26: Pin assignment of the Ethernet interface

Interface	Pin	Description	
<div style="display: flex; justify-content: space-between; width: 100px;"> 18 </div> 	1	Tx+	Transmit data +
	2	Tx-	Transmit data -
	3	Rx+	Receive data +
	4	NC	Not connected
	5	NC	Not connected
	6	Rx-	Receive data -
	7	NC	Not connected
	8	NC	Not connected
	Shield	Cable shield	Functional earth

71.5.3 Onboard I/Os

71.5.3.1 Connections



WARNING!

Risk of death by electric shock!

Hazardous voltages can be present at the terminals of the module.

Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.



NOTICE!

Risk of damaging the PLC modules!

The PLC modules must not be removed while the plant is connected to a power supply.

Make sure that all voltage sources (supply and process voltage) are switched off before you

- connect or disconnect any signal or terminal block
- remove or replace a module.

**NOTICE!****Risk of damaging the PLC modules!**

Overvoltages and short circuits might damage the PLC modules.

- Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.
- Never connect any voltages or signals to reserved terminals (marked with ---). Reserved terminals may carry internal voltages.



When replacing a processor module, it is recommended to mark each wire connected to the onboard I/O terminal block before disconnecting it. This should make sure that the wires can be reconnected in the same order.

The connection is carried out by using removable 12-pin and 13-pin terminal blocks.



Table 27: Assignment of the terminals for PM5012-T-ETH:

Terminal	Signal	Description
1	COM 0..5	Input common for digital input signals I0 to I5
2	I0	Digital input signal I0 (5 kHz)
3	I1	Digital input signal I1 (5 kHz)
4	I2	Digital input signal I2 (5 kHz)
5	I3	Digital input signal I3 (5 kHz)
6	I4	Digital input signal I4 (5 kHz)
7	I5	Digital input signal I5 (5 kHz)
8	O0	Digital output signal O0 (5 kHz)
9	O1	Digital output signal O1 (5 kHz)
10	O2	Digital output signal O2 (5 kHz)
11	O3	Digital output signal O3 (5 kHz)
12	UP	Process supply voltage UP +24 V DC
13	ZP	Process supply voltage ZP 0 V DC



Table 28: Assignment of the terminals for PM5012-R-ETH:

Terminal	Signal	Description
1	COM 0..5	Input common for digital input signals I0 to I5
2	I0	Digital input signal I0 (5 kHz)
3	I1	Digital input signal I1 (5 kHz)
4	I2	Digital input signal I2 (5 kHz)
5	I3	Digital input signal I3 (5 kHz)
6	I4	Digital input signal I4 (5 kHz)
7	I5	Digital input signal I5 (5 kHz)
8	NO0	Normally-open relay contact of the output NO0
9	NO1	Normally-open relay contact of the output NO1
10	R0..1	Output common for signals NO0 to NO1

Terminal	Signal	Description
11	NO2	Normally-open relay contact of the output NO2
12	NO3	Normally-open relay contact of the output NO3
13	R2..3	Output common for signals NO2 to NO3



Table 29: Assignment of the terminals for PM5032-T-ETH, PM5052-T-ETH and PM5072-T-2ETH(W):

Terminal	Signal	Description
1	COM 0..11	Input common for digital input signals I0 to I11
2	I0	Digital input signal I0 (max. 5 kHz)
3	I1	Digital input signal I1 (max. 5 kHz)
4	I2	Digital input signal I2 (max. 5 kHz)
5	I3	Digital input signal I3 (max. 5 kHz)
6	I4	Digital input signal I4 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
7	I5	Digital input signal I5 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
8	I6	Digital input signal I6 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
9	I7	Digital input signal I7 (100 kHz) Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
10	I8	Digital input signal I8
11	I9	Digital input signal I9
12	I10	Digital input signal I10
13	I11	Digital input signal I11
14	O0	Digital output signal O0 (max. 5 kHz)
15	O1	Digital output signal O1 (max. 5 kHz)
16	O2	Digital output signal O2 (max. 5 kHz)
17	O3	Digital output signal O3 (max. 5 kHz)
18	O4	Digital output signal O4 PWM (max. 100 kHz), PTO (max. 200 kHz)
19	O5	Digital output signal O5 PWM (max. 100 kHz), PTO (max. 200 kHz)
20	O6	Digital output signal O6 PWM (max. 100 kHz), PTO (max. 200 kHz)
21	O7	Digital output signal O7 PWM (max. 100 kHz), PTO (max. 200 kHz)
22	C12	Digital input/output signal configurable C12
23	C13	Digital input/output signal configurable C13

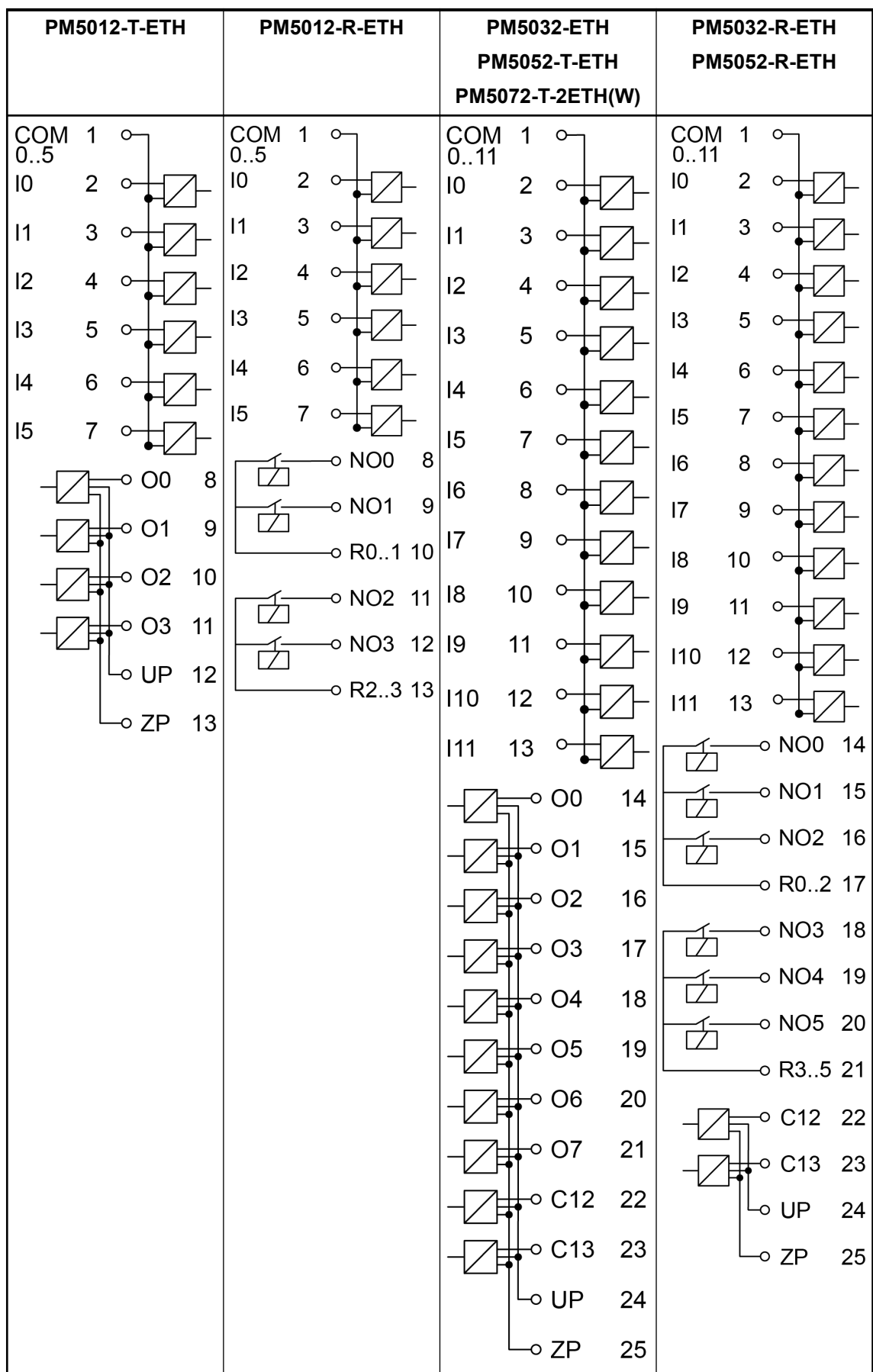
Terminal	Signal	Description
24	UP	Process supply voltage UP +24 V DC
25	ZP	Process supply voltage ZP 0 V DC



Table 30: Assignment of the terminals for PM5032-R-ETH and PM5052-R-ETH:

Terminal	Signal	Description
1	COM 0..11	Input common for digital input signals I0 to I11
2	I0	Digital input signal I0 (max. 5 kHz)
3	I1	Digital input signal I1 (max. 5 kHz)
4	I2	Digital input signal I2 (max. 5 kHz)
5	I3	Digital input signal I3 (max. 5 kHz)
6	I4	Digital input signal I4 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
7	I5	Digital input signal I5 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
8	I6	Digital input signal I6 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
9	I7	Digital input signal I7 Forward counter (max. 100 kHz), Encoder (max. 200 kHz)
10	I8	Digital input signal I8
11	I9	Digital input signal I9
12	I10	Digital input signal I10
13	I11	Digital input signal I11
14	NO0	Normally-open relay contact of the output NO0
15	NO1	Normally-open relay contact of the output NO1
16	NO2	Normally-open relay contact of the output NO2
17	R0..2	Output common for signals NO0 to NO2
18	NO3	Normally-open relay contact of the output NO3
19	NO4	Normally-open relay contact of the output NO4
20	NO5	Normally-open relay contact of the output NO5
21	R3..5	Output common for signals NO3 to NO5
22	C12	Digital input/output signal configurable C12 PWM (max. 100 kHz), PTO (max. 200 kHz)
23	C13	Digital input/output signal configurable C13 PWM (max. 100 kHz), PTO (max. 200 kHz)
24	UP	Process supply voltage UP +24 V DC
25	ZP	Process supply voltage ZP 0 V DC

Block diagrams The following block diagram shows the internal structure of the onboard I/Os.



71.5.3.1.1 Connection of the digital inputs

The digital inputs can be used as source inputs or as sink inputs.



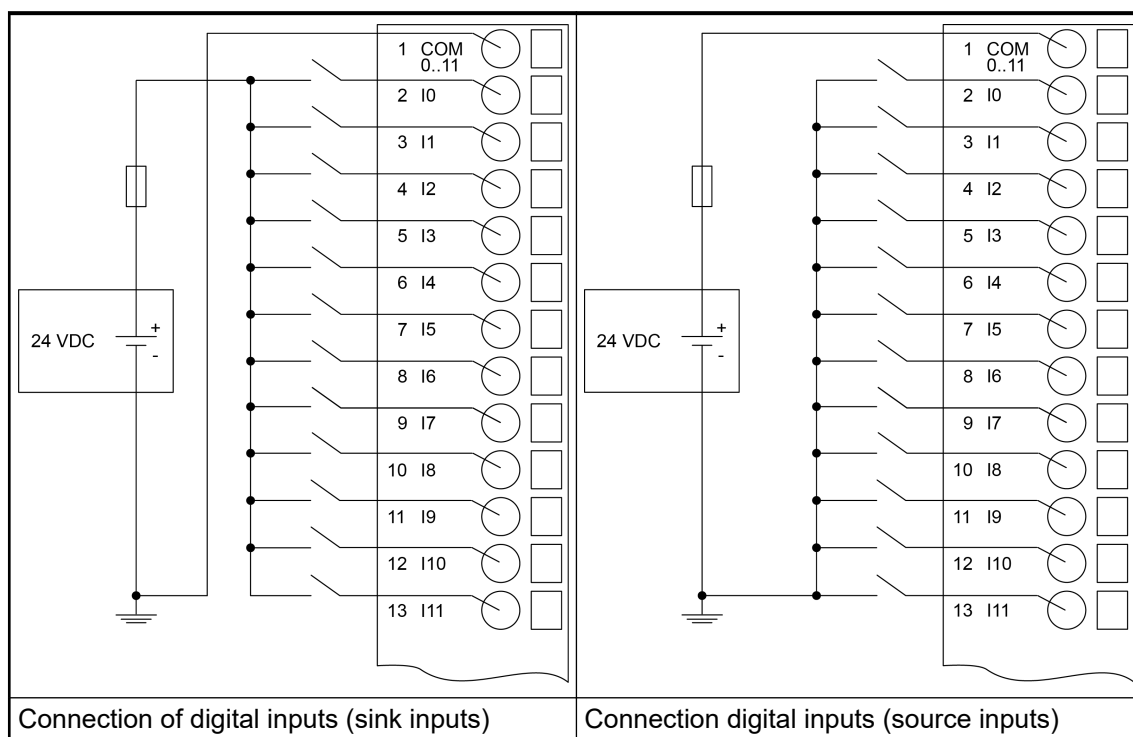
NOTICE!

Risk of malfunctions in the plant!

A ground fault, e. g. caused by a damaged cable insulation, can bridge switches accidentally.

Use sink inputs when possible or make sure that, in case of error, there will be no risks to persons or plant.

The following figure shows the connection of the digital inputs to the PM50x2 processor modules:



71.5.3.1.2 Connection of the digital transistor outputs (PM50xx-T-ETH only)

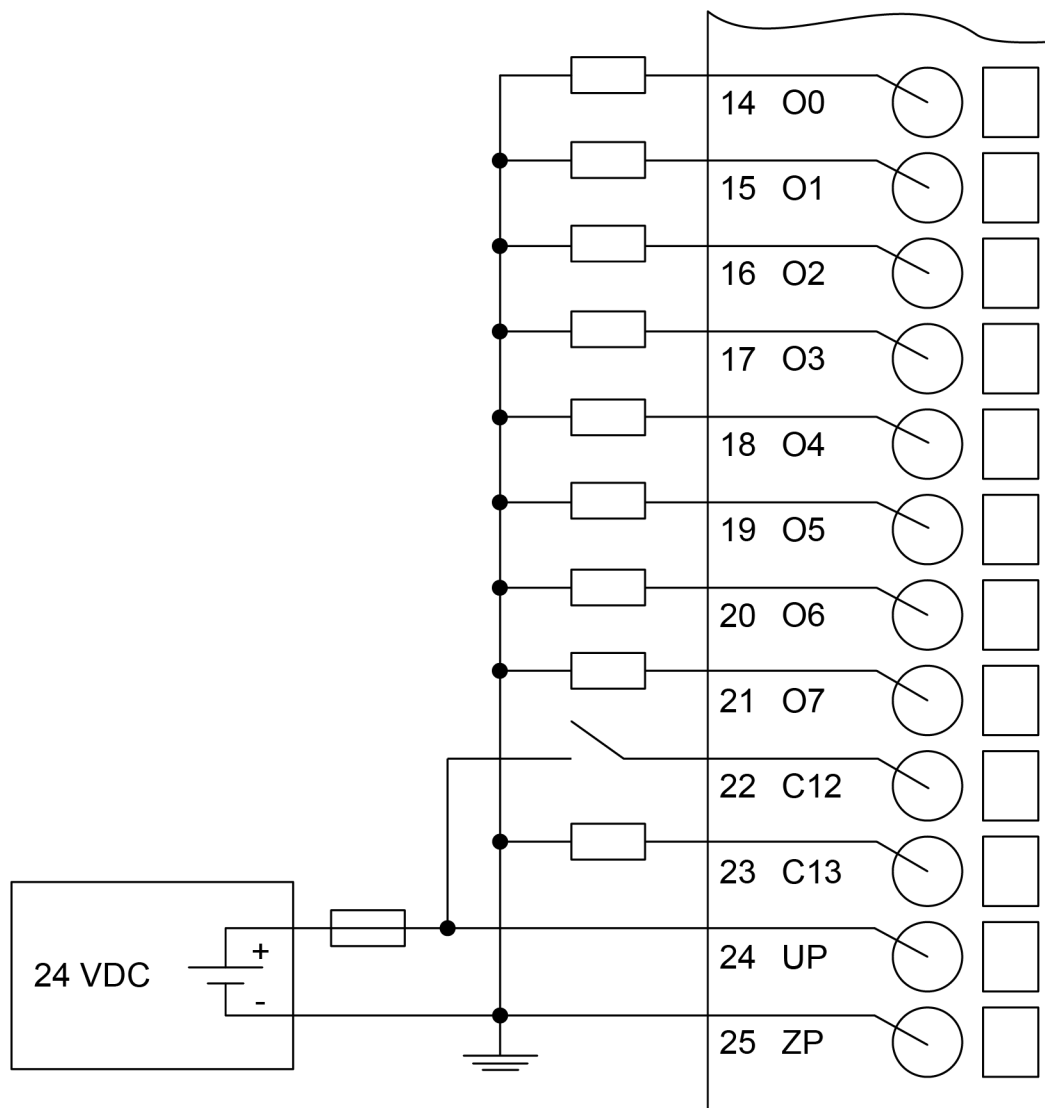


Fig. 90: Connection of digital transistor outputs and configurable digital inputs/outputs

C12 used as configurable digital input

C13 used as configurable digital transistor output



CAUTION!

Risk of damaging the processor module!

The outputs are not protected against short circuit and overload.

- Never short-circuit or overload the outputs.
- Never connect the outputs to other voltages.
- Use an external fuse for the outputs.

71.5.3.1.3 Connection of the digital relay outputs (PM50xx-R-ETH only)

The following figures show the connection of the digital relay outputs to the processor modules:

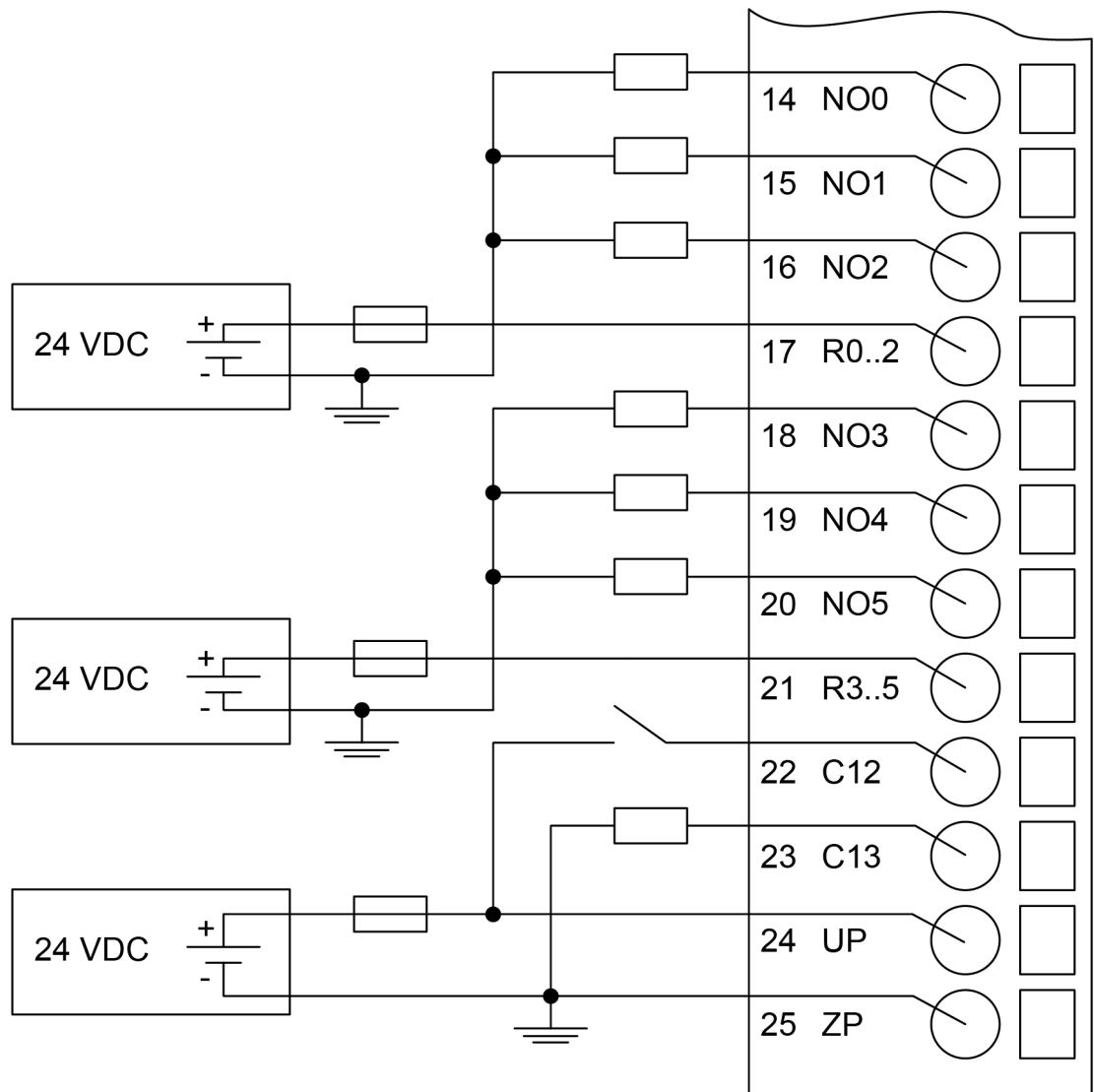


Fig. 91: Connection of digital relay outputs and configurable digital inputs/outputs

C12 used as configurable digital input

C13 used as configurable digital transistor output



WARNING!

Risk of death by electric shock!

Hazardous voltages can be present at the terminals of the module.

Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.



CAUTION!

Risk of damaging the processor module!

- Never short-circuit or overload the outputs.
- Never connect inductive loads without an external suppression against voltage peaks due to inductive kickback.
- Never connect voltages > 240 V. All outputs must be fed from the same phase.
- Use an external 5 A fast protection fuse for the outputs.

71.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

71.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

71.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

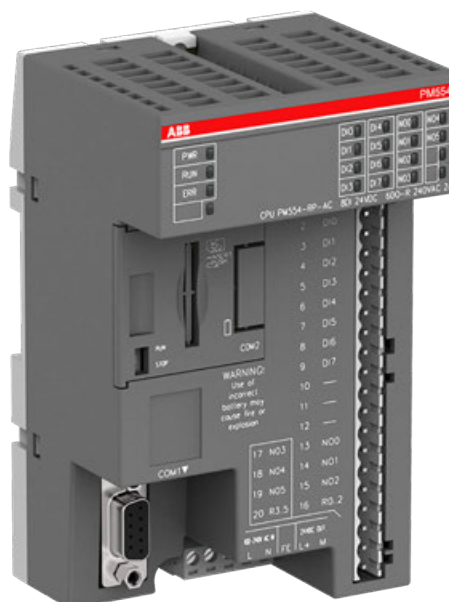
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

72 PM554-x(-x)

- PM554-TP
- PM554-TP-ETH
- PM554-RP
- PM554-RP-AC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

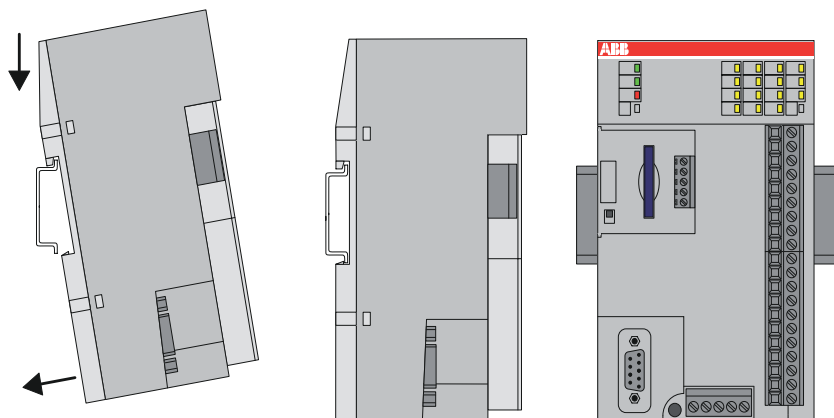
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



WARNING!

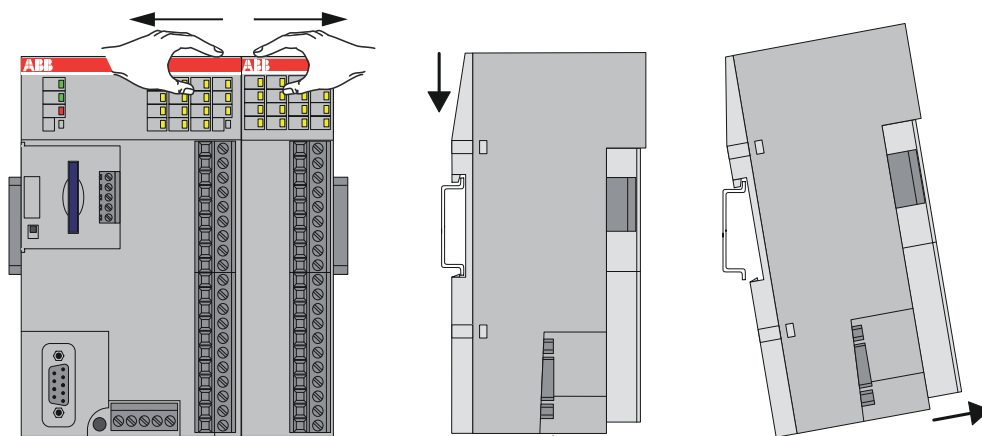
The module must not be connected to live voltages, while the cover for accessories is removed.

72.1 Assembly



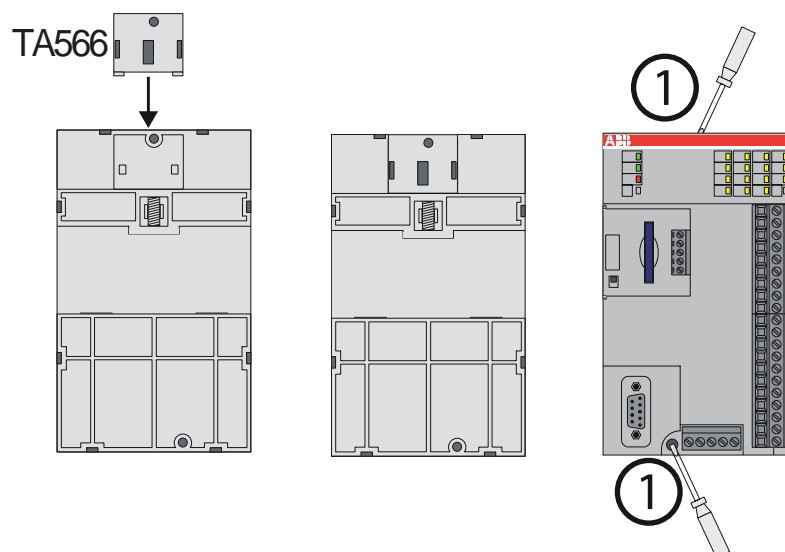
The module is put on the DIN rail above and then snapped-in below.

72.2 Disassembly



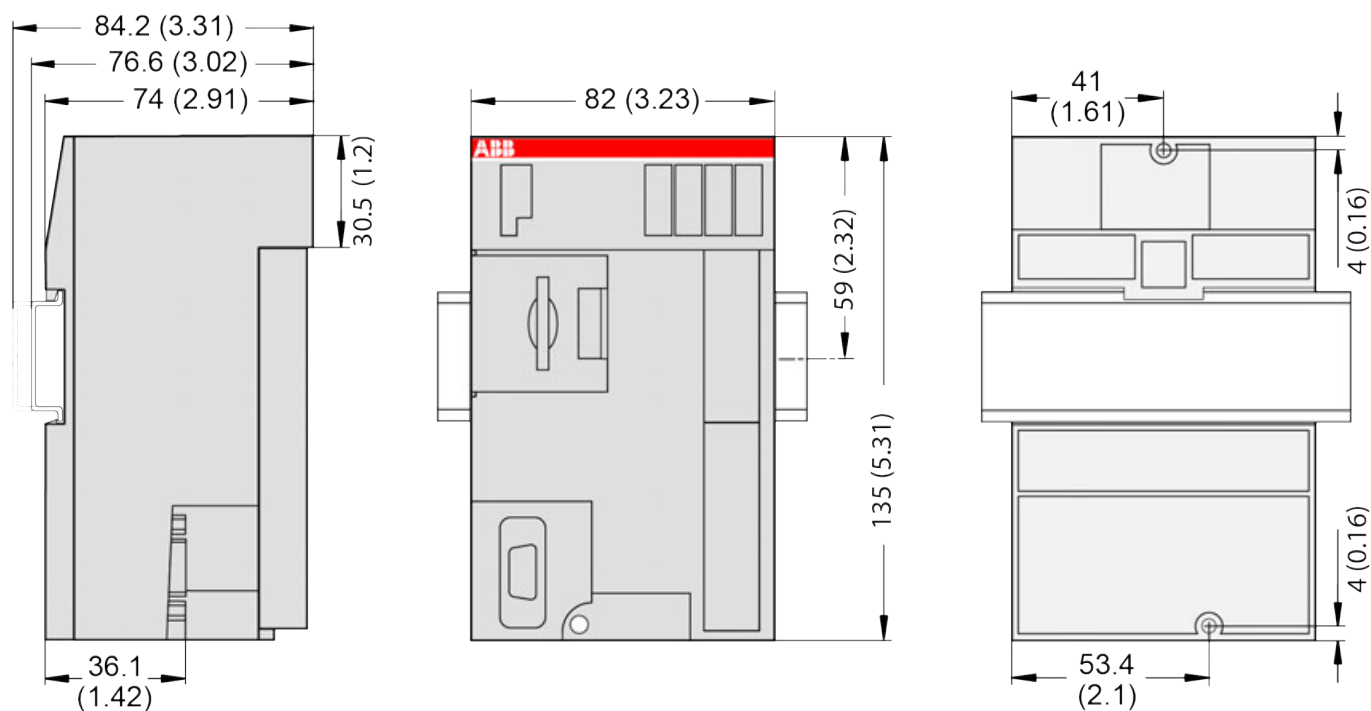
1. shove the modules from each other
2. pull down the module
3. remove the module

72.3 Assembly with screws



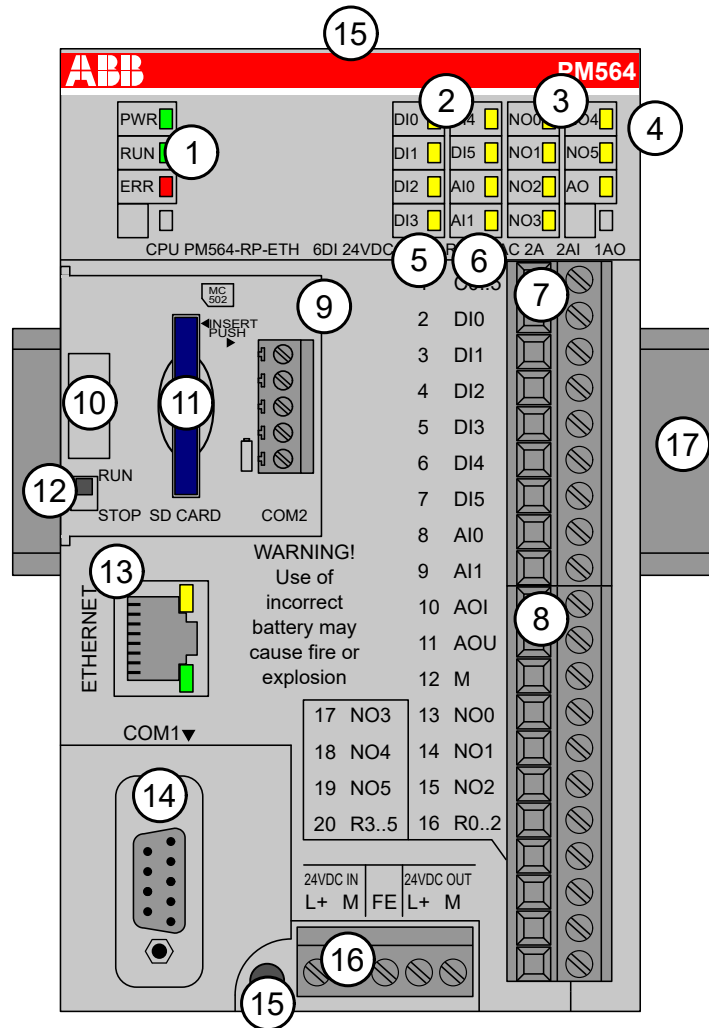
- 1 Fasten the module with two screws (max. diameter 4 mm)

72.4 Dimensions



The dimensions are in mm and in brackets in inch.

72.5 Connections



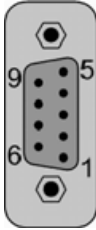
- 1 3 LEDs to display the states of the processor module
- 2 **PM55x-xP**: 8 yellow LEDs to display the states of the digital input signals.
PM56x-xP: 6 yellow LEDs to display the states of the digital input signals, 2 yellow LEDs to display the states of the analog input signals.
- 3 **PM55x-xP**: 6 yellow LEDs to display the states of the digital output signals.
PM56x-xP: 6 yellow LEDs to display the states of the digital output signals, 1 yellow LED to display the state of the analog output signal
- 4 I/O bus for connecting additional I/O modules
- 5 Terminal number
- 6 Signal name according to terminal number
- 7 Terminal block for input/output signals (9-pin)
- 8 Terminal block for input/output signals (11-pin)
- 9 Removable 5-pin connector for COM2 (optional)
- 10 Recess for opening the option board slot cover
- 11 Memory card slot (optional)
- 12 RUN/STOP switch
- 13 Ethernet interface (depending on model)
- 14 9-pin D-sub jack (COM1) for RS-485 connection
- 15 2 holes for wall-mounting with screws
- 16 Removable 5-pin connector for power supply (24 V DC or 100-240 V AC - depending on model)
- 17 DIN rail



The processor module is shown with pluggable terminal blocks mounted. These terminal blocks must be ordered separately.

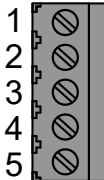
72.5.1 Serial interface COM1

Table 31: Pin assignment

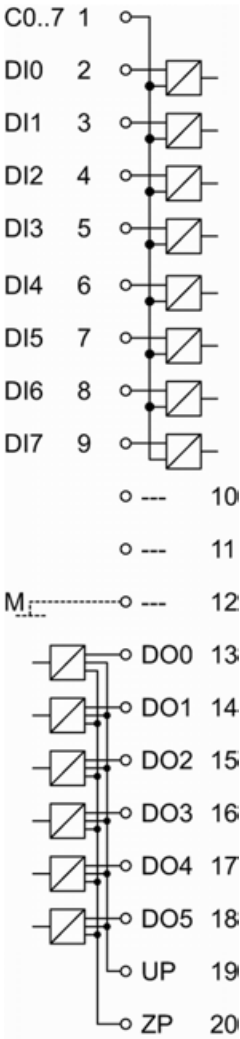
Serial Interface	Pin	Signal	Description
	1	FE	Functional earth
	2	SGND	0 V power supply, internally connected to M terminal
	3	RxD/TxD-P	Receive/Transmit positive
	4	Reserved	Reserved, not connected
	5	SGND	0 V power supply, internally connected to M terminal
	6	+3.3 V	3.3 V power supply
	7	Reserved	Reserved, not connected
	8	RxD/TxD-N	Receive/Transmit negative
	9	Reserved	Reserved, not connected
	Shield	Cable shield	Functional earth

72.5.2 Serial interface COM2

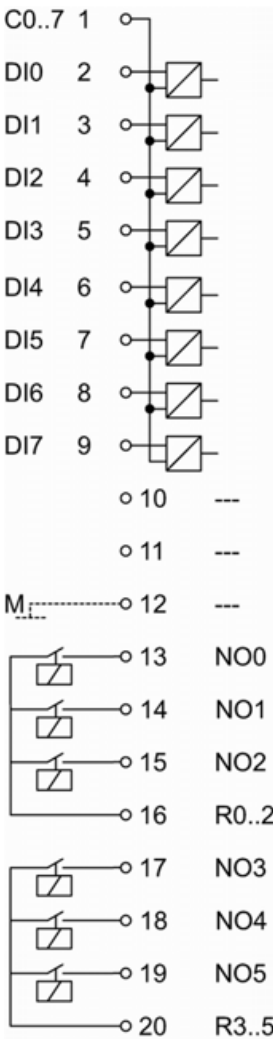
Table 32: Pin assignment

Serial Interface	Pin	Description
	1	Terminator P
	2	TxD/RxD-P
	3	TxD/RxD-N
	4	Terminator N
	5	Functional earth

72.5.3 Inputs/Outputs
PM554-TP



PM554-RP



72.6 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

72.7 Certification



MSIP-REI-Abb-AC500-eCo

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
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KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

72.8 Recycling



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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

73 PM556-TP-ETH

- PM556-TP-ETH



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

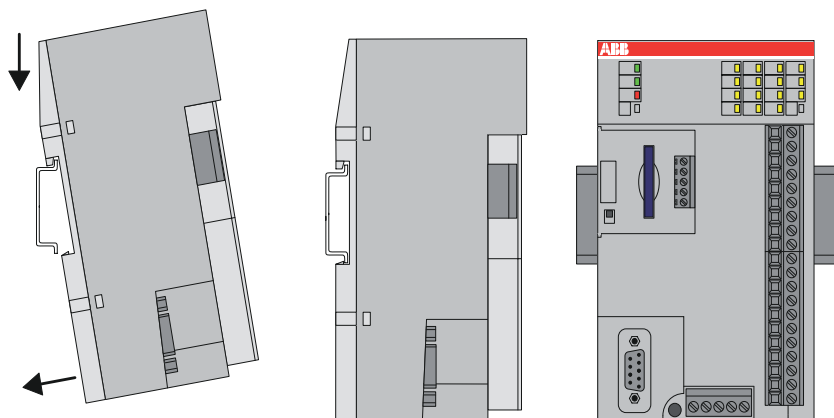
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



WARNING!

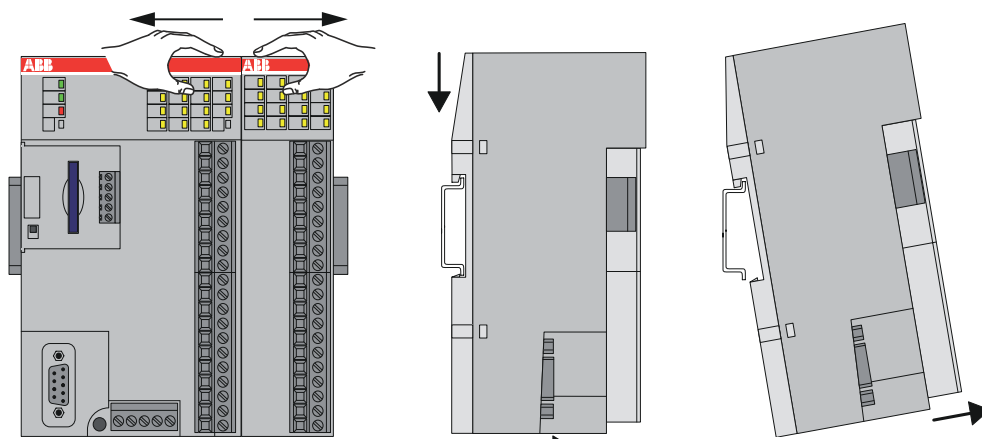
The module must not be connected to live voltages, while the cover for accessories is removed.

73.1 Assembly



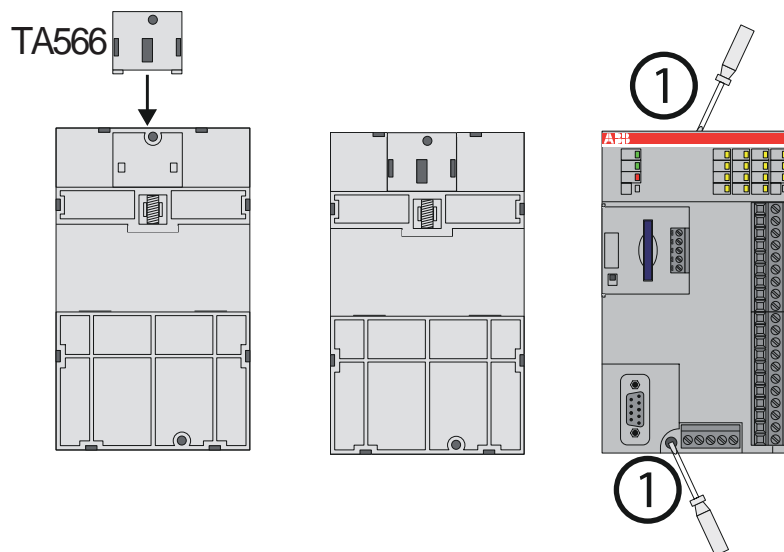
The module is put on the DIN rail above and then snapped-in below.

73.2 Disassembly



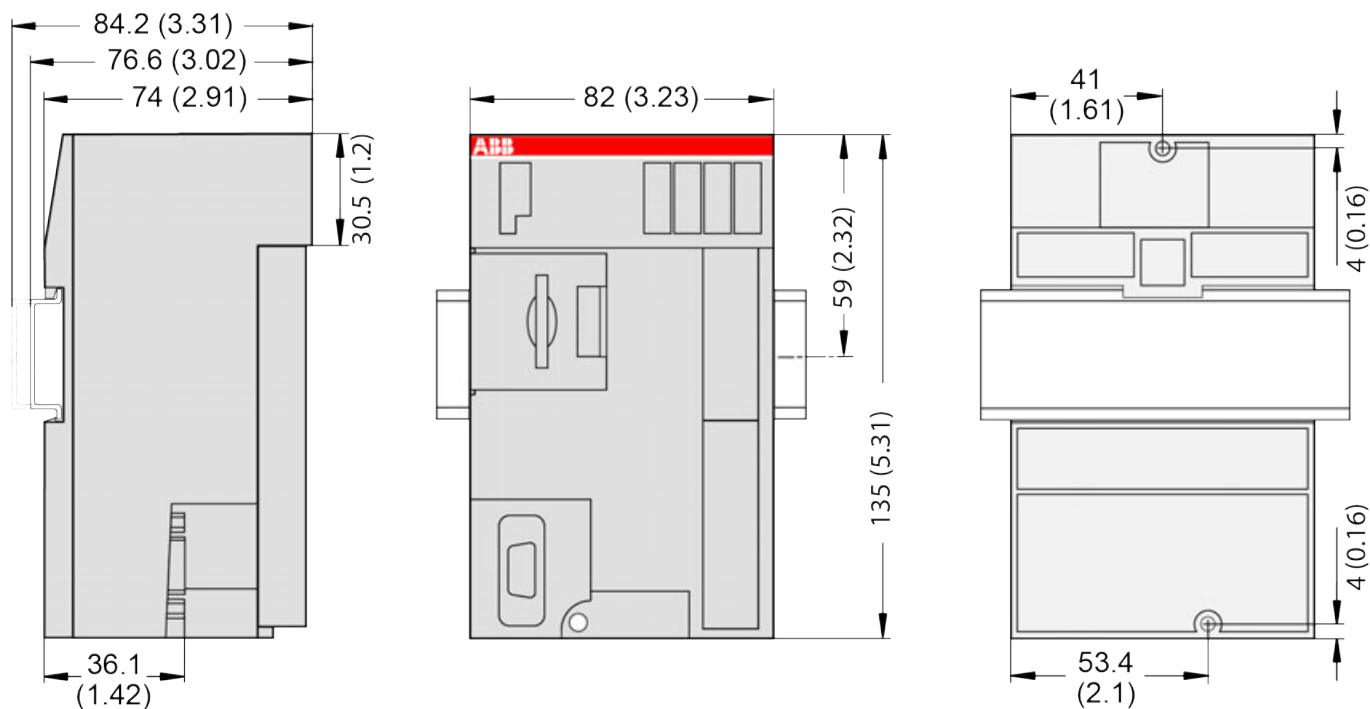
1. shove the modules from each other
2. pull down the module
3. remove the module

73.3 Assembly with screws



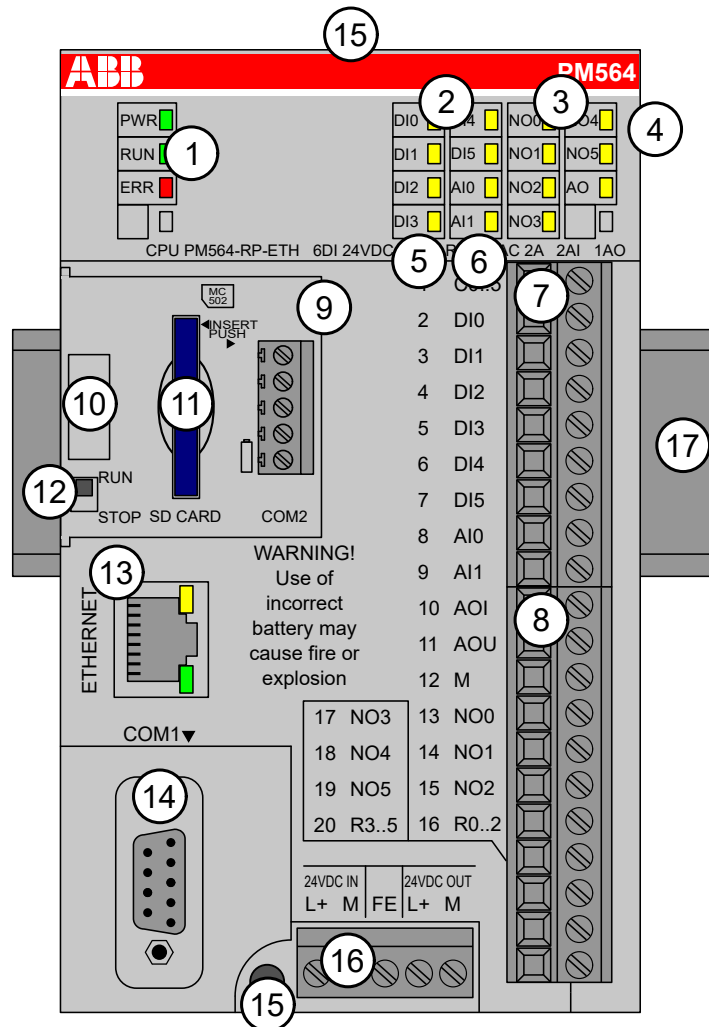
- 1 Fasten the module with two screws (max. diameter 4 mm)

73.4 Dimensions



The dimensions are in mm and in brackets in inch.

73.5 Connections



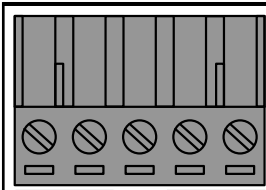
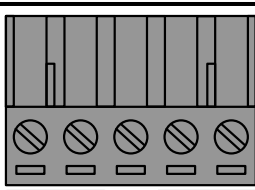
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- 3 **PM55x-xP**: 6 yellow LEDs to display the states of the digital output signals.
PM56x-xP: 6 yellow LEDs to display the states of the digital output signals, 1 yellow LED to display the state of the analog output signal
- 4 I/O bus for connecting additional I/O modules
- 5 Terminal number
- 6 Signal name according to terminal number
- 7 Terminal block for input/output signals (9-pin)
- 8 Terminal block for input/output signals (11-pin)
- 9 Removable 5-pin connector for COM2 (optional)
- 10 Recess for opening the option board slot cover
- 11 Memory card slot (optional)
- 12 RUN/STOP switch
- 13 Ethernet interface (depending on model)
- 14 9-pin D-sub jack (COM1) for RS-485 connection
- 15 2 holes for wall-mounting with screws
- 16 Removable 5-pin connector for power supply (24 V DC or 100-240 V AC - depending on model)
- 17 DIN rail



The processor module is shown with pluggable terminal blocks mounted. These terminal blocks must be ordered separately.

73.5.1 Power Supply

Power supply Depending on the variant, the processor modules can be connected to the following supply voltages:

 24VDC IN L+ M FE L+ M 24 V DC	 100-240VAC IN L N FE L+ M 100 - 240 V AC
--	--

The connection is established via a removable 5-pin terminal block. As the terminal block is also available as a spare part (inside TA570 Spare Part Set for AC500-eCo processor modules).

The 24 V DC variant contains 2 L+ and M terminals. The L+ terminal on the left side is the input and the right side is the output. The M terminals are internally interconnected. The supply can be easily looped through to the onboard digital inputs.



CAUTION!
Risk of damaging the processor module and the connected modules!
Voltages > 35 V DC (DC variants only) or > 288 V AC (AC variants only) might damage the processor module and the connected modules.
Make sure that the supply voltage never exceeds 35 V DC / 288 V AC.



CAUTION!
Risk of damaging the processor module!
Excess currents at 24 V DC output (24 V DC processor module variant) will damage the processor module.
Use an appropriate fuse within 24 V DC input connection.

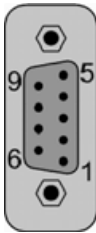
The 100-240 V AC variant contains an internal power supply with a wide-range input. It provides a 24 V DC output at the terminals L+ and M which can be used to supply the onboard digital inputs.



The voltage output at 100 V AC ... 240 V AC variants can provide 180 mA max. The output is protected against overload by a self-resetting fuse (PTC).

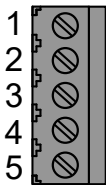
73.5.2 Serial interface COM1

Table 33: Pin assignment

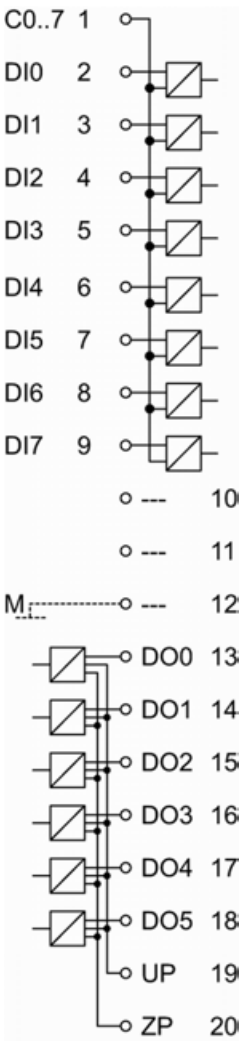
Serial Interface	Pin	Signal	Description
	1	FE	Functional earth
	2	SGND	0 V power supply, internally connected to M terminal
	3	RxD/TxD-P	Receive/Transmit positive
	4	Reserved	Reserved, not connected
	5	SGND	0 V power supply, internally connected to M terminal
	6	+3.3 V	3.3 V power supply
	7	Reserved	Reserved, not connected
	8	RxD/TxD-N	Receive/Transmit negative
	9	Reserved	Reserved, not connected
	Shield	Cable shield	Functional earth

73.5.3 Serial interface COM2

Table 34: Pin assignment

Serial Interface	Pin	Description
	1	Terminator P
	2	TxD/RxD-P
	3	TxD/RxD-N
	4	Terminator N
	5	Functional earth

73.5.4 Inputs/Outputs



73.6 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

73.7 Certification



MSIP-REI-Abb-AC500

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

en **Devices with KCC sign on product sticker and packaging**

ko 제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

73.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

74 PM5630-2ETH(-XC)

- PM5630-2ETH
- PM5630-2ETH-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM56xx-2ETH can only be used with TB56xx-2ETH terminal bases.

Table 35: Combination of TB56xx-2ETH(-XC) and PM56xx(-XC)

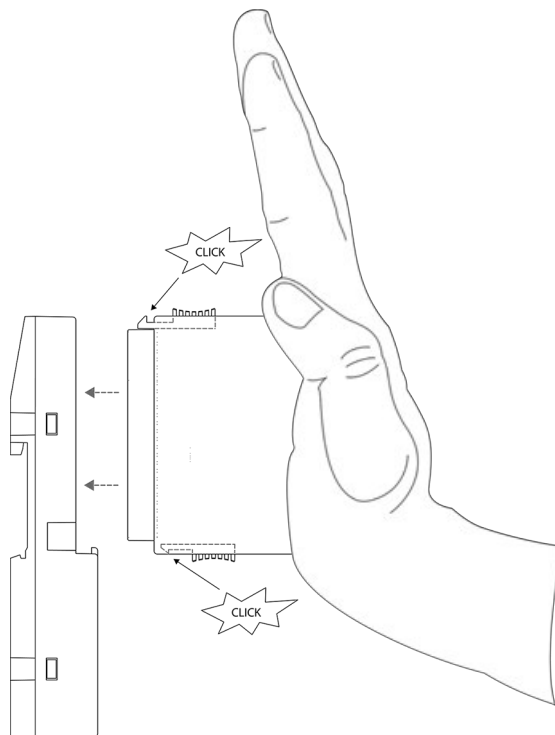
Processor module	PM5630	PM5650	PM5670	PM5675
TB5600-2ETH	0 slot	0 slot	0 slot	0 slot
TB5610-2ETH	1 slot	1 slot	1 slot	1 slot
TB5620-2ETH	2 slots	2 slots	2 slots	2 slots
TB5640-2ETH	-	4 slots	4 slots	4 slots
TB5660-2ETH	-	-	6 slots ¹⁾	6 slots ¹⁾

Remarks:

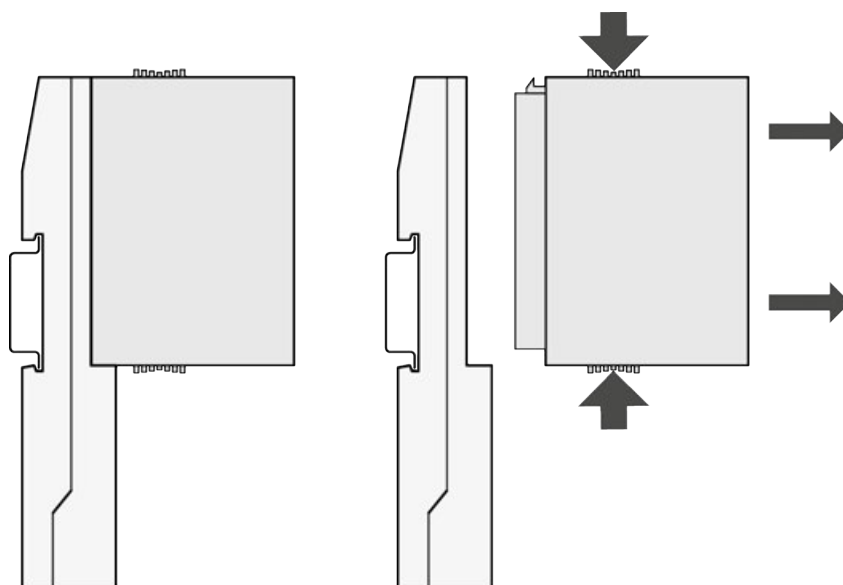
The slots can be used for connecting communication modules or AC500-S modules. Note that only one AC500-S module can be connected at one terminal base.

¹⁾ PM567x must have an index $\geq C0$.

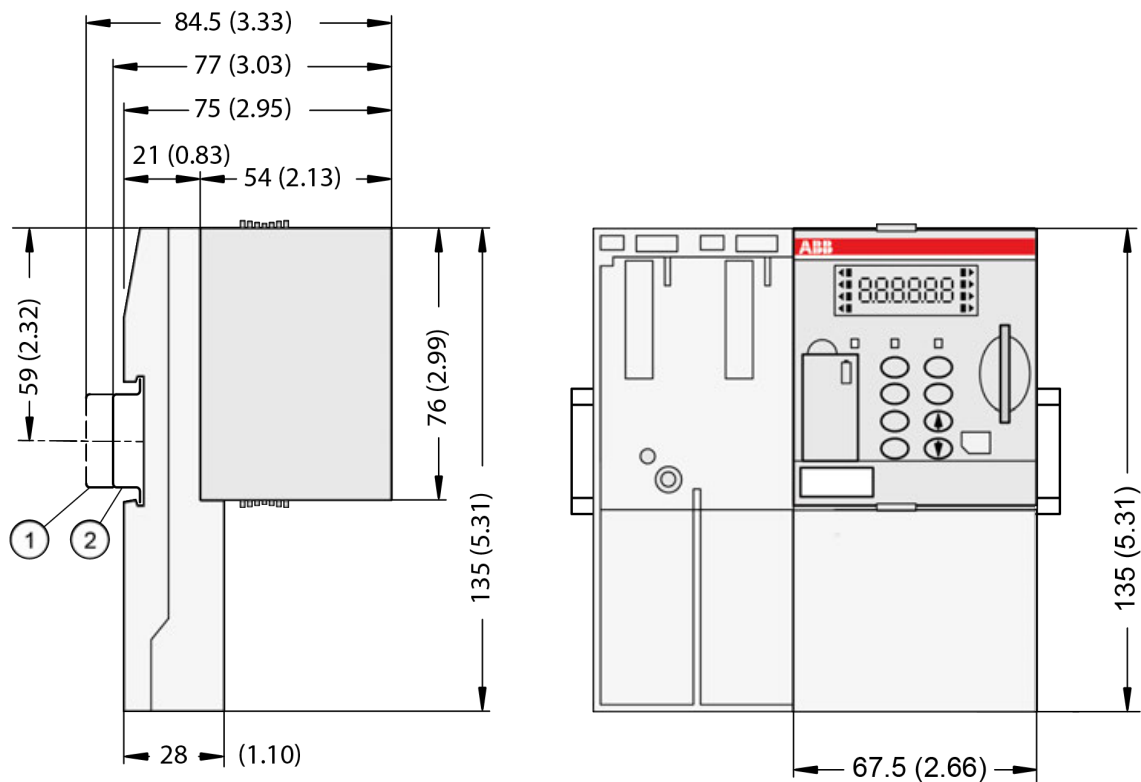
74.1 Assembly



74.2 Disassembly



74.3 Dimensions

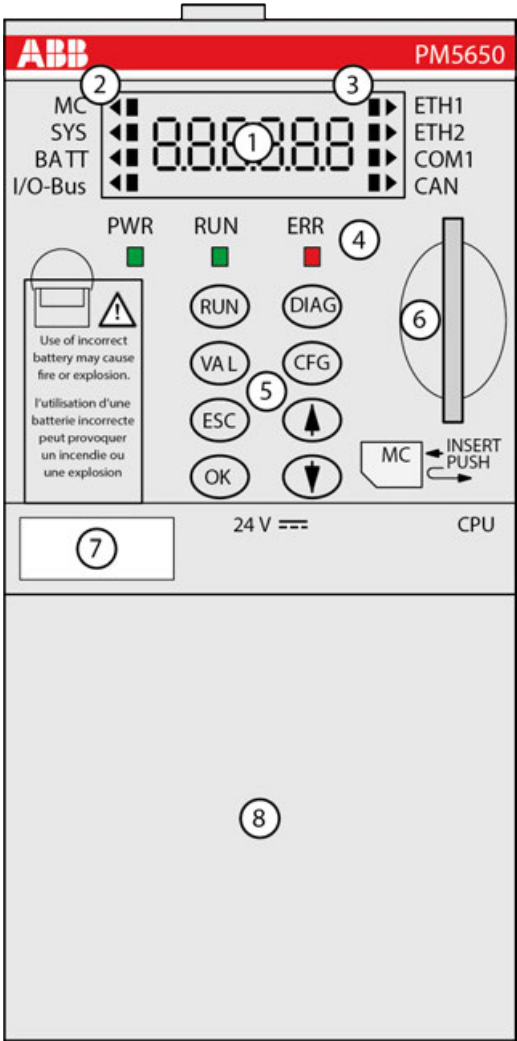


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

74.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version


 Processor modules PM56xx-2ETH can only be used with TB56xx-2ETH terminal bases.

Table 36: Combination of TB56xx-2ETH(-XC) and PM56xx(-XC)

Processor module	PM5630	PM5650	PM5670	PM5675
TB5600-2ETH	0 slot	0 slot	0 slot	0 slot
TB5610-2ETH	1 slot	1 slot	1 slot	1 slot
TB5620-2ETH	2 slots	2 slots	2 slots	2 slots

Processor module	PM5630	PM5650	PM5670	PM5675
TB5640-2ETH	-	4 slots	4 slots	4 slots
TB5660-2ETH	-	-	6 slots ¹⁾	6 slots ¹⁾
Remarks: The slots can be used for connecting communication modules or AC500-S modules. Note that only one AC500-S module can be connected at one terminal base. ¹⁾ PM567x must have an index \geq C0.				

74.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

74.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

74.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

75 PM564-x(-x)

- PM564-TP
- PM564-TP-ETH
- PM564-RP
- PM564-RP-AC
- PM564-RP-ETH
- PM564-RP-ETH-AC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

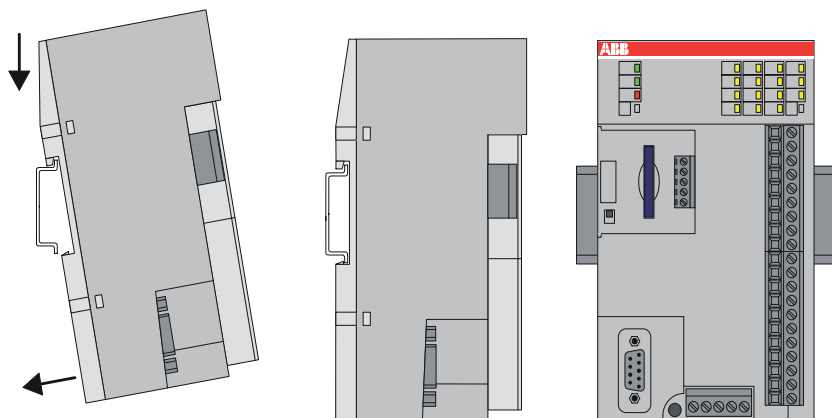
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



WARNING!

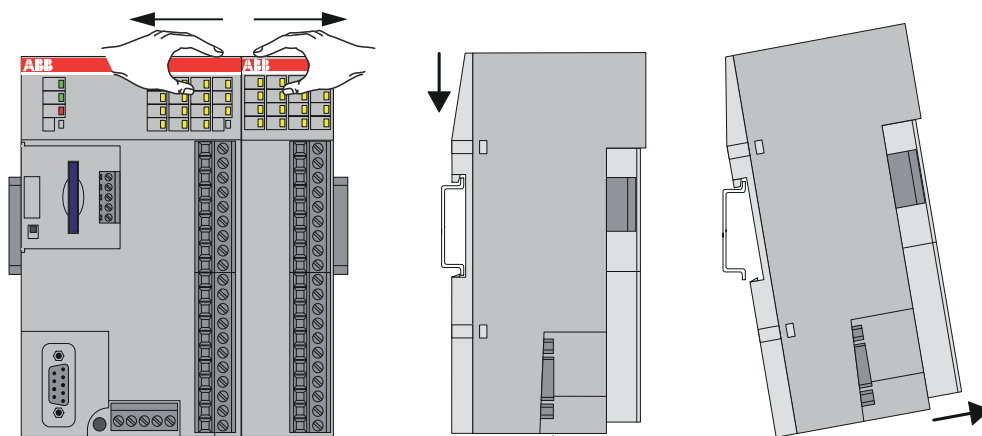
The module must not be connected to live voltages, while the cover for accessories is removed.

75.1 Assembly



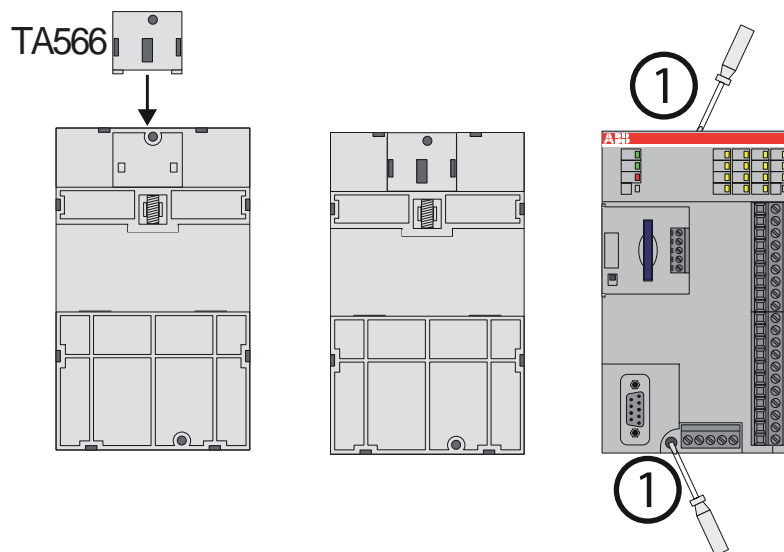
The module is put on the DIN rail above and then snapped-in below.

75.2 Disassembly



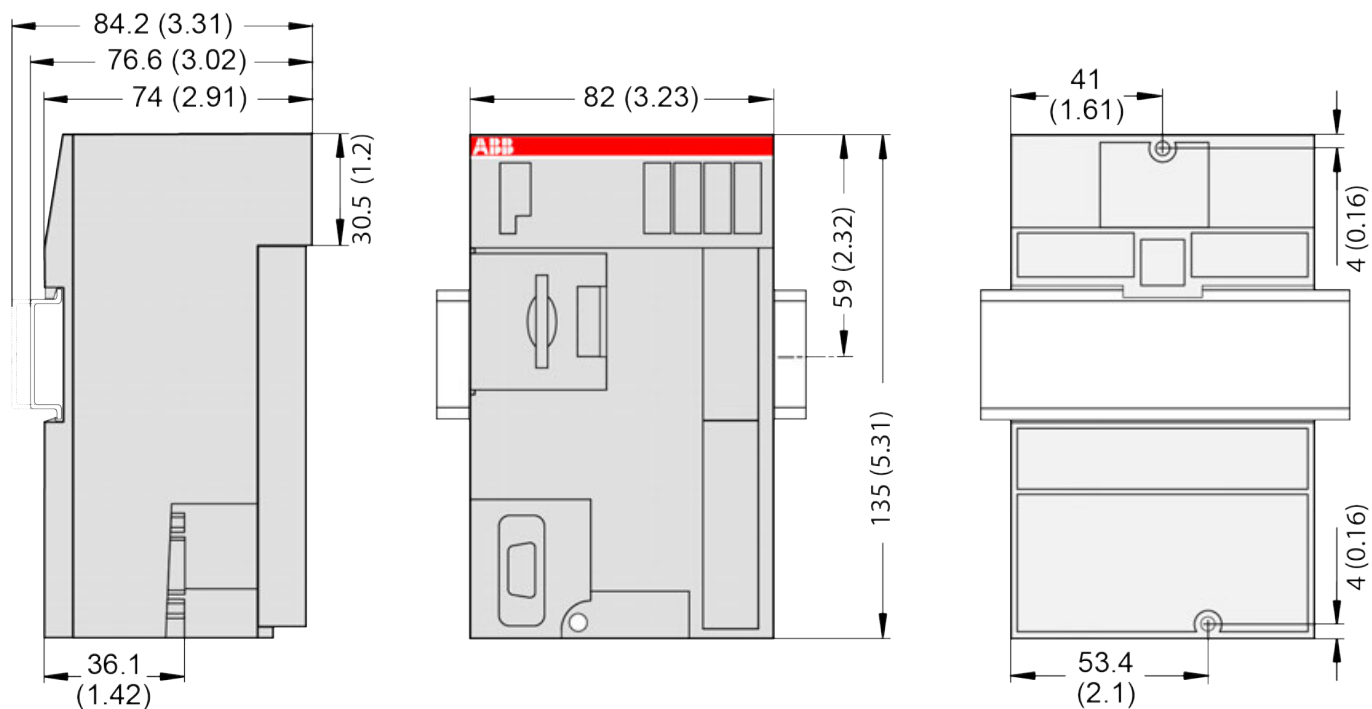
1. shove the modules from each other
2. pull down the module
3. remove the module

75.3 Assembly with screws



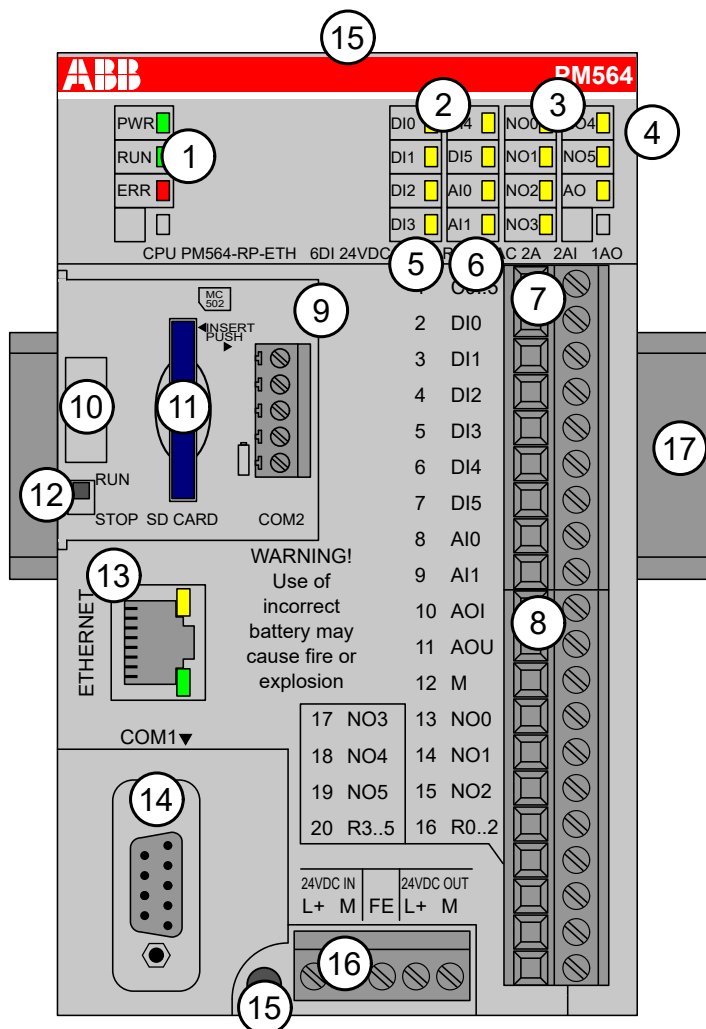
- 1 Fasten the module with two screws (max. diameter 4 mm)

75.4 Dimensions



The dimensions are in mm and in brackets in inch.

75.5 Connections



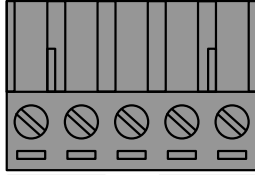
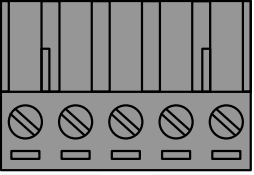
- 1 3 LEDs to display the states of the processor module
- 2 **PM55x-xP**: 8 yellow LEDs to display the states of the digital input signals.
PM56x-xP: 6 yellow LEDs to display the states of the digital input signals, 2 yellow LEDs to display the states of the analog input signals.
- 3 **PM55x-xP**: 6 yellow LEDs to display the states of the digital output signals.
PM56x-xP: 6 yellow LEDs to display the states of the digital output signals, 1 yellow LED to display the state of the analog output signal
- 4 I/O bus for connecting additional I/O modules
- 5 Terminal number
- 6 Signal name according to terminal number
- 7 Terminal block for input/output signals (9-pin)
- 8 Terminal block for input/output signals (11-pin)
- 9 Removable 5-pin connector for COM2 (optional)
- 10 Recess for opening the option board slot cover
- 11 Memory card slot (optional)
- 12 RUN/STOP switch
- 13 Ethernet interface (depending on model)
- 14 9-pin D-sub jack (COM1) for RS-485 connection
- 15 2 holes for wall-mounting with screws
- 16 Removable 5-pin connector for power supply (24 V DC or 100-240 V AC - depending on model)
- 17 DIN rail



The processor module is shown with pluggable terminal blocks mounted. These terminal blocks must be ordered separately.

75.5.1 Power supply

Power supply Depending on the variant, the processor modules can be connected to the following supply voltages:

 <p>24VDC IN L+ M FE L+ M</p> <p>24 V DC</p>	 <p>100-240VAC IN L N FE L+ M</p> <p>100 - 240 V AC</p>
---	---

The connection is established via a removable 5-pin terminal block. As the terminal block is also available as a spare part (inside TA570 Spare Part Set for AC500-eCo processor modules).

The 24 V DC variant contains 2 L+ and M terminals. The L+ terminal on the left side is the input and the right side is the output. The M terminals are internally interconnected. The supply can be easily looped through to the onboard digital inputs.



CAUTION!

Risk of damaging the processor module and the connected modules!

Voltages > 35 V DC (DC variants only) or > 288 V AC (AC variants only) might damage the processor module and the connected modules.

Make sure that the supply voltage never exceeds 35 V DC / 288 V AC.



CAUTION!

Risk of damaging the processor module!

Excess currents at 24 V DC output (24 V DC processor module variant) will damage the processor module.

Use an appropriate fuse within 24 V DC input connection.

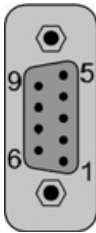
The 100-240 V AC variant contains an internal power supply with a wide-range input. It provides a 24 V DC output at the terminals L+ and M which can be used to supply the onboard digital inputs.



The voltage output at 100 V AC ... 240 V AC variants can provide 180 mA max. The output is protected against overload by a self-resetting fuse (PTC).

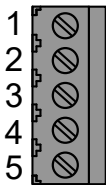
75.5.2 Serial interface COM1

Table 37: Pin assignment

Serial Interface	Pin	Signal	Description
	1	FE	Functional earth
	2	SGND	0 V power supply, internally connected to M terminal
	3	RxD/TxD-P	Receive/Transmit positive
	4	Reserved	Reserved, not connected
	5	SGND	0 V power supply, internally connected to M terminal
	6	+3.3 V	3.3 V power supply
	7	Reserved	Reserved, not connected
	8	RxD/TxD-N	Receive/Transmit negative
	9	Reserved	Reserved, not connected
	Shield	Cable shield	Functional earth

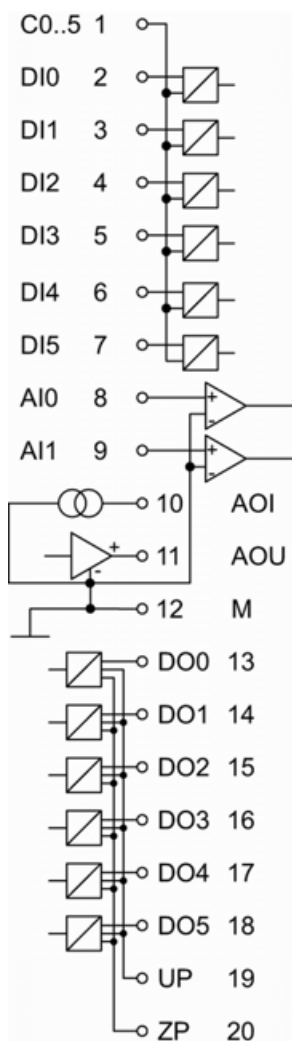
75.5.3 Serial interface COM2

Table 38: Pin assignment

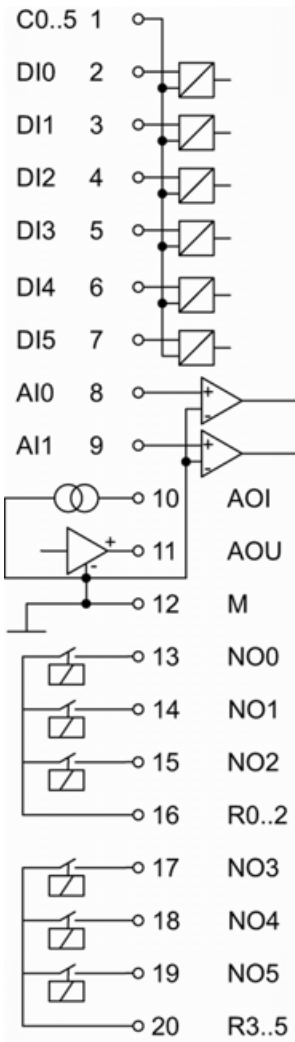
Serial Interface	Pin	Description
	1	Terminator P
	2	TxD/RxD-P
	3	TxD/RxD-N
	4	Terminator N
	5	Functional earth

75.5.4 Inputs/Outputs

PM564-TP



PM564-RP



75.6 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

75.7 Certification



MSIP-REI-Abb-AC500-eCo

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

75.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

76 PM5650-2ETH(-XC)

- PM5650-2ETH
- PM5650-2ETH-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM56xx-2ETH can only be used with TB56xx-2ETH terminal bases.

Table 39: Combination of TB56xx-2ETH(-XC) and PM56xx(-XC)

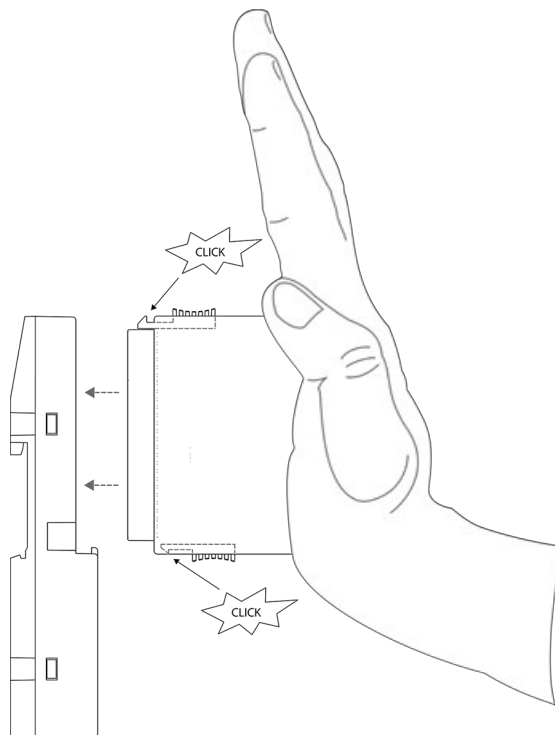
Processor module	PM5630	PM5650	PM5670	PM5675
TB5600-2ETH	0 slot	0 slot	0 slot	0 slot
TB5610-2ETH	1 slot	1 slot	1 slot	1 slot
TB5620-2ETH	2 slots	2 slots	2 slots	2 slots
TB5640-2ETH	-	4 slots	4 slots	4 slots
TB5660-2ETH	-	-	6 slots ¹⁾	6 slots ¹⁾

Remarks:

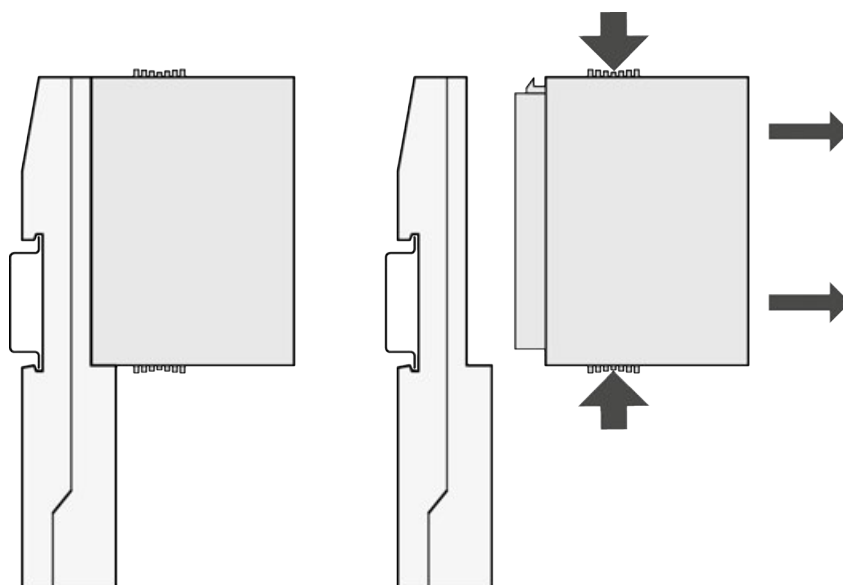
The slots can be used for connecting communication modules or AC500-S modules. Note that only one AC500-S module can be connected at one terminal base.

¹⁾ PM567x must have an index \geq C0.

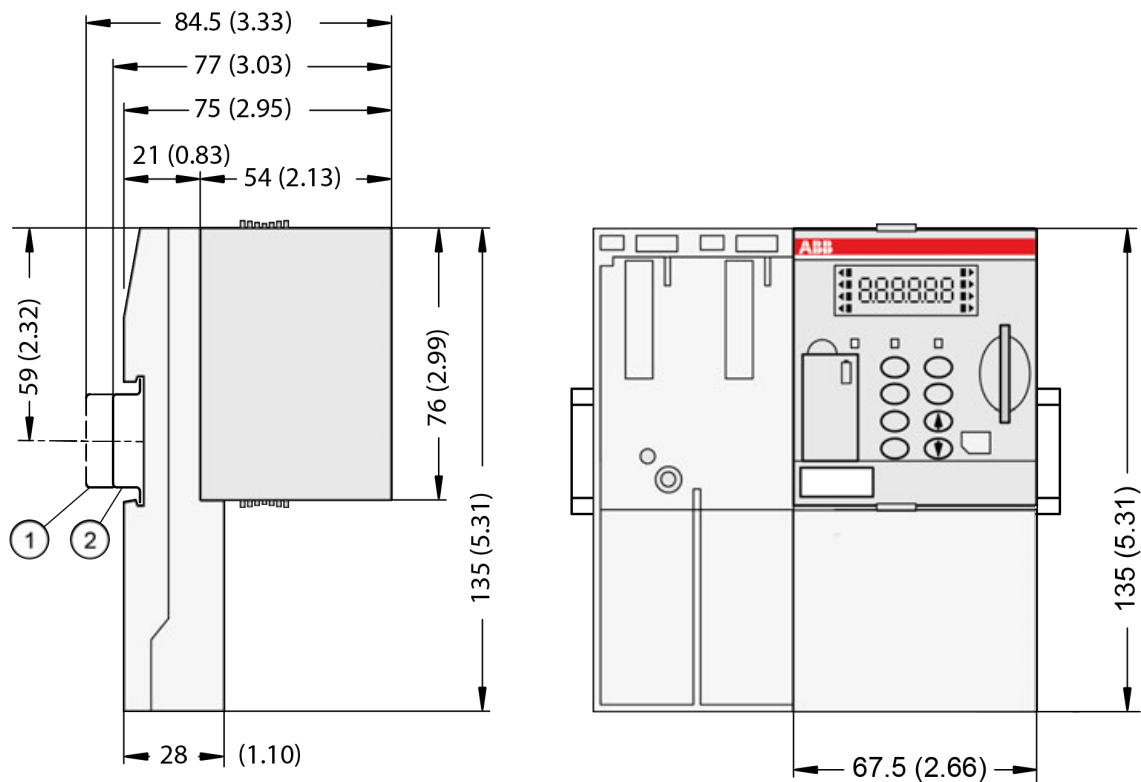
76.1 Assembly



76.2 Disassembly



76.3 Dimensions

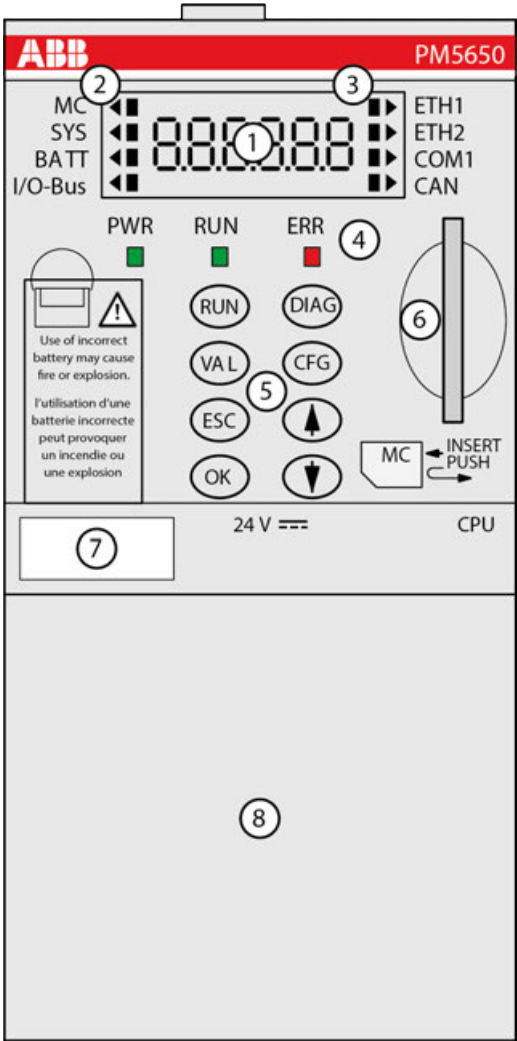


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm




The dimensions are in mm and in brackets in inch.

76.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version



Processor modules PM56xx-2ETH can only be used with TB56xx-2ETH terminal bases.

Table 40: Combination of TB56xx-2ETH(-XC) and PM56xx(-XC)

Processor module	PM5630	PM5650	PM5670	PM5675
TB5600-2ETH	0 slot	0 slot	0 slot	0 slot
TB5610-2ETH	1 slot	1 slot	1 slot	1 slot
TB5620-2ETH	2 slots	2 slots	2 slots	2 slots

Processor module	PM5630	PM5650	PM5670	PM5675
TB5640-2ETH	-	4 slots	4 slots	4 slots
TB5660-2ETH	-	-	6 slots ¹⁾	6 slots ¹⁾
Remarks: The slots can be used for connecting communication modules or AC500-S modules. Note that only one AC500-S module can be connected at one terminal base. ¹⁾ PM567x must have an index \geq C0.				

76.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

76.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

76.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

77 PM566-TP-ETH

- PM566-TP-ETH



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

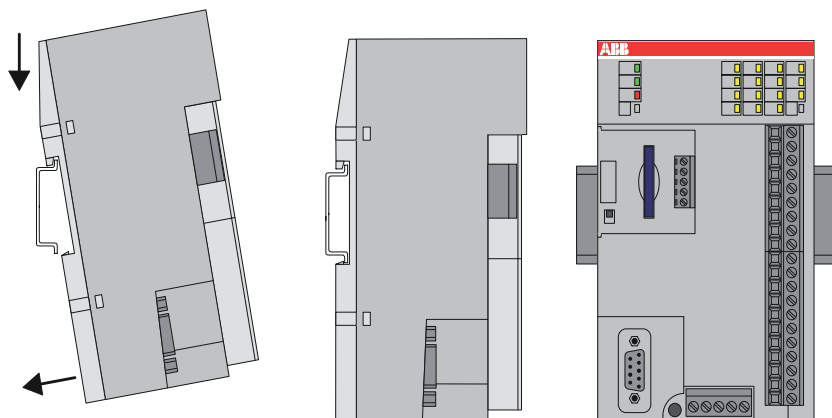
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



WARNING!

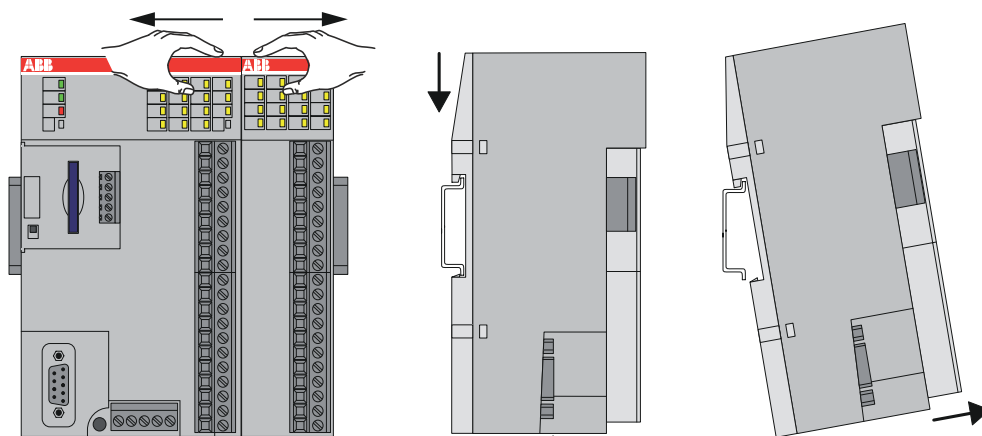
The module must not be connected to live voltages, while the cover for accessories is removed.

77.1 Assembly



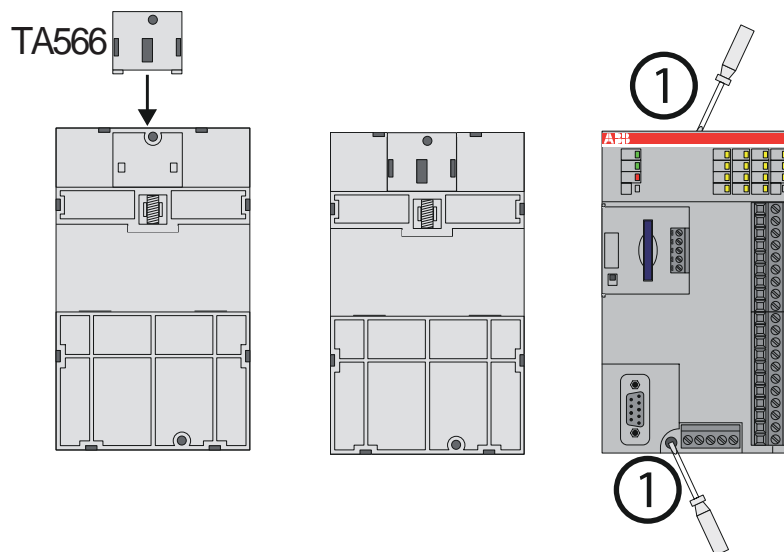
The module is put on the DIN rail above and then snapped-in below.

77.2 Disassembly



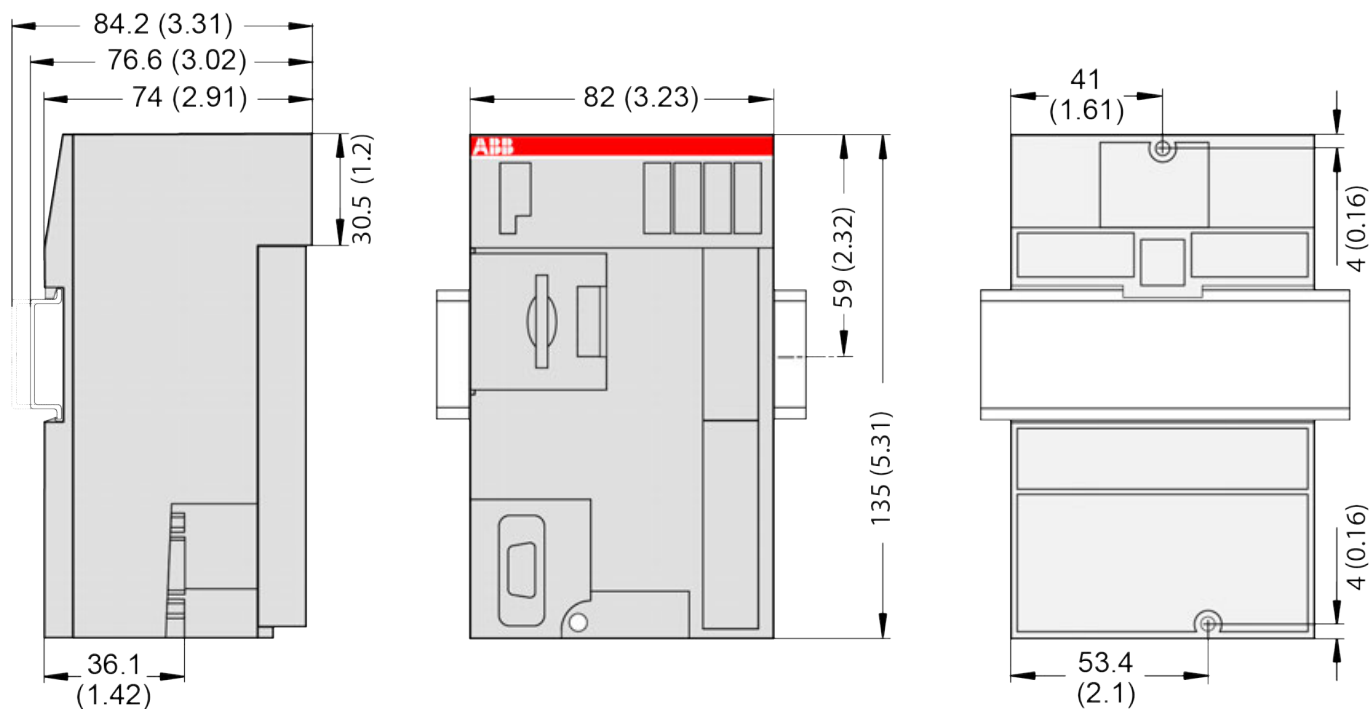
1. shove the modules from each other
2. pull down the module
3. remove the module

77.3 Assembly with screws



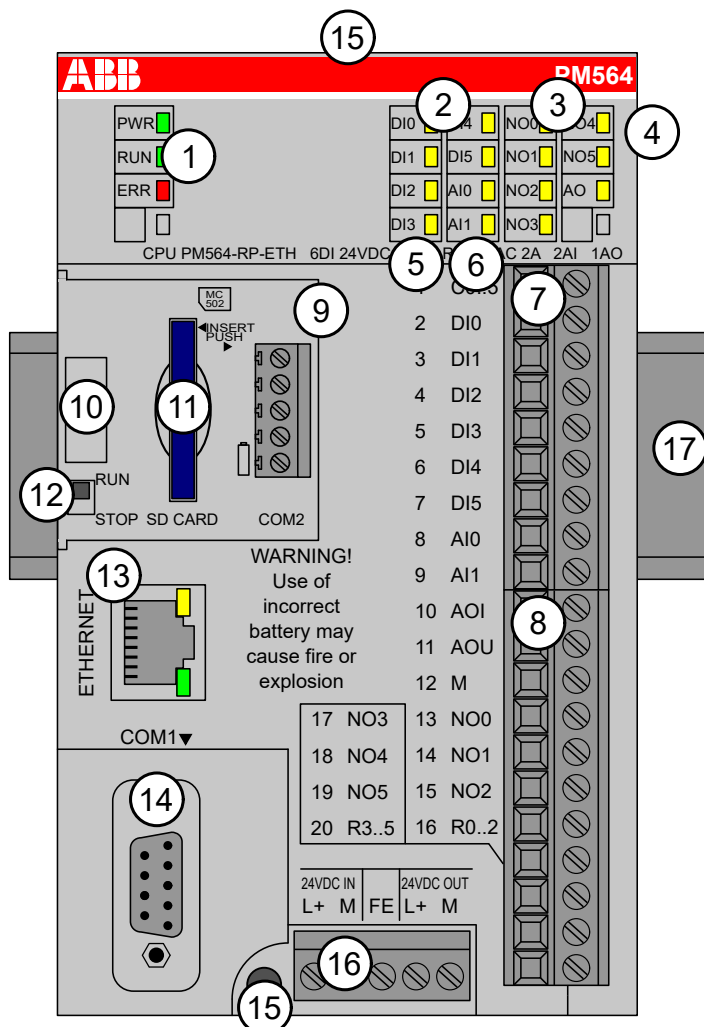
- 1 Fasten the module with two screws (max. diameter 4 mm)

77.4 Dimensions



The dimensions are in mm and in brackets in inch.

77.5 Connections



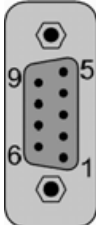
- 1 3 LEDs to display the states of the processor module
- 2 **PM55x-xP**: 8 yellow LEDs to display the states of the digital input signals.
PM56x-xP: 6 yellow LEDs to display the states of the digital input signals, 2 yellow LEDs to display the states of the analog input signals.
- 3 **PM55x-xP**: 6 yellow LEDs to display the states of the digital output signals.
PM56x-xP: 6 yellow LEDs to display the states of the digital output signals, 1 yellow LED to display the state of the analog output signal
- 4 I/O bus for connecting additional I/O modules
- 5 Terminal number
- 6 Signal name according to terminal number
- 7 Terminal block for input/output signals (9-pin)
- 8 Terminal block for input/output signals (11-pin)
- 9 Removable 5-pin connector for COM2 (optional)
- 10 Recess for opening the option board slot cover
- 11 Memory card slot (optional)
- 12 RUN/STOP switch
- 13 Ethernet interface (depending on model)
- 14 9-pin D-sub jack (COM1) for RS-485 connection
- 15 2 holes for wall-mounting with screws
- 16 Removable 5-pin connector for power supply (24 V DC or 100-240 V AC - depending on model)
- 17 DIN rail



The processor module is shown with pluggable terminal blocks mounted. These terminal blocks must be ordered separately.

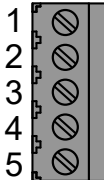
77.5.1 Serial interface COM1

Table 41: Pin assignment

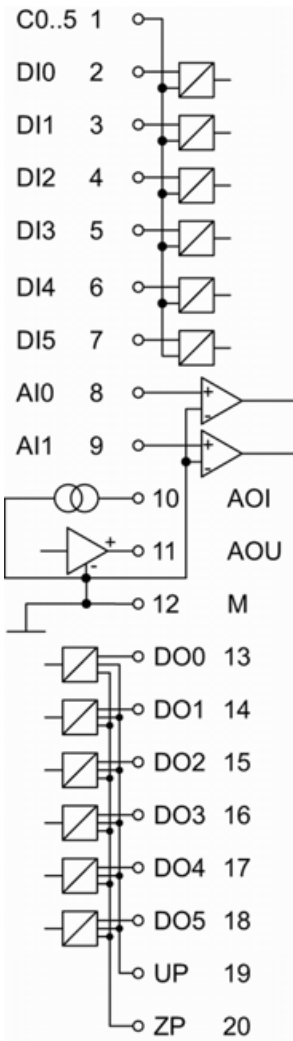
Serial Interface	Pin	Signal	Description
	1	FE	Functional earth
	2	SGND	0 V power supply, internally connected to M terminal
	3	RxD/TxD-P	Receive/Transmit positive
	4	Reserved	Reserved, not connected
	5	SGND	0 V power supply, internally connected to M terminal
	6	+3.3 V	3.3 V power supply
	7	Reserved	Reserved, not connected
	8	RxD/TxD-N	Receive/Transmit negative
	9	Reserved	Reserved, not connected
	Shield	Cable shield	Functional earth

77.5.2 Serial interface COM2

Table 42: Pin assignment

Serial Interface	Pin	Description
	1	Terminator P
	2	TxD/RxD-P
	3	TxD/RxD-N
	4	Terminator N
	5	Functional earth

77.5.3 Inputs/Outputs



77.6 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

77.7 Certification



MSIP-REI-Abb-AC500

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

en **Devices with KCC sign on product sticker and packaging**

ko 제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

77.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

78 PM5670-2ETH(-XC)

- PM5670-2ETH
- PM5670-2ETH-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM56xx-2ETH can only be used with TB56xx-2ETH terminal bases.

Table 43: Combination of TB56xx-2ETH(-XC) and PM56xx(-XC)

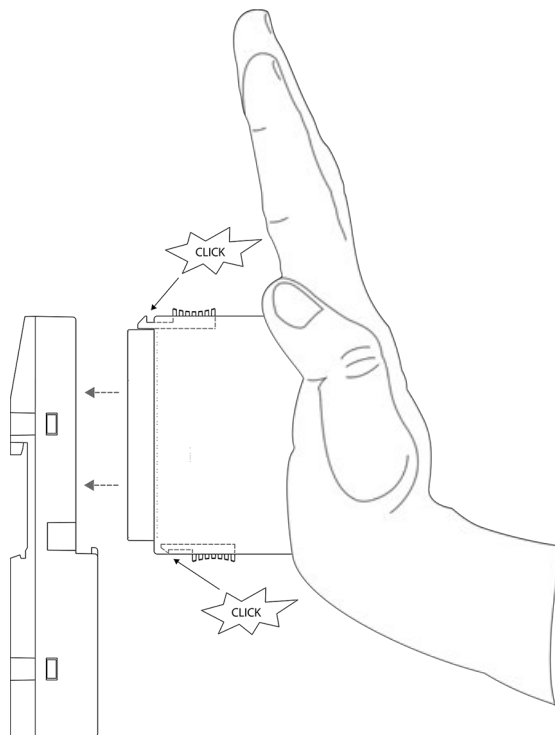
Processor module	PM5630	PM5650	PM5670	PM5675
TB5600-2ETH	0 slot	0 slot	0 slot	0 slot
TB5610-2ETH	1 slot	1 slot	1 slot	1 slot
TB5620-2ETH	2 slots	2 slots	2 slots	2 slots
TB5640-2ETH	-	4 slots	4 slots	4 slots
TB5660-2ETH	-	-	6 slots ¹⁾	6 slots ¹⁾

Remarks:

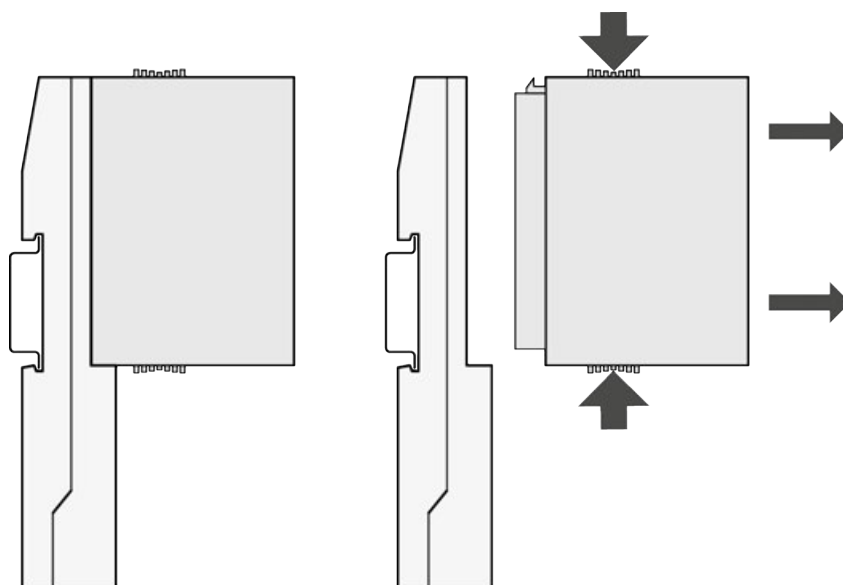
The slots can be used for connecting communication modules or AC500-S modules. Note that only one AC500-S module can be connected at one terminal base.

¹⁾ PM567x must have an index \geq C0.

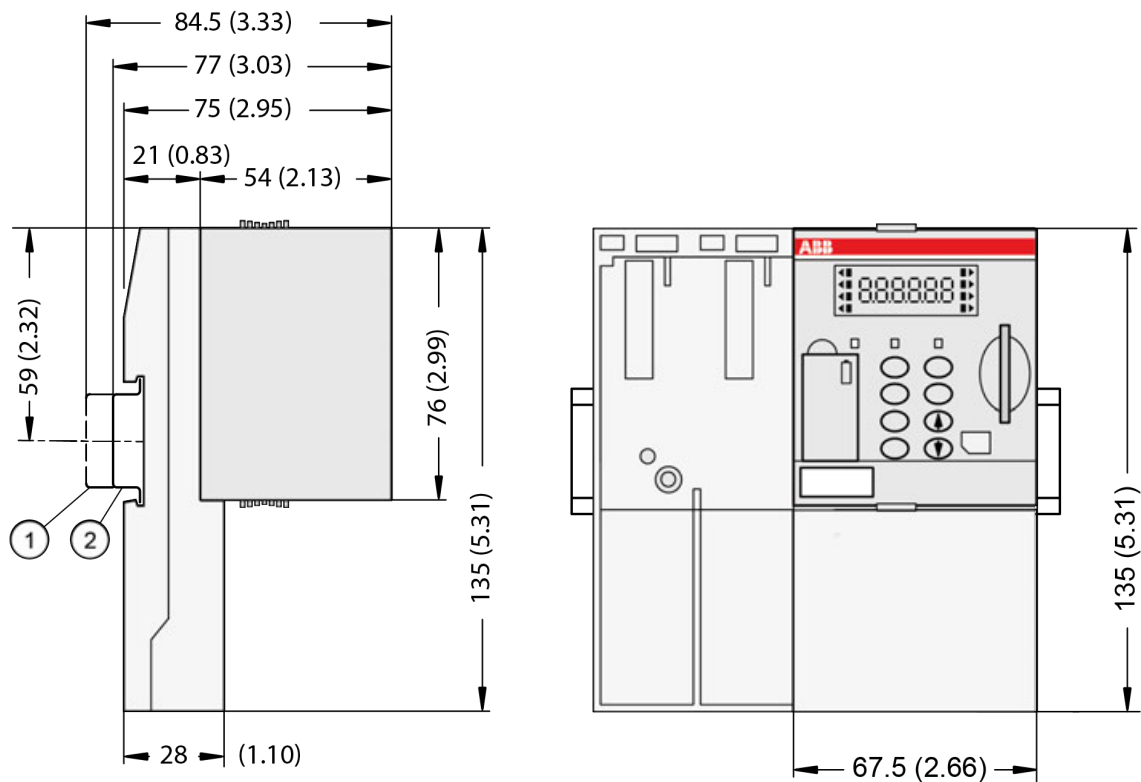
78.1 Assembly



78.2 Disassembly



78.3 Dimensions

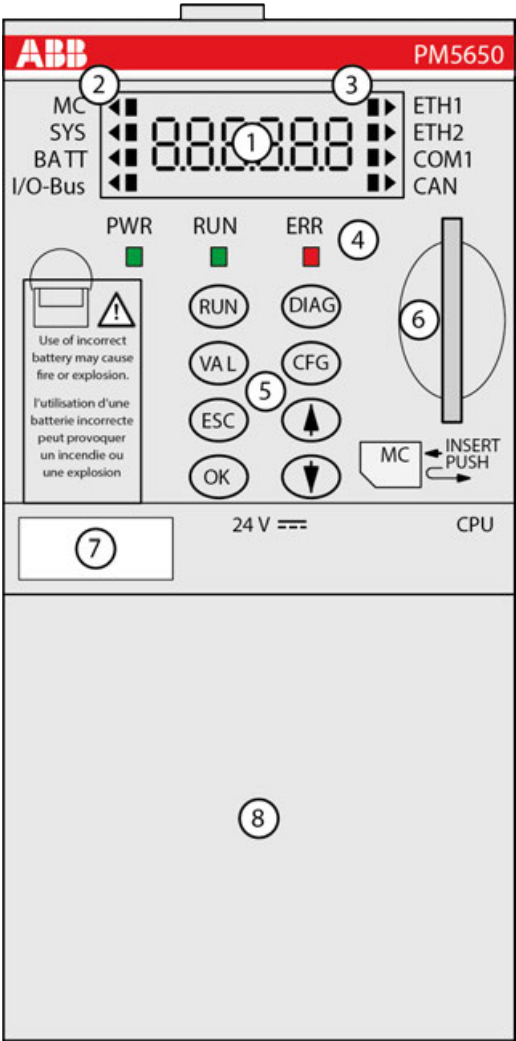


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

78.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version

i

Processor modules PM56xx-2ETH can only be used with TB56xx-2ETH terminal bases.

Table 44: Combination of TB56xx-2ETH(-XC) and PM56xx(-XC)

Processor module	PM5630	PM5650	PM5670	PM5675
TB5600-2ETH	0 slot	0 slot	0 slot	0 slot
TB5610-2ETH	1 slot	1 slot	1 slot	1 slot
TB5620-2ETH	2 slots	2 slots	2 slots	2 slots

Processor module	PM5630	PM5650	PM5670	PM5675
TB5640-2ETH	-	4 slots	4 slots	4 slots
TB5660-2ETH	-	-	6 slots ¹⁾	6 slots ¹⁾
Remarks: The slots can be used for connecting communication modules or AC500-S modules. Note that only one AC500-S module can be connected at one terminal base. ¹⁾ PM567x must have an index \geq C0.				

78.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

78.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

78.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

79 PM5675-2ETH(-XC)

- PM5675-2ETH
- PM5675-2ETH-XC



CAUTION!
Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

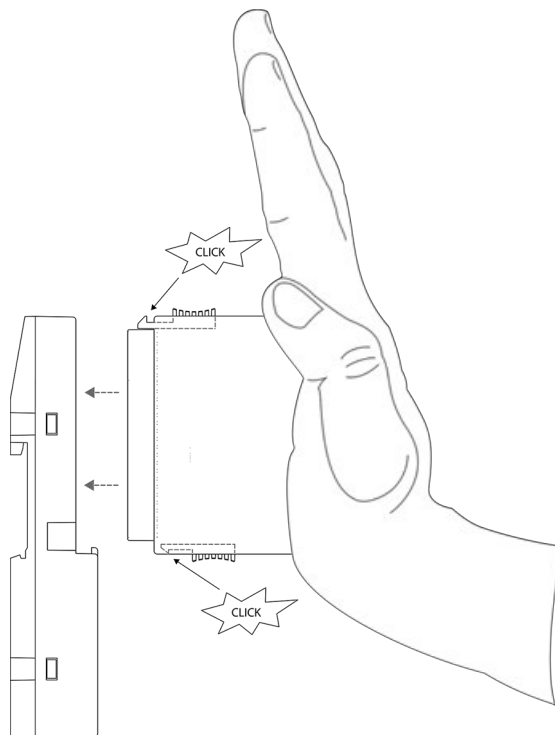


Processor modules PM56xx-2ETH can only be used with TB56xx-2ETH terminal bases.

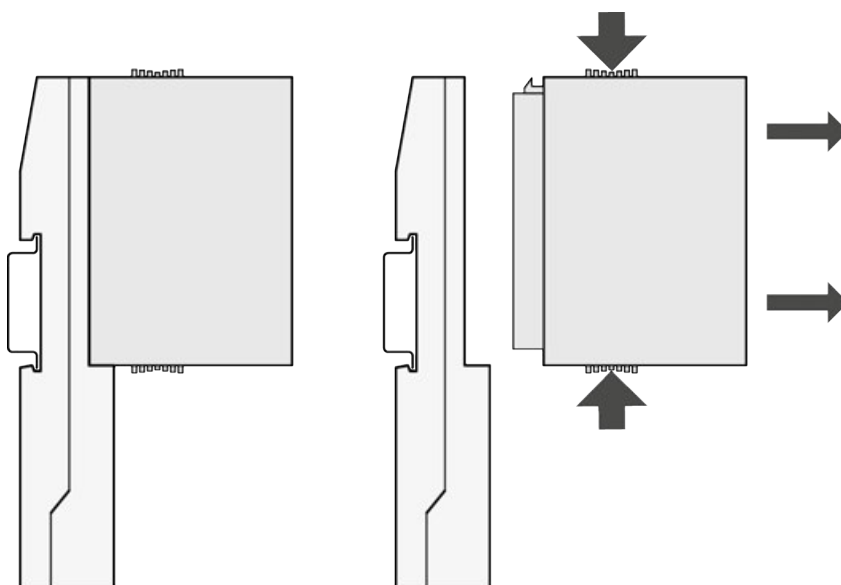
Table 45: Combination of TB56xx-2ETH(-XC) and PM56xx(-XC)

Processor module	PM5630	PM5650	PM5670	PM5675
TB5600-2ETH	0 slot	0 slot	0 slot	0 slot
TB5610-2ETH	1 slot	1 slot	1 slot	1 slot
TB5620-2ETH	2 slots	2 slots	2 slots	2 slots
TB5640-2ETH	-	4 slots	4 slots	4 slots
TB5660-2ETH	-	-	6 slots ¹⁾	6 slots ¹⁾
Remarks: The slots can be used for connecting communication modules or AC500-S modules. Note that only one AC500-S module can be connected at one terminal base. ¹⁾ PM567x must have an index \geq C0.				

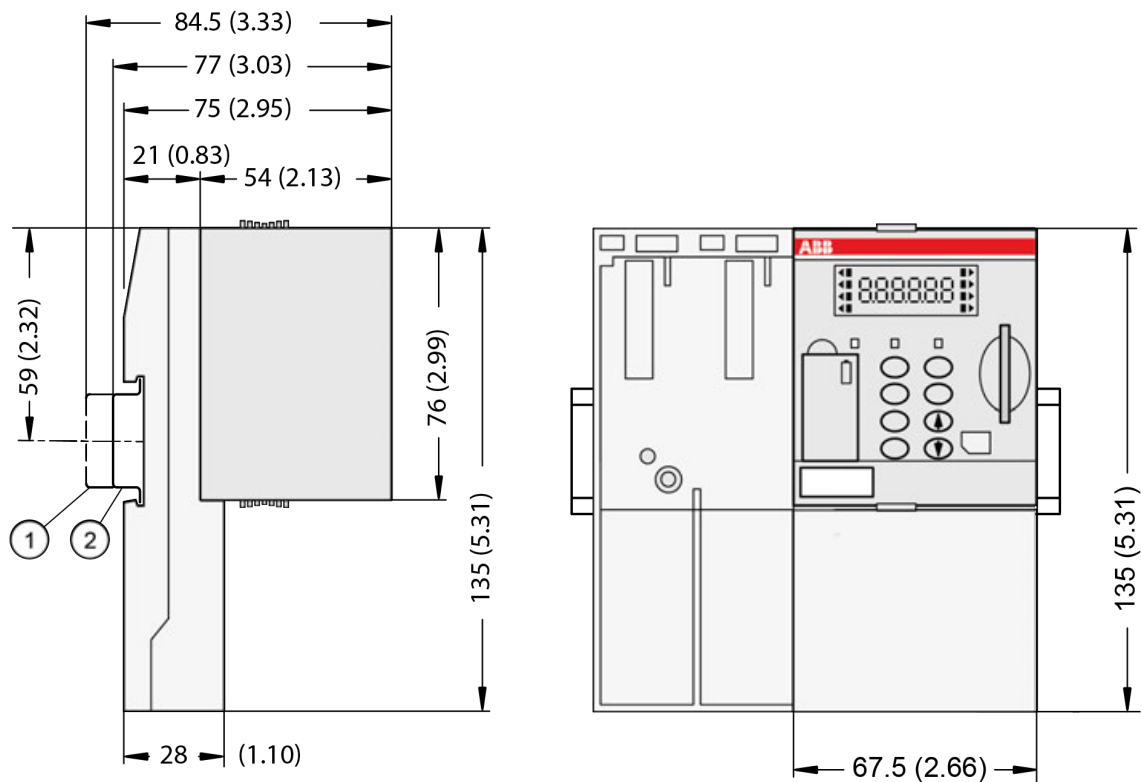
79.1 Assembly



79.2 Disassembly



79.3 Dimensions

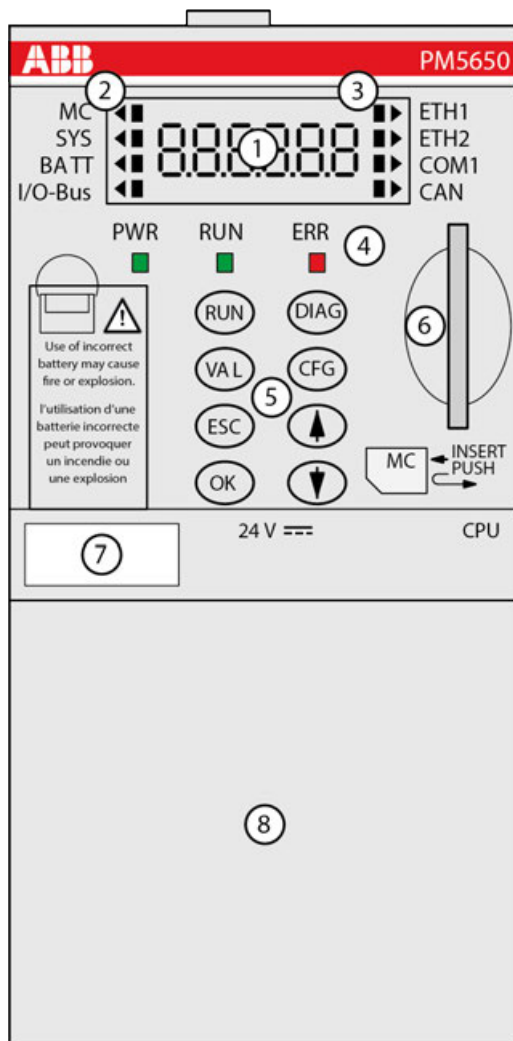


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

79.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version



Processor modules PM56xx-2ETH can only be used with TB56xx-2ETH terminal bases.

Table 46: Combination of TB56xx-2ETH(-XC) and PM56xx(-XC)

Processor module	PM5630	PM5650	PM5670	PM5675
TB5600-2ETH	0 slot	0 slot	0 slot	0 slot
TB5610-2ETH	1 slot	1 slot	1 slot	1 slot
TB5620-2ETH	2 slots	2 slots	2 slots	2 slots

Processor module	PM5630	PM5650	PM5670	PM5675
TB5640-2ETH	-	4 slots	4 slots	4 slots
TB5660-2ETH	-	-	6 slots ¹⁾	6 slots ¹⁾
<p>Remarks:</p> <p>The slots can be used for connecting communication modules or AC500-S modules. Note that only one AC500-S module can be connected at one terminal base.</p> <p>¹⁾ PM567x must have an index \geq C0.</p>				

79.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

79.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

79.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

80 PM572

- PM572



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM57x-ETH, PM58x-ETH and PM59x-ETH with ordering No. 1SAPxxxxxxR0271 can only be used with terminal bases TB5xx with ordering No. 1SAPxxxxxxR0270.

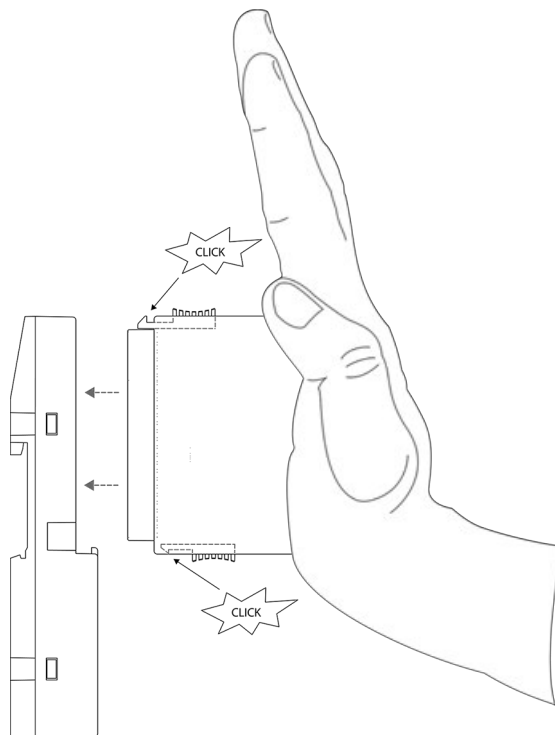


Processor module PM591-2ETH can only be used with TB523-2ETH.

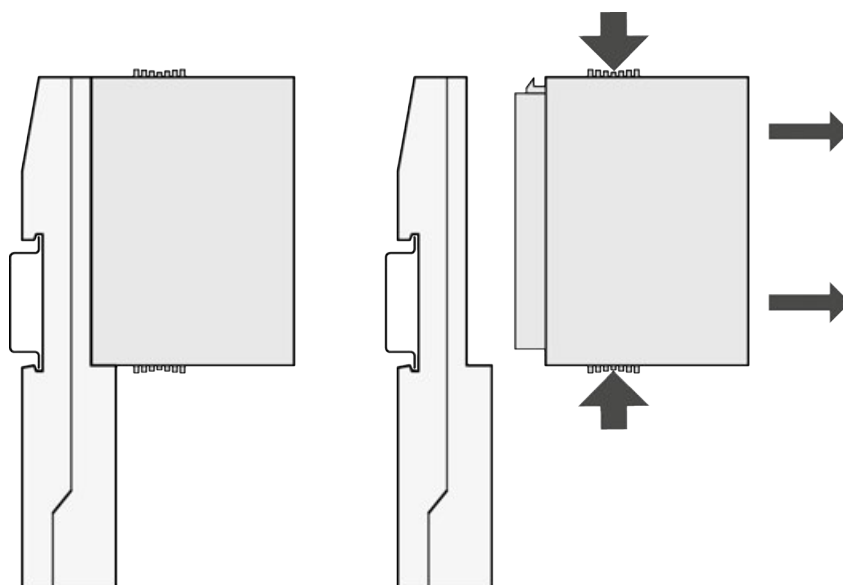


The processor modules PM59x-ETH can only be used with terminal bases TB5xx with product index C6 or higher. Otherwise, they should be updated to that index.

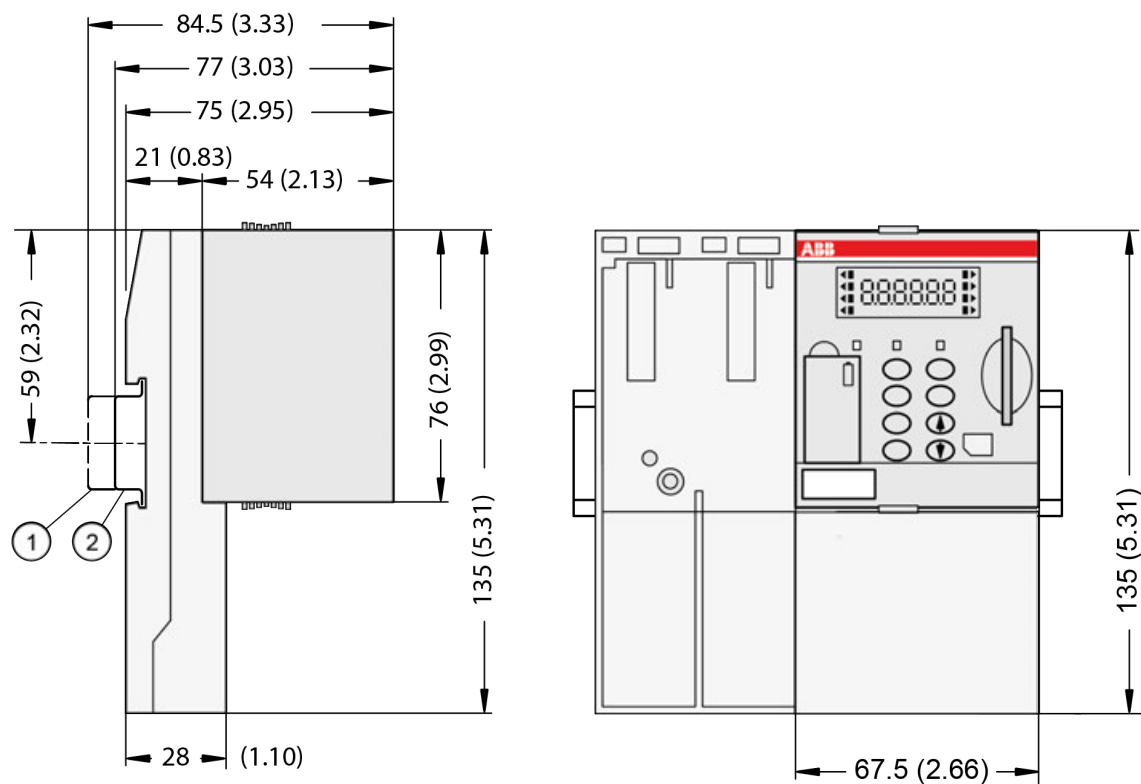
80.1 Assembly



80.2 Disassembly



80.3 Dimensions

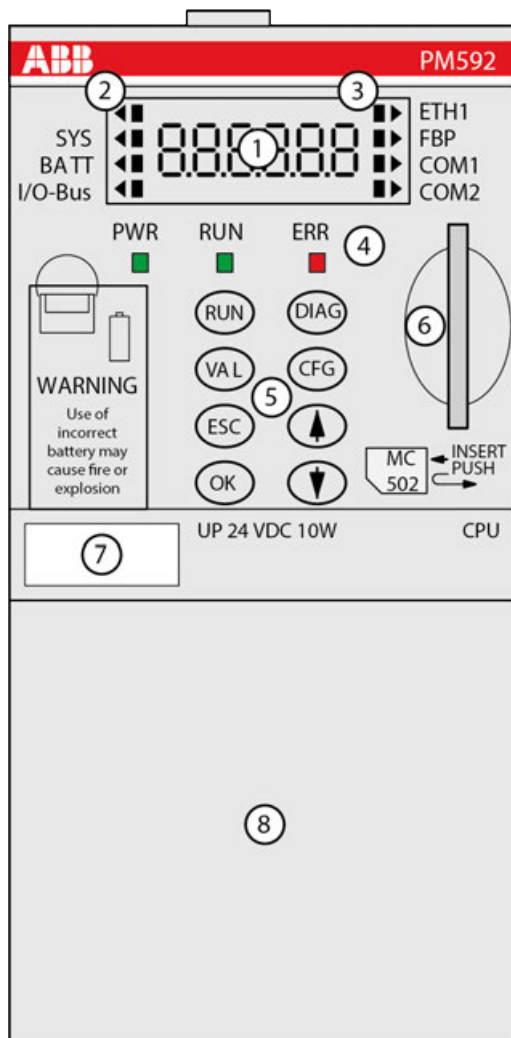


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

80.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version

80.5 Cleaning




Cleaning instruction

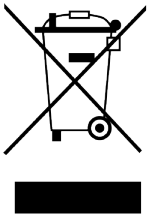
Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

80.6 Certification

		MSIP-REI-Abb-AC500	
		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note	These devices correspond to:	
			KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"
ko	참고	이러한 기기는	
			KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함

80.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

81 PM573-ETH(-XC)

- PM573-ETH
- PM573-ETH-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM57x-ETH, PM58x-ETH and PM59x-ETH with ordering No. 1SAPxxxxxxR0271 can only be used with terminal bases TB5xx with ordering No. 1SAPxxxxxxR0270.

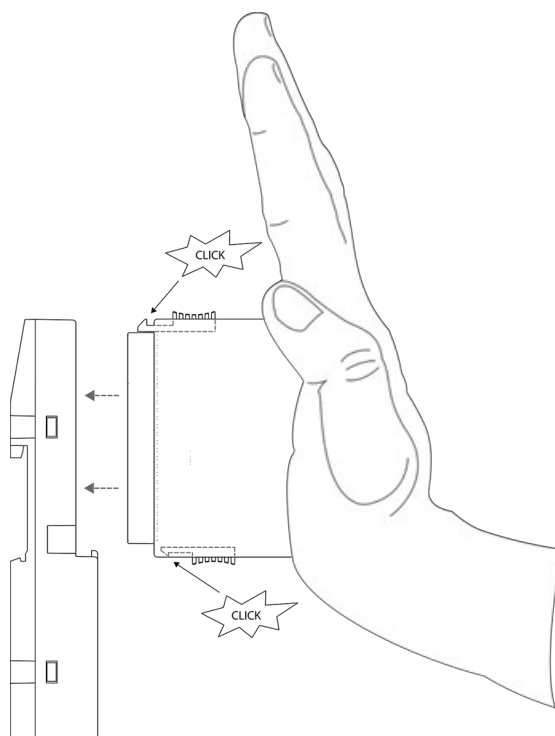


Processor module PM591-2ETH can only be used with TB523-2ETH.

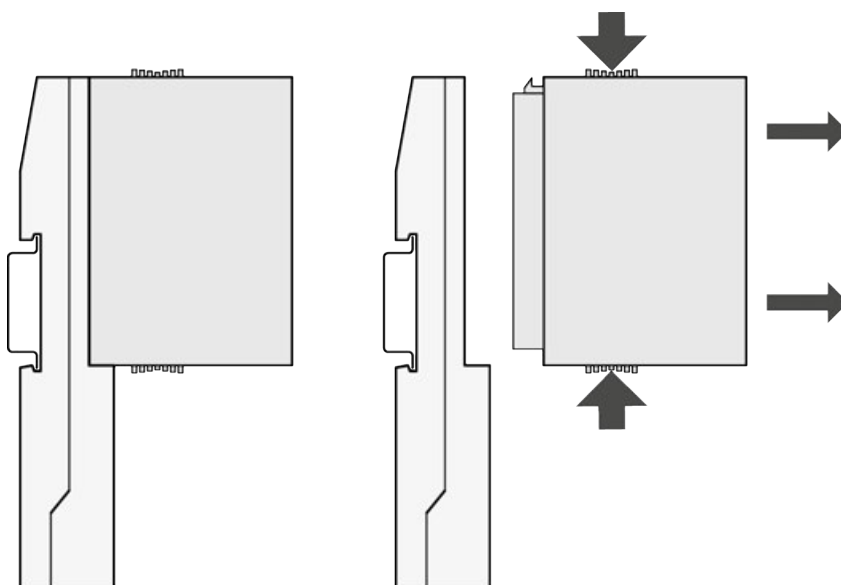


The processor modules PM59x-ETH can only be used with terminal bases TB5xx with product index C6 or higher. Otherwise, they should be updated to that index.

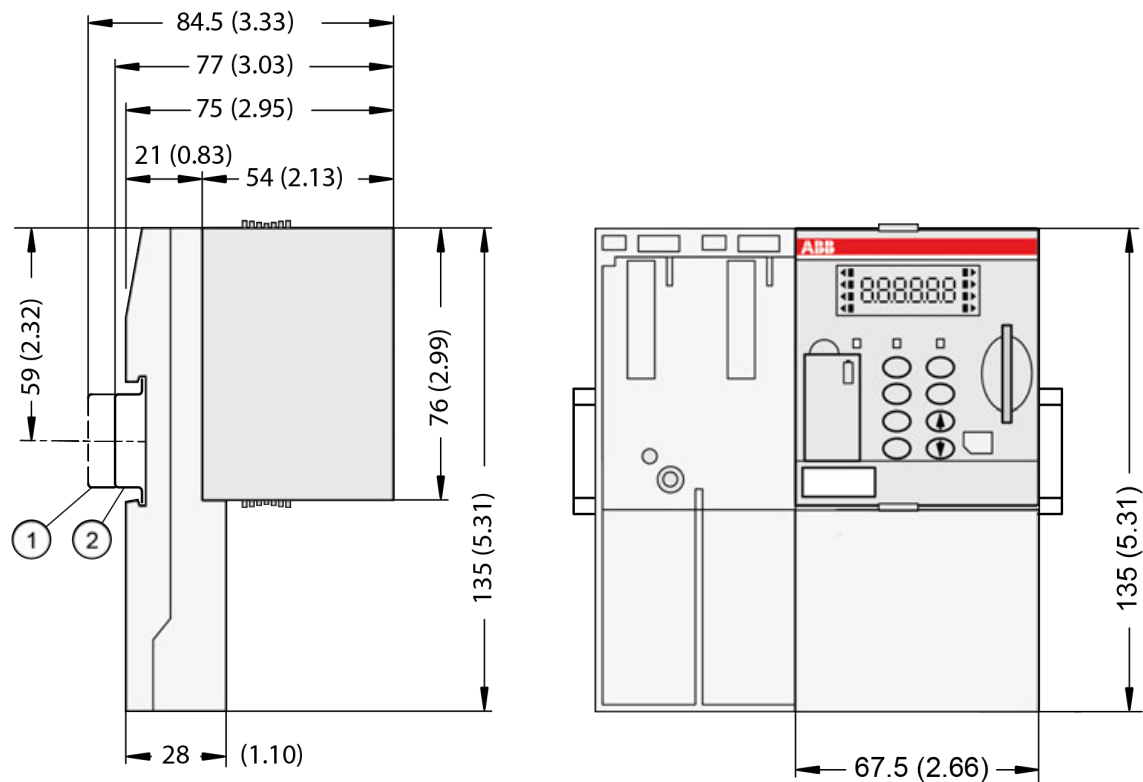
81.1 Assembly



81.2 Disassembly



81.3 Dimensions

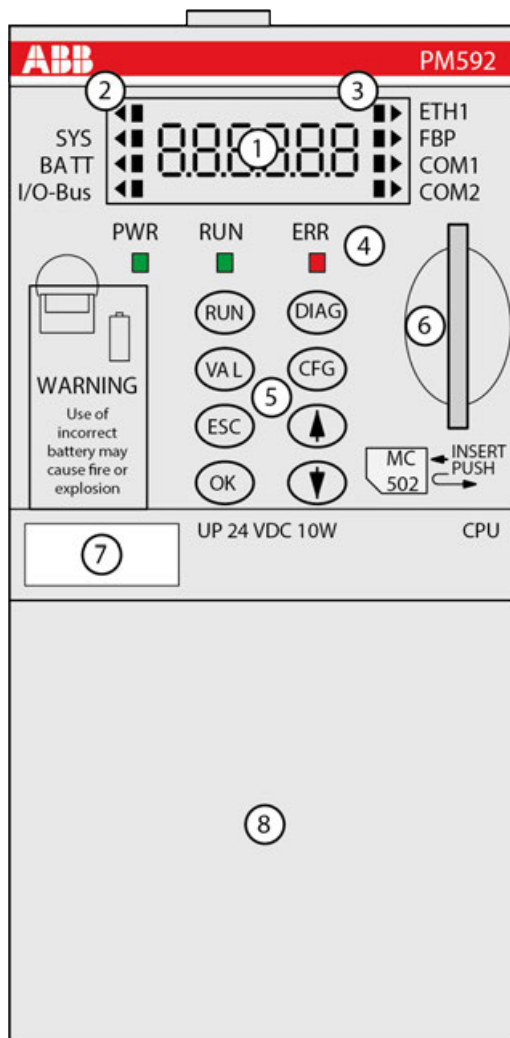


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

81.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version

81.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

81.6 Certification

		en	Devices with KCC sign on product sticker and packaging
MSIP-REI-Abb-AC500		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

81.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

82 PM582(-XC)

- PM582
- PM582-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM57x-ETH, PM58x-ETH and PM59x-ETH with ordering No. 1SAPxxxxxxR0271 can only be used with terminal bases TB5xx with ordering No. 1SAPxxxxxxR0270.

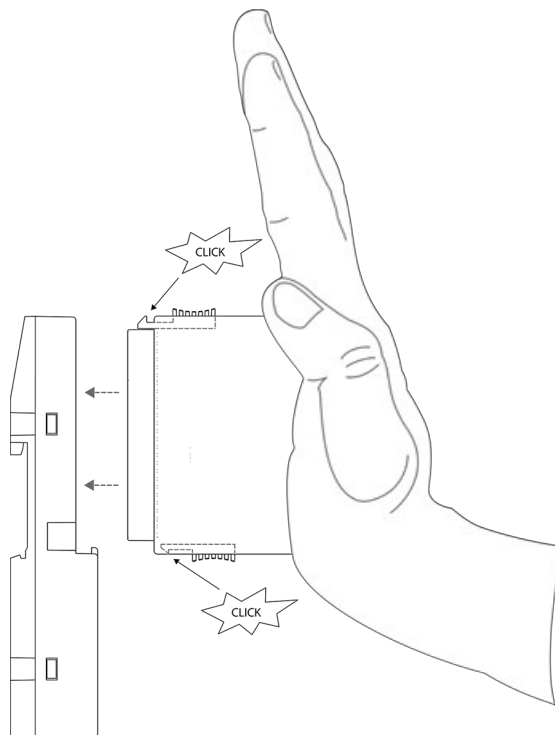


Processor module PM591-2ETH can only be used with TB523-2ETH.

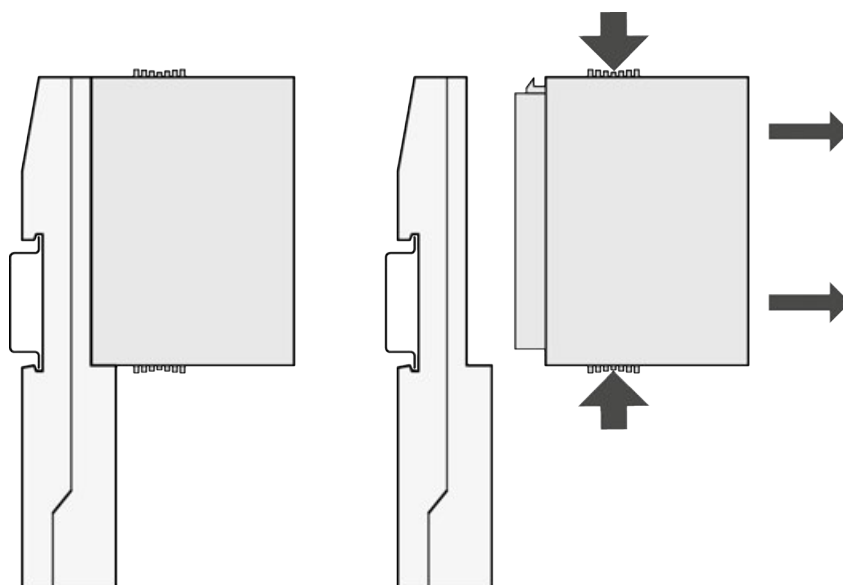


The processor modules PM59x-ETH can only be used with terminal bases TB5xx with product index C6 or higher. Otherwise, they should be updated to that index.

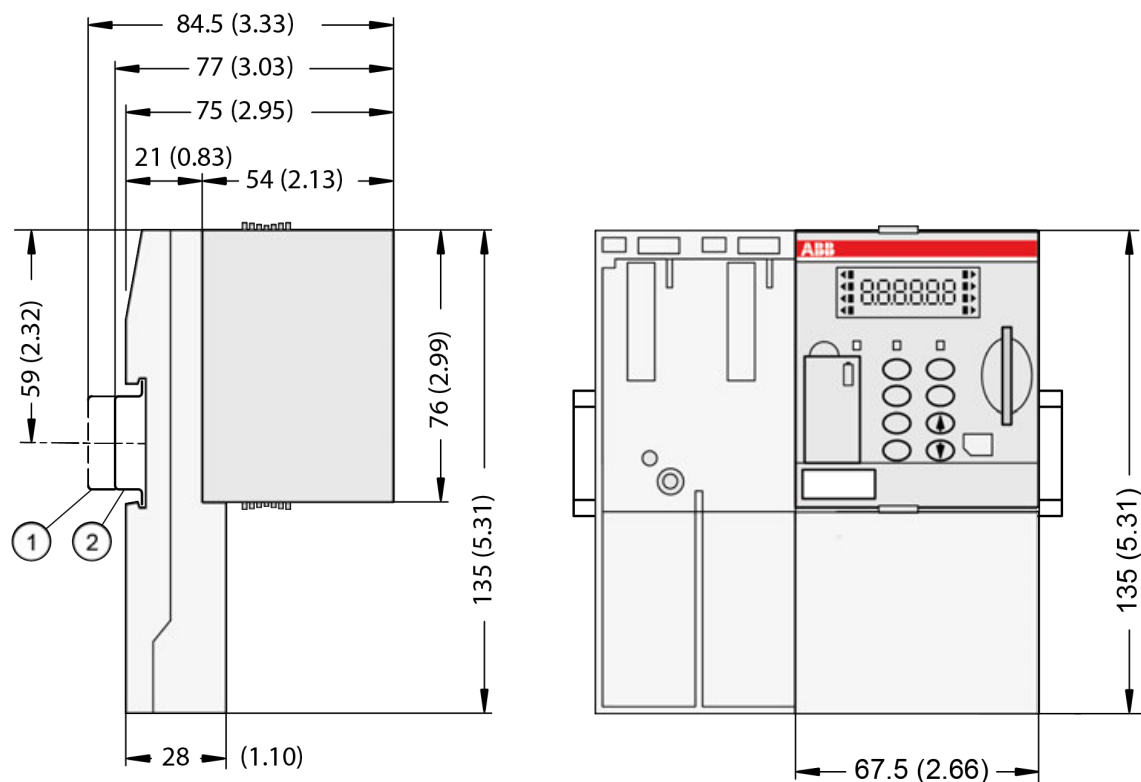
82.1 Assembly



82.2 Disassembly



82.3 Dimensions

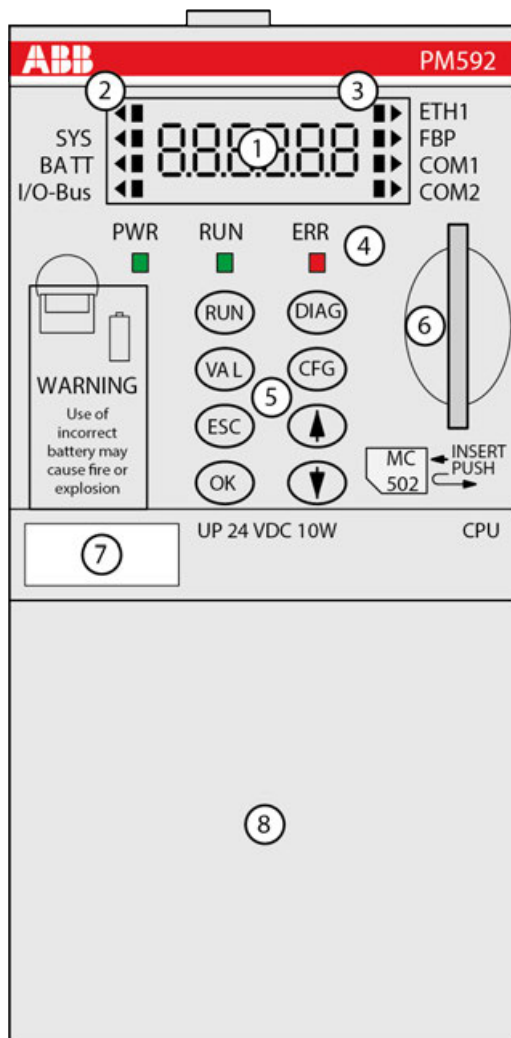


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

82.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version

82.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

82.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

82.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

83 PM583-ETH(-XC)

- PM583-ETH
- PM583-ETH-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM57x-ETH, PM58x-ETH and PM59x-ETH with ordering No. 1SAPxxxxxxR0271 can only be used with terminal bases TB5xx with ordering No. 1SAPxxxxxxR0270.

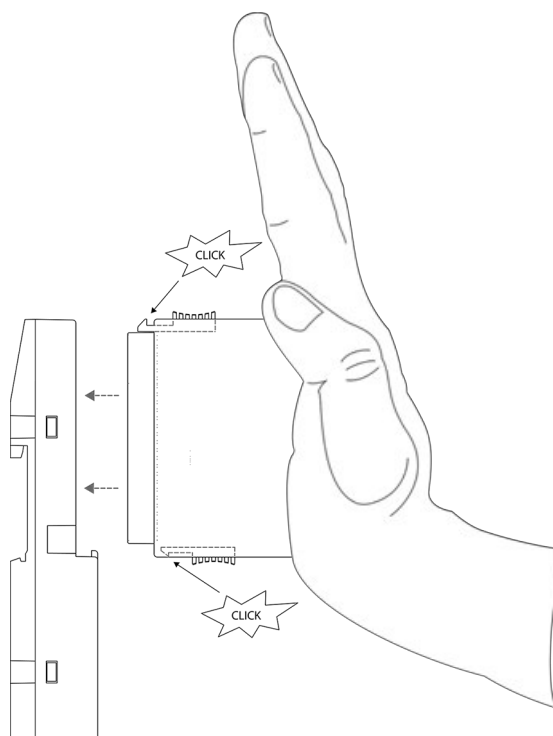


Processor module PM591-2ETH can only be used with TB523-2ETH.

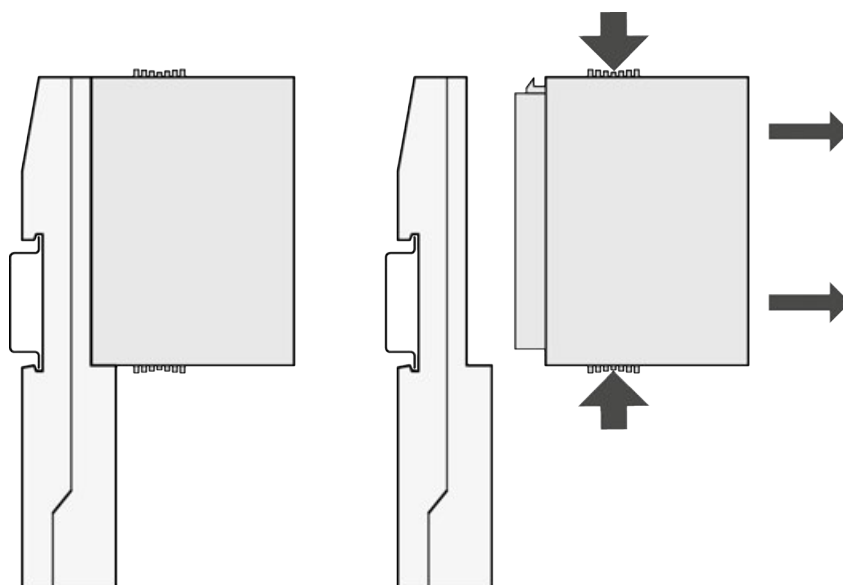


The processor modules PM59x-ETH can only be used with terminal bases TB5xx with product index C6 or higher. Otherwise, they should be updated to that index.

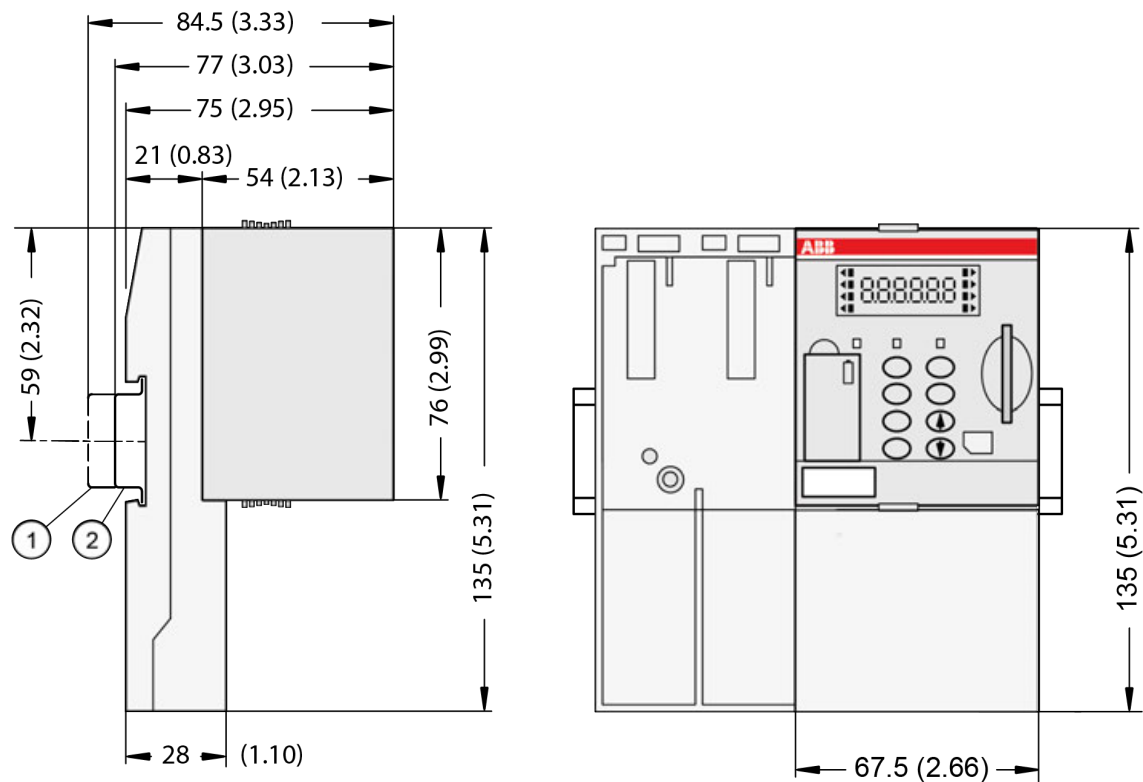
83.1 Assembly



83.2 Disassembly



83.3 Dimensions

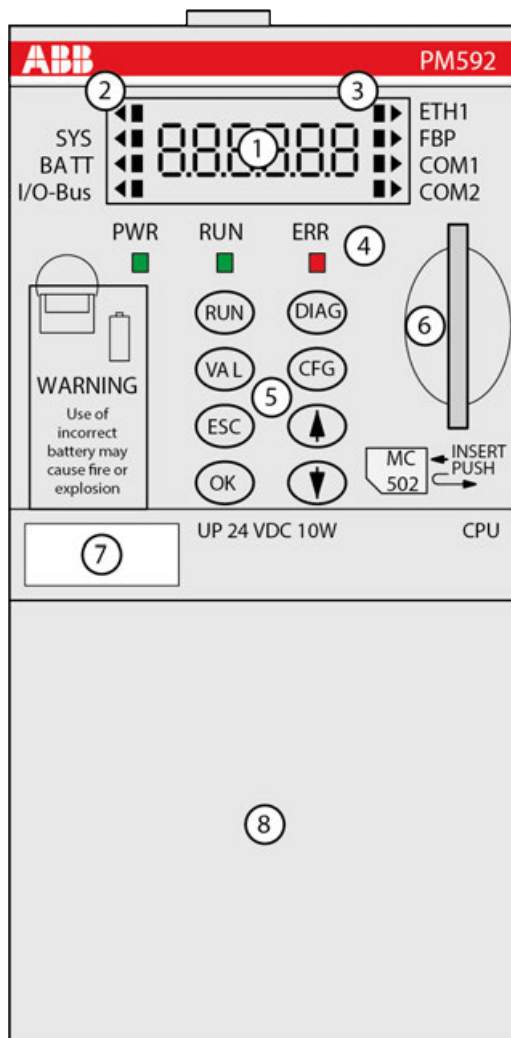


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

83.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version

83.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

83.6 Certification

		MSIP-REI-Abb-AC500	
en		Devices with KCC sign on product sticker and packaging	
ko		제품 스티커 및 포장에 KCC 표시가 된 기기	
en	Note		
	These devices correspond to:	KN61000-6-2 "Immunity for industrial environments",	
		KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성",	
		KN61000-6-4 "산업 환경 누출 기준"에 적합함	

83.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

84 PM585-ETH

- PM585-ETH



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM57x-ETH, PM58x-ETH and PM59x-ETH with ordering No. 1SAPxxxxxxR0271 can only be used with terminal bases TB5xx with ordering No. 1SAPxxxxxxR0270.

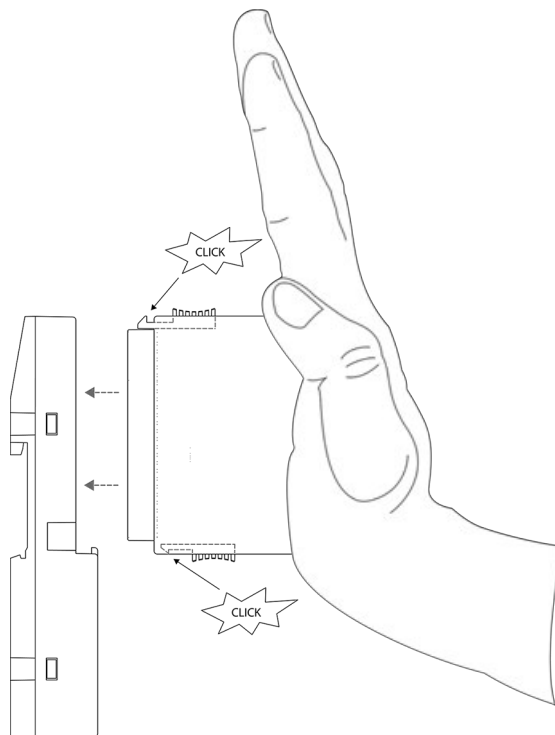


Processor module PM591-2ETH can only be used with TB523-2ETH.

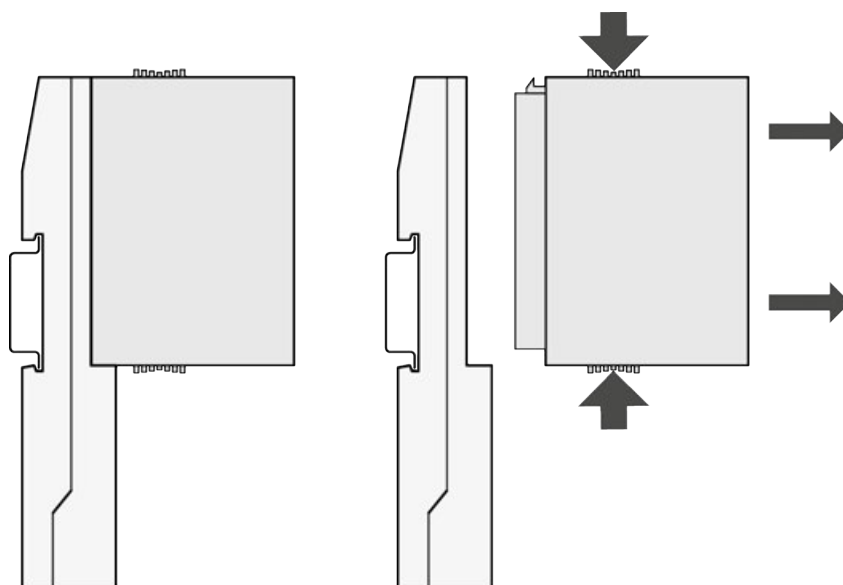


The processor modules PM59x-ETH can only be used with terminal bases TB5xx with product index C6 or higher. Otherwise, they should be updated to that index.

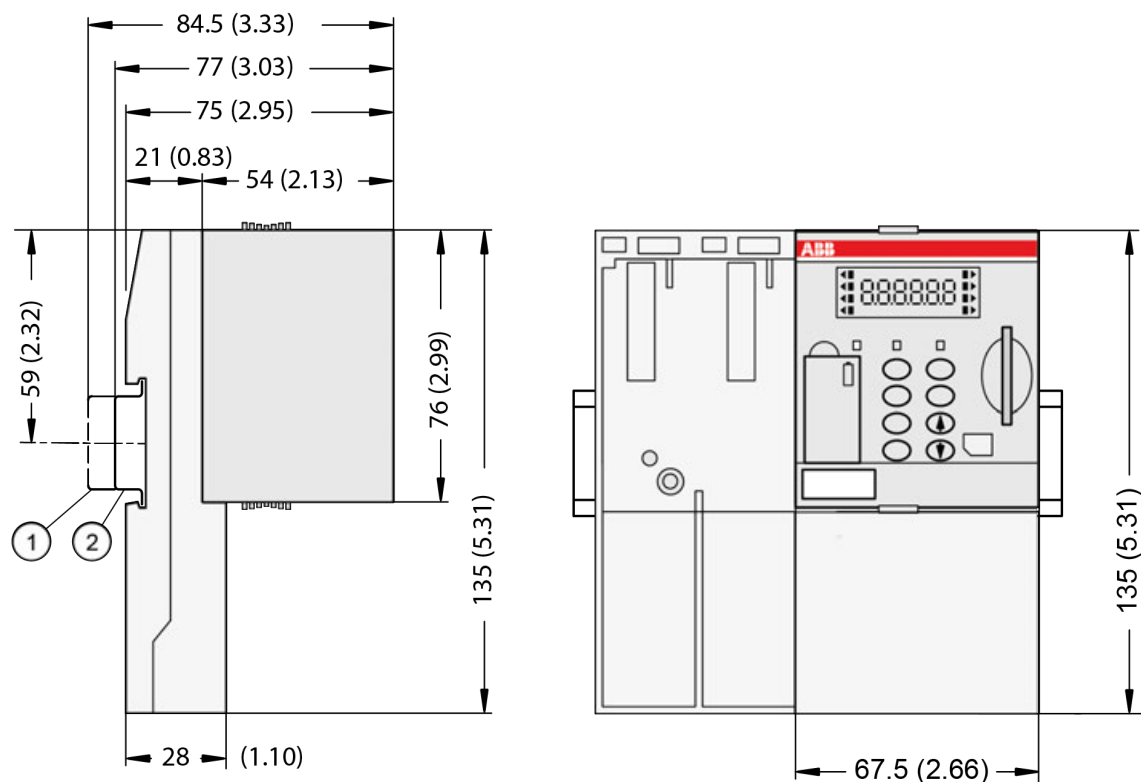
84.1 Assembly



84.2 Disassembly



84.3 Dimensions

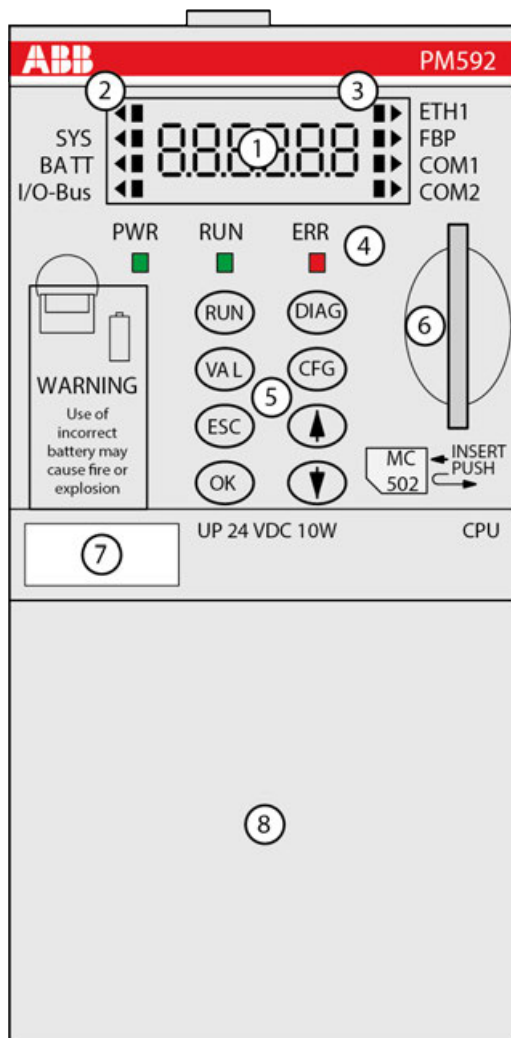


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

84.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version

84.5 Cleaning




Cleaning instruction

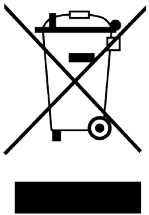
Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

84.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

84.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

85 PM590-x

- PM590-ARCNET
- PM590-ETH



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM57x-ETH, PM58x-ETH and PM59x-ETH with ordering No. 1SAPxxxxxxR0271 can only be used with terminal bases TB5xx with ordering No. 1SAPxxxxxxR0270.

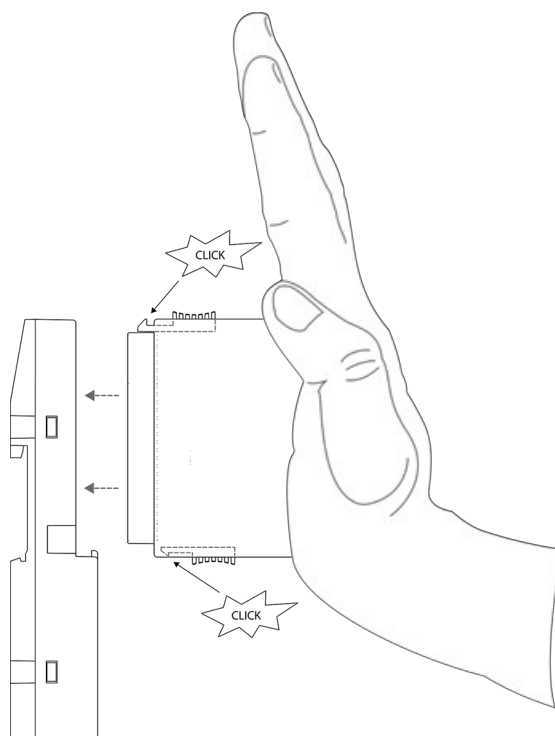


Processor module PM591-2ETH can only be used with TB523-2ETH.

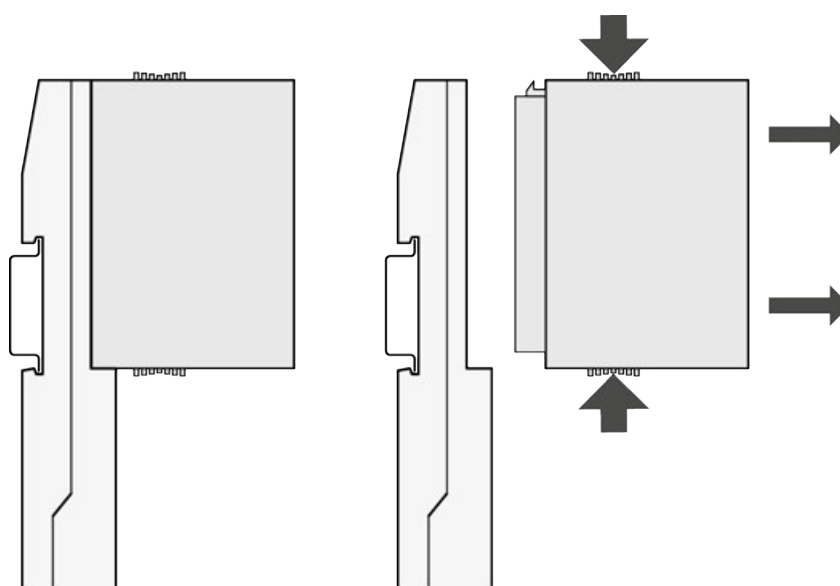


The processor modules PM59x-ETH can only be used with terminal bases TB5xx with product index C6 or higher. Otherwise, they should be updated to that index.

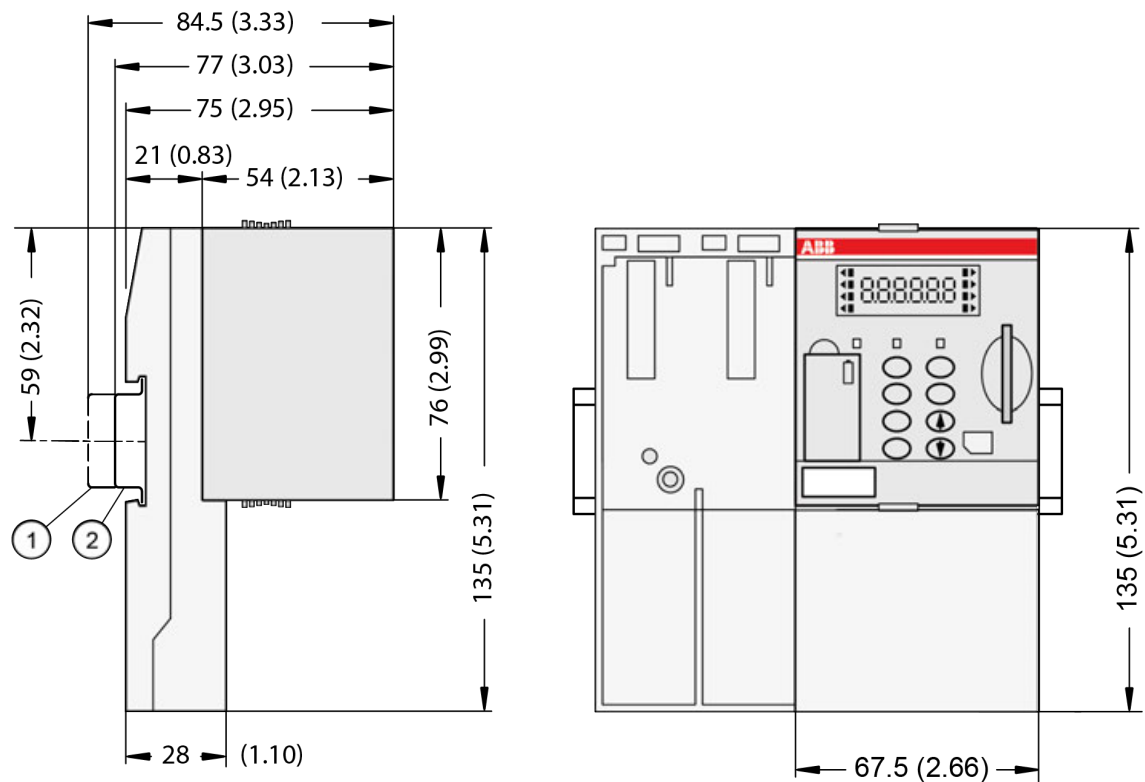
85.1 Assembly



85.2 Disassembly



85.3 Dimensions

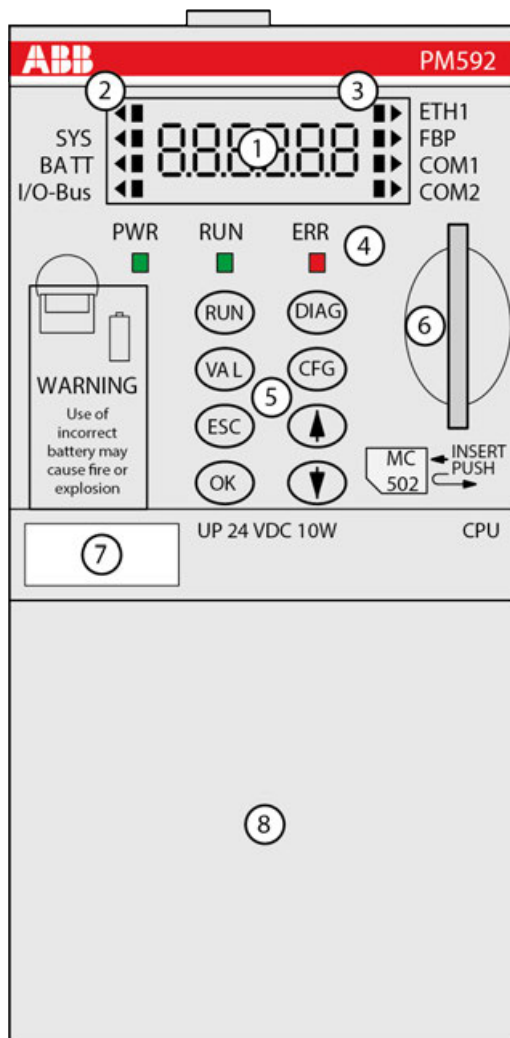


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

85.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version

85.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

85.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

85.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

86 PM591-ETH(-XC)

- PM591-ETH
- PM591-ETH-XC



CAUTION!

Risk of injury and damaging the product!

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- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM57x-ETH, PM58x-ETH and PM59x-ETH with ordering No. 1SAPxxxxxxR0271 can only be used with terminal bases TB5xx with ordering No. 1SAPxxxxxxR0270.

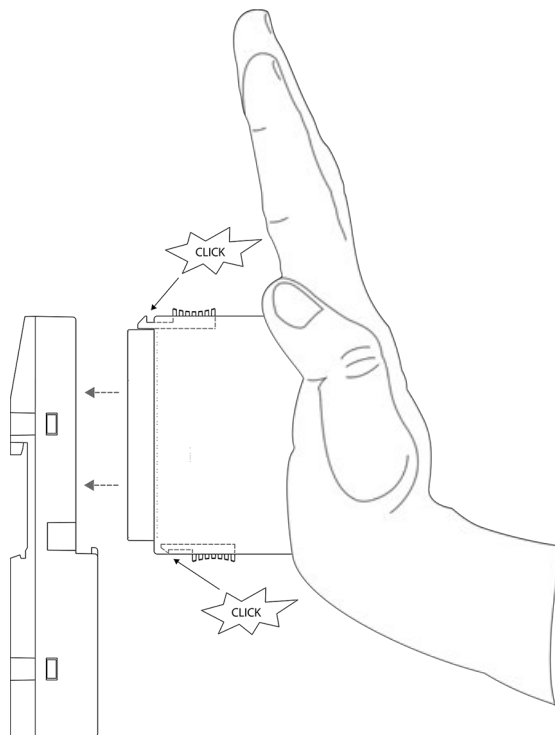


Processor module PM591-2ETH can only be used with TB523-2ETH.

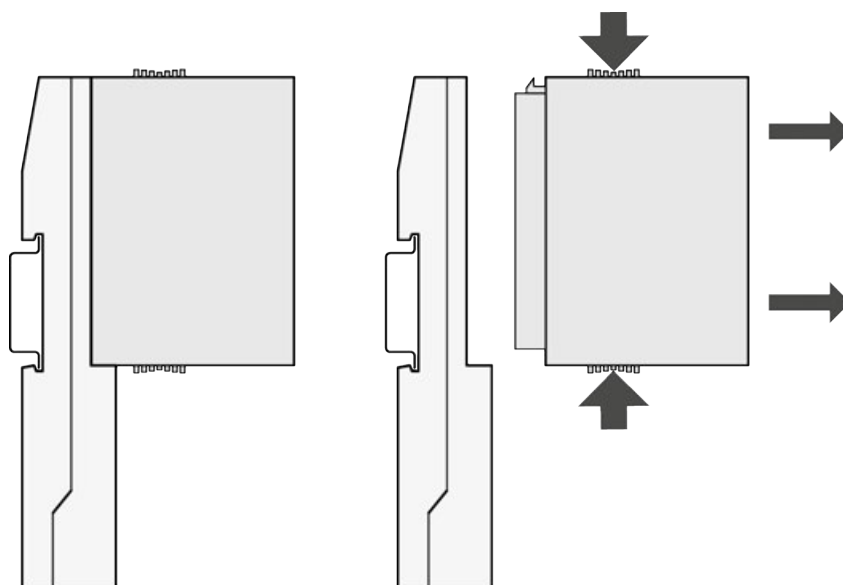


The processor modules PM59x-ETH can only be used with terminal bases TB5xx with product index C6 or higher. Otherwise, they should be updated to that index.

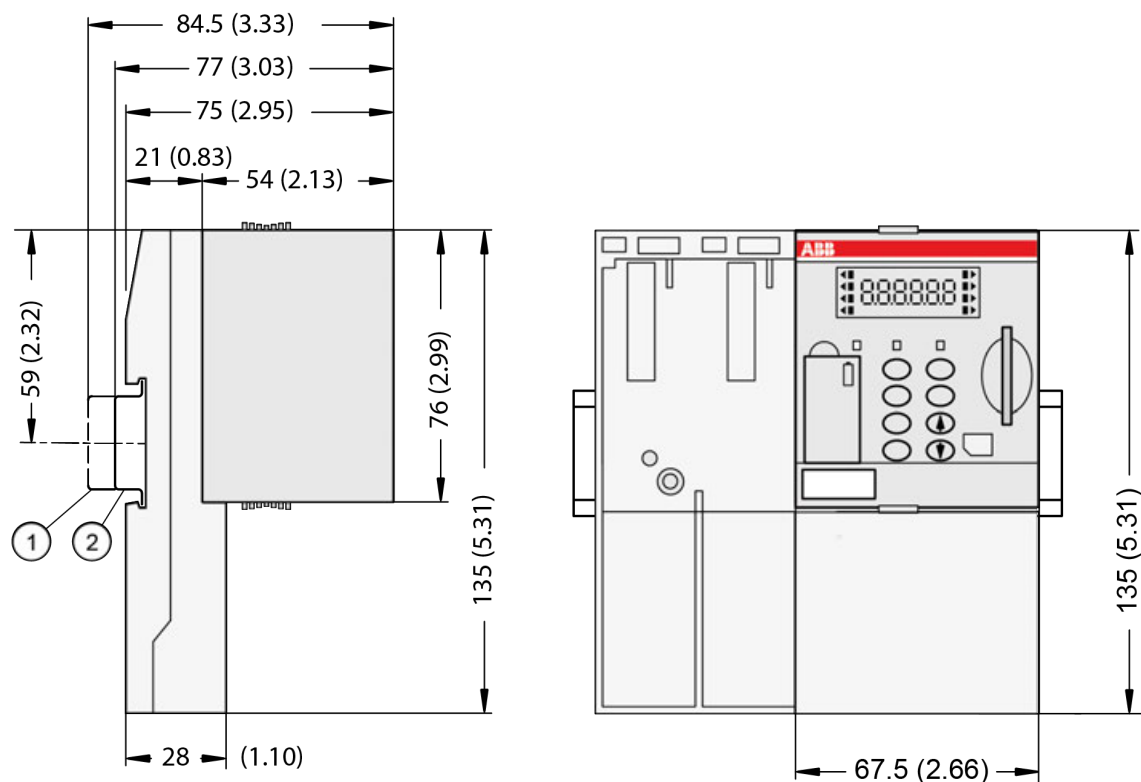
86.1 Assembly



86.2 Disassembly



86.3 Dimensions

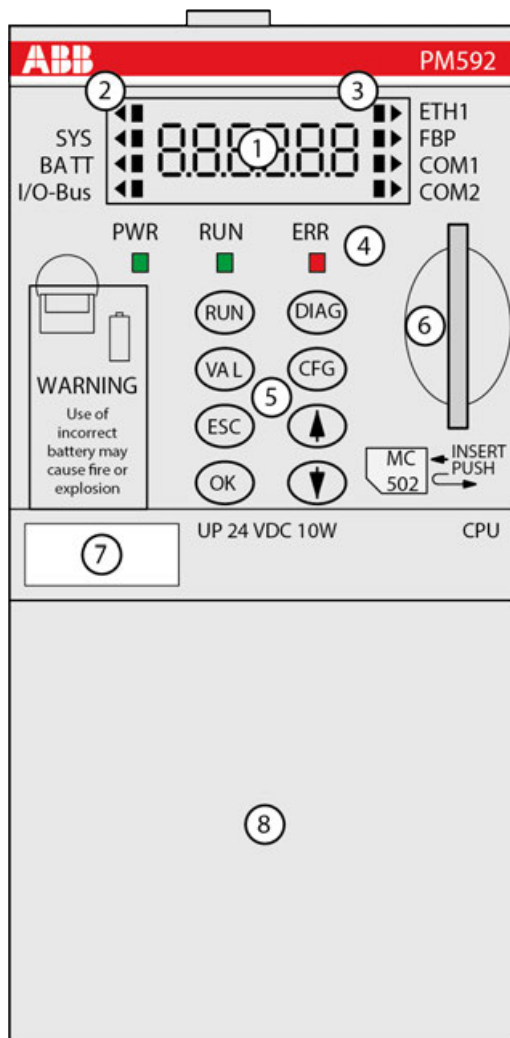


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

86.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version

86.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

86.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

86.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

87 PM592-ETH(-XC)

- PM592-ETH
- PM592-ETH-XC



CAUTION!

Risk of injury and damaging the product!

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- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM57x-ETH, PM58x-ETH and PM59x-ETH with ordering No. 1SAPxxxxxxR0271 can only be used with terminal bases TB5xx with ordering No. 1SAPxxxxxxR0270.

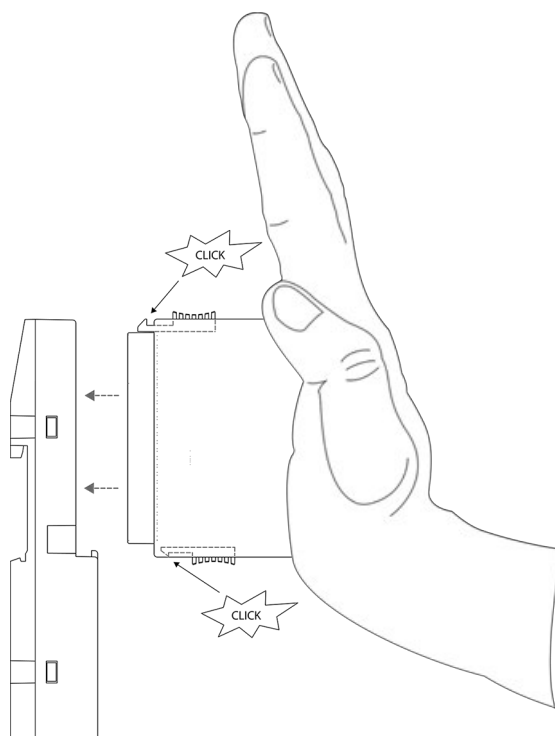


Processor module PM591-2ETH can only be used with TB523-2ETH.

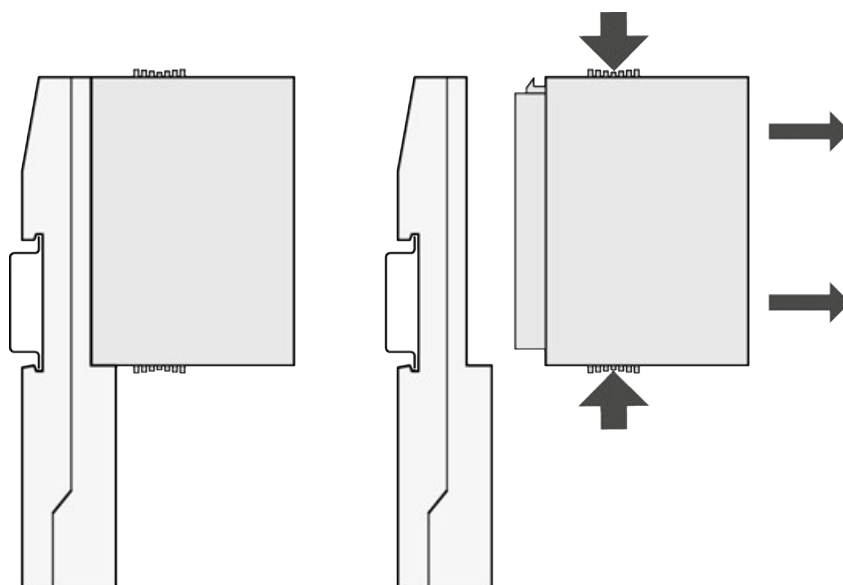


The processor modules PM59x-ETH can only be used with terminal bases TB5xx with product index C6 or higher. Otherwise, they should be updated to that index.

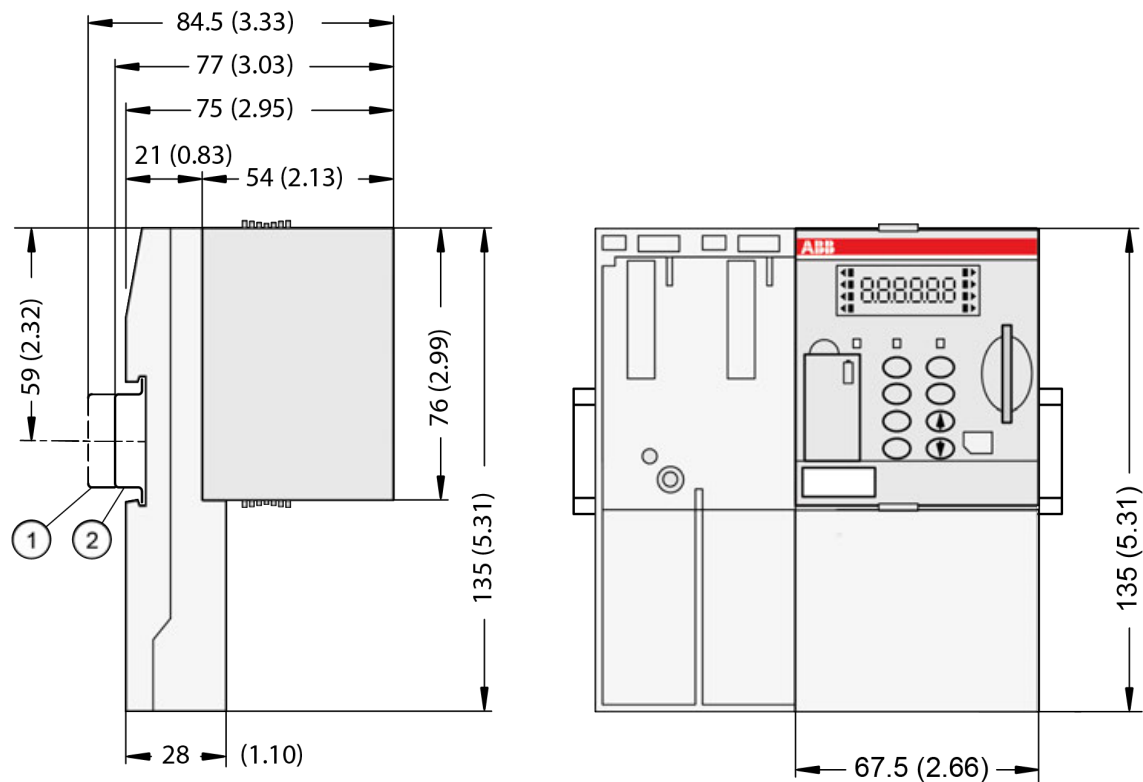
87.1 Assembly



87.2 Disassembly



87.3 Dimensions

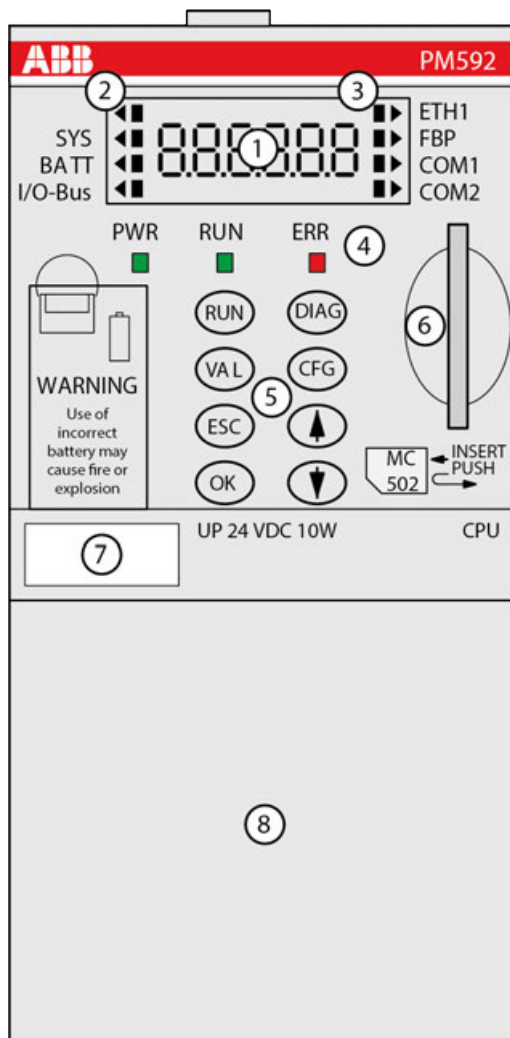


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

87.4 Connections



- 1 Status displays (7-segment)
 - 2 Triangle displays for "Item"
 - 3 Square displays for "Status"
 - 4 Status LEDs
 - 5 Function keys
 - 6 Slot for memory card
 - 7 TA525: Label
 - 8 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
- ✱ Sign for XC version

87.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

87.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

87.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

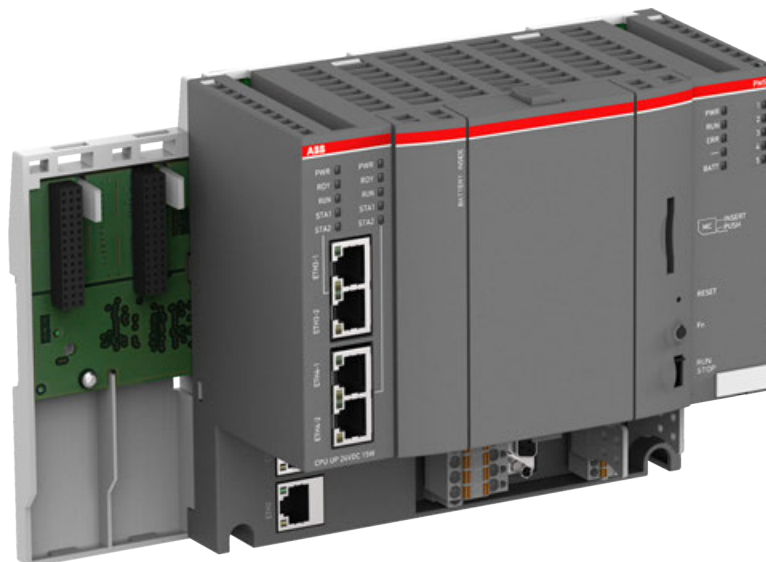
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

88 PM595-4ETH-x(-XC)

- PM595-4ETH-F
- PM595-4ETH-M-XC



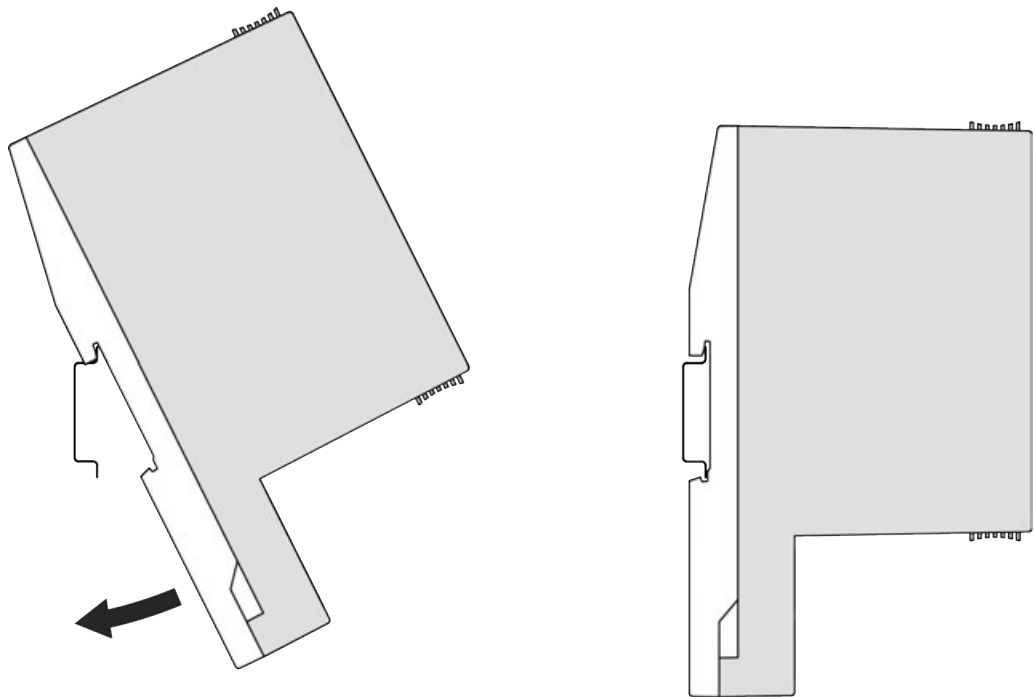
CAUTION!

Risk of injury and damaging the product!

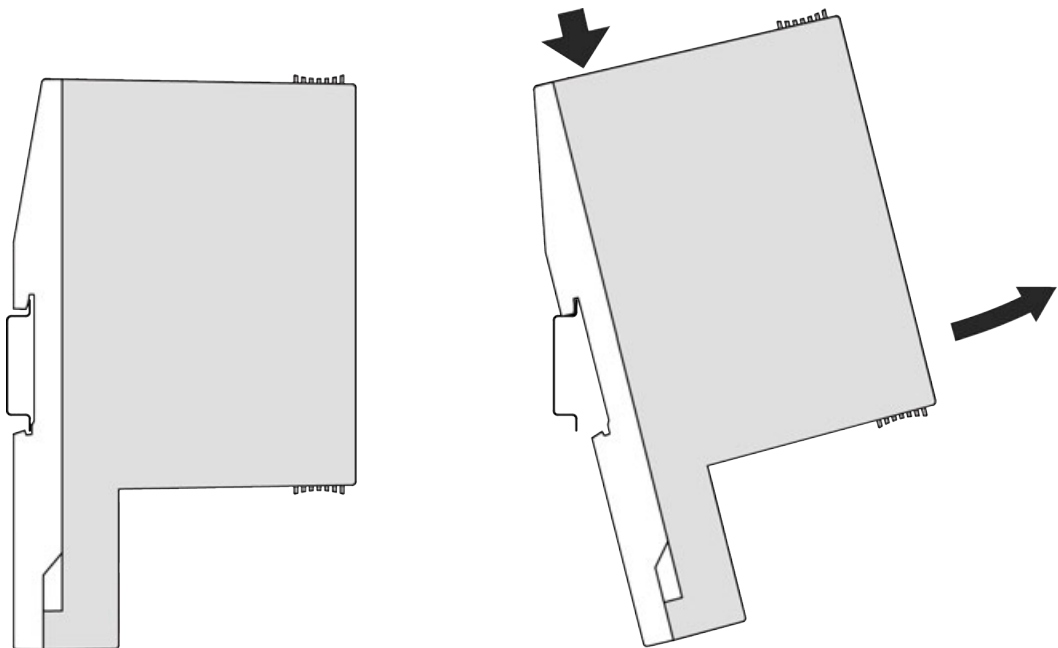
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

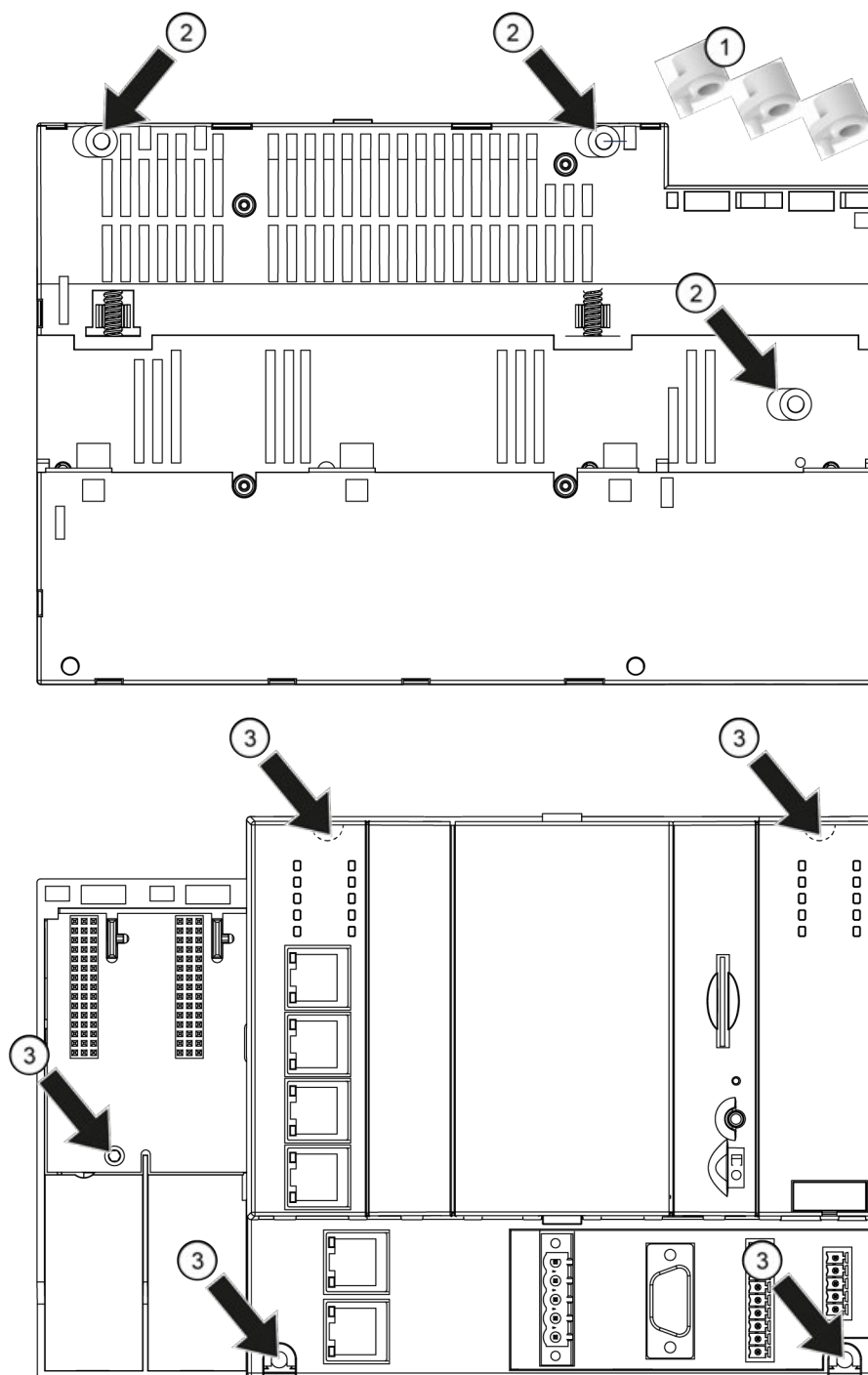
88.1 Assembly



88.2 Disassembly



88.3 Assembly with screws



- 1 3 parts of TA543 screw mounting accessory
- 2 3 slots for TA543 screw mounting accessory
- 3 5 holes for screw mounting

1. Insert 3 parts of the TA543 screw mounting accessory into the slots on the back side of the processor module.



NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA543 screw mounting accessory (1SAP182800R0001) is mandatory to prevent bending and damage to the module.

2. Fasten the processor module with 5 screws (M4, max 1.2 Nm) from the front side.



With screw mounting, the processor module is grounded through the screws.

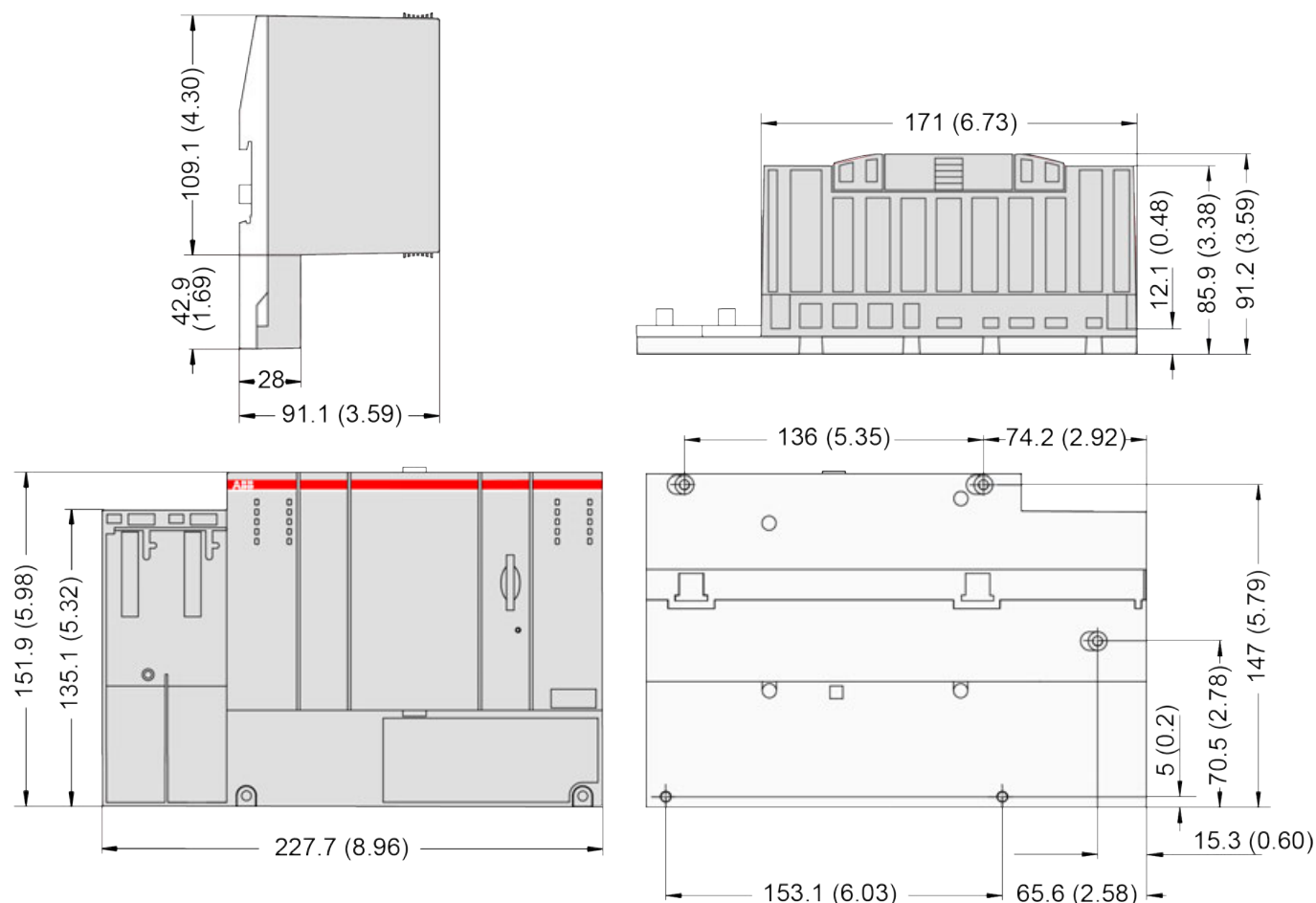
It is necessary that

- *the screws have a conductive surface (e.g. steel zinc-plated or brass nickel-plated)*
- *the mounting plate is grounded*
- *the screws have a good electrical contact to the mounting plate*



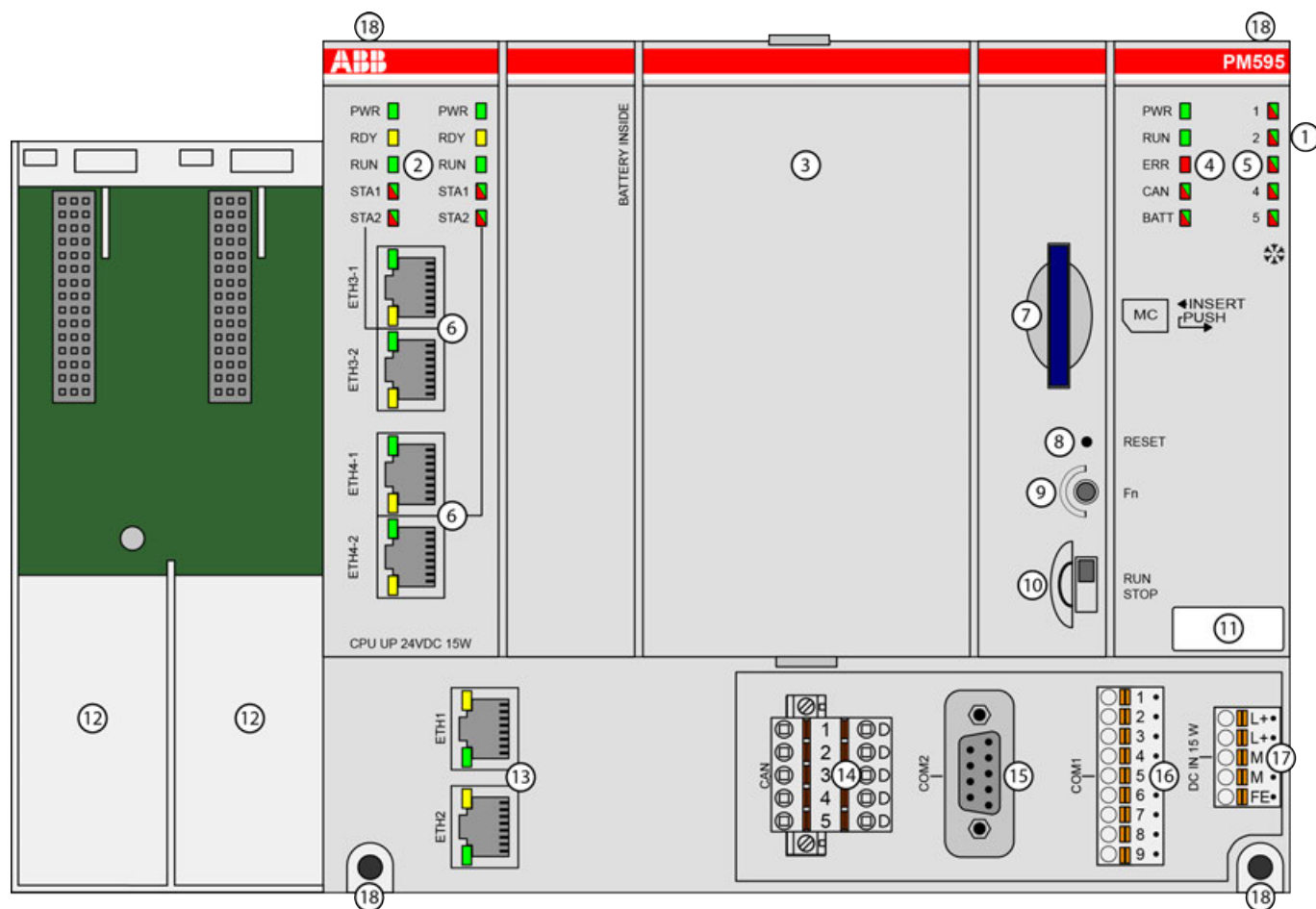
To prevent the screw from loosening after prolonged use, a thread lock washer is highly recommended.

88.4 Dimensions



The dimensions are in mm and in brackets in inch.

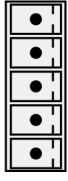
88.5 Connections



- | | |
|--|---|
| 1 I/O bus for connection of I/O modules | 11 Label |
| 2 2x 5 LEDs to display the states of the fieldbuses | 12 Slots for communication modules (max 2; unused slots must be covered with TA524) |
| 3 Cover for battery and display | 13 2 RJ45 interfaces for Ethernet connection |
| 4 5 LEDs to display the states of the processor module | 14 5-pin terminal block (reserved) |
| 5 5 LEDs (reserved) | 15 Serial interface COM2 (D-sub 9) |
| 6 2x2 RJ45 interfaces for fieldbuses | 16 Serial interface COM1 (9-pin terminal block, removable) |
| 7 Slot for memory card | 17 Power supply (5-pin terminal block, removable) |
| 8 Reset button | 18 5 holes for screw mounting |
| 9 Button (reserved) | *** Sign for XC version |
| 10 RUN/STOP switch | |

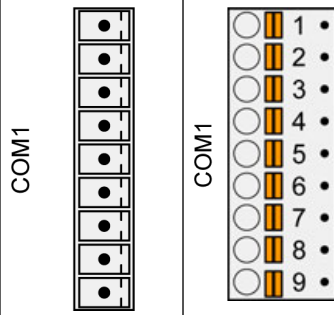
88.5.1 Power supply

Pin assignment

Pin Assignment	Label	Function	Description
 Terminal block removed	L+	+24 V DC	Positive PIN of the power supply voltage
	L+	+24 V DC	Positive PIN of the power supply voltage
	M	0 V	Negative PIN of the power supply voltage
	M	0 V	Negative PIN of the power supply voltage
	⏏	FE	Functional earth

88.5.2 Serial interface COM1

Pin assignment
(RS-485 /
RS-232)

	Pin	Signal	Interface	Description
 <p>COM1</p> <p>Terminal block removed</p> <p>Terminal block inserted</p>	1	Terminator P	RS-485	Terminator P
	2	RxD/TxD-P	RS-485	Receive/Transmit, positive
	3	RxD/TxD-N	RS-485	Receive/Transmit, negative
	4	Terminator N	RS-485	Terminator N
	5	RTS	RS-232	Request to send (output)
	6	TxD	RS-232	Transmit data (output)
	7	SGND	Signal Ground	Signal Ground
	8	RxD	RS-232	Receive data (input)
	9	CTS	RS-232	Clear to send (input)



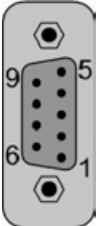
NOTICE!

Unused connector!

Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.

88.5.3 Serial interface COM2

Pin assignment

Serial Interface	Pin	Signal	Interface	Description	
	1	FE	-	Functional earth	
	2	TxD	RS-232	Transmit data	Output
	3	RxD/TxD-P	RS-485	Receive/Transmit	Positive
	4	RTS	RS-232	Request to send	Output
	5	SGND	Signal ground	0 V supply out	
	6	+5 V	-	5 V supply out	
	7	RxD	RS-232	Receive data	Input
	8	RxD/TxD-N	RS-485	Receive/Transmit	Negative
	9	CTS	RS-232	Clear to send	Input
	Shield	FE	-	Functional earth	



NOTICE!

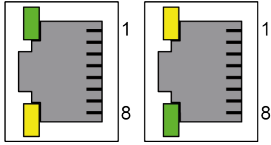
Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

88.5.4 Ethernet network interface

Pin assignment

	Pin	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NU	Not used
	5	NU	Not used
	6	RxD-	Receive data -
	7	NU	Not used
	8	NU	Not used
	Shield	Cable shield	Functional earth



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

88.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

88.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

ko

참고
이러한 기기는

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

88.8 Recycling



Disposal and recycling information

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89 SM560-S(-FD-x)(-XC)

- SM560-S
- SM560-S-XC
- SM560-S-FD-1
- SM560-S-FD-1-XC
- SM560-S-FD-4
- SM560-S-FD-4-XC



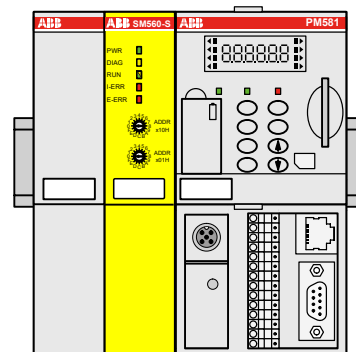
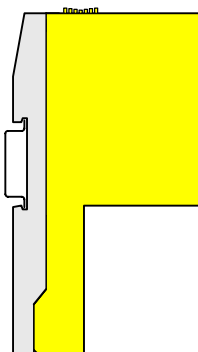
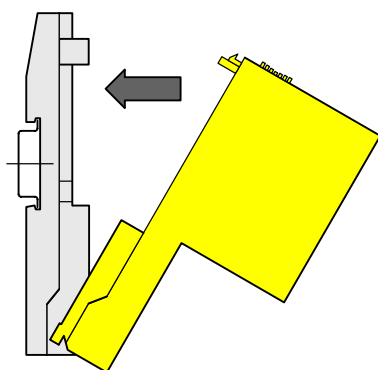
CAUTION!

Risk of injury and damaging the product!

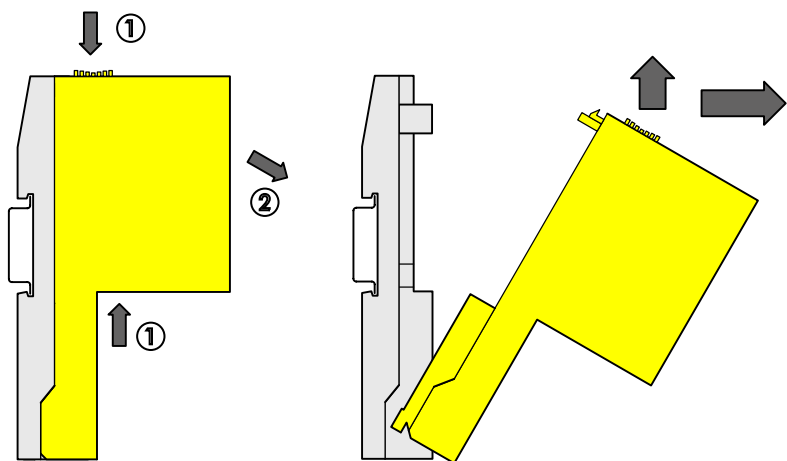
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

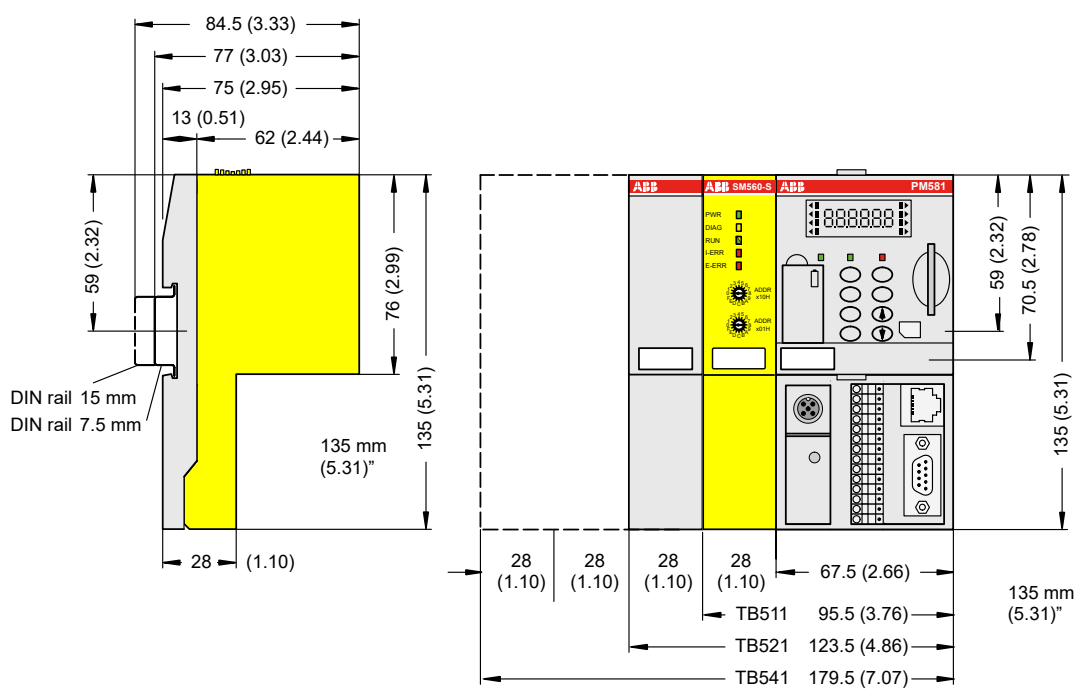
89.1 Assembly



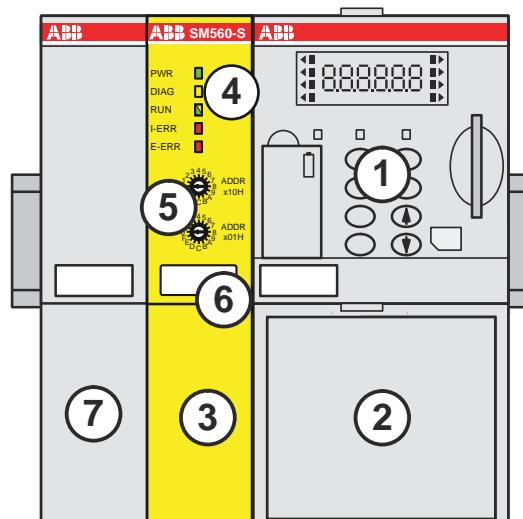
89.2 Disassembly



89.3 Dimensions



89.4 Connections



- 1 CPU
- 2 Connectors of the CPU
- 3 Safety CPU
- 4 System LEDs
- 5 2 rotary switches for address/configuration
- 6 TA525 Label
- 7 TA524 Dummy communication module
- ❄ Sign for XC version

89.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

89.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

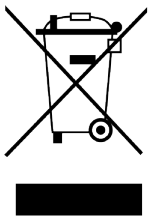
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

89.7 Recycling



Disposal and recycling information

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For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

90 TA5101-4DI - Digital input module option board

- TA5101-4DI



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



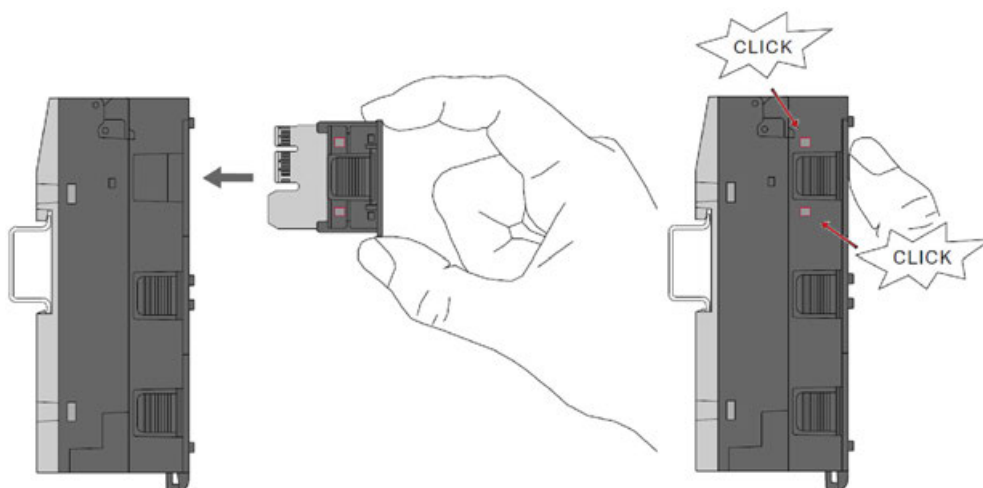
CAUTION!

Risk of damaging the product!

Option boards are sensitive electronic devices. Wrong handling can damage the product.

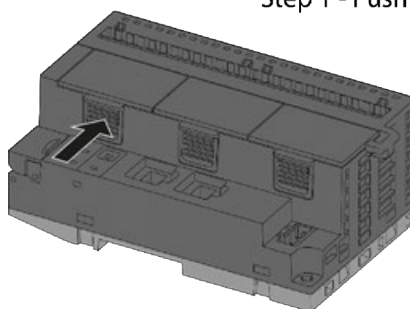
- ESD (electrostatic discharge) protection measures are required when handling the option board.
- Do not touch contacts and circuit board.

90.1 Assembly

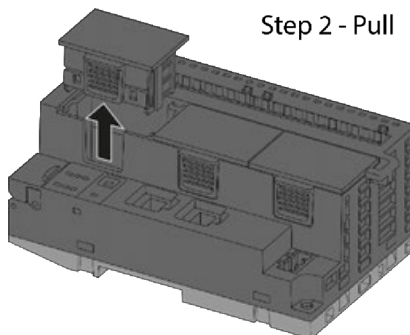


90.2 Disassembly

Step 1 - Push



Step 2 - Pull



CAUTION!

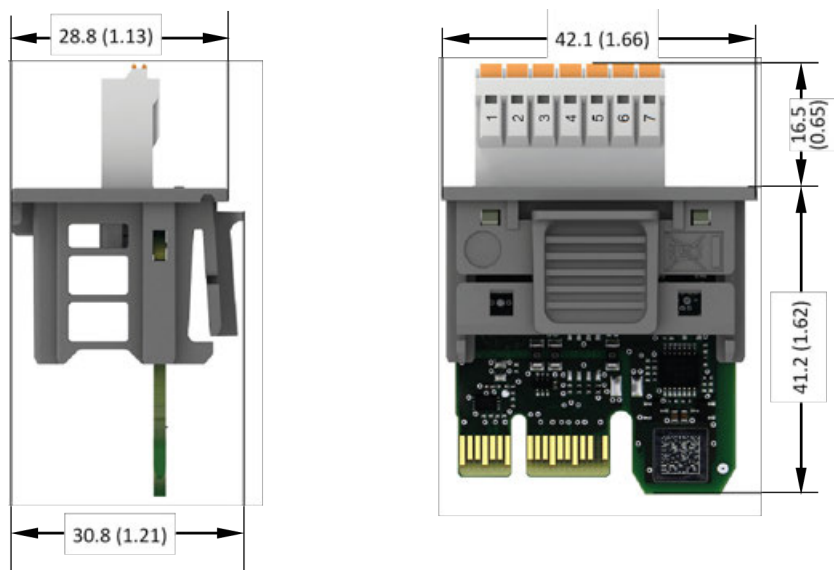
Risk of injury and damaging the product!

Always plug in the option board slot cover when the option board is not inserted.

If the option board slot cover is lost, please order the replacement TA5300-CVR (1SAP187500R0001).

Never power up the CPU with uncovered option board slot, otherwise it may cause serious injury and/or damage the product.

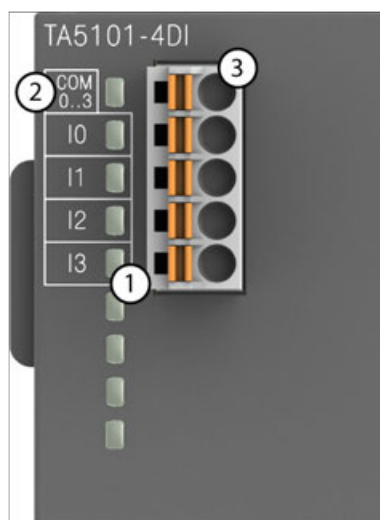
90.3 Dimensions





The dimensions are in mm and in brackets in inch.

90.4 Connections



- 1 4 yellow LEDs to display the signal states of the inputs I0 to I3
- 2 Allocation of signal name
- 3 5-pin terminal block for input signals



NOTICE!

Risk of damaging the PLC modules!

Overvoltages and short circuits might damage the PLC modules.

- Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.
- Never connect any voltages or signals to reserved terminals (marked with "NC"). Reserved terminals may carry internal voltages.

The digital inputs can be used as source inputs or as sink inputs.



NOTICE!

Risk of malfunctions in the plant!

A ground fault, e. g. caused by a damaged cable insulation, can bridge switches accidentally.

Use sink inputs when possible or make sure that, in case of error, there will be no risks to persons or plant.



NOTICE!
Risk of malfunctions in the plant!

Only if L+/M of the CPU is available and the outputs are already configured in the AB program, the outputs will switch on as soon as the UP/ZP is available.
This must be considered in the application planning.



NOTICE!
Risk of damaging the I/O module!

- The outputs are not protected against short circuits and overload.
- Never short-circuit or overload the outputs.
 - Never connect the outputs to other voltages.
 - Use an external 3 A fast-protection fuse for the outputs.

90.4.1 Inputs/Outputs

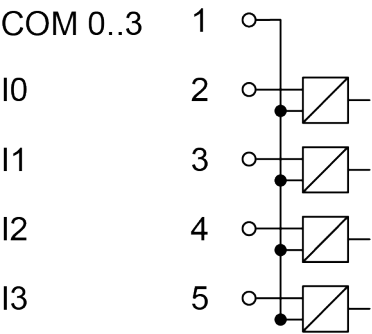
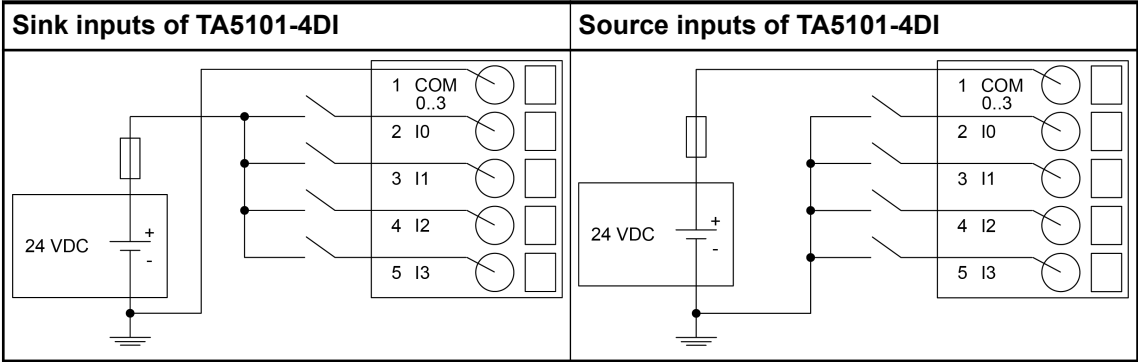


Table 47: Assignment of the terminals:

Terminal	Signal	Description
1	COM 0..3	Input common for signals I0 to I3
2	I0	Input signal I0
3	I1	Input signal I1
4	I2	Input signal I2
5	I3	Input signal I3



90.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

90.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

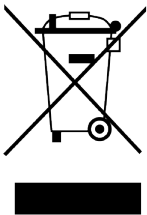
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

90.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

91 TA5105-4DOT - Digital output module option board

- TA5105-4DOT



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



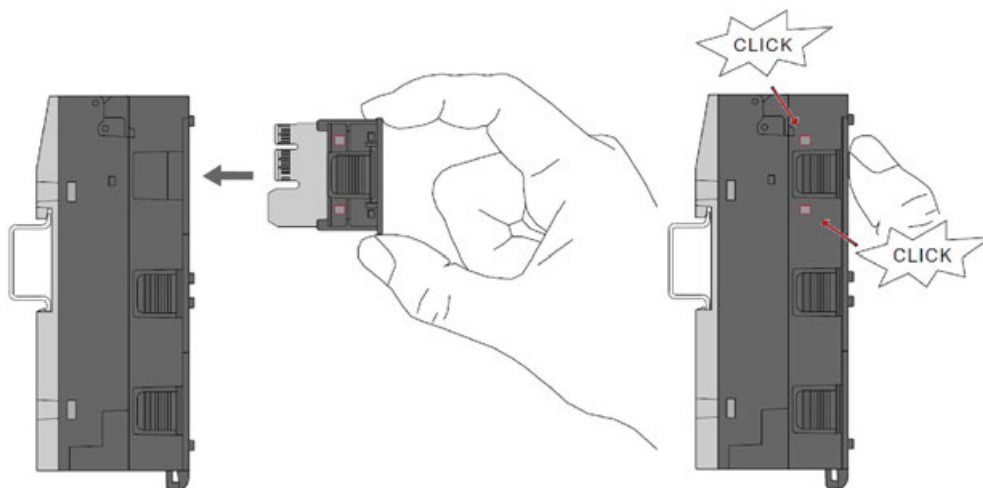
CAUTION!

Risk of damaging the product!

Option boards are sensitive electronic devices. Wrong handling can damage the product.

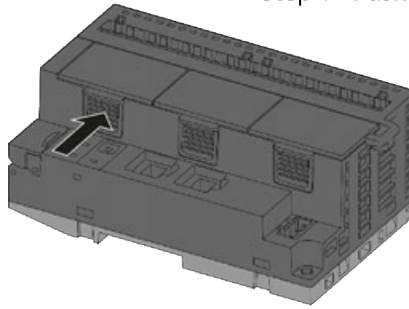
- ESD (electrostatic discharge) protection measures are required when handling the option board.
- Do not touch contacts and circuit board.

91.1 Assembly

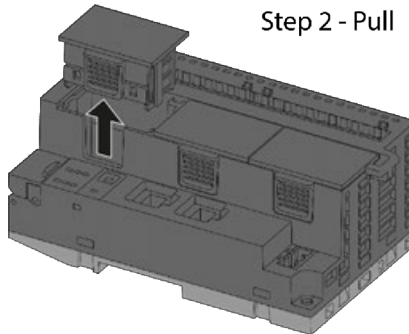


91.2 Disassembly

Step 1 - Push



Step 2 - Pull



CAUTION!

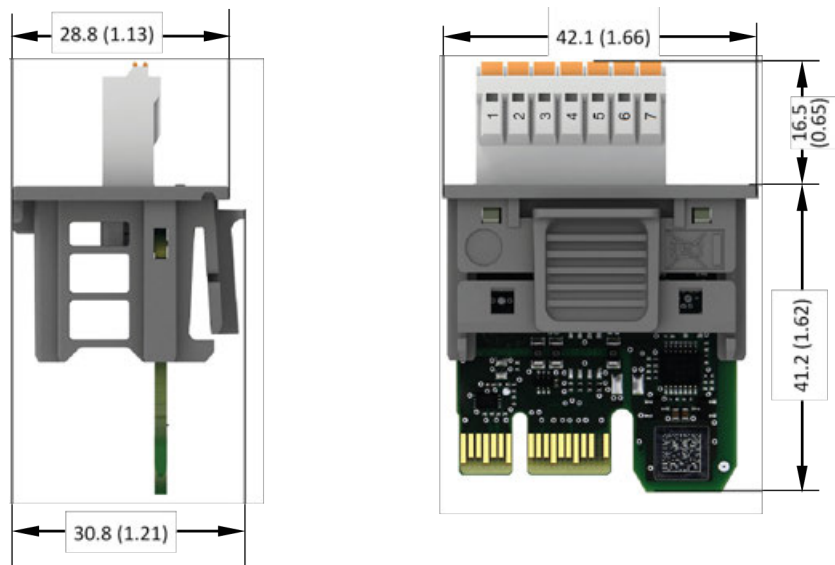
Risk of injury and damaging the product!

Always plug in the option board slot cover when the option board is not inserted.

If the option board slot cover is lost, please order the replacement TA5300-CVR (1SAP187500R0001).

Never power up the CPU with uncovered option board slot, otherwise it may cause serious injury and/or damage the product.

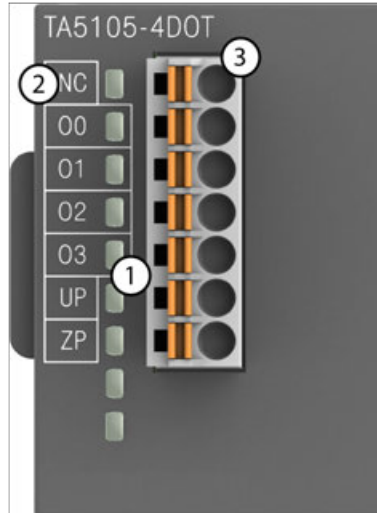
91.3 Dimensions





The dimensions are in mm and in brackets in inch.

91.4 Connections



- 1 4 yellow LEDs to display the signal states of the inputs O0 to O3
- 2 Allocation of signal name
- 3 7-pin terminal block for output signals



NOTICE!

Risk of damaging the PLC modules!

Overvoltages and short circuits might damage the PLC modules.

- Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.
- Never connect any voltages or signals to reserved terminals (marked with "NC"). Reserved terminals may carry internal voltages.

The digital inputs can be used as source inputs or as sink inputs.



NOTICE!

Risk of malfunctions in the plant!

A ground fault, e. g. caused by a damaged cable insulation, can bridge switches accidentally.

Use sink inputs when possible or make sure that, in case of error, there will be no risks to persons or plant.



NOTICE!

Risk of malfunctions in the plant!

Only if L+/M of the CPU is available and the outputs are already configured in the AB program, the outputs will switch on as soon as the UP/ZP is available.

This must be considered in the application planning.



NOTICE!

Risk of damaging the I/O module!

The outputs are not protected against short circuits and overload.

- Never short-circuit or overload the outputs.
- Never connect the outputs to other voltages.
- Use an external 3 A fast-protection fuse for the outputs.

91.4.1 Inputs/Outputs

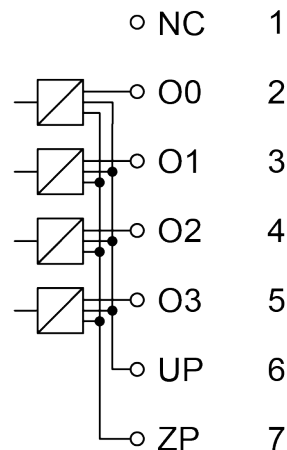


Table 48: Assignment of the terminals:

Terminal	Signal	Description
1	NC	Not connected
2	O0	Output signal O0
3	O1	Output signal O1
4	O2	Output signal O2
5	O3	Output signal O3
6	UP	Process supply voltage UP +24 V DC
7	ZP	Process supply voltage ZP 0 V DC

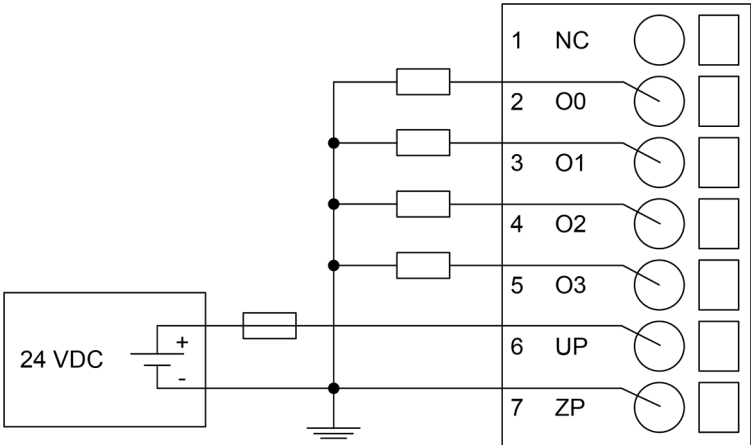



Fig. 92: Outputs of TA5105-4DOT

91.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

91.6 Certification



MSIP-REI-Abb-AC500

en

ko

Note

These devices correspond to:

참고
이러한 기기는

en

ko

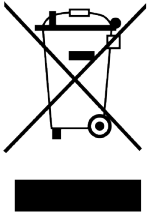
Devices with KCC sign on product sticker and packaging

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

91.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

92 TA5110-2DI2DOT - Digital input/output module option board

- TA5110-2DI2DOT



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



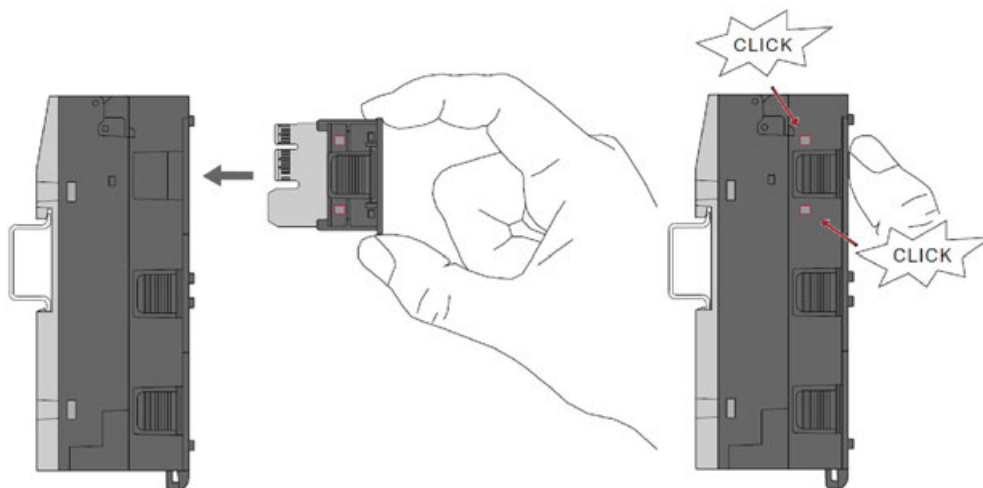
CAUTION!

Risk of damaging the product!

Option boards are sensitive electronic devices. Wrong handling can damage the product.

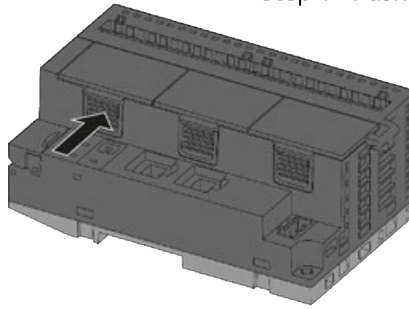
- ESD (electrostatic discharge) protection measures are required when handling the option board.
- Do not touch contacts and circuit board.

92.1 Assembly

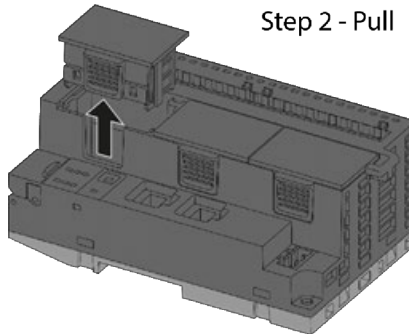


92.2 Disassembly

Step 1 - Push



Step 2 - Pull



CAUTION!

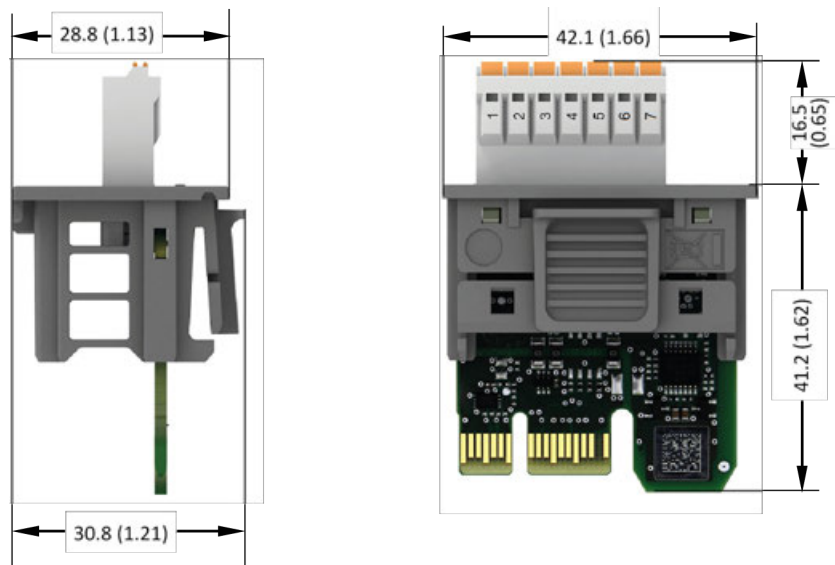
Risk of injury and damaging the product!

Always plug in the option board slot cover when the option board is not inserted.

If the option board slot cover is lost, please order the replacement TA5300-CVR (1SAP187500R0001).

Never power up the CPU with uncovered option board slot, otherwise it may cause serious injury and/or damage the product.

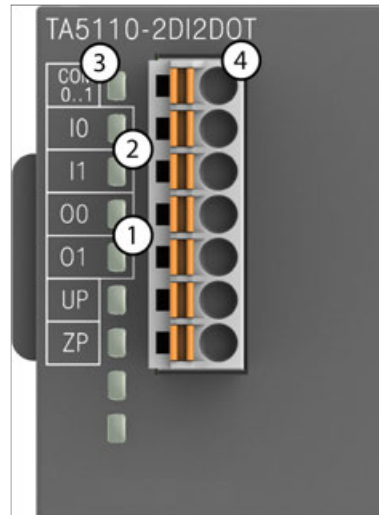
92.3 Dimensions





The dimensions are in mm and in brackets in inch.

92.4 Connections



- 1 2 yellow LEDs to display the signal states of the outputs O0 to O1
- 2 2 yellow LEDs to display the signal states of the inputs I0 to I1
- 3 Allocation of signal name
- 4 7-pin terminal block for input/output signals



NOTICE!

Risk of damaging the PLC modules!

Overvoltages and short circuits might damage the PLC modules.

- Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.
- Never connect any voltages or signals to reserved terminals (marked with "NC"). Reserved terminals may carry internal voltages.

The digital inputs can be used as source inputs or as sink inputs.



NOTICE!

Risk of malfunctions in the plant!

A ground fault, e. g. caused by a damaged cable insulation, can bridge switches accidentally.

Use sink inputs when possible or make sure that, in case of error, there will be no risks to persons or plant.



NOTICE!

Risk of malfunctions in the plant!

Only if L+/M of the CPU is available and the outputs are already configured in the AB program, the outputs will switch on as soon as the UP/ZP is available.

This must be considered in the application planning.



NOTICE!

Risk of damaging the I/O module!

The outputs are not protected against short circuits and overload.

- Never short-circuit or overload the outputs.
- Never connect the outputs to other voltages.
- Use an external 3 A fast-protection fuse for the outputs.

92.4.1 Inputs/Outputs

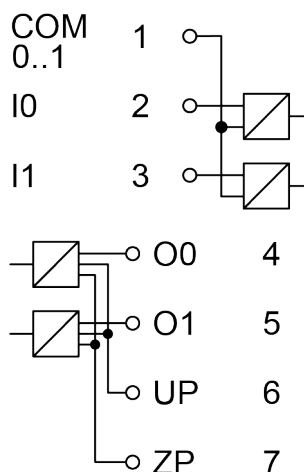


Table 49: Assignment of the terminals:

Terminal	Signal	Description
1	COM 0..1	Input common for signals I0 to I1
2	I0	Input signal I0
3	I1	Input signal I1
4	O0	Output signal O0
5	O1	Output signal O1
6	UP	Process supply voltage UP +24 V DC
7	ZP	Process supply voltage ZP 0 V DC

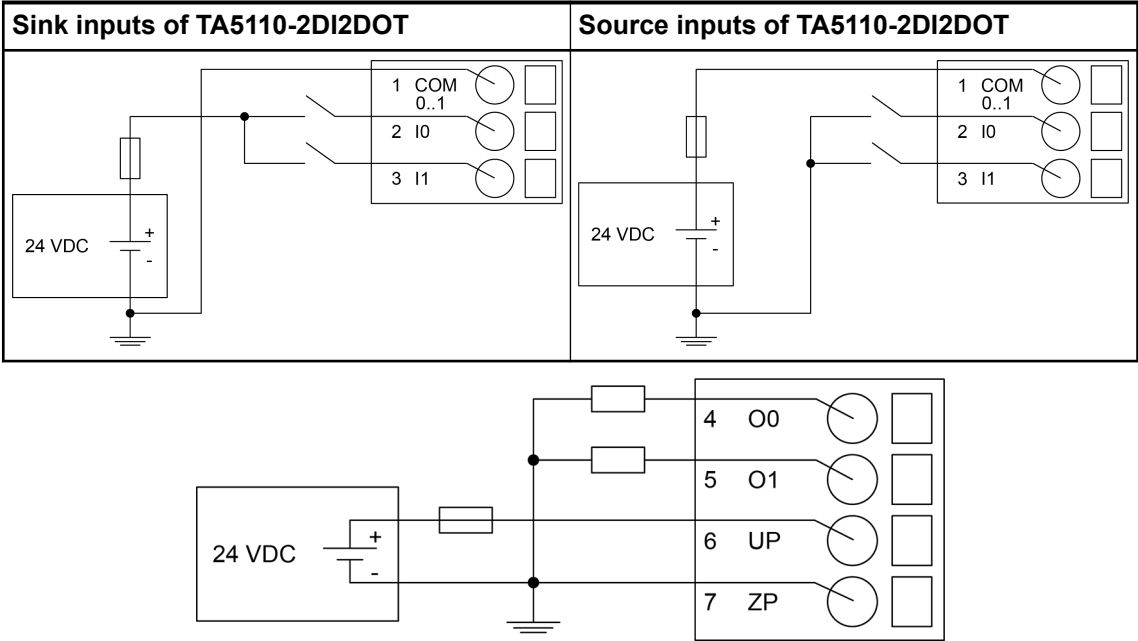



Fig. 93: Outputs of TA5110-2DI2DOT

92.5 Cleaning




Cleaning instruction

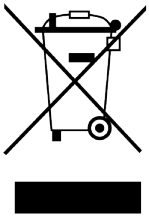
Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

92.6 Certification

 MSIP-REI-Abb-AC500	en	Devices with KCC sign on product sticker and packaging
	ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함

92.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

93 TA5130-KNXPB - Option board for KNX address switch

- TA5130-KNXPB



TA5130-KNXPB option board is only intended to be used with PM5072-T-2ETH(W).

This option board can only be used once per CPU.

This option board is not supported by other AC500-eCo V3 PLCs.



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



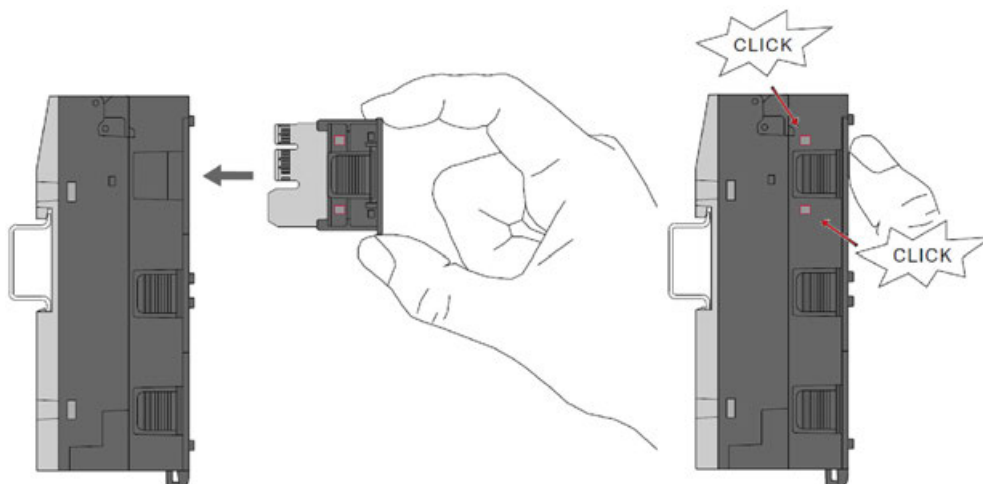
CAUTION!

Risk of damaging the product!

Option boards are sensitive electronic devices. Wrong handling can damage the product.

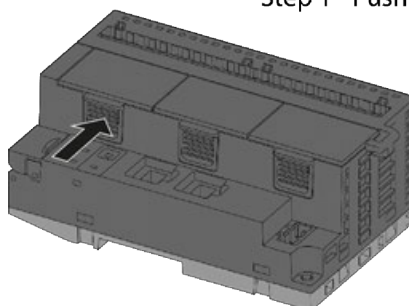
- ESD (electrostatic discharge) protection measures are required when handling the option board.
- Do not touch contacts and circuit board.

93.1 Assembly

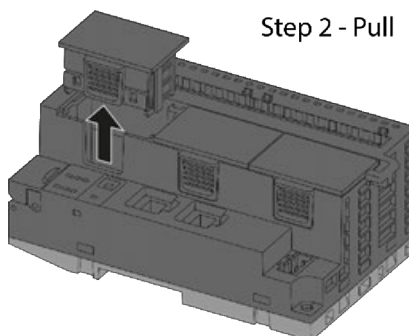


93.2 Disassembly

Step 1 - Push



Step 2 - Pull



CAUTION!

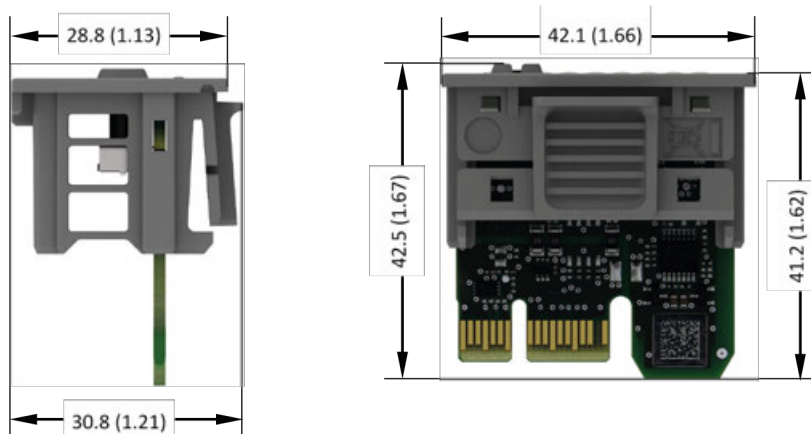
Risk of injury and damaging the product!

Always plug in the option board slot cover when the option board is not inserted.

If the option board slot cover is lost, please order the replacement TA5300-CVR (1SAP187500R0001).

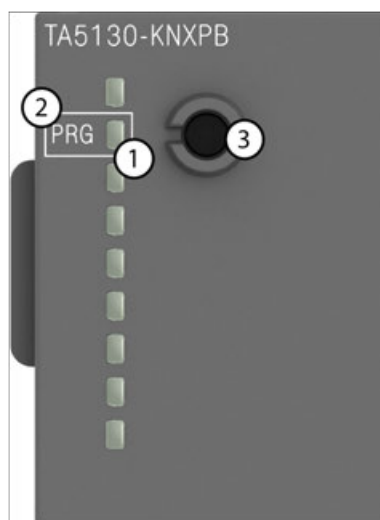
Never power up the CPU with uncovered option board slot, otherwise it may cause serious injury and/or damage the product.

93.3 Dimensions



The dimensions are in mm and in brackets in inch.

93.4 Connections



- 1 State LED
- 2 Allocation of signal name
- 3 Connector

93.5 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

93.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

93.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

94 TA5131-RTC - Option board for real-time clock

- TA5131-RTC



This option board is only for the basic CPUs PM5012-T-ETH and PM5012-R-ETH.

All other AC500-eCo V3 CPUs have the real-time clock already integrated.



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



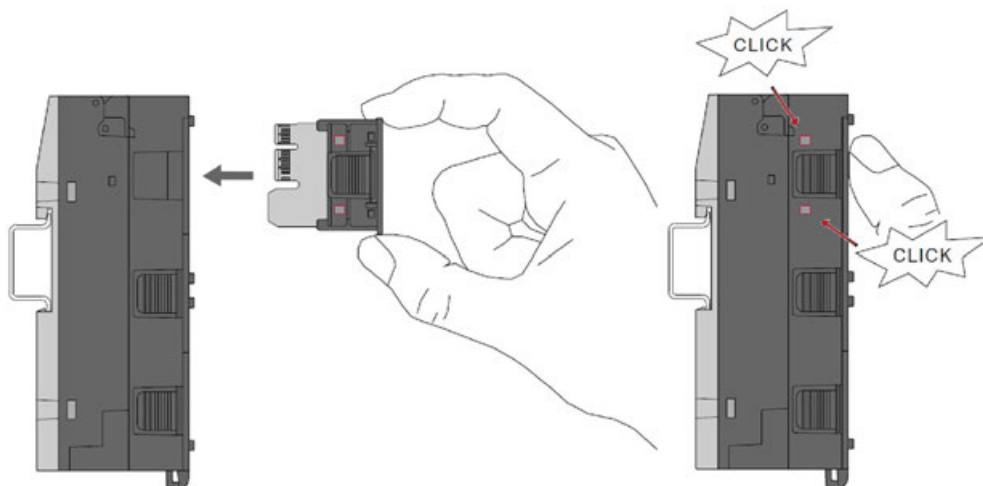
CAUTION!

Risk of damaging the product!

Option boards are sensitive electronic devices. Wrong handling can damage the product.

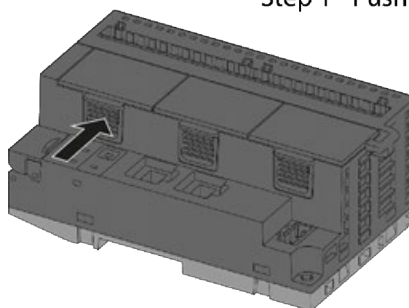
- ESD (electrostatic discharge) protection measures are required when handling the option board.
- Do not touch contacts and circuit board.

94.1 Assembly

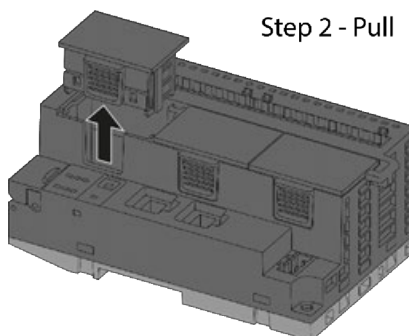


94.2 Disassembly

Step 1 - Push



Step 2 - Pull



CAUTION!

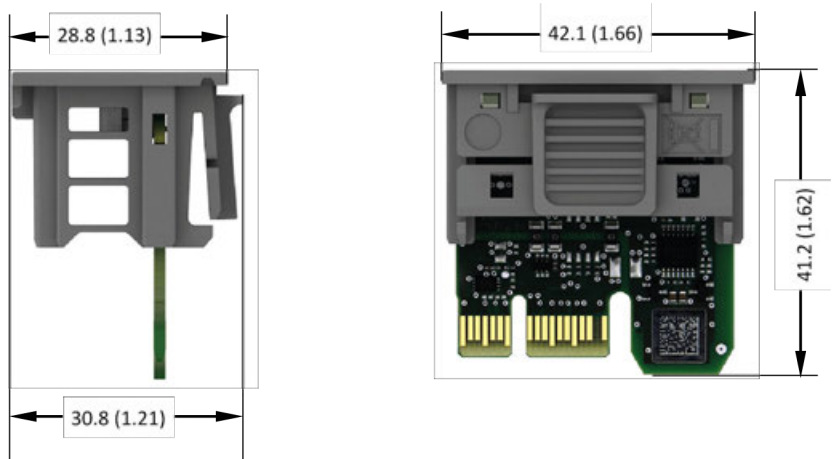
Risk of injury and damaging the product!

Always plug in the option board slot cover when the option board is not inserted.

If the option board slot cover is lost, please order the replacement TA5300-CVR (1SAP187500R0001).

Never power up the CPU with uncovered option board slot, otherwise it may cause serious injury and/or damage the product.

94.3 Dimensions



The dimensions are in mm and in brackets in inch.

94.4 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

94.5 Certification



MSIP-REI-Abb-AC500

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

en **Devices with KCC sign on product sticker and packaging**

ko 제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

94.6 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

95 TA514-SAFETY

- TA514-SAFETY



WARNING!

Risk of injury and damaging the product!

This training case is only intended to be used by skilled persons aware of the risks using electrical equipment and knowing the technical rules, codes and relevant standards.



WARNING!

Risk of injury and damaging the product!

- Only use the training case with the delivered power supply adapter
- Only use the training case for demonstration and training activities
- The operating temperature for training case is 0 °C ... + 40°C
- This training case is a class A device for EMC, because the main components (e.g. PLC) inside are designed for industrial applications. It can cause radio-interference in residential areas.

95.1 Assembly

1. Take out the power adapter



2. Connect the AC power cable



3. Connect the power adapter to socket 24 V DC input



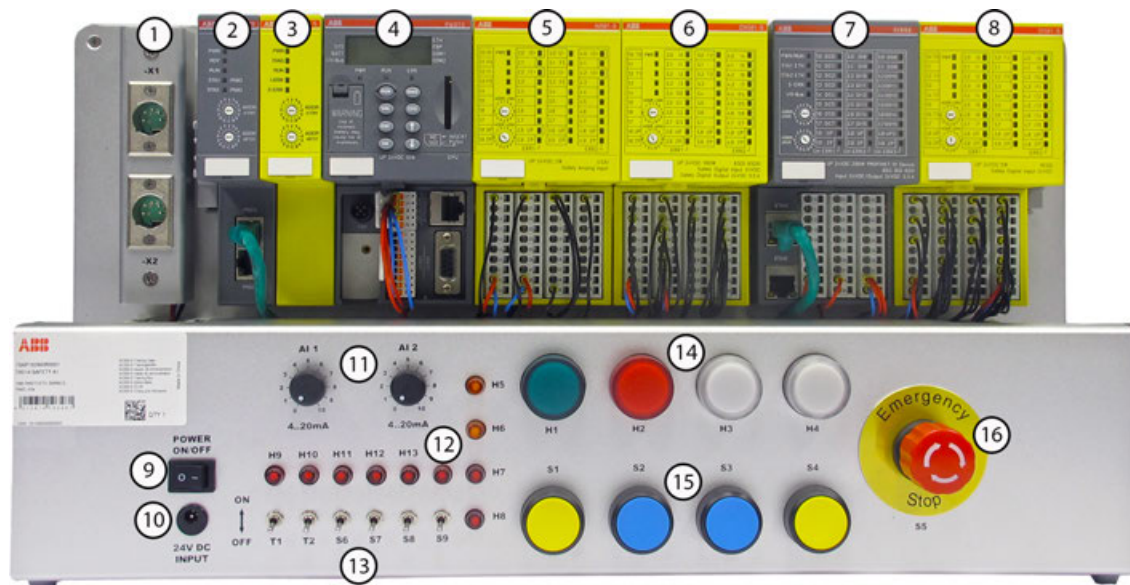
4. Connect AC power to socket



5. Switch on the power



95.2 Connections



- 1 Light curtain interface socket (2-channel)
- 2 Communication module CM579-PNIO
- 3 Safety CPU SM560-S
- 4 CPU unit PM573-ETH
- 5 Safety analog input module AI581-S
- 6 Digital safety I/O module DX581-S
- 7 PROFINETcommunication interface module CI502-PNIO
- 8 Safety digital input module DI581-S
- 9 24 V DC On/Off switch
- 10 24 V DC Power Supply
- 11 Analog potentiometer
- 12 Indicating LEDs
- 13 Switches for input simulation
- 14 Indicating lamps
- 15 Buttons for input simulation
- 16 Emergency Stop button

95.3 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

95.4 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

95.5 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

96 TA5141-RS232I - Serial adapter option board

- TA5141-RS232I



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



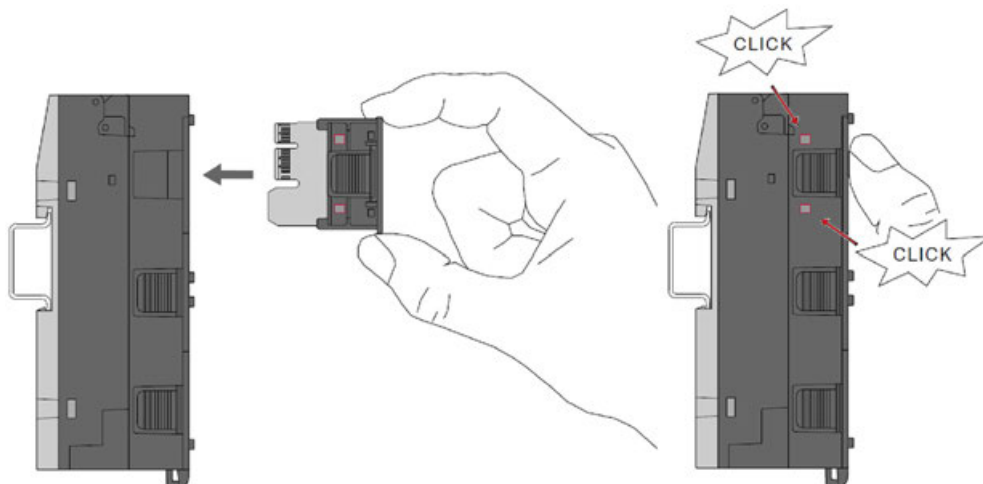
CAUTION!

Risk of damaging the product!

Option boards are sensitive electronic devices. Wrong handling can damage the product.

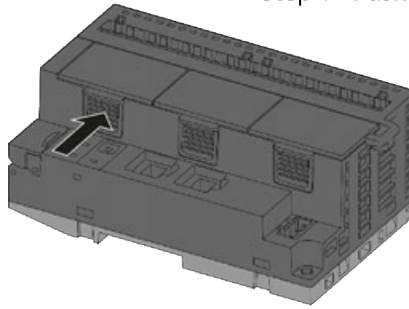
- ESD (electrostatic discharge) protection measures are required when handling the option board.
- Do not touch contacts and circuit board.

96.1 Assembly

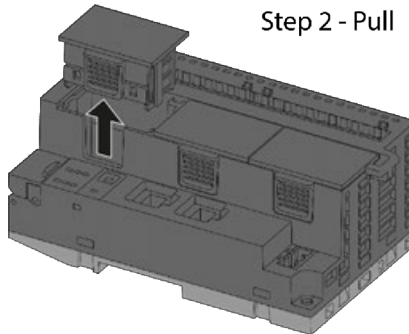


96.2 Disassembly

Step 1 - Push



Step 2 - Pull



CAUTION!

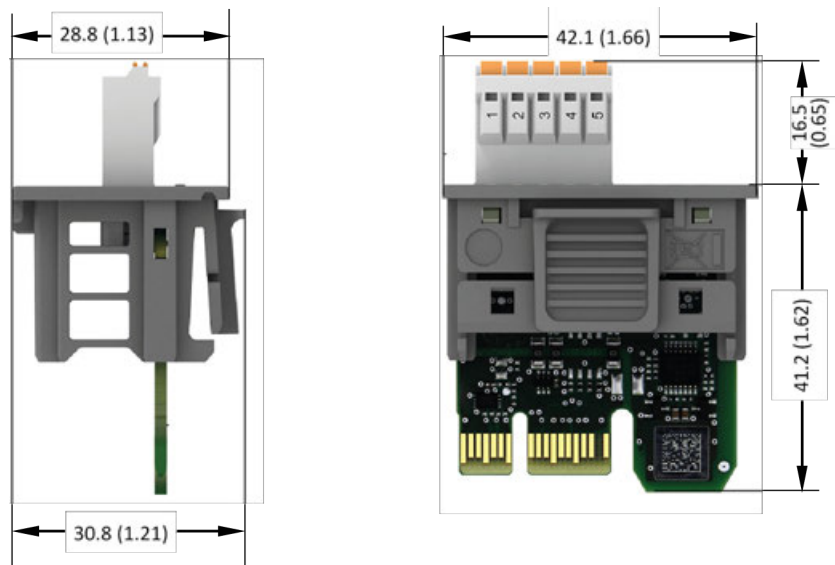
Risk of injury and damaging the product!

Always plug in the option board slot cover when the option board is not inserted.

If the option board slot cover is lost, please order the replacement TA5300-CVR (1SAP187500R0001).

Never power up the CPU with uncovered option board slot, otherwise it may cause serious injury and/or damage the product.

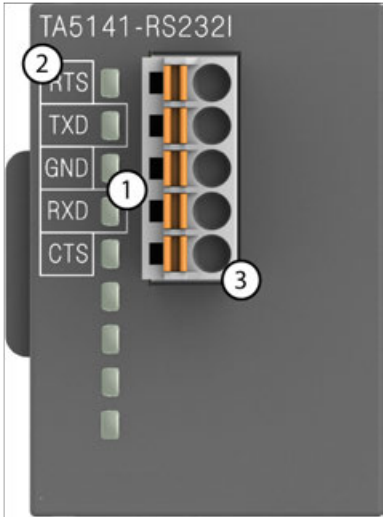
96.3 Dimensions





The dimensions are in mm and in brackets in inch.

96.4 Connections



- 1 2 LEDs for communication state display (TxD and RxD)
- 2 Allocation of signal name
- 3 5-pin terminal block for communication interface

96.4.1 Serial interface

Serial interface
RS232I



NOTICE!
Damage to the serial communication interface by using 5-pin terminal block of the TA5101-4DI!
If the 5-pin terminal block of the TA5101-4DI option board is plugged into a serial communication option board TA5141-RS232I, TA5142-RS485I or TA5142-RS485, the communication interface will be damaged by the 24 V.
Please do not confuse the 5-pin terminal block of the TA5101-4DI with the 5-pin terminal block for serial communication interface of TA5141-RS232I, TA5142-RS485I or TA5142-RS485.

Table 50: TA5141-RS232I

Serial interface	PIN	Signal	Description
	1	RTS	Request To Send DCE is ready to accept data from the DTE
	2	TxD	Transmit data (output)
	3	GND	Common Ground
	4	RxD	Receive data (input)
	5	CTS	Clear To Send (input) DCE is ready to accept data from the DTE

96.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

96.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

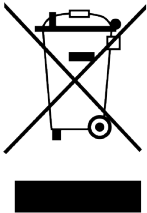
KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

96.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

97 TA5142-RS485(I) - Serial adapter option boards

- TA5142-RS485
- TA5142-RS485I



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



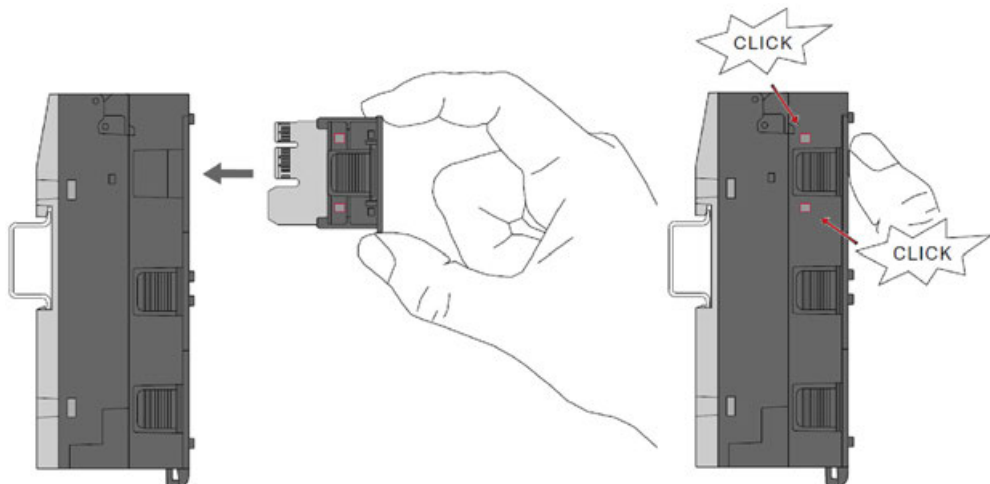
CAUTION!

Risk of damaging the product!

Option boards are sensitive electronic devices. Wrong handling can damage the product.

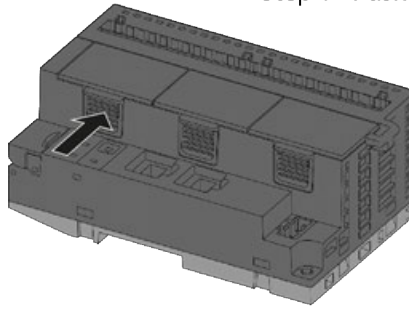
- ESD (electrostatic discharge) protection measures are required when handling the option board.
- Do not touch contacts and circuit board.

97.1 Assembly

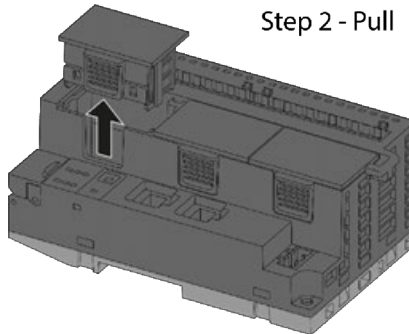


97.2 Disassembly

Step 1 - Push



Step 2 - Pull



CAUTION!

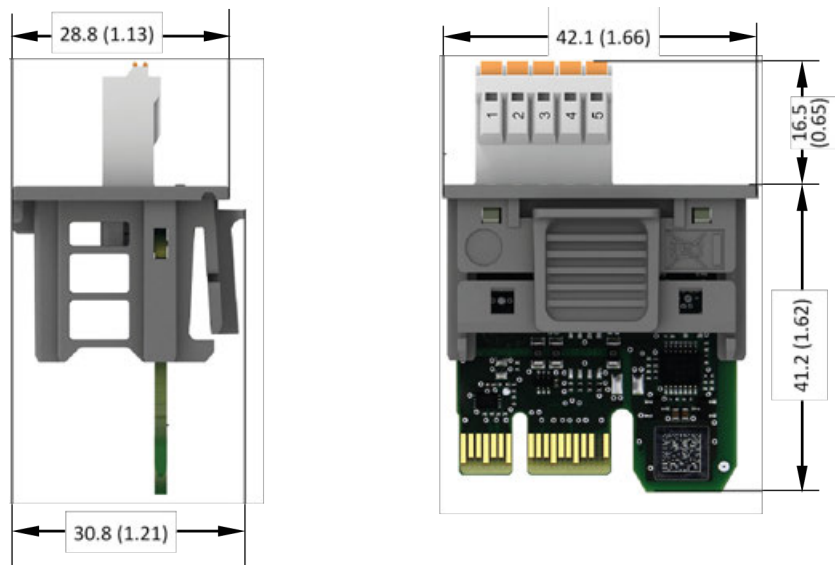
Risk of injury and damaging the product!

Always plug in the option board slot cover when the option board is not inserted.

If the option board slot cover is lost, please order the replacement TA5300-CVR (1SAP187500R0001).

Never power up the CPU with uncovered option board slot, otherwise it may cause serious injury and/or damage the product.

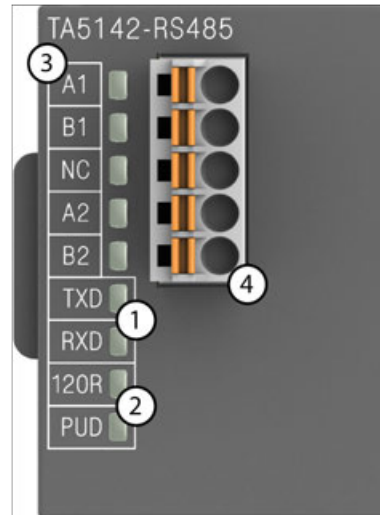
97.3 Dimensions





The dimensions are in mm and in brackets in inch.

97.4 Connections



- 1 2 LEDs for communication state display (TxD and RxD)
- 2 2 LEDs for termination state display
- 3 Allocation of signal name
- 4 5-pin terminal block for communication interface

97.4.1 Serial interface

Serial interface RS-485(I)



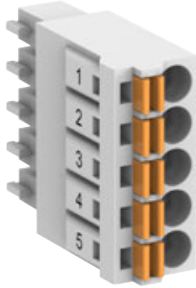
NOTICE!

Damage to the serial communication interface by using 5-pin terminal block of the TA5101-4DI!


If the 5-pin terminal block of the TA5101-4DI option board is plugged into a serial communication option board TA5141-RS232I, TA5142-RS485I or TA5142-RS485, the communication interface will be damaged by the 24 V.

Please do not confuse the 5-pin terminal block of the TA5101-4DI with the 5-pin terminal block for serial communication interface of TA5141-RS232I, TA5142-RS485I or TA5142-RS485.

Table 51: TA5142-RS485(I)

Serial interface	PIN	Signal
	1	A1 internally connected to A2
	2	B1 internally connected to B2
	3	GND
	4	A2 internally connected to A1
	5	B2 internally connected to B1

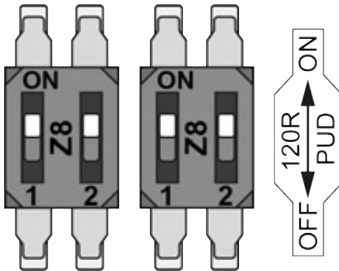

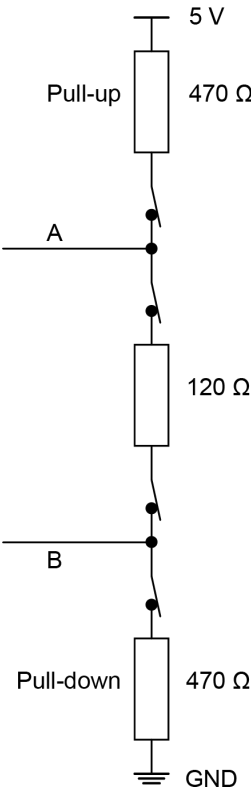
97.4.2 Bus termination configuration

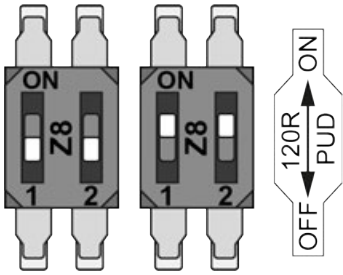

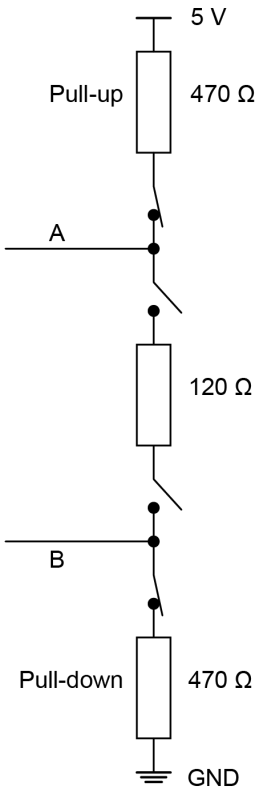
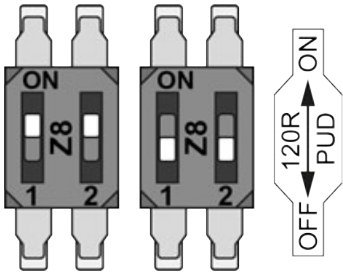

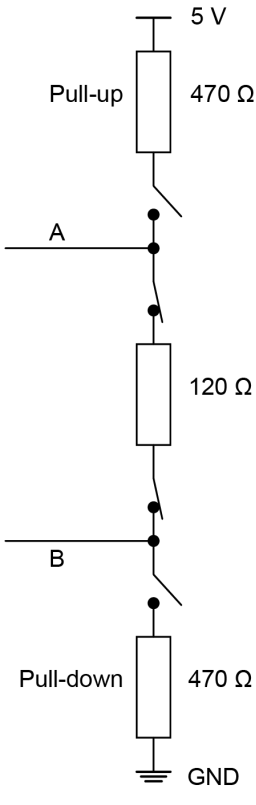


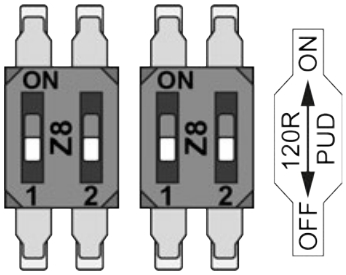

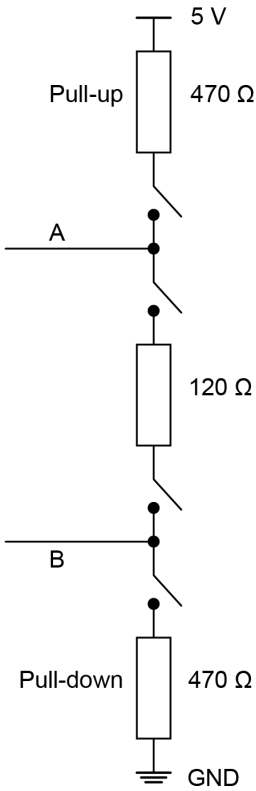
Bus termination configuration

The bus termination configuration is only available for TA5142-RS485I and TA5142-RS485.


Table 52: Configuration

Settings on the module	State of LEDs	Internal wiring diagram	Description
			Master at the bus line end, pull-up and pull-down activated, bus termination 120 Ω

Settings on the module	State of LEDs	Internal wiring diagram	Description
			Master within the bus line, pull-up and pull-down activated
			Slave at the bus line end, bus termination 120 Ω


Settings on the module	State of LEDs	Internal wiring diagram	Description
			Slave within the bus line

97.5 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

97.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

97.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

98 TA515-CASE / TA5450-CASE

- TA515-CASE
- TA5450-CASE



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

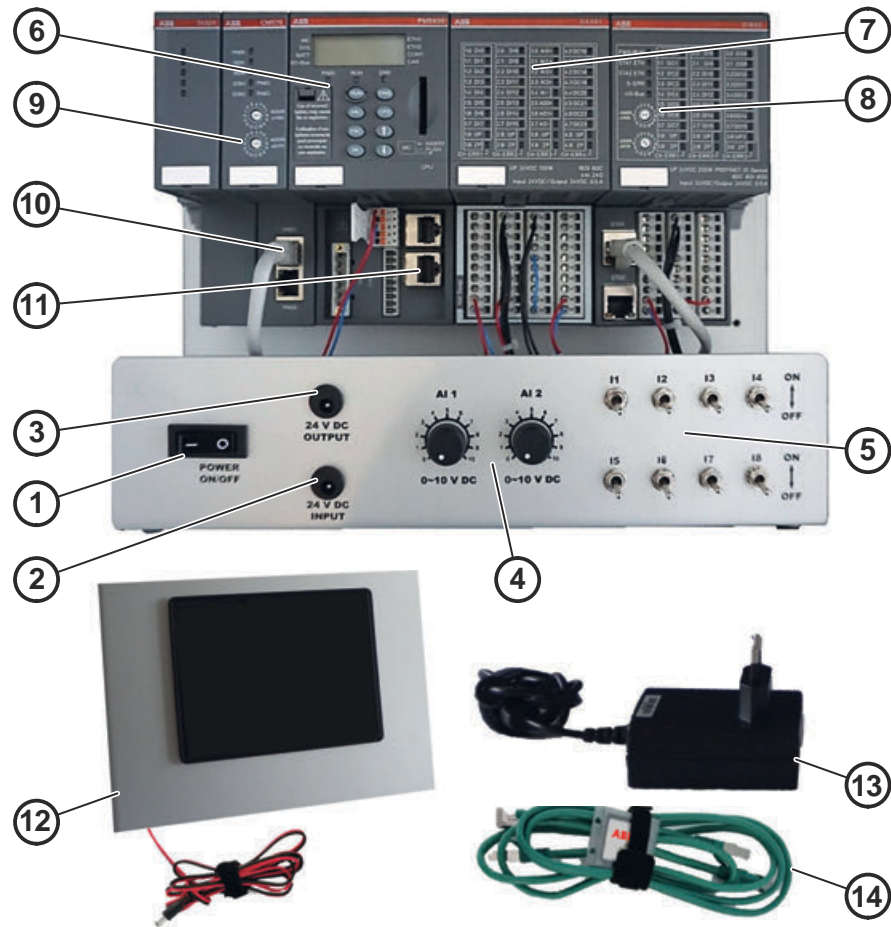


WARNING!

Risk of injury and damaging the product!

- Only use the training case with the delivered power supply adapter
- Only use the training case for demonstration and training activities
- The operating temperature for training case is 0 °C ... + 40°C
- This training case is a class A device for EMC, because the main components (e.g. PLC) inside are designed for industrial applications. It can cause radio-interference in residential areas.

98.1 Connections



- 1 24V DC power switch
- 2 24V DC power input socket
- 3 24V DC power output socket
- 4 2 Potentiometers
- 5 8 switches
- 6 TA515-CASE: CPU PM585-ETH / TA5450-CASE: CPU PM5630-2ETH
- 7 Analog/digital I/O module DA501
- 8 Communication interface module CI502-PNIO
- 9 Communication module CM579-PNIO
- 10 PROFINET connection
- 11 TA515-CASE: TB521-ETH Ethernet Plug ETH1 for Panel connection / TA5450-CASE: TB5620-2ETH Ethernet Plug ETH2 for Panel connection
- 12 Panel with power supply cable
- 13 Power adapter
- 14 Ethernet cables and memory card containing demo program

98.1.1 System setup

Remove the system from the case and place it upright.

For initial start-up, remove the power supply unit (13) and the supplied socket adapters. Select the appropriate socket adapter and lock it firmly onto the power supply unit. Make sure that the mains voltage is within the input range of the power supply unit.

Connect the power supply unit to the mains socket and the cable plug to the power input socket (2). Connect the power supply cable of the control panel (12) to the output socket (3). Connect an Ethernet cable (14) on one side to the ETH0 Ethernet socket of the control panel (12) and on the other side to the Ethernet socket (11) of the terminal base. After switching on the power switch (1), the system starts loading the demo programs of PLC and control panel and is then ready to use the demo program.

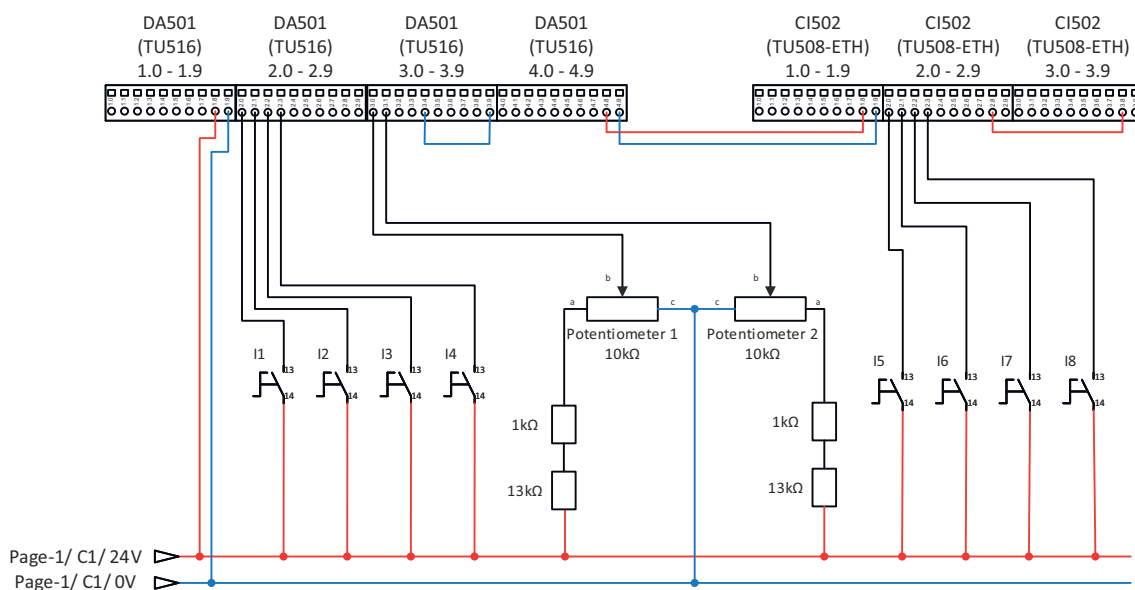
98.1.2 Features of demo program

The demo is ready for use when the CPU display is showing „run“ and the panel screen shows „CP600-Pro Demo Project“. Touching „Training Case“ opens the visualization of the input states of the I/O channels. The input status on the screen changes when potentiometer (4) or switches (5) are operated. The demo program in the PLC reads inputs and copies the input state to outputs. On the I/O modules can be observed that the status LED of outputs are following the input status. Touching the house symbol (upper right corner) closes the demo visualization. The other buttons on the panel screen open demos for features of the panel.

98.1.3 Restoring demo program

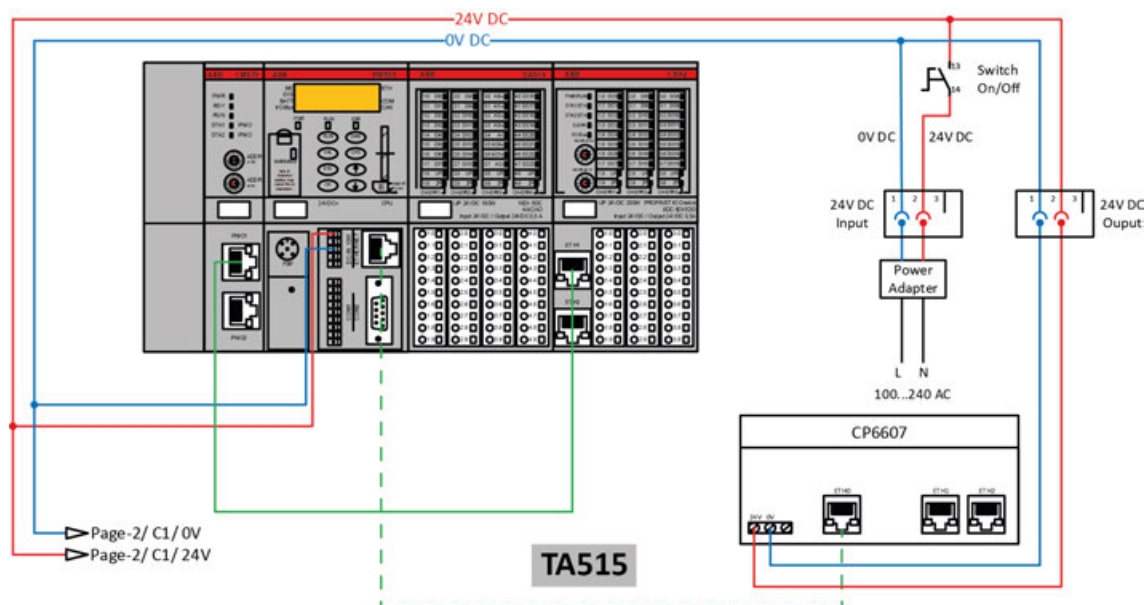
The training case is delivered with demo program installed. If needed, the demo program can be restored from the memory card. The QR code opens the operation instruction explaining configuration of components and procedure for loading the demo program into PLC and panel.

98.1.4 Power supply

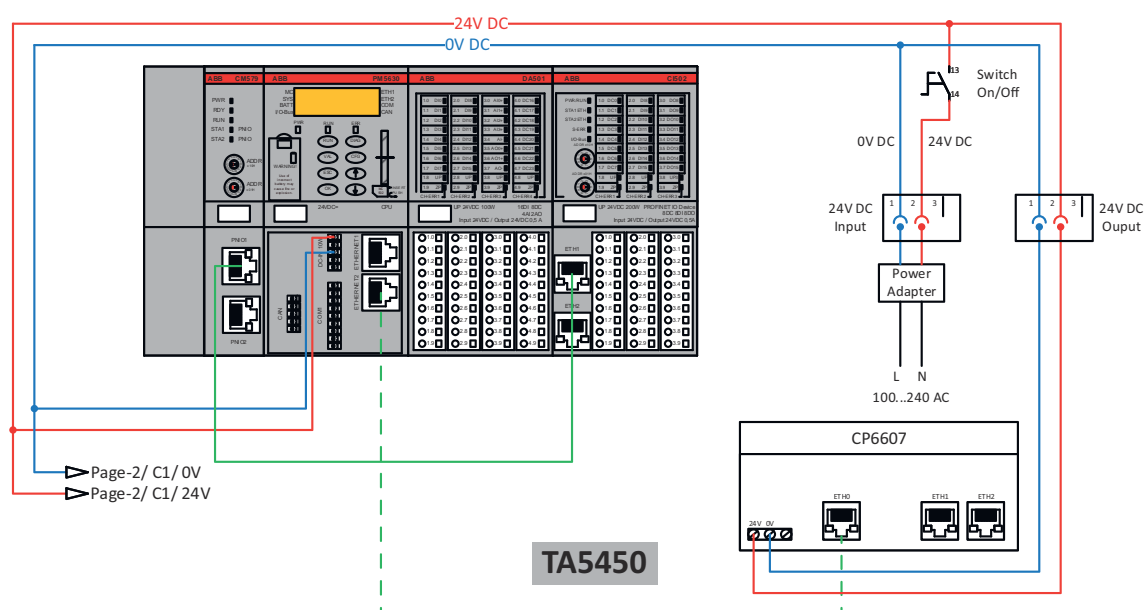


98.1.5 Inputs/Outputs

TA515



TA5450



98.2 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

98.3 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

98.4 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

99 TA521 - Battery

- TA521



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



CAUTION!

This Lithium Battery is the only one which can be used with AC500 CPUs.

- Replace battery only with activated supply voltage.
- Don't use a battery older than 3 years for replacement (e.g. battery kept to long in stock).
- Lithium batteries must not be re-charged, not be disassembled and not be disposed of in fire.
- They must be stored in a dry place.
- Exhausted batteries must be recycled to respect the environment.

99.1 Assembly

Insertion



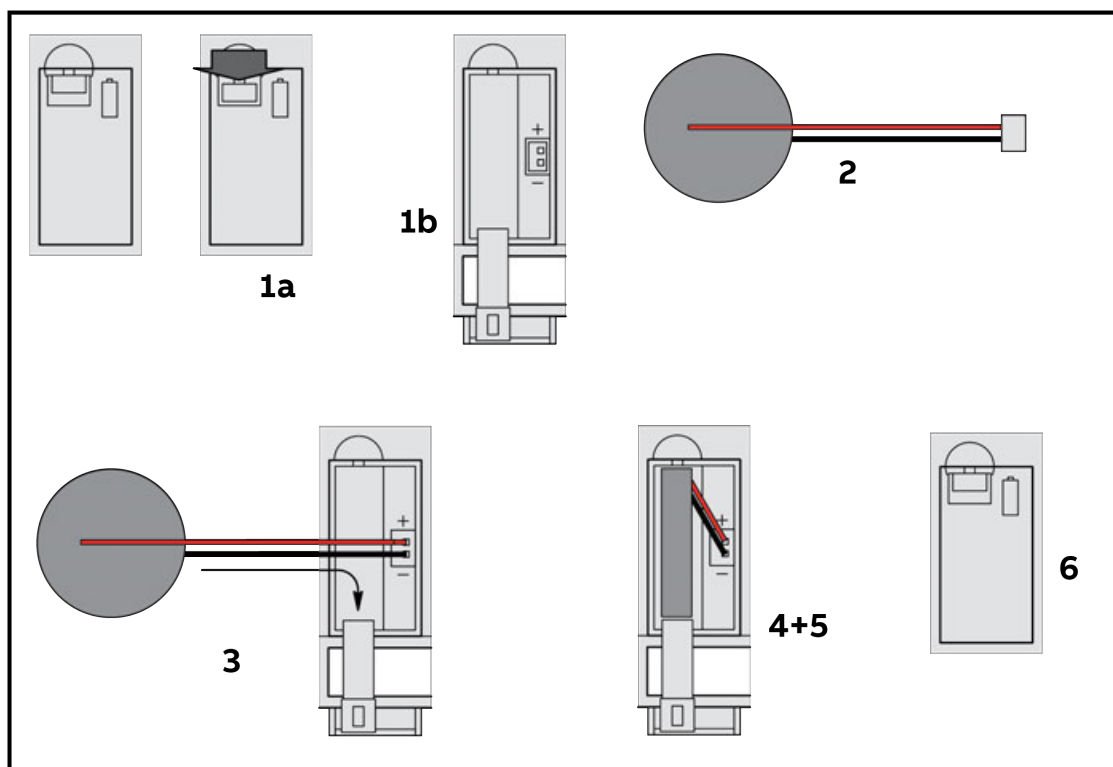
To ensure proper operation and to prevent data loss, the battery insertion or replacement must be always done with the system under power. Without battery and power supply there is no data buffering possible.



WARNING!

Risk of fire or explosion!

Use of incorrect Battery may cause fire or explosion.



1. Open the battery compartment with the small locking mechanism, press it down and slip down the door. The door is attached to the front face of the processor module and cannot be removed.
2. Remove the TA521 battery from its package and hold it by the small cable. Remove then the small connector from the socket, do this best by lifting it out with a screwdriver.
3. Insert the battery connector into the small connector port of the compartment. The connector is keyed to find the correct polarity (red = positive pole = above).
4. Insert first the cable and then the battery into the compartment, push it until it reaches the bottom of the compartment.
5. Arrange the cable in order not to inhibit the door to close.
6. Pull-up the door and press until the locking mechanism snaps.



In order to prevent data losses or problems, the battery should be replaced after 3 years of utilisation or at least as soon as possible after receiving the "low battery warning" indication.

Do not use a battery older than 3 years for replacement, do not keep batteries too long in stock.

Replacement of the battery



To ensure proper operation and to prevent data loss, the battery insertion or replacement must be always done with the system under power. Without battery and power supply there is no data buffering possible.

1. Open the battery compartment with the small locking mechanism, press it down and slip down the door. The door is attached to the front view of the processor module and cannot be removed.
2. Remove the old TA521 battery from the battery compartment by pulling it by the small cable. Remove then the small connector from the socket, do this best by lifting it out with a screwdriver.



3. Follow the previous instructions to insert a new battery.



CAUTION!

Risk of explosion!

Do not open, re-charge or disassemble a lithium battery. Attempts to charge lithium batteries lead to overheating and possible explosions.

Protect them from heat and fire and store them in a dry place.

Never short-circuit or operate lithium batteries with the polarities reversed. The batteries are likely to overheat and explode. Avoid chance short circuiting and therefore do not store batteries in metal containers and do not place them on metallic surfaces. Escaping lithium is a health hazard.



In order to prevent data losses or problems, the battery should be replaced after 3 years of utilisation or at least as soon as possible after receiving the "low battery warning" indication.

Do not use a battery older than 3 years for replacement, do not keep batteries too long in stock.

99.2 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

99.3 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

100





TA52xx(-x) - Pluggable connectors for screw and spring connection

- TA5211-TSPF-B
- TA5211-TSCL-B
- TA5212-TSPF
- TA5212-TSCL
- TA5220-SPF5
- TA5220-SPF6
- TA5220-SPF7
- TA5220-SPF8

For the AC500-eCo V3 **Basic CPUs** a 3-pin terminal block for power supply and a 13-pin terminal block for I/O connectors are used.

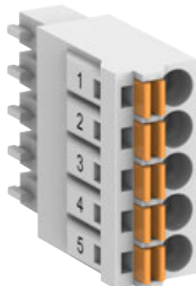
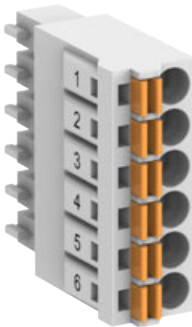
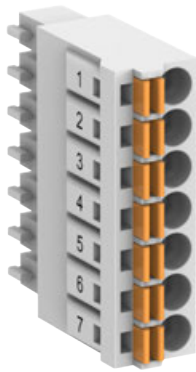
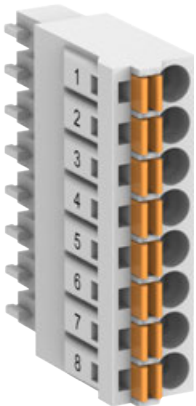
For the AC500-eCo V3 **Standard CPUs** and **Pro CPUs** a 3-pin terminal block for power supply, a 13-pin terminal block and a 12-pin terminal block for I/O connectors are used.

For all CPUs there is a screw and a spring variant available.

Basic CPU		Standard and Pro CPUs	
Spring type	Screw type	Spring type	Screw type
TA5211-TSPF-B	TA5211-TSCL-B	TA5212-TSPF	TA5212-TSCL
			

Various removable spring-type terminal blocks are available for option boards.

The following spare parts are available (depending on the number of pins).

Spring type			
TA5220-SPF5	TA5220-SPF6	TA5220-SPF7	TA5220-SPF8
			



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



CAUTION!

Risk of injury and damaging the processor module when using unapproved terminal blocks!

Only use terminal blocks approved by ABB to avoid injury and damage to the processor module.



Terminal block set for PM50x2

Processor modules PM50x2 CPU are not delivered with terminal blocks.

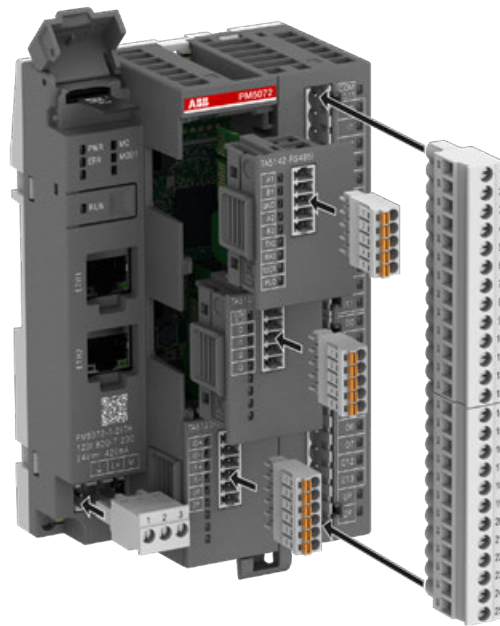
Screw type terminal block set:

- TA5211-TSCL-B (1SAP187400R0001) for PM5012-x-ETH
- TA5212-TSCL (1SAP187400R0004) for PM5032-x-ETH, PM5052-x-ETH, PM5072-T-2ETH(W)

Spring type terminal block set:

- TA5211-TSPF-B (1SAP187400R0002) for PM5012-x-ETH
- TA5212-TSPF (1SAP187400R0005) for PM5032-x-ETH, PM5052-x-ETH, PM5072-T-2ETH(W)

100.1 Assembly



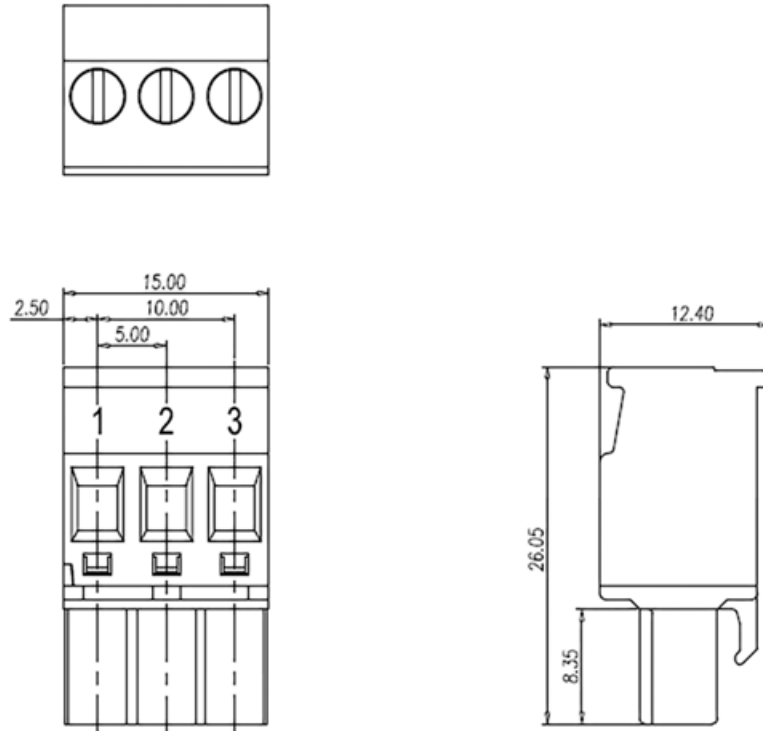
100.2 Disassembly



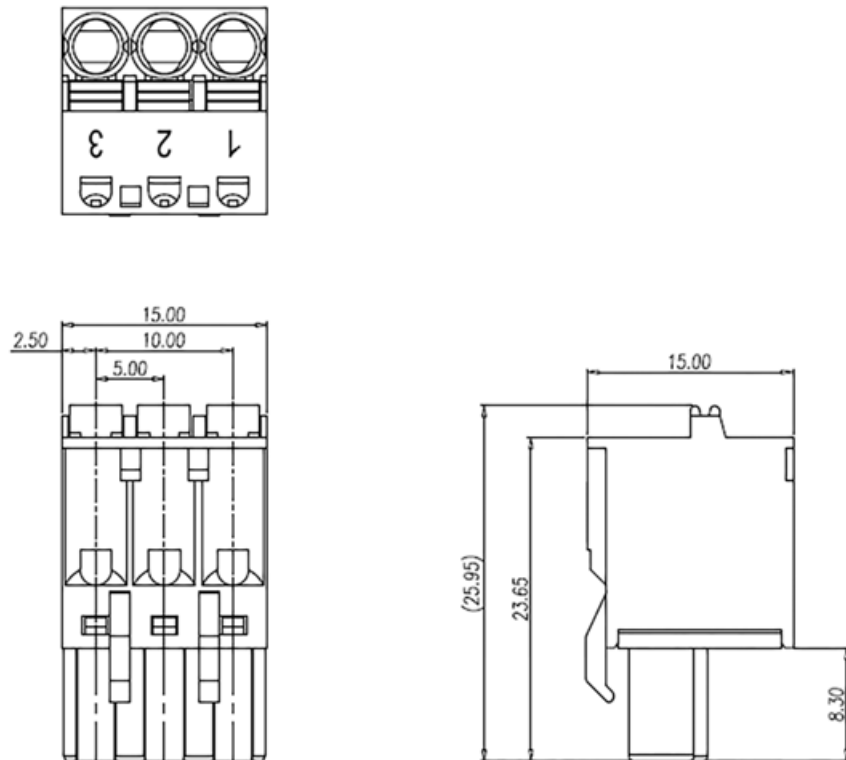
100.3 Dimensions

100.3.1 3-pin terminal block for power supply

Screw type

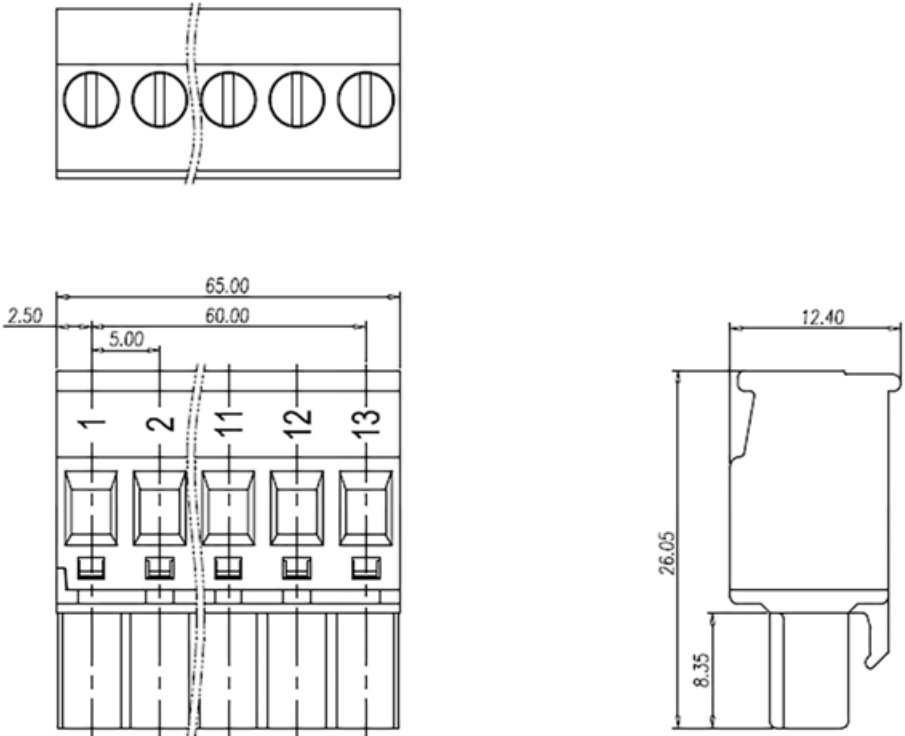


Spring type

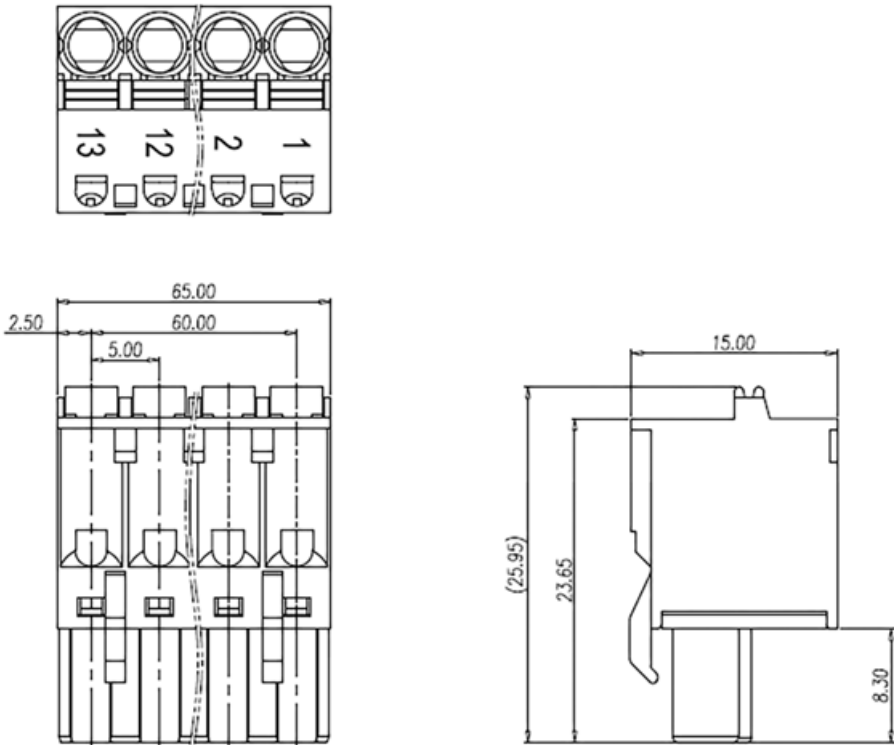


100.3.2 13-pin terminal block for I/O connectors

Screw type

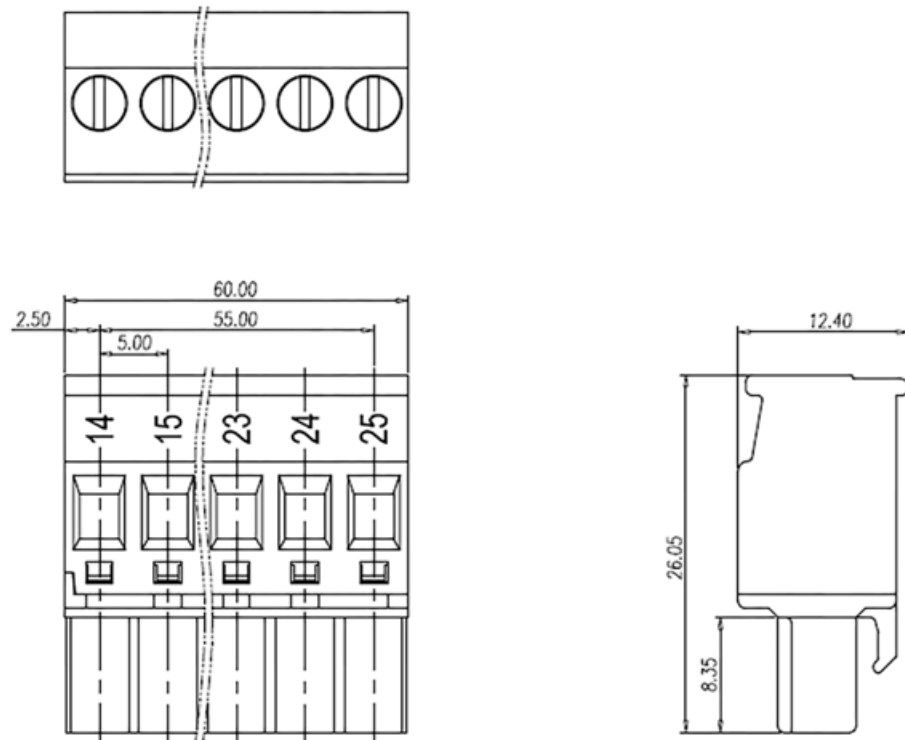


Spring type

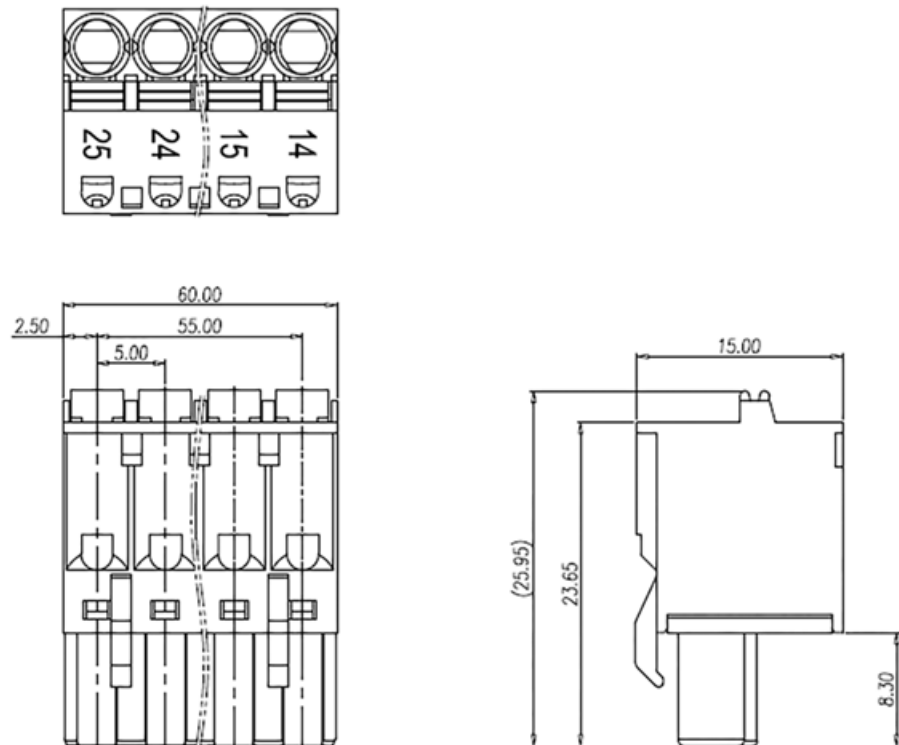


100.3.3 12-pin terminal block for I/O connectors

Screw type



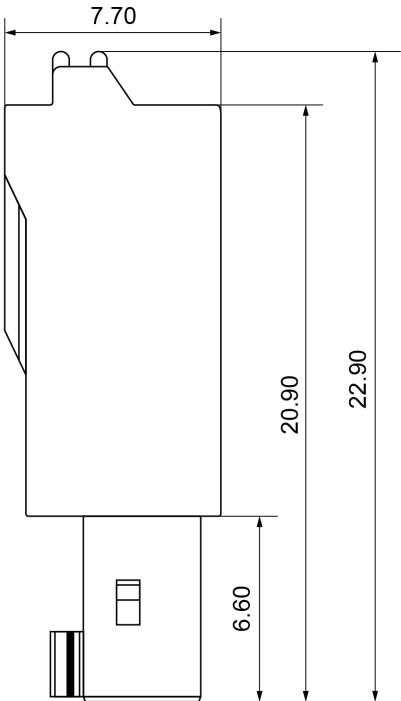
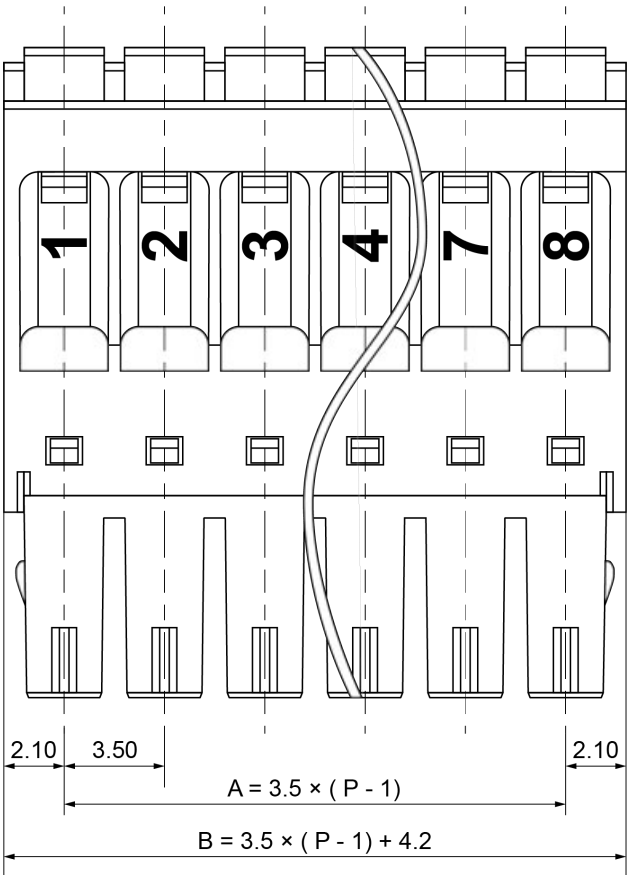
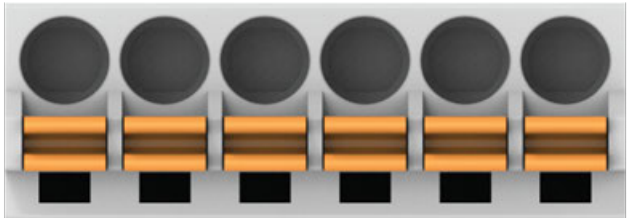
Spring type



100.3.4 x-PIN terminal blocks for option boards



Only these x-PIN blocks are available for the option boards.
TA5220-SPFx, with x = 5...8



This results in these dimensions for the available spring terminal blocks.

Description	PIN	Length [mm]	Wide [mm]	Height [mm]
TA5220-SPF5	5	18.2	7.7	22.9
TA5220-SPF6	6	21.7	7.7	22.9
TA5220-SPF7	7	25.2	7.7	22.9
TA5220-SPF8	8	28.7	7.7	22.9

100.4 Connections



The connections are described in the PM50x2 processor module or in the TA51xx option boards.

100.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

100.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

100.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

101 TA5300-CVR - Option board slot cover

- TA5300-CVR



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



CAUTION!

Risk of damaging the product!

Option boards are sensitive electronic devices. Wrong handling can damage the product.

- ESD (electrostatic discharge) protection measures are required when handling the option board.
- Do not touch contacts and circuit board.



CAUTION!

Risk of injury and damaging the product!

Always plug in the option board slot cover when the option board is not inserted.

If the option board slot cover is lost, please order the replacement TA5300-CVR (1SAP187500R0001).

Never power up the CPU with uncovered option board slot, otherwise it may cause serious injury and/or damage the product.

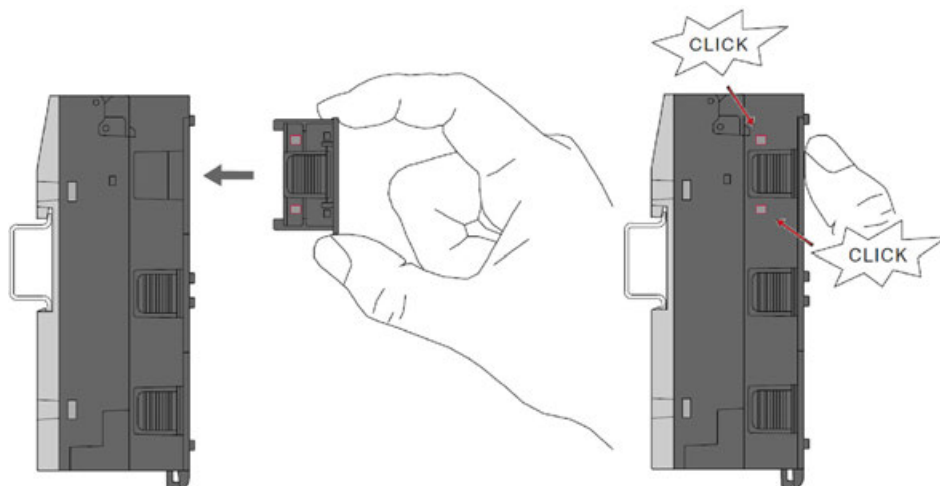


The AC500-eCo V3 processor modules are delivered with option board slot cover(s).

The option board slot cover has to be removed before inserting an option board.

The TA5300-CVR option board slot covers are available as spare parts.

101.1 Assembly



CAUTION!

Risk of injury and damaging the product!

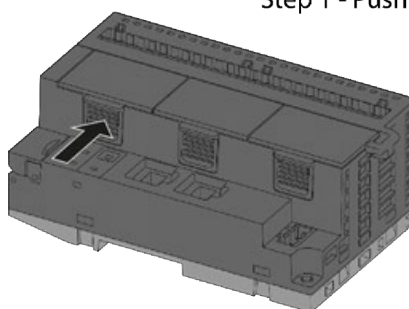
Always plug in the option board slot cover when the option board is not inserted.

If the option board slot cover is lost, please order the replacement TA5300-CVR (1SAP187500R0001).

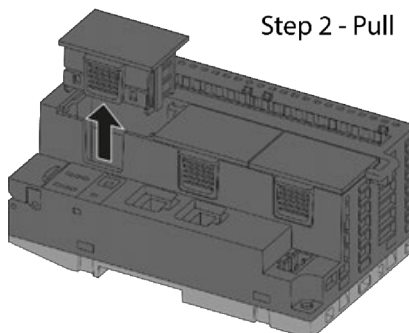
Never power up the CPU with uncovered option board slot, otherwise it may cause serious injury and/or damage the product.

101.2 Disassembly

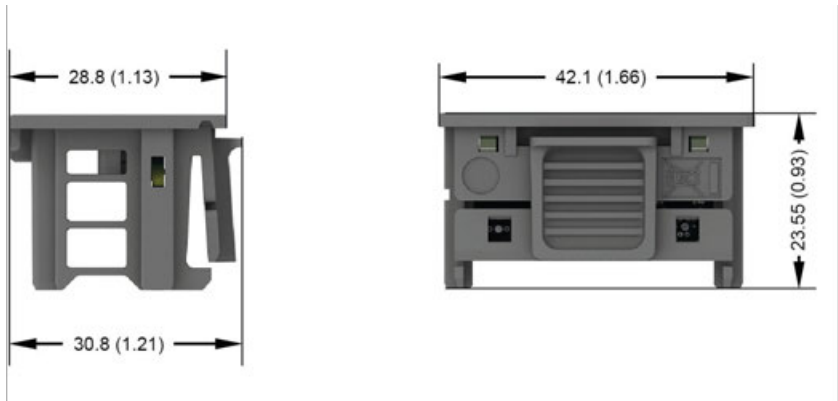
Step 1 - Push



Step 2 - Pull



101.3 Dimensions



The dimensions are in mm and in brackets in inch.

101.4 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

101.5 Certification



MSIP-REI-Abb-AC500

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

en Devices with KCC sign on product sticker and packaging
ko 제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"
KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

101.6 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

102 TA5400-SIM - Input simulator

- TA5400-SIM



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

102.1 Assembly

Insertion of the input simulator

1. Make sure that the power supply of the processor module is turned off.



CAUTION!

Risk of damaging the PLC modules!

The PLC modules can be damaged by overvoltages and short circuits.

Make sure, that all voltage sources (supply and process voltage) are switched off before you start working on the system.

Never connect voltages > 24 V DC to the terminal block of the TA5400-SIM input simulator.



CAUTION!

Risk of damaging the input simulator and/or PLC modules!

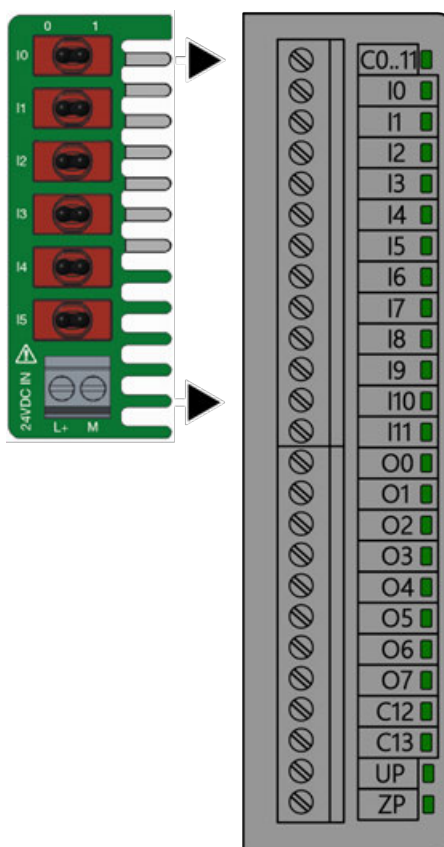
The TA5400-SIM input simulator may only be used with AC500-eCo V3 processor modules PM50x2.

Never use the input simulator with other devices.

The input simulator may only be used with screw-type terminal blocks.

The input simulator is only intended for testing and training purposes. Never use it within productive systems.

2. Make sure that all clamps of the onboard I/Os are totally open.
3. Insert the TA5400-SIM input simulator into the screw terminal block as shown in the figure.



4. Tighten all screws of the onboard I/O clamps.
5. Make sure all switches are in OFF state (0).
6. Connect 24 V DC to the power supply of the TA5400-SIM (L+ and M). Tighten the screws.

7. Connect the processor module power supply wires (24 V DC). See PM50xx [“Pin assignment” on page 565](#).

102.2 Disassembly

Removal of the input simulator

1. Make sure that the power supply of the processor module is turned off.



CAUTION!

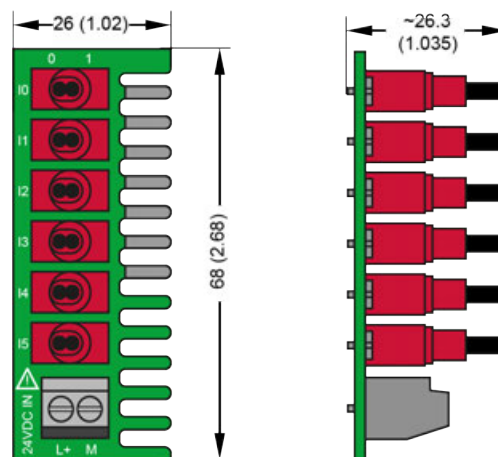
Risk of damaging the PLC modules!

The PLC modules can be damaged by overvoltages and short circuits.

Make sure that all voltage sources (supply and process voltage) are switched off before you start working on the system.

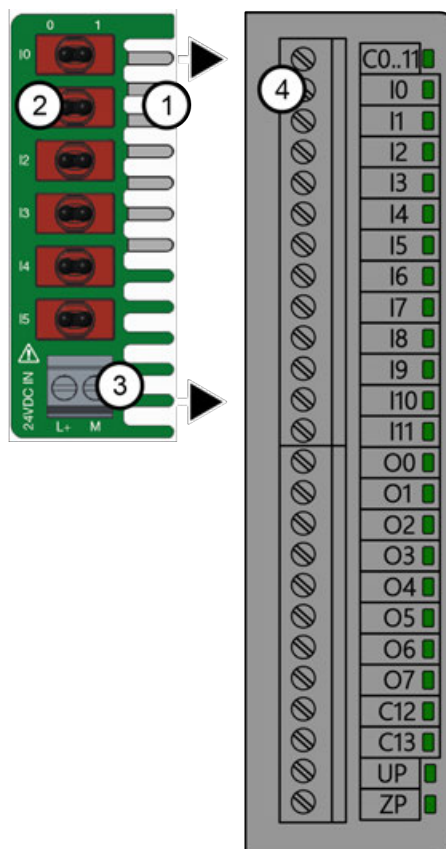
2. Disconnect the TA5400-SIM power supply wires (24 V DC) with a flat-blade screwdriver from the terminal block for power supply (L+ and M).
3. Loosen all screws of the onboard I/Os.
4. Remove the input simulator by pulling it to the left side.

102.3 Dimensions



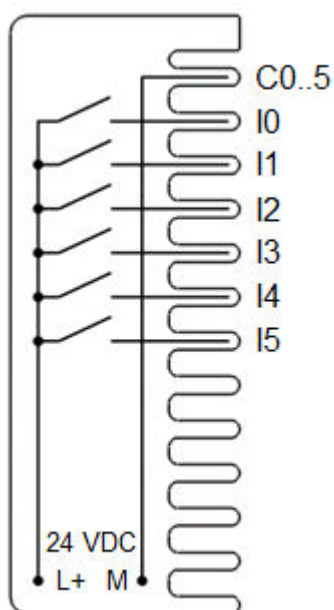
The dimensions are in mm and in brackets in inch.

102.4 Connections



- 1 Contacts for connecting the input simulator to the terminal block for I/O connectors
- 2 6 switches for the digital inputs DI0 ... DI5 (0 means opened switch, 1 means closed switch)
- 3 Screw terminal block for power supply
- 4 Screw terminal block(s) for I/O connectors

The diagram below shows the connection of the TA5400-SIM input simulator.





NOTICE!

Risk of damage to the TA5400-SIM input simulator!

Do not remove the terminal block while the TA5400-SIM input simulator is connected.

Do not apply mechanical forces to the input simulator when it is connected to the terminal block.

In both cases the input simulator could be damaged.

The TA5400-SIM input simulator can simulate 6 digital 24 V DC input signals to the digital inputs I0...I5 of the onboard I/Os.

With the TA5400-SIM input simulator, the digital 24 V DC inputs I0...I5 can be turned OFF and ON separately:

- If the lever of the switch is on the right side (1), the input is ON.
- If the lever of the switch is on the left side (0), the input is OFF.

102.5 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

102.6 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

102.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

103 TA541 - Battery

- TA541



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



CAUTION!

This Lithium Battery is the only one which can be used with AC500 CPUs.

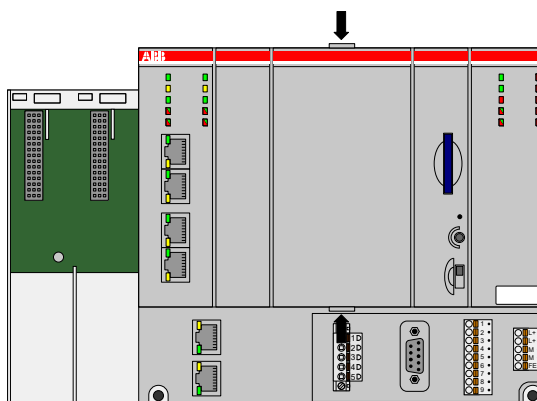
- Replace battery only with activated supply voltage.
- Don't use a battery older than 3 years for replacement (e.g. battery kept to long in stock).
- Lithium batteries must not be re-charged, not be disassembled and not be disposed of in fire.
- They must be stored in a dry place.
- Exhausted batteries must be recycled to respect the environment.

103.1 Assembly

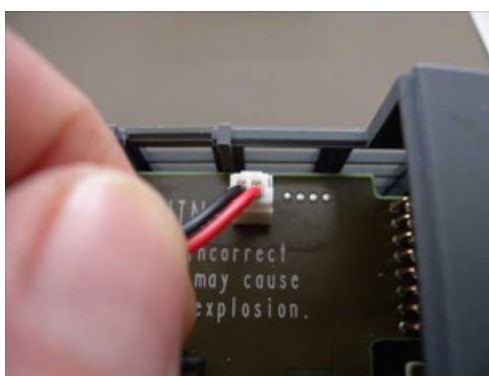


The TA541 lithium battery is the only applicable battery for processor modules PM595.

1. Remove the front cover / display by pressing the marked areas with your fingers and pull it to the front.



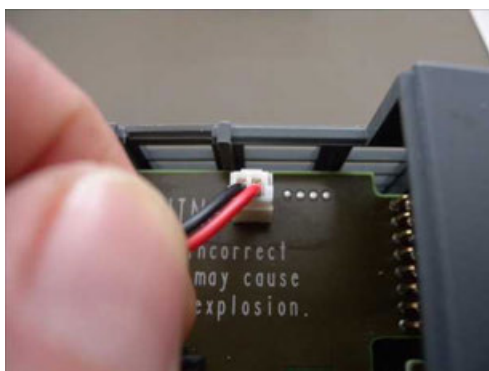
2. Remove the old battery from the battery compartment by pulling it by the small cable. Remove then the small connector from the socket.



3. Remove the battery from its package and hold it by the small cable.



4. Insert the battery connector into the connector port of the PCB. The connector is keyed to find the correct polarity (red = positive pole = right side).



5. Insert the battery into the battery compartment on the left side as shown in the figure.




6. Re-assemble the front cover / display by pressing it straight from the front until it snaps in.



In order to prevent data losses or problems, the battery should be replaced after 3 years of utilisation or at least as soon as possible after receiving the "low battery warning" indication.

Do not use a battery older than 3 years for replacement, do not keep batteries too long in stock.

103.2 Certification

		MSIP-REI-Abb-AC500	
en	Note	en	Devices with KCC sign on product sticker and packaging
	These devices correspond to:	ko	제품 스티커 및 포장에 KCC 표시가 된 기기
ko	참고 이러한 기기는		KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"
			KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함

103.3 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

104 TA561-RTC - Real-time clock adapter

- TA561-RTC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



WARNING!

Removal/Insertion under power

The devices are not designed for removal or insertion under power. Because of unforeseeable consequences, it is not allowed to plug or unplug devices with the power being ON.

Make sure that all voltage sources (supply and process voltage) are switched off before you

- connect or disconnect any signal or terminal block
- remove, mount or replace a module.

Disconnecting any powered devices while energized in a hazardous location could result in an electric arc, which could create a flammable ignition resulting in fire or explosion.

Make sure that power is removed and that the area has been thoroughly checked to ensure that flammable materials are not present prior to proceeding.

The devices must not be opened when in operation. The same applies to the network interfaces.



CAUTION!

Risk of damaging the product!

Option boards are sensitive electronic devices. Wrong handling can damage the product.

- ESD (electrostatic discharge) protection measures are required when handling the option board.
- Do not touch contacts and circuit board.



CAUTION!

Risk of explosion!

Do not open, re-charge or disassemble a lithium battery. Attempts to charge lithium batteries lead to overheating and possible explosions.

Protect them from heat and fire and store them in a dry place.

Never short-circuit or operate lithium batteries with the polarities reversed. The batteries are likely to overheat and explode. Avoid chance short circuiting and therefore do not store batteries in metal containers and do not place them on metallic surfaces. Escaping lithium is a health hazard.

104.1 Battery Replacement

Replacement of the battery



WARNING!

Risk of death by electric shock!

Hazardous voltages can be present at the terminals of the module.

Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.

1. Switch off power supply of the system and verify that the CPU is powerless.



⇒ LEDs (PWR, RUN, ERR) must be off.

2. Remove the option board slot cover.



⇒ Remove the option board slot cover of the CPU totally by pushing it to the outer side.



NOTICE!

Avoidance of electrostatic charging

PLC devices and equipment are sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Observe the following rules when handling the system:

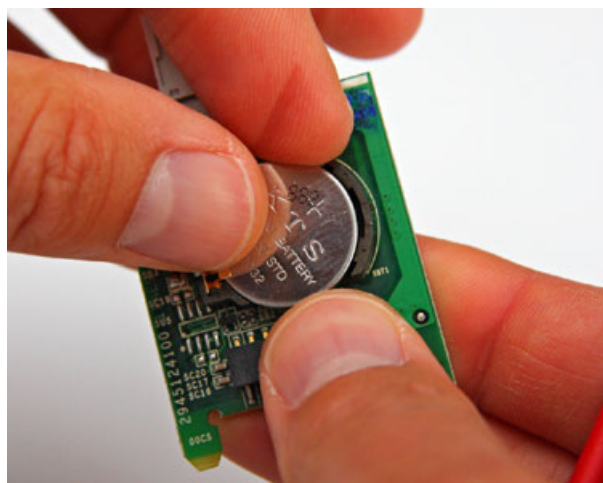
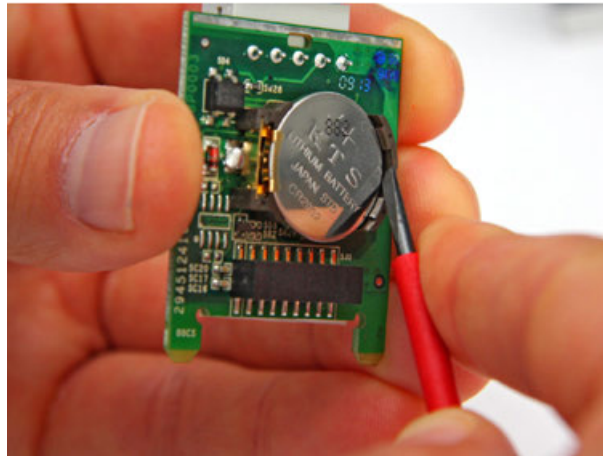
- Touch a grounded object to discharge potential static.
- Wear an approved grounding wrist strap.
- Do not touch connectors or pins on component boards.
- Do not touch circuit components inside the equipment.
- If available, use a static-safe workstation.
- When not in use, store the equipment in appropriate static-safe packaging.

3. Remove the option board from the CPU by lifting it up with a screwdriver.



Remove memory card (if installed) / terminal block (COM2).

4. Remove the battery.



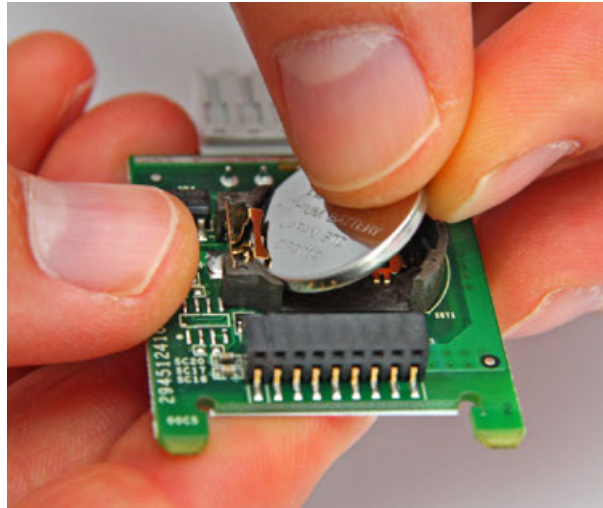
ATTENTION!

Lithium batteries must not be recharged, not be disassembled and not be disposed of in fire.

Exhausted batteries must be recycled to respect the environment.

Dispose of battery properly according to disposal procedures for lithium batteries.

5. Insert replacement battery.



ATTENTION!

A standard battery CR2032 can be used for **TA561-RTC** and **TA562-RS-RTC**.

Nominal voltage: **3 V DC**.

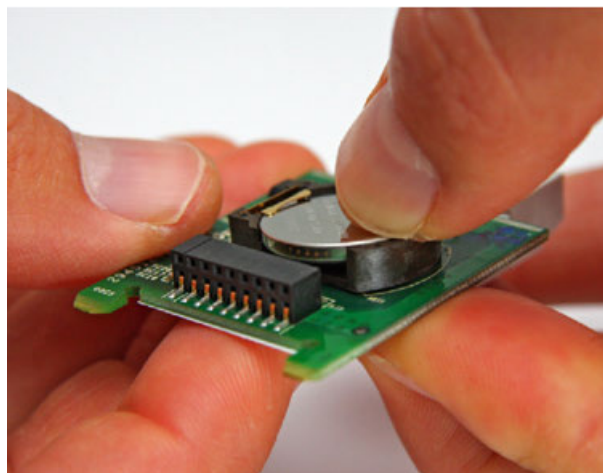
Required capacity: **230 mAh**.

Required temperature range for discharge: **0 °C...+70 °C**.

After replacement of the battery, the real-time clock (RTC) date and time must be set again by the user.

Don't use a battery older than 3 years for replacement (e.g. battery kept too long in stock).

Batteries must be stored in a dry place.



6. Insert option board into the CPU.



- ⇒ Insert the adapter TA56x-RTC into the slot on the right of the CPU.



Make sure that the 2 noses of the extension module fit to the holes of the CPU PCB.

See white circle in figure above.



7. Refit the option board slot cover of the CPU.



- ⇒



Remember to re-insert a memory card first if it has been removed previously.

8. Only now the CPU can be connected to power.



Set the time of the real-time clock.

104.2 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

104.3 Certification



MSIP-REI-Abb-AC500-eCo

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

104.4 Recycling



Disposal and recycling information

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It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

105 TA562-RS(-x) / TA569-RS(-x) - Adapter

- TA562-RS
- TA562-RS-RTC
- TA569-RS-ISO



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



WARNING!

Removal/Insertion under power

The devices are not designed for removal or insertion under power. Because of unforeseeable consequences, it is not allowed to plug or unplug devices with the power being ON.

Make sure that all voltage sources (supply and process voltage) are switched off before you

- connect or disconnect any signal or terminal block
- remove, mount or replace a module.

Disconnecting any powered devices while energized in a hazardous location could result in an electric arc, which could create a flammable ignition resulting in fire or explosion.

Make sure that power is removed and that the area has been thoroughly checked to ensure that flammable materials are not present prior to proceeding.

The devices must not be opened when in operation. The same applies to the network interfaces.



CAUTION!

Risk of damaging the product!

Option boards are sensitive electronic devices. Wrong handling can damage the product.

- ESD (electrostatic discharge) protection measures are required when handling the option board.
- Do not touch contacts and circuit board.



CAUTION!

Risk of explosion!

Do not open, re-charge or disassemble a lithium battery. Attempts to charge lithium batteries lead to overheating and possible explosions.

Protect them from heat and fire and store them in a dry place.

Never short-circuit or operate lithium batteries with the polarities reversed. The batteries are likely to overheat and explode. Avoid chance short circuiting and therefore do not store batteries in metal containers and do not place them on metallic surfaces. Escaping lithium is a health hazard.

105.1 Battery Replacement

Replacement of the battery



WARNING!

Risk of death by electric shock!

Hazardous voltages can be present at the terminals of the module.

Make sure that all voltage sources (supply voltage and process supply voltage) are switched off before you begin with operations on the system.

1. Switch off power supply of the system and verify that the CPU is powerless.



⇒ LEDs (PWR, RUN, ERR) must be off.

2. Remove the option board slot cover.



⇒ Remove the option board slot cover of the CPU totally by pushing it to the outer side.



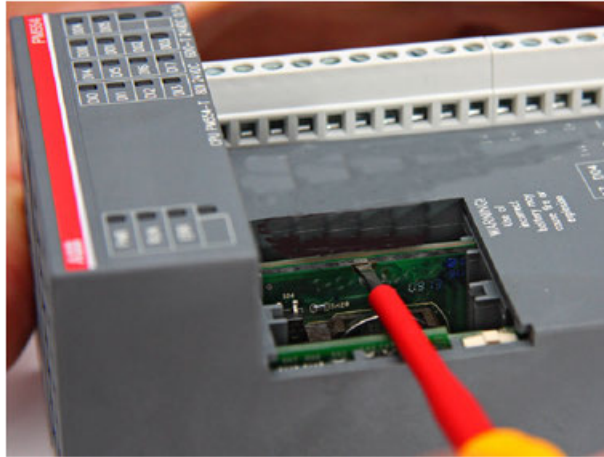
NOTICE!

Avoidance of electrostatic charging

PLC devices and equipment are sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Observe the following rules when handling the system:

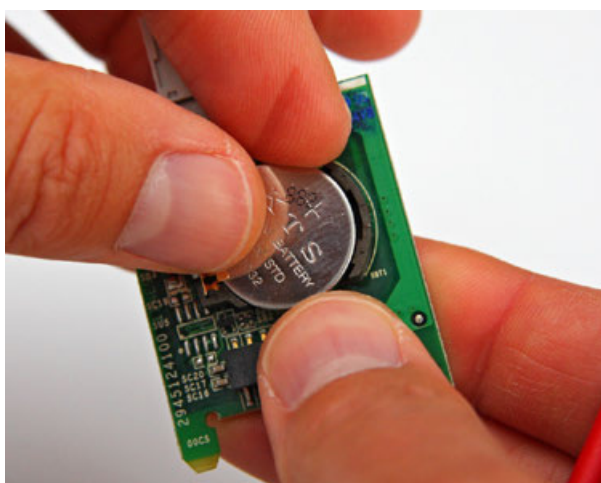
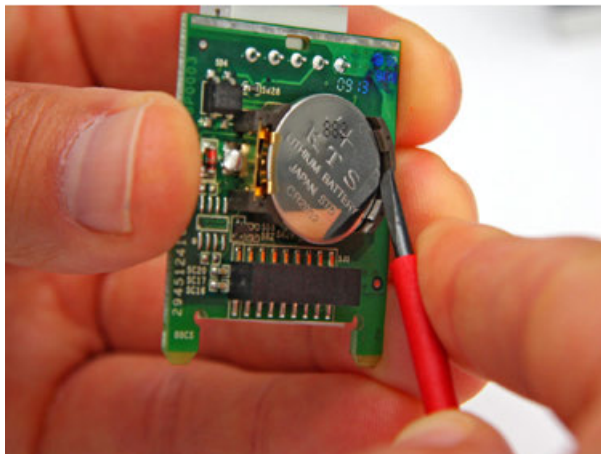
- Touch a grounded object to discharge potential static.
- Wear an approved grounding wrist strap.
- Do not touch connectors or pins on component boards.
- Do not touch circuit components inside the equipment.
- If available, use a static-safe workstation.
- When not in use, store the equipment in appropriate static-safe packaging.

3. Remove the option board from the CPU by lifting it up with a screwdriver.



Remove memory card (if installed) / terminal block (COM2).

4. Remove the battery.



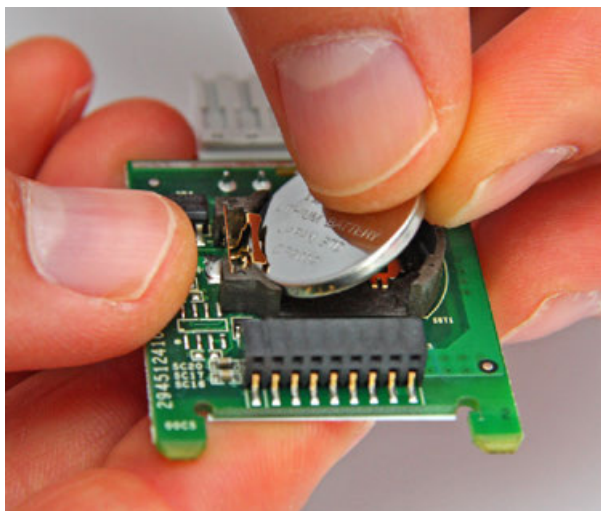
ATTENTION!

Lithium batteries must not be recharged, not be disassembled and not be disposed of in fire.

Exhausted batteries must be recycled to respect the environment.

Dispose of battery properly according to disposal procedures for lithium batteries.

5. Insert replacement battery.



ATTENTION!

A standard battery CR2032 can be used for **TA561-RTC** and **TA562-RS-RTC**.

Nominal voltage: **3 V DC**.

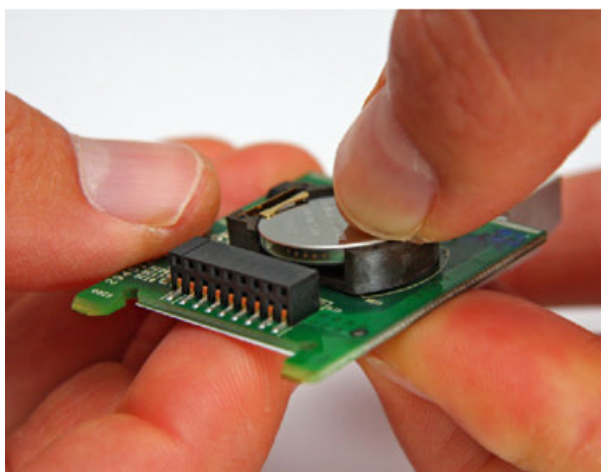
Required capacity: **230 mAh**.

Required temperature range for discharge: **0 °C...+70 °C**.

After replacement of the battery, the real-time clock (RTC) date and time must be set again by the user.

Don't use a battery older than 3 years for replacement (e.g. battery kept too long in stock).

Batteries must be stored in a dry place.



6. Insert option board into the CPU.



- ⇒ Insert the adapter TA56x-RTC into the slot on the right of the CPU.



Make sure that the 2 noses of the extension module fit to the holes of the CPU PCB.

See white circle in figure above.



7. Refit the option board slot cover of the CPU.



Remember to re-insert a memory card first if it has been removed previously.

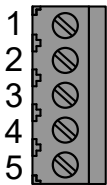
8. Only now the CPU can be connected to power.



Set the time of the real-time clock.

105.2 Connections

Table 53: Pin assignment

Serial Interface	Pin	Description
	1	Terminator P
	2	TxD/RxD-P
	3	TxD/RxD-N
	4	Terminator N
	5	Functional earth

105.3 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

105.4 Certification



MSIP-REI-Abb-AC500-eCo

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

105.5 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

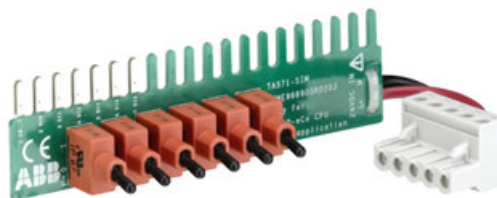
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

106 TA571-SIM - Input simulator

- TA571-SIM



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

106.1 Assembly

Insertion of the input simulator

1. Make sure that the power supply of the processor module is turned off.



CAUTION!

Risk of damaging the PLC modules!

The PLC modules can be damaged by overvoltages and short circuits. Make sure that all voltage sources (supply and process voltage) are switched off before you begin with operations on the system. Never connect any voltages > 24 V DC to pins 4/5 of the terminal block of input simulator TA571-SIM.



CAUTION!

Risk of damaging the input simulator or PLC modules!

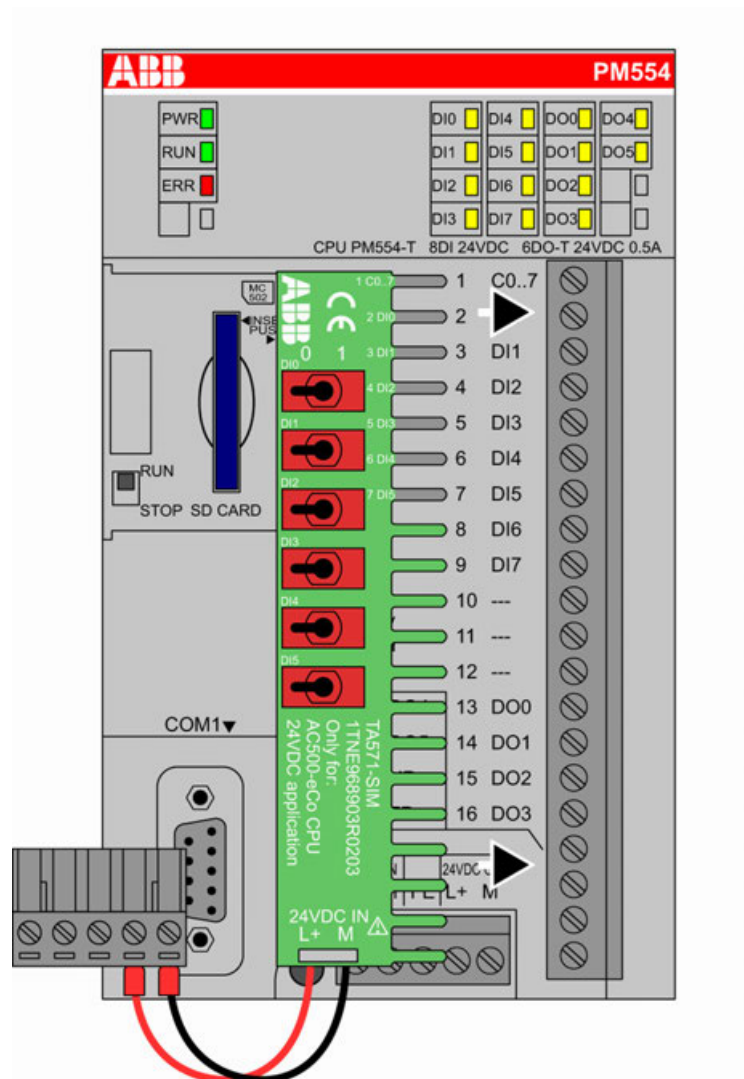
The input simulator must only be used with AC500-eCo processor modules PM55x and PM56x. Never use the input simulator with other devices.



The input simulator must only be used for test and training purposes. Never use it within productive plants.

2. Remove the terminal block for power supply from the processor module by a flat-blade screwdriver.
3. Make sure that all clamps of the onboard I/Os are totally open.

4. Use a flat-blade screwdriver to unplug the terminal block for power supply of the processor module.
5. Insert the input simulator as shown in the figure.



6. Tighten all screws of the onboard I/O clamps (max. torque 1.2 Nm).
7. Plug in the terminal block for power supply of the TA571-SIM to the connector of the processor module.
8. Connect the CPU power supply wires (24 V DC or 100-240 V AC).

106.2 Disassembly

Removal of the input simulator

1. Make sure that the power supply of the processor module is turned off.



CAUTION!

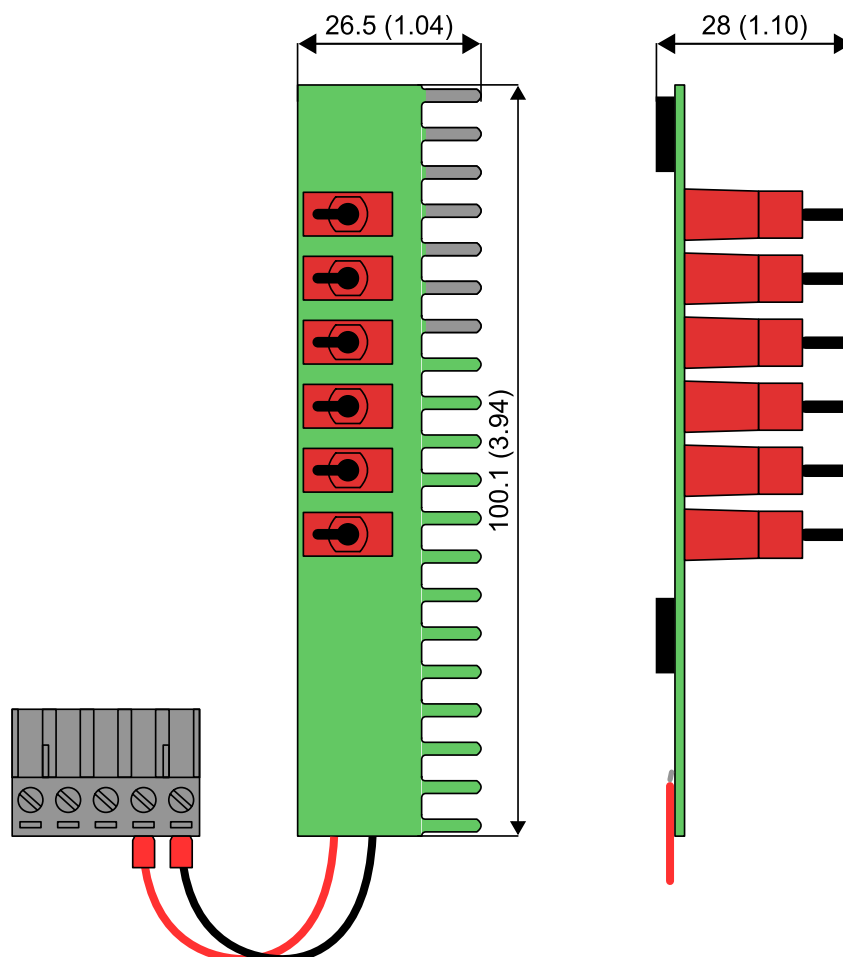
Risk of damaging the PLC modules!

The PLC modules can be damaged by overvoltages and short circuits. Make sure that all voltage sources (supply and process voltage) are switched off before you begin with operations on the system.

2. Disconnect the processor module power supply wires (24 V DC or 100-240 V AC) from the terminal block for power supply.

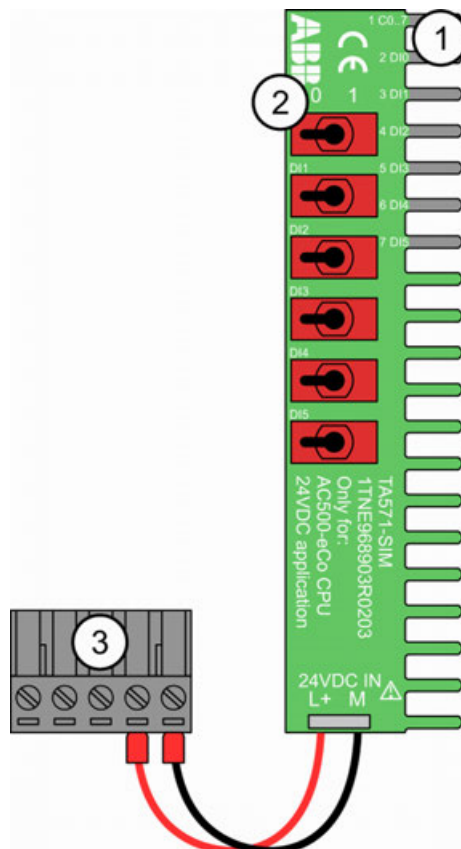
3. Unplug the terminal block for power supply with a flat-blade screwdriver of the power connector.
4. Loosen all screws of the onboard I/Os.
5. Remove the input simulator by pulling it to the left side.

106.3 Dimensions



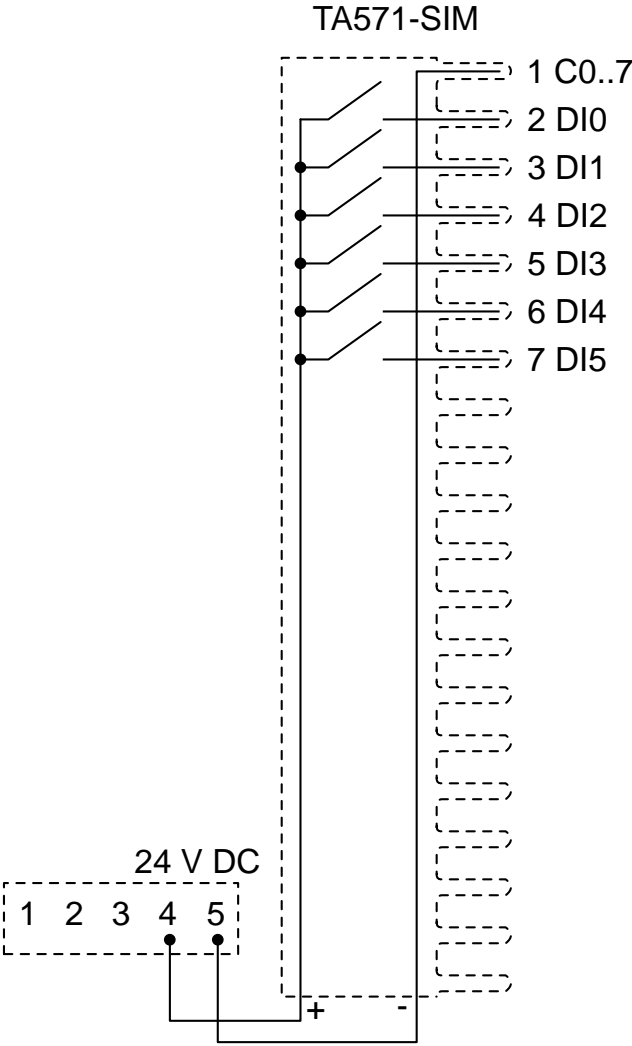
The dimensions are in mm and in brackets in inch.

106.4 Connections



- 1 Contacts to connect to clamps of onboard I/Os
- 2 6 switches for the digital inputs DI0 ... DI5 (0 means opened switch, 1 means closed switch)
- 3 Terminal block for power supply connector of processor module PM55x/PM56x

106.4.1 Inputs



106.5 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

106.6 Certification



MSIP-REI-Abb-AC500-eCo

en **Note**
These devices correspond to:

ko 참고
이러한 기기는

en **Devices with KCC sign on product sticker and packaging**

ko 제품 스티커 및 포장에 **KCC** 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

106.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

107 TB511-x(-XC)

- TB511-ARCNET
- TB511-ETH
- TB511-ETH-XC



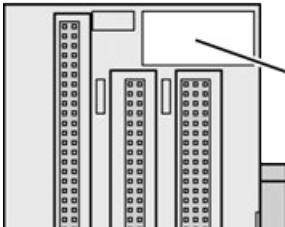
CAUTION!
Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

XC version

XC = eXtreme Conditions

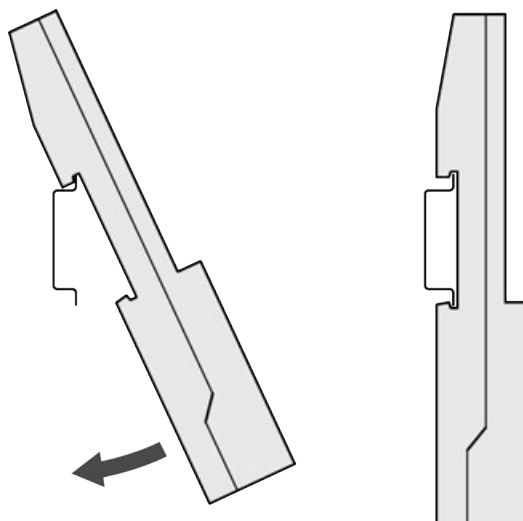


Extreme conditions

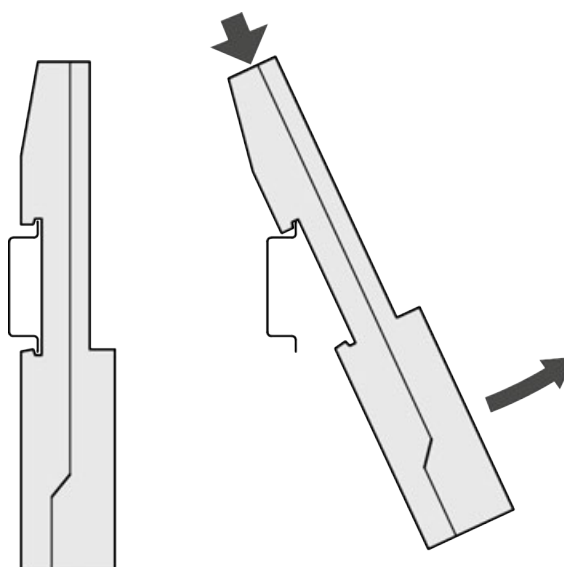
Terminal bases for use in extreme ambient conditions have no ☼ sign for XC version.

The figure 3 in the Part no. 1SAP3... (label) identifies the XC version.

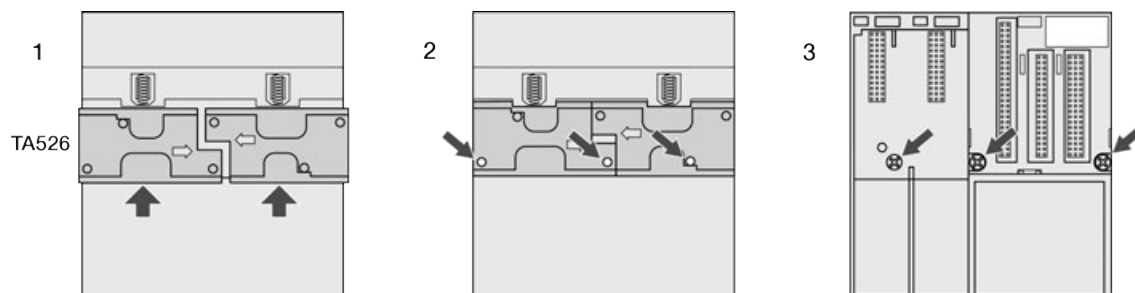
107.1 Assembly



107.2 Disassembly



107.3 Assembly with screws





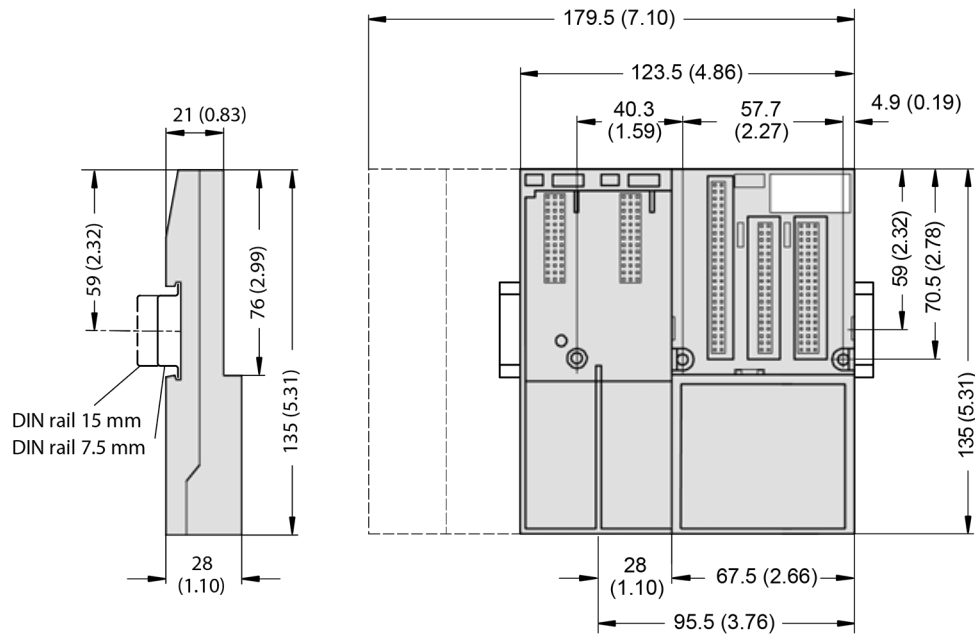
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 are snapped on the rear side of the module like DIN rails. One TA526 is turned by 180°.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

107.4 Dimensions

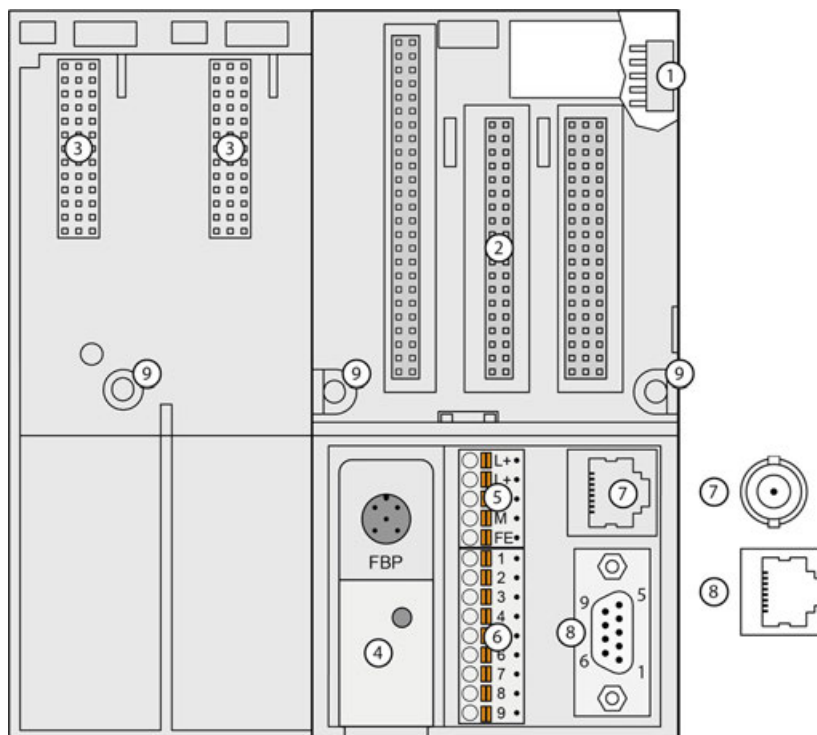


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

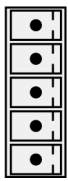
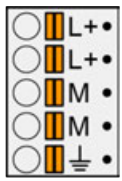
107.5 Connections



- 1 I/O bus (10-pin, female) to connect the I/O terminal units
- 2 One available slot for the processor module
- 3 Slots for communication modules (TB511-xxx: 1 slot, TB521-xxx: 2 slots, TB541-xx: 4 slots)
- 4 Interface for FieldBusPlug, not for terminal base TB523-2ETH
- 5 Power supply (5-pin terminal block, removable)
- 6 Serial interface COM1 (9-pin terminal block, removable)
- 7 Network interfaces: TB5xx-ETH: Ethernet, TB5xx-ARCNET: ARCNET
- 8 TB5x1: Serial interface COM2 (D-sub 9, female), TB523-2ETH: second Ethernet network interface
- 9 Holes for screw mounting

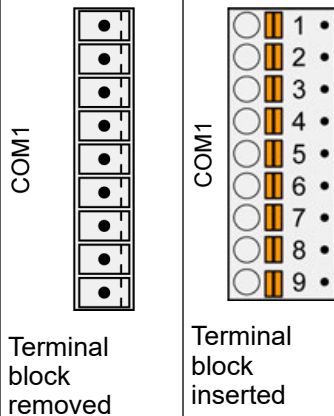
107.5.1 Power supply

Pin assignment

Pin Assignment	Label	Function	Description
 Terminal block removed	L+	+24 V DC	Positive PIN of the power supply voltage
	L+	+24 V DC	Positive PIN of the power supply voltage
	M	0 V	Negative PIN of the power supply voltage
	M	0 V	Negative PIN of the power supply voltage
	⏏	FE	Functional earth
 Terminal block inserted			

107.5.2 Serial interface COM1

Pin assignment
(RS-485 /
RS-232)

	Pin	Signal	Interface	Description
 <p>Terminal block removed</p> <p>Terminal block inserted</p>	1	Terminator P	RS-485	Terminator P
	2	RxD/TxD-P	RS-485	Receive/Transmit, positive
	3	RxD/TxD-N	RS-485	Receive/Transmit, negative
	4	Terminator N	RS-485	Terminator N
	5	RTS	RS-232	Request to send (output)
	6	TxD	RS-232	Transmit data (output)
	7	SGND	Signal Ground	Signal Ground
	8	RxD	RS-232	Receive data (input)
	9	CTS	RS-232	Clear to send (input)



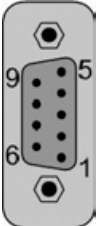
NOTICE!

Unused connector!

Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.

107.5.3 Serial interface COM2

Pin assignment

Serial Interface	Pin	Signal	Interface	Description	
	1	FE	-	Functional earth	
	2	TxD	RS-232	Transmit data	Output
	3	RxD/TxD-P	RS-485	Receive/Transmit	Positive
	4	RTS	RS-232	Request to send	Output
	5	SGND	Signal ground	0 V supply out	
	6	+5 V	-	5 V supply out	
	7	RxD	RS-232	Receive data	Input
	8	RxD/TxD-N	RS-485	Receive/Transmit	Negative
	9	CTS	RS-232	Clear to send	Input
	Shield	FE	-	Functional earth	



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

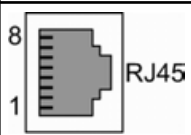
Protect unused connectors and slots with TA535 protective caps for XC devices.

107.5.4 ARCNET network interface



107.5.5 Ethernet network interface

Pin assignment

	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NU	Not used
	5	NU	Not used
	6	RxD-	Receive data -
	7	NU	Not used
	8	NU	Not used
	Shield	Cable shield	Functional earth



NOTICE!

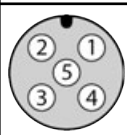
Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

107.5.6 Neutral FBP interface

Pin assignment in serial mode

FieldBusPlug	Pin	Signal	Description
	1	+24 V	Standard power supply
	2	Diagnosis pin	
	3	0 V	Standard power supply
	4	Serial data	
	5	Serial data	



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

107.6 Cleaning



Cleaning instruction
*Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.*

107.7 Certification

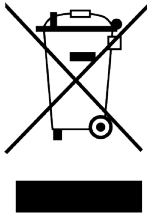


MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging
ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함

107.8 Recycling



Disposal and recycling information
This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.
The symbol indicates that this product must be recycled/disposed of separately from other household waste.
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.
The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.
For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

108 TB521-x(-XC)

- TB521-ARCNET
- TB521-ETH
- TB521-ETH-XC



CAUTION!

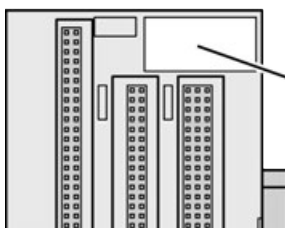
Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

XC version

XC = eXtreme Conditions



ABB

1SAP3...

XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

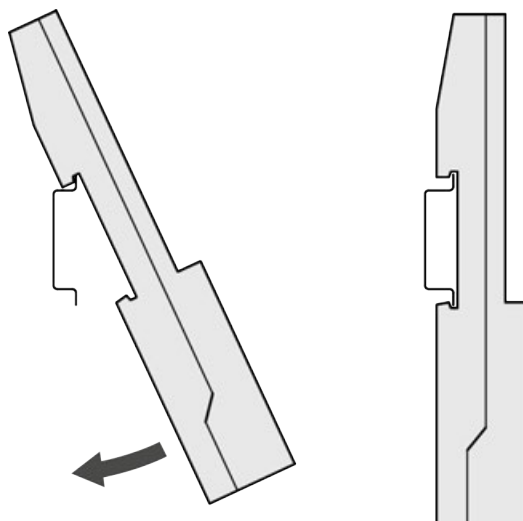


Extreme conditions

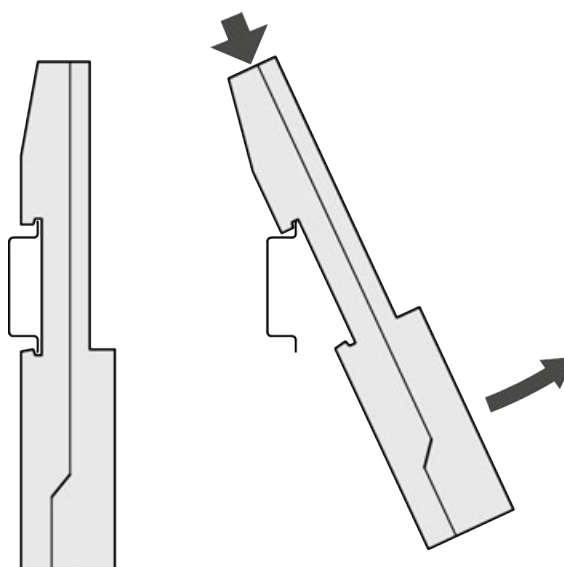
Terminal bases for use in extreme ambient conditions have no ❄️ sign for XC version.

The figure 3 in the Part no. 1SAP3... (label) identifies the XC version.

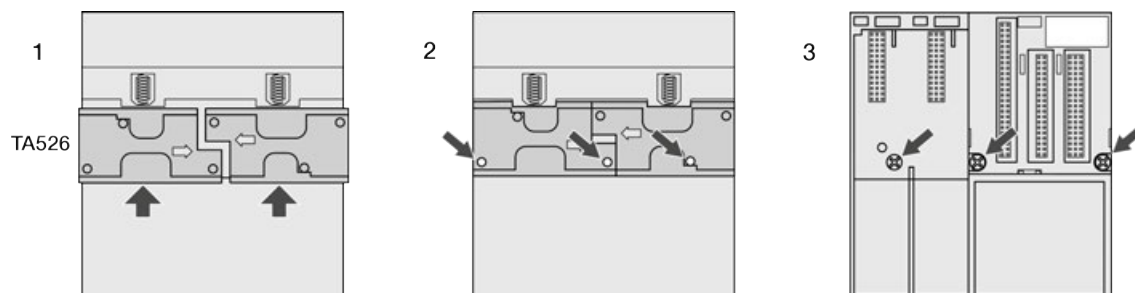
108.1 Assembly



108.2 Disassembly



108.3 Assembly with screws





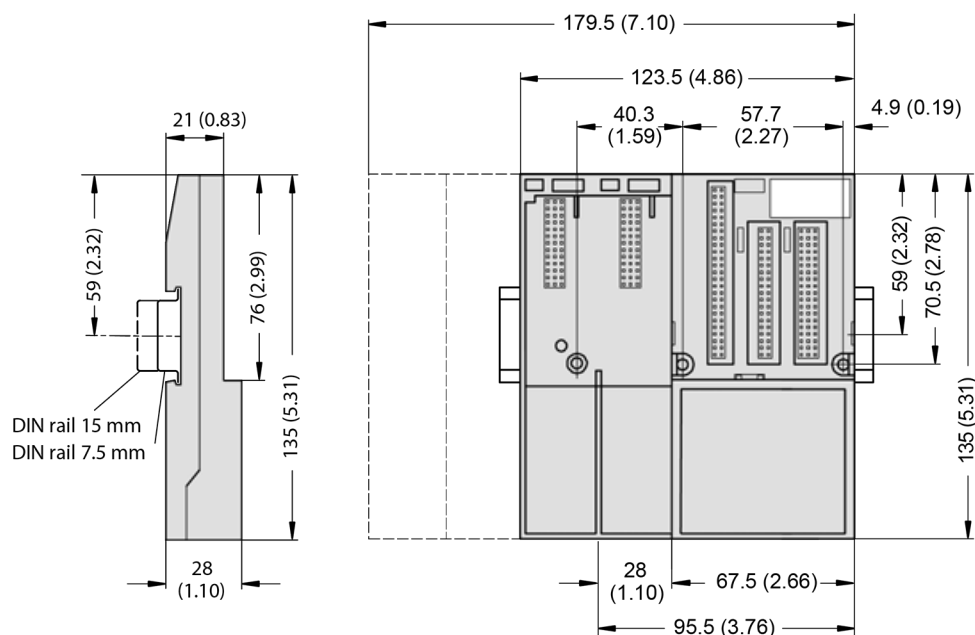
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 are snapped on the rear side of the module like DIN rails. One TA526 is turned by 180°.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

108.4 Dimensions

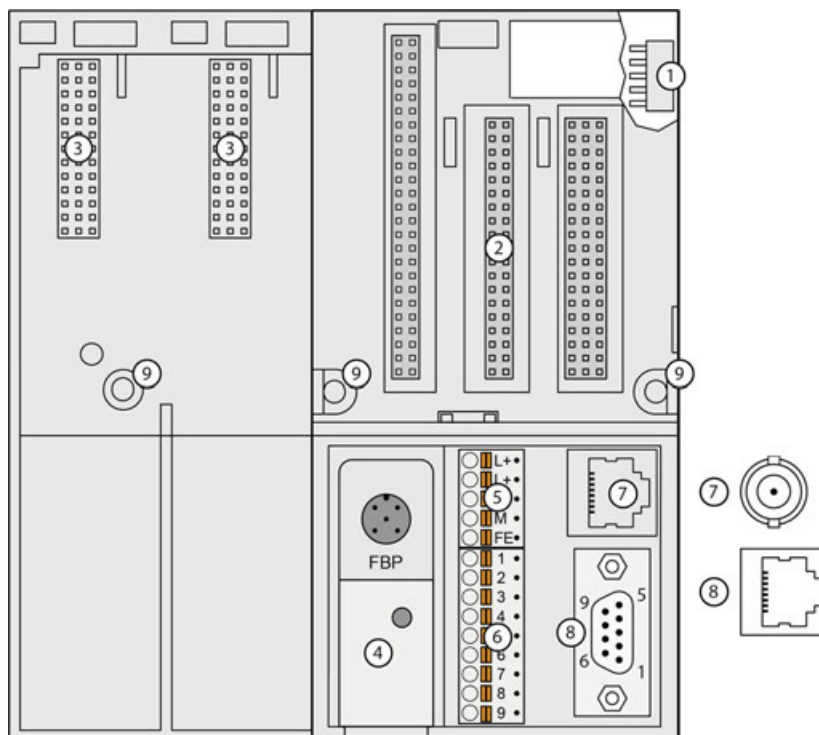


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

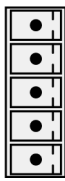
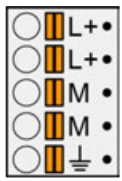
108.5 Connections



- 1 I/O bus (10-pin, female) to connect the I/O terminal units
- 2 One available slot for the processor module
- 3 Slots for communication modules (TB511-xxx: 1 slot, TB521-xxx: 2 slots, TB541-xx: 4 slots)
- 4 Interface for FieldBusPlug, not for terminal base TB523-2ETH
- 5 Power supply (5-pin terminal block, removable)
- 6 Serial interface COM1 (9-pin terminal block, removable)
- 7 Network interfaces: TB5xx-ETH: Ethernet, TB5xx-ARCNET: ARCNET
- 8 TB5x1: Serial interface COM2 (D-sub 9, female), TB523-2ETH: second Ethernet network interface
- 9 Holes for screw mounting

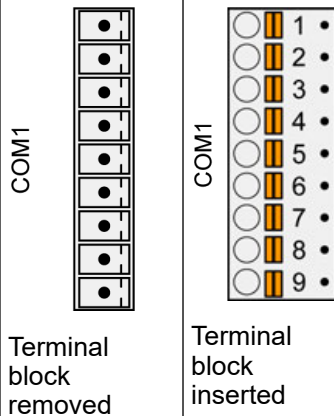
108.5.1 Power supply

Pin assignment

Pin Assignment	Label	Function	Description
<div style="display: flex; align-items: center;"> <div style="text-align: center;">  <p>24 V</p> <p>Terminal block removed</p> </div> <div style="text-align: center; margin-left: 20px;">  <p>24 V</p> <p>Terminal block inserted</p> </div> </div>	L+	+24 V DC	Positive PIN of the power supply voltage
	L+	+24 V DC	Positive PIN of the power supply voltage
	M	0 V	Negative PIN of the power supply voltage
	M	0 V	Negative PIN of the power supply voltage
	⏏	FE	Functional earth

108.5.2 Serial interface COM1

Pin assignment
(RS-485 /
RS-232)

	Pin	Signal	Interface	Description
 <p>Terminal block removed</p> <p>Terminal block inserted</p>	1	Terminator P	RS-485	Terminator P
	2	RxD/TxD-P	RS-485	Receive/Transmit, positive
	3	RxD/TxD-N	RS-485	Receive/Transmit, negative
	4	Terminator N	RS-485	Terminator N
	5	RTS	RS-232	Request to send (output)
	6	TxD	RS-232	Transmit data (output)
	7	SGND	Signal Ground	Signal Ground
	8	RxD	RS-232	Receive data (input)
	9	CTS	RS-232	Clear to send (input)



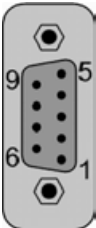
NOTICE!

Unused connector!

Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.

108.5.3 Serial interface COM2

Pin assignment

Serial Interface	Pin	Signal	Interface	Description	
	1	FE	-	Functional earth	
	2	TxD	RS-232	Transmit data	Output
	3	RxD/TxD-P	RS-485	Receive/Transmit	Positive
	4	RTS	RS-232	Request to send	Output
	5	SGND	Signal ground	0 V supply out	
	6	+5 V	-	5 V supply out	
	7	RxD	RS-232	Receive data	Input
	8	RxD/TxD-N	RS-485	Receive/Transmit	Negative
	9	CTS	RS-232	Clear to send	Input
	Shield	FE	-	Functional earth	



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

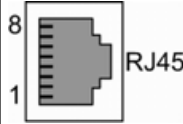
Protect unused connectors and slots with TA535 protective caps for XC devices.

108.5.4 ARCNET network interface



108.5.5 Ethernet network interface

Pin assignment

	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NU	Not used
	5	NU	Not used
	6	RxD-	Receive data -
	7	NU	Not used
	8	NU	Not used
	Shield	Cable shield	Functional earth



NOTICE!


Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

108.5.6 Neutral FBP interface

Pin assignment
in serial mode

FieldBusPlug	Pin	Signal	Description
	1	+24 V	Standard power supply
	2	Diagnosis pin	
	3	0 V	Standard power supply
	4	Serial data	
	5	Serial data	



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

108.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

108.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

108.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

109 TB523-2ETH

- TB523-2ETH



CAUTION!

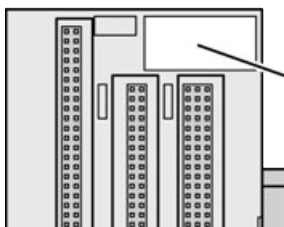
Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

XC version

XC = eXtreme Conditions



ABB

1SAP3...

XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

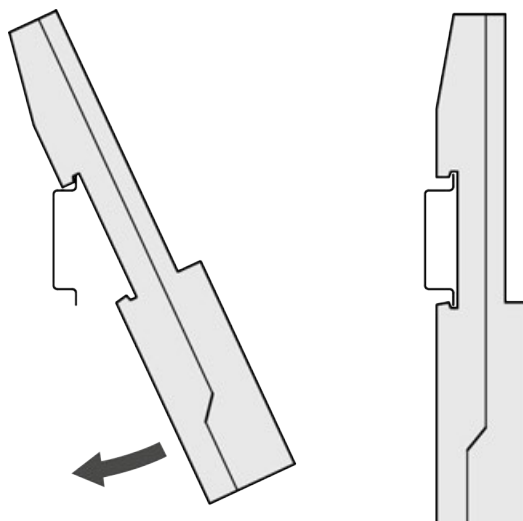


Extreme conditions

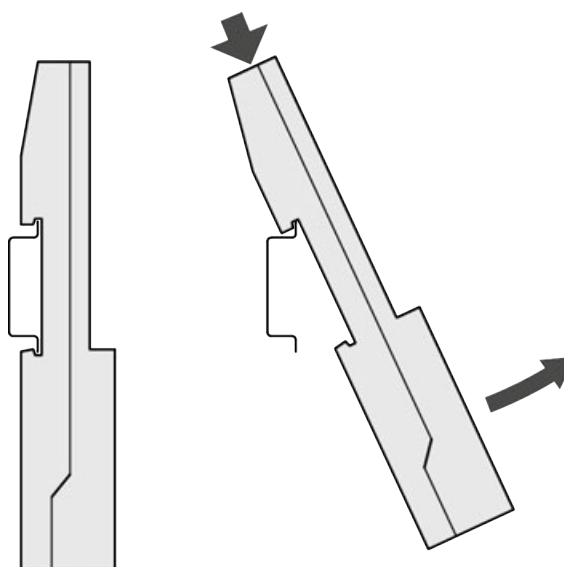
Terminal bases for use in extreme ambient conditions have no ☼ sign for XC version.

The figure 3 in the Part no. 1SAP3... (label) identifies the XC version.

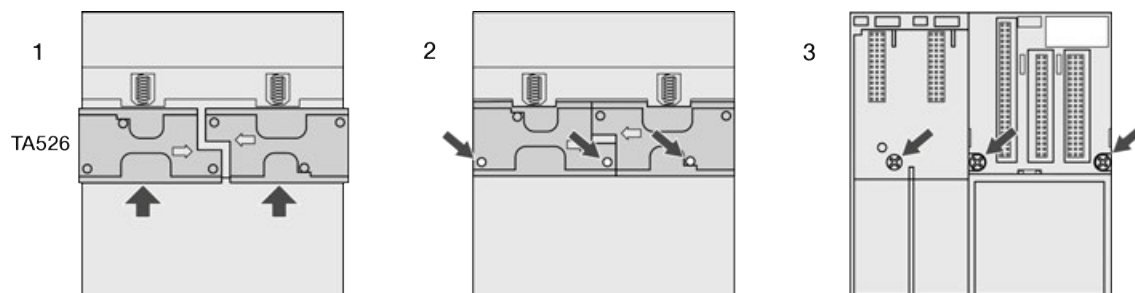
109.1 Assembly



109.2 Disassembly



109.3 Assembly with screws

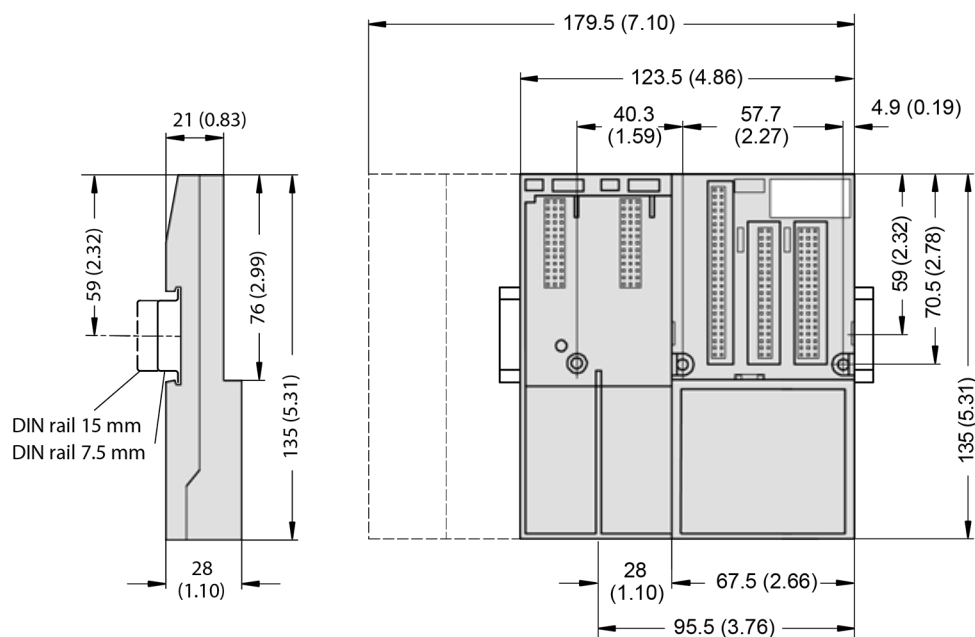


**NOTICE!****Use screw mounting accessory to avoid damage!**

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 are snapped on the rear side of the module like DIN rails. One TA526 is turned by 180°.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

109.4 Dimensions

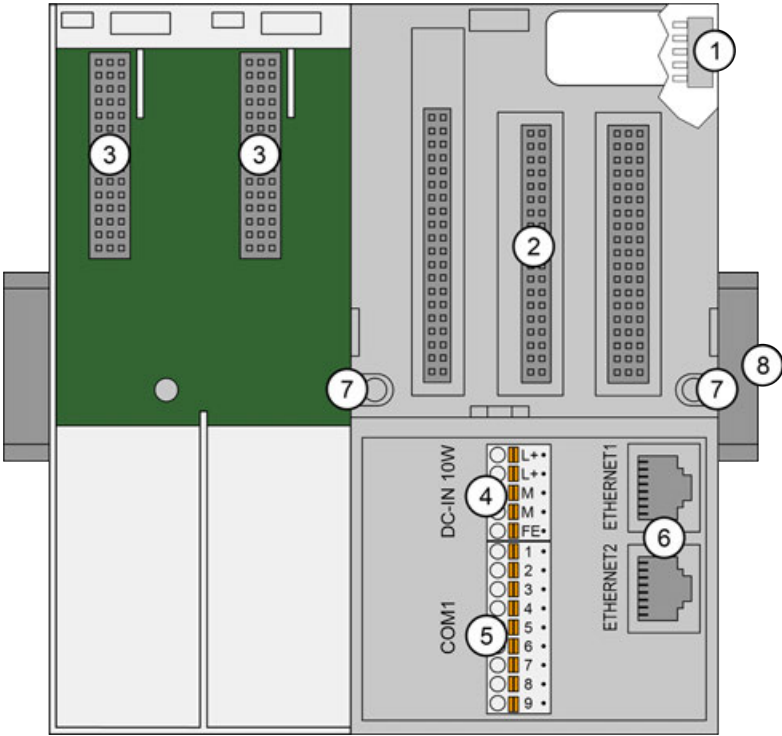


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

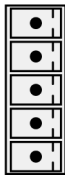
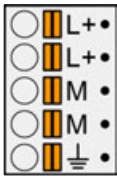

109.5 Connections



- 1 I/O bus (10-pin, female) to connect the I/O terminal units
- 2 One available slot for the processor module
- 3 Slots for communication modules
- 4 Power supply (5-pin terminal block, removable)
- 5 Serial interface COM1 (9-pin terminal block, removable)
- 6 Ethernet network interfaces
- 7 Holes for wall mounting with screws
- 8 DIN rail

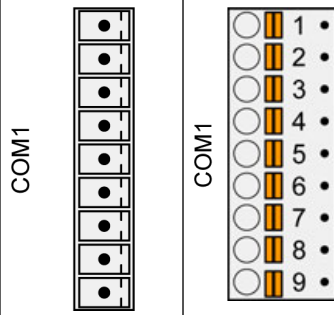
109.5.1 Power supply

Pin assignment

Pin Assignment		Label	Function	Description
<div>24 V </div> <div>Terminal block removed</div>	<div>24 V </div> <div>Terminal block inserted</div>	L+	+24 V DC	Positive PIN of the power supply voltage
		L+	+24 V DC	Positive PIN of the power supply voltage
		M	0 V	Negative PIN of the power supply voltage
		M	0 V	Negative PIN of the power supply voltage
			FE	Functional earth

109.5.2 Serial interface COM1

Pin assignment
(RS-485 /
RS-232)

	Pin	Signal	Interface	Description
 <p>COM1</p> <p>Terminal block removed</p> <p>Terminal block inserted</p>	1	Terminator P	RS-485	Terminator P
	2	RxD/TxD-P	RS-485	Receive/Transmit, positive
	3	RxD/TxD-N	RS-485	Receive/Transmit, negative
	4	Terminator N	RS-485	Terminator N
	5	RTS	RS-232	Request to send (output)
	6	TxD	RS-232	Transmit data (output)
	7	SGND	Signal Ground	Signal Ground
	8	RxD	RS-232	Receive data (input)
	9	CTS	RS-232	Clear to send (input)



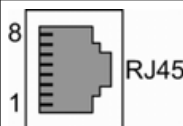
NOTICE!

Unused connector!

Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.

109.5.3 Ethernet network interface

Pin assignment

	PIN	Signal	Description
 <p>RJ45</p>	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NU	Not used
	5	NU	Not used
	6	RxD-	Receive data -
	7	NU	Not used
	8	NU	Not used
	Shield	Cable shield	Functional earth



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

109.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

109.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

109.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

110 TB541-ETH(-XC)

- TB541-ETH
- TB541-ETH-XC



CAUTION!

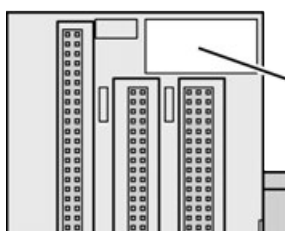
Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

XC version

XC = eXtreme Conditions



ABB

1SAP3...

XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

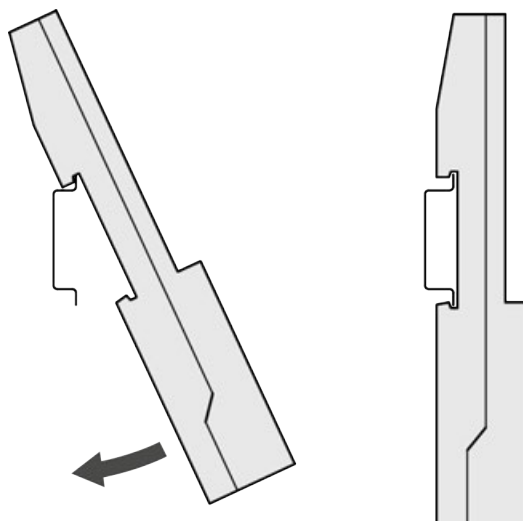


Extreme conditions

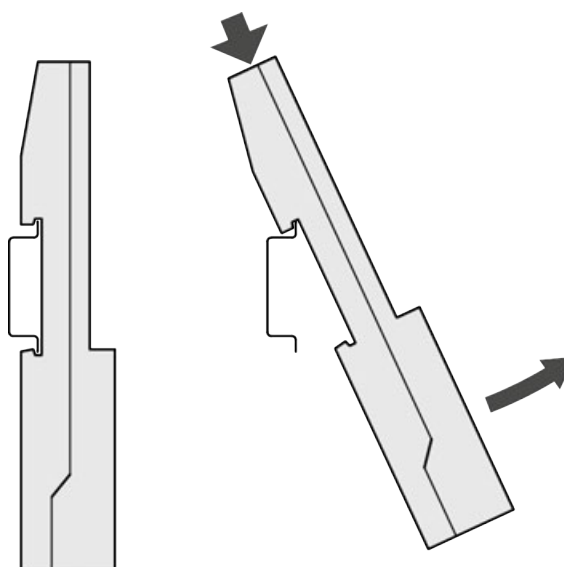
Terminal bases for use in extreme ambient conditions have no ❄️ sign for XC version.

The figure 3 in the Part no. 1SAP3... (label) identifies the XC version.

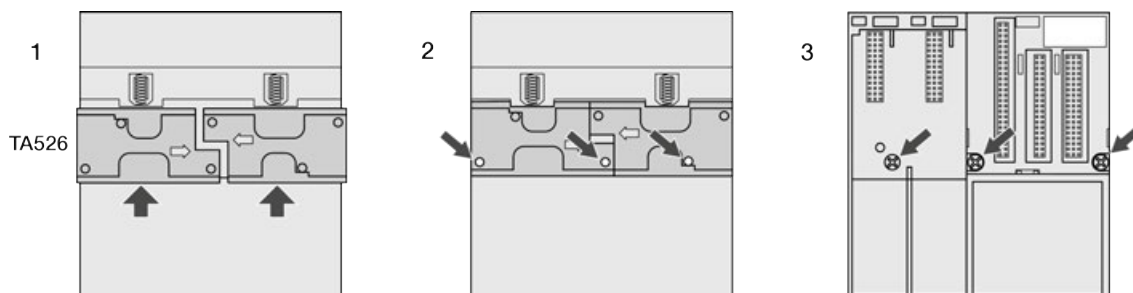
110.1 Assembly



110.2 Disassembly



110.3 Assembly with screws

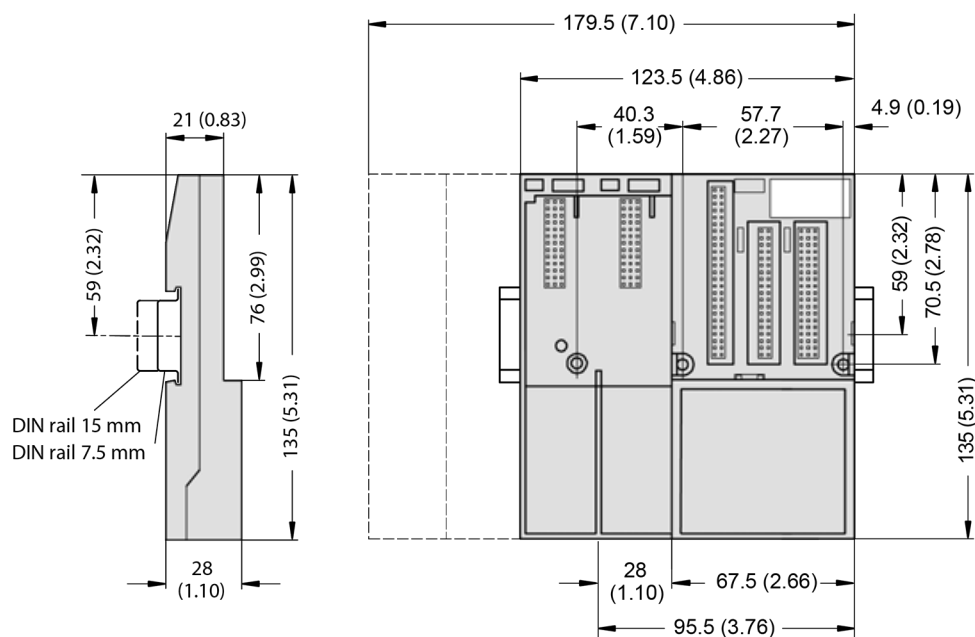


**NOTICE!****Use screw mounting accessory to avoid damage!**

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 are snapped on the rear side of the module like DIN rails. One TA526 is turned by 180°.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

110.4 Dimensions

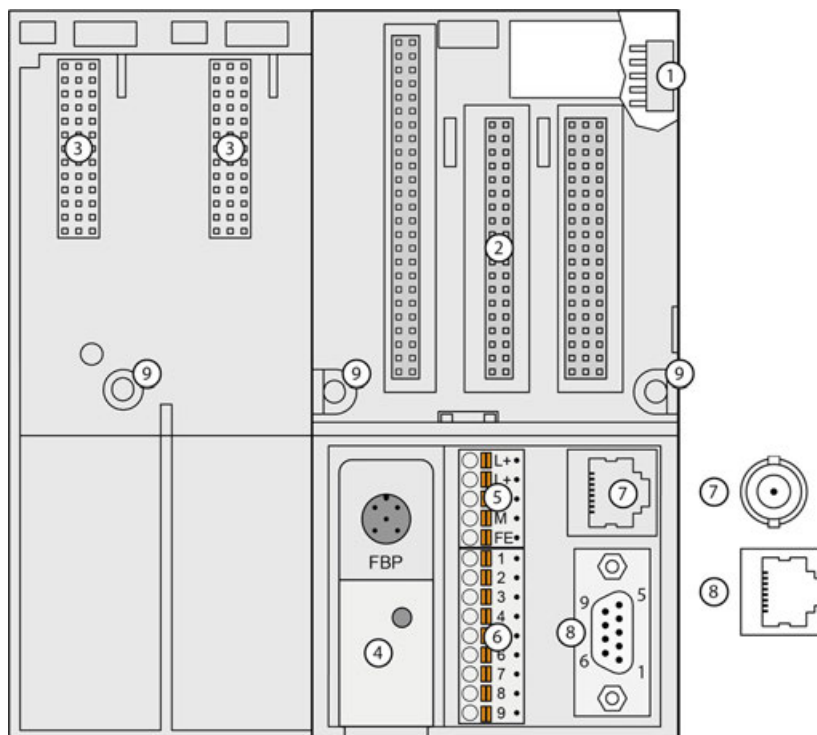


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

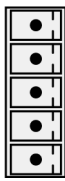
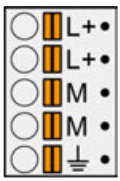
110.5 Connections



- 1 I/O bus (10-pin, female) to connect the I/O terminal units
- 2 One available slot for the processor module
- 3 Slots for communication modules (TB511-xxx: 1 slot, TB521-xxx: 2 slots, TB541-xx: 4 slots)
- 4 Interface for FieldBusPlug, not for terminal base TB523-2ETH
- 5 Power supply (5-pin terminal block, removable)
- 6 Serial interface COM1 (9-pin terminal block, removable)
- 7 Network interfaces: TB5xx-ETH: Ethernet, TB5xx-ARCNET: ARCNET
- 8 TB5x1: Serial interface COM2 (D-sub 9, female), TB523-2ETH: second Ethernet network interface
- 9 Holes for screw mounting

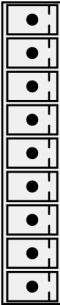
110.5.1 Power supply

Pin assignment

Pin Assignment	Label	Function	Description
 Terminal block removed	L+	+24 V DC	Positive PIN of the power supply voltage
	L+	+24 V DC	Positive PIN of the power supply voltage
	M	0 V	Negative PIN of the power supply voltage
	M	0 V	Negative PIN of the power supply voltage
	⏏	FE	Functional earth
 Terminal block inserted			

110.5.2 Serial interface COM1

Pin assignment
(RS-485 /
RS-232)

	Pin	Signal	Interface	Description
 Terminal block removed	1	Terminator P	RS-485	Terminator P
	2	RxD/TxD-P	RS-485	Receive/Transmit, positive
	3	RxD/TxD-N	RS-485	Receive/Transmit, negative
	4	Terminator N	RS-485	Terminator N
	5	RTS	RS-232	Request to send (output)
	6	TxD	RS-232	Transmit data (output)
	7	SGND	Signal Ground	Signal Ground
	8	RxD	RS-232	Receive data (input)
	9	CTS	RS-232	Clear to send (input)



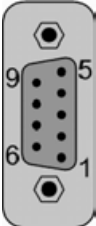
NOTICE!

Unused connector!

Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.

110.5.3 Serial interface COM2

Pin assignment

Serial Interface	Pin	Signal	Interface	Description	
	1	FE	-	Functional earth	
	2	TxD	RS-232	Transmit data	Output
	3	RxD/TxD-P	RS-485	Receive/Transmit	Positive
	4	RTS	RS-232	Request to send	Output
	5	SGND	Signal ground	0 V supply out	
	6	+5 V	-	5 V supply out	
	7	RxD	RS-232	Receive data	Input
	8	RxD/TxD-N	RS-485	Receive/Transmit	Negative
	9	CTS	RS-232	Clear to send	Input
	Shield	FE	-	Functional earth	



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

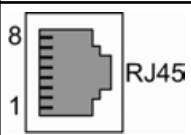
Protect unused connectors and slots with TA535 protective caps for XC devices.

110.5.4 ARCNET network interface



110.5.5 Ethernet network interface

Pin assignment

	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NU	Not used
	5	NU	Not used
	6	RxD-	Receive data -
	7	NU	Not used
	8	NU	Not used
	Shield	Cable shield	Functional earth



NOTICE!

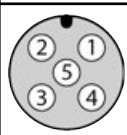
Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

110.5.6 Neutral FBP interface

Pin assignment
in serial mode

FieldBusPlug	Pin	Signal	Description
	1	+24 V	Standard power supply
	2	Diagnosis pin	
	3	0 V	Standard power supply
	4	Serial data	
	5	Serial data	



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

110.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

110.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

110.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

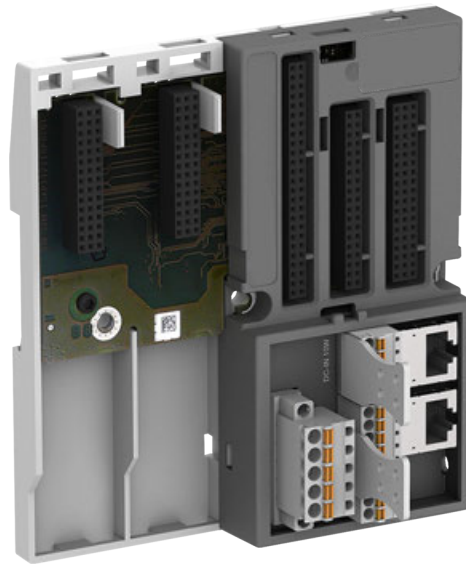
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

111 TB56xx-2ETH(-XC)

- TB5600-2ETH
- TB5600-2ETH-XC
- TB5610-2ETH
- TB5610-2ETH-XC
- TB5620-2ETH
- TB5620-2ETH-XC
- TB5640-2ETH
- TB5640-2ETH-XC
- TB5660-2ETH
- TB5660-2ETH-XC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

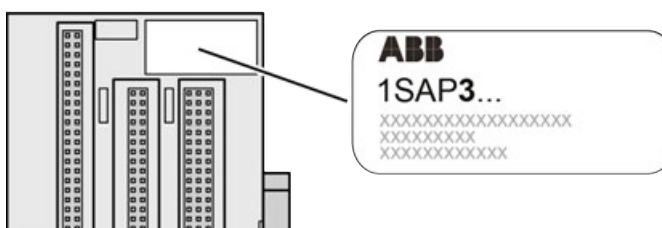
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.



Processor modules PM56xx-2ETH can only be used with TB56xx-2ETH terminal bases.

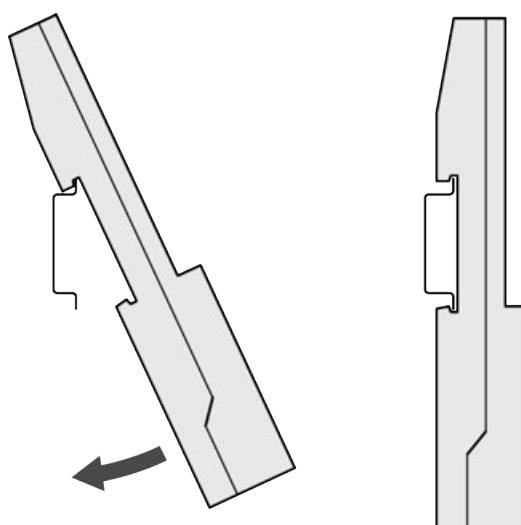
Table 54: Combination of TB56xx-2ETH(-XC) and PM56xx(-XC)

Processor module	PM5630	PM5650	PM5670	PM5675
TB5600-2ETH	0 slot	0 slot	0 slot	0 slot
TB5610-2ETH	1 slot	1 slot	1 slot	1 slot
TB5620-2ETH	2 slots	2 slots	2 slots	2 slots
TB5640-2ETH	-	4 slots	4 slots	4 slots
TB5660-2ETH	-	-	6 slots ¹⁾	6 slots ¹⁾
Remarks: The slots can be used for connecting communication modules or AC500-S modules. Note that only one AC500-S module can be connected at one terminal base. ¹⁾ PM567x must have an index $\geq C0$.				

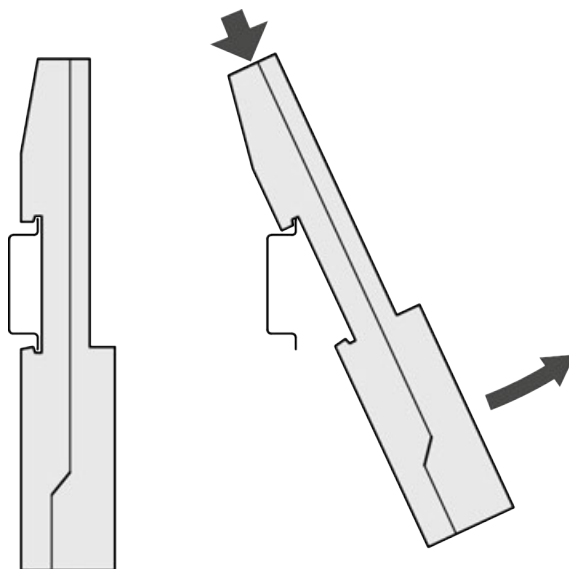
XC version**XC = eXtreme Conditions****Extreme conditions**

Terminal bases for use in extreme ambient conditions have no ❄️ sign for XC version.

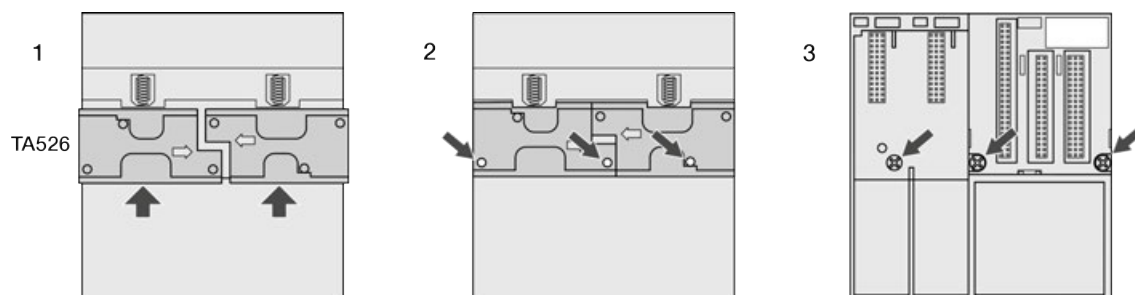
The figure 3 in the Part no. 1SAP3... (label) identifies the XC version.

111.1 Assembly

111.2 Disassembly



111.3 Assembly with screws



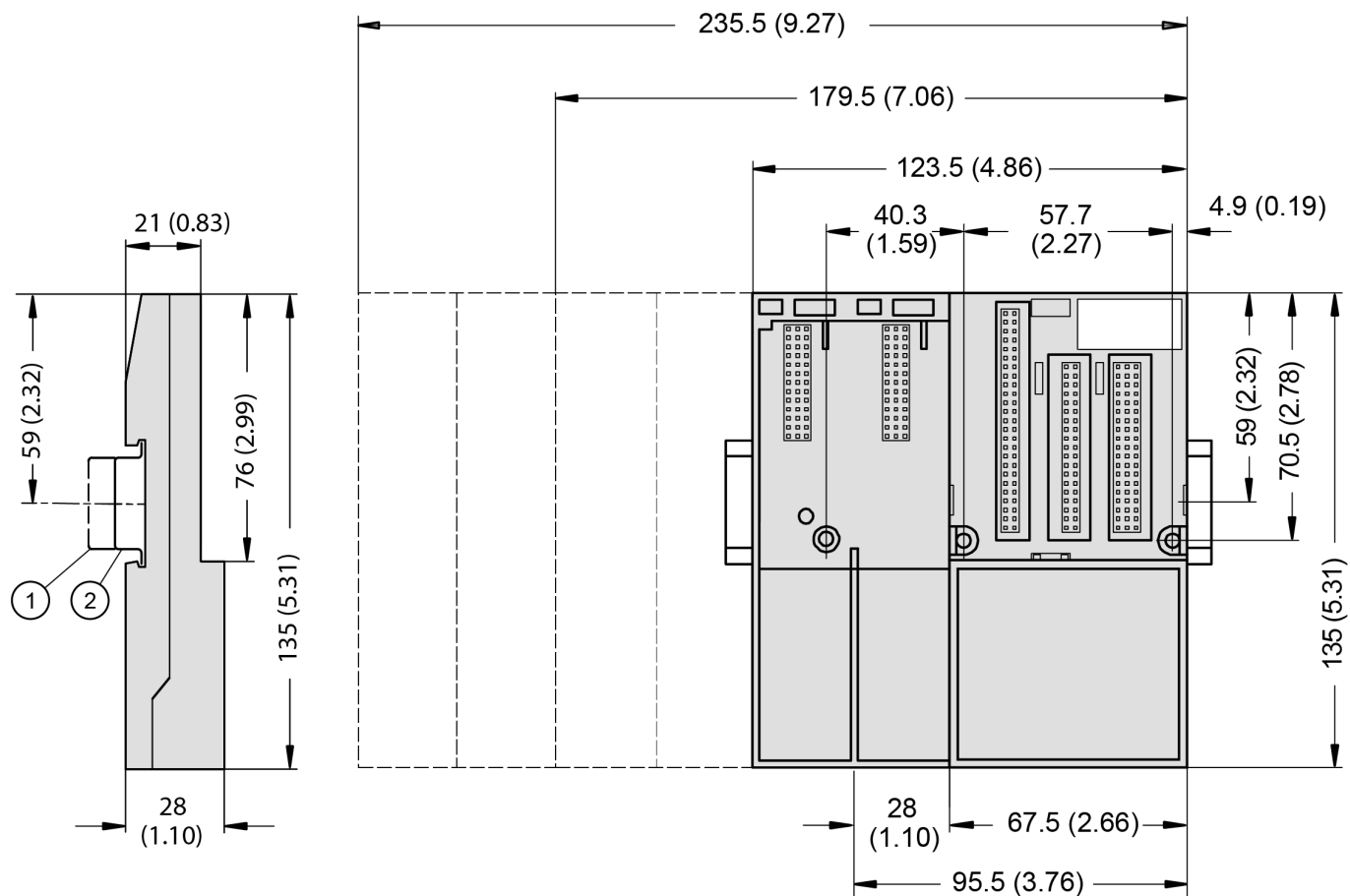
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

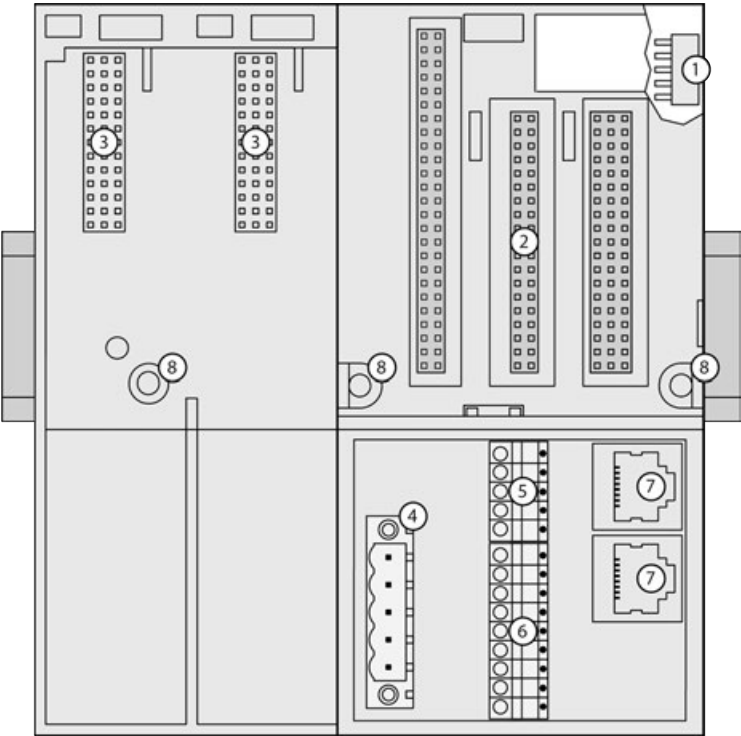
1. TA526 are snapped on the rear side of the module like DIN rails. One TA526 is turned by 180°.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

111.4 Dimensions



The dimensions are in mm and in brackets in inch.

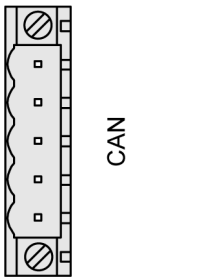
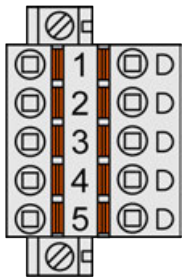
111.5 Connections



- 1 I/O bus (10-pin, female) to connect the I/O terminal units
- 2 One available slot for the processor module
- 3 Slots for communication modules
- 4 Interface for CAN (5-pin terminal block, removable)
- 5 Power supply (5-pin terminal block, removable)
- 6 Serial interface COM1 (9-pin terminal block, removable)
- 7 RJ45 female connector for Ethernet connection
- 8 Holes for screw mounting

111.5.1 CAN interface

Pin assignment

Interface		PIN	Signal	Description
 Terminal block removed	 Terminal block inserted	1	CAN_GND	CAN reference potential
		2	CAN_L	Bus line, receive/transmit line, LOW
		3	CAN_SHLD	Shield of the bus line
		4	CAN_H	Bus line, receive/transmit line, HIGH
		5	NC	Not connected


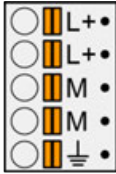



NOTICE!
Unused connector!

Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.

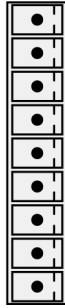
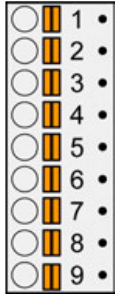
111.5.2 Power supply

Pin assignment

Pin Assignment		Label	Function	Description
 Terminal block removed	 Terminal block inserted	L+	+24 V DC	Positive PIN of the power supply voltage
		L+	+24 V DC	Positive PIN of the power supply voltage
		M	0 V	Negative PIN of the power supply voltage
		M	0 V	Negative PIN of the power supply voltage
			FE	Functional earth

111.5.3 Serial interface COM1

Pin assignment (RS-485 / RS-232)

		Pin	Signal	Interface	Description
 Terminal block removed	 Terminal block inserted	1	Terminator P	RS-485	Terminator P
		2	RxD/TxD-P	RS-485	Receive/Transmit, positive
		3	RxD/TxD-N	RS-485	Receive/Transmit, negative
		4	Terminator N	RS-485	Terminator N
		5	RTS	RS-232	Request to send (output)
		6	TxD	RS-232	Transmit data (output)
		7	SGND	Signal Ground	Signal Ground
		8	RxD	RS-232	Receive data (input)
		9	CTS	RS-232	Clear to send (input)



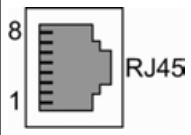
NOTICE!

Unused connector!

Make sure that the terminal block is always connected to the terminal base or communication module, even if you do not use the interface.

111.5.4 Ethernet network interface

Pin assignment

	Pin	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NU	Not used
	5	NU	Not used
	6	RxD-	Receive data -
	7	NU	Not used
	8	NU	Not used
	Shield	Cable shield	Functional earth



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

111.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

111.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

111.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

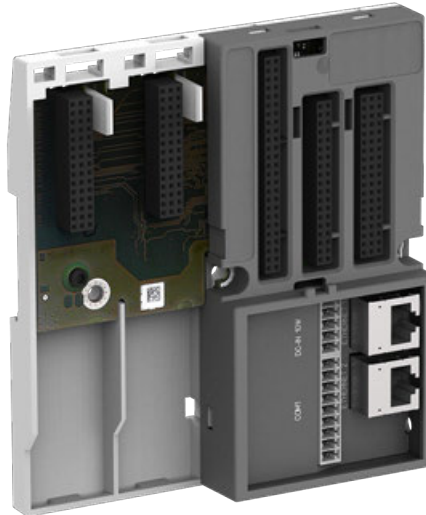
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

112 TF501-CMS(-XC)

- TF501-CMS
- TF501-CMS-XC



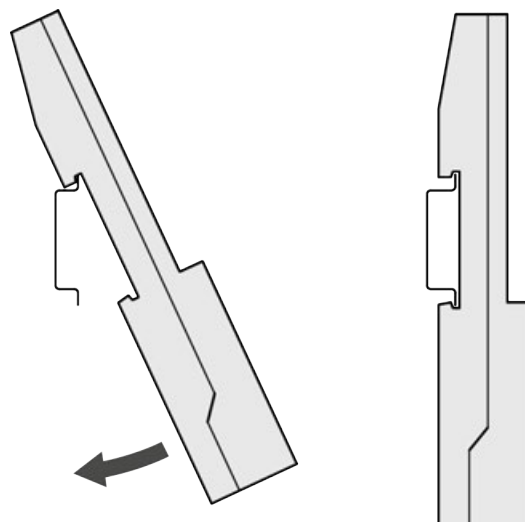
CAUTION!

Risk of injury and damaging the product!

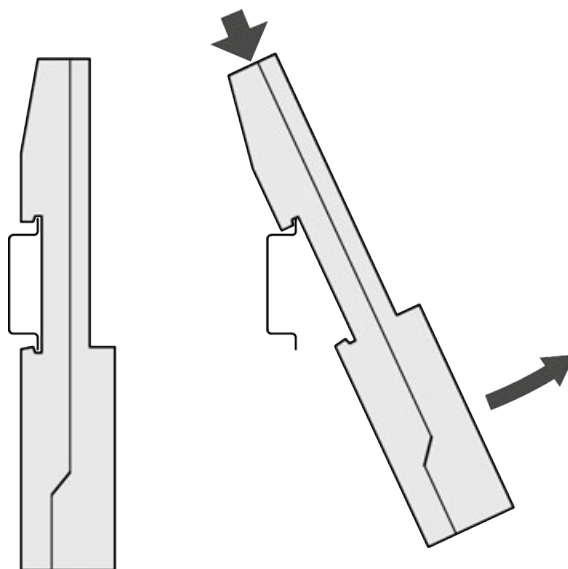
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

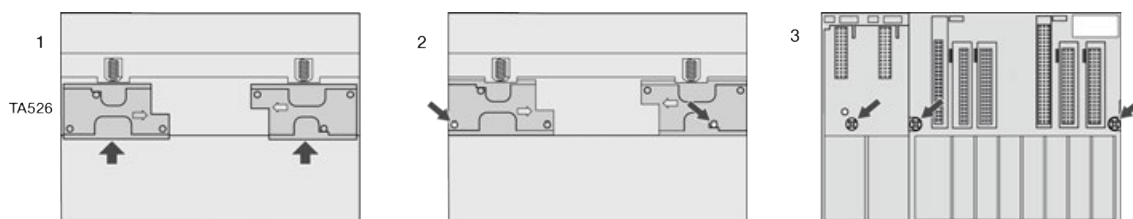
112.1 Assembly



112.2 Disassembly



112.3 Assembly with screws



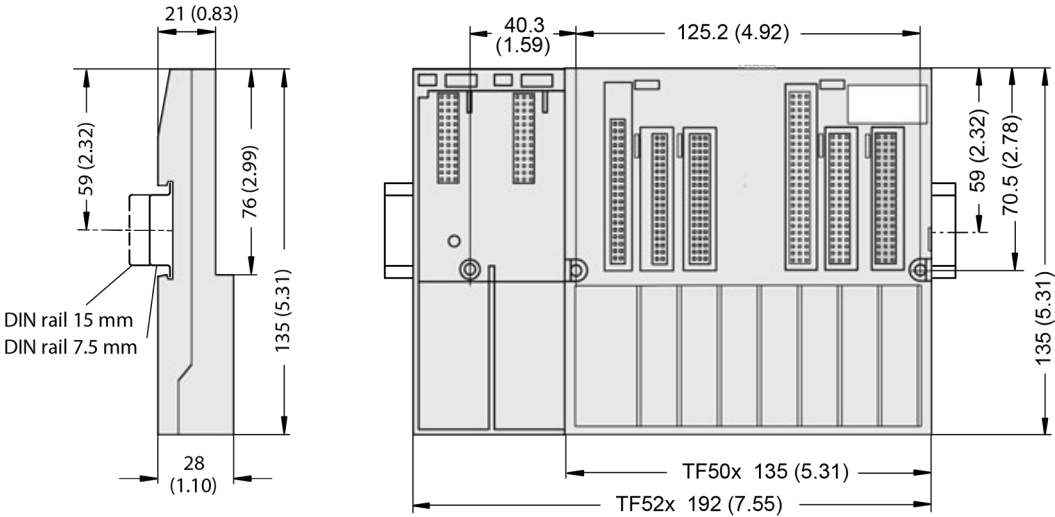
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

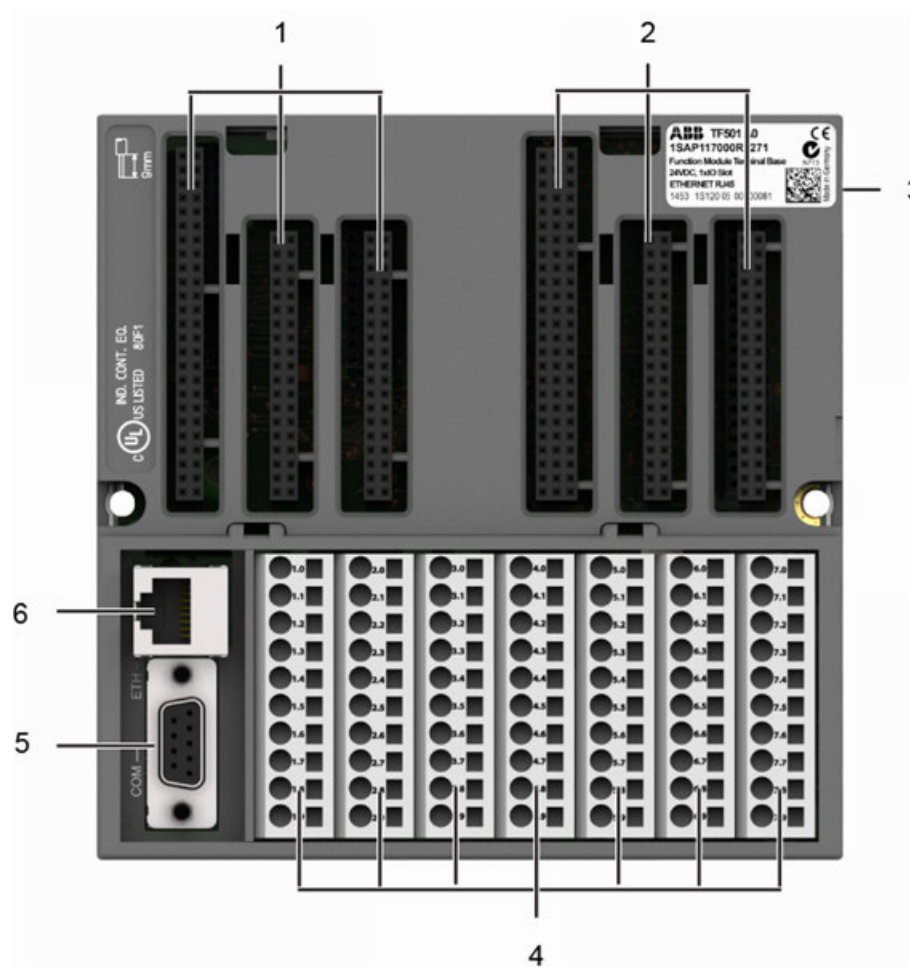
1. TA526 are snapped on the rear side of the module like DIN rails. One TA526 is turned by 180°.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

112.4 Dimensions



The dimensions are in mm and in brackets in inch.

112.5 Connections



- 1 Slots for PM592-ETH
- 2 Slots for FM502-CMS
- 3 I/O bus to galvanically connect the terminal units
- 4 Terminal blocks for analog/digital inputs/outputs
- 5 Serial interface COM1
- 6 Ethernet network interface



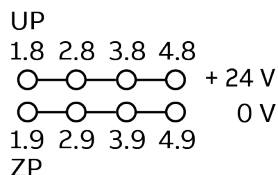
All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

Table 55: Function module terminal base - pin assignment

1.0 FE	2.0 AI0-	3.0 AI0+	4.0 SH	5.0 AI8-	6.0 AI8+	7.0 SH
1.1 A+	2.1 AI1-	3.1 AI1+	4.1 SH	5.1 AI9-	6.1 AI9+	7.1 SH
1.2 A-	2.2 AI2-	3.2 AI2+	4.2 SH	5.2 AI10-	6.2 AI10+	7.2 SH
1.3 B+	2.3 AI3-	3.3 AI3+	4.3 SH	5.3 AI11-	6.3 AI11+	7.3 SH
1.4 B-	2.4 AI4-	3.4 AI4+	4.4 SH	5.4 AI12-	6.4 AI12+	7.4 SH
1.5 Z+	2.5 AI5-	3.5 AI5+	4.5 SH	5.5 AI13-	6.5 AI13+	7.5 SH
1.6 Z-	2.6 AI6-	3.6 AI6+	4.6 SH	5.6 AI14-	6.6 AI14+	7.6 SH
1.7 5V	2.7 AI7-	3.7 AI7+	4.7 SH	5.7 AI15-	6.7 AI15+	7.7 SH

1.8 L+	2.8 DI0	3.8 DC2	4.8 L+	5.8 L+	6.8 L+	7.8 L+
1.9 M	2.9 DI1	3.9 DC3	4.9 M	5.9 M	6.9 M	7.9 M

112.5.1 Process supply voltage

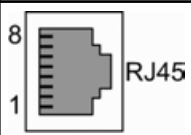


CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

112.5.2 Ethernet network interface

Pin assignment

	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NU	Not used
	5	NU	Not used
	6	RxD-	Receive data -
	7	NU	Not used
	8	NU	Not used
	Shield	Cable shield	Functional earth



NOTICE!

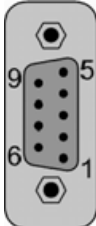
Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

112.5.3 Serial interface COM1

Pin assignment

Serial Interface	Pin	Signal	Interface	Description	
	1	FE	-	Functional earth	
	2	TxD	RS-232	Transmit data	Output
	3	RxD/TxD-P	RS-485	Receive/Transmit	Positive
	4	RTS	RS-232	Request to send	Output
	5	SGND	Signal ground	0 V supply out	
	6	+5 V	-	5 V supply out	
	7	RxD	RS-232	Receive data	Input
	8	RxD/TxD-N	RS-485	Receive/Transmit	Negative
	9	CTS	RS-232	Clear to send	Input
	Shield	FE	-	Functional earth	



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

112.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

112.7 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

112.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

113 TF521-CMS(-XC)

- TF521-CMS
- TF521-CMS-XC



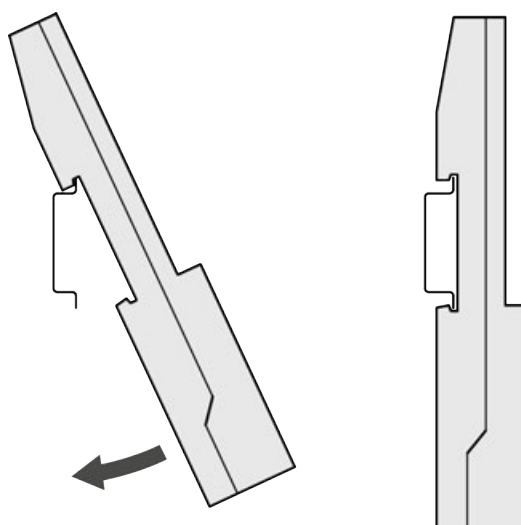
CAUTION!

Risk of injury and damaging the product!

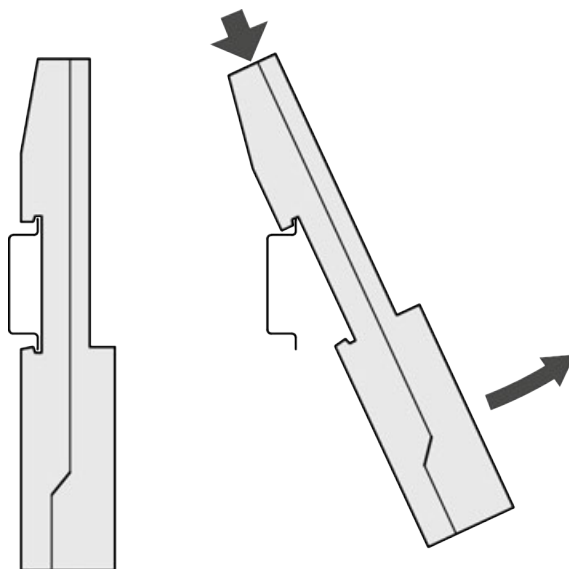
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

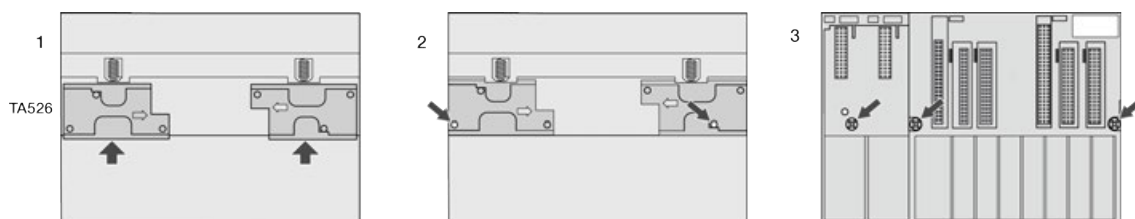
113.1 Assembly



113.2 Disassembly



113.3 Assembly with screws



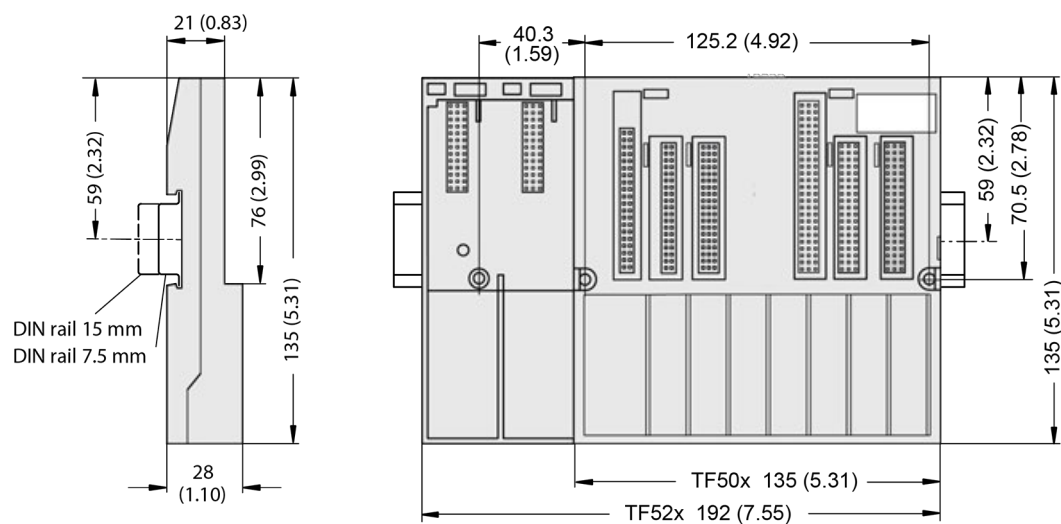
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

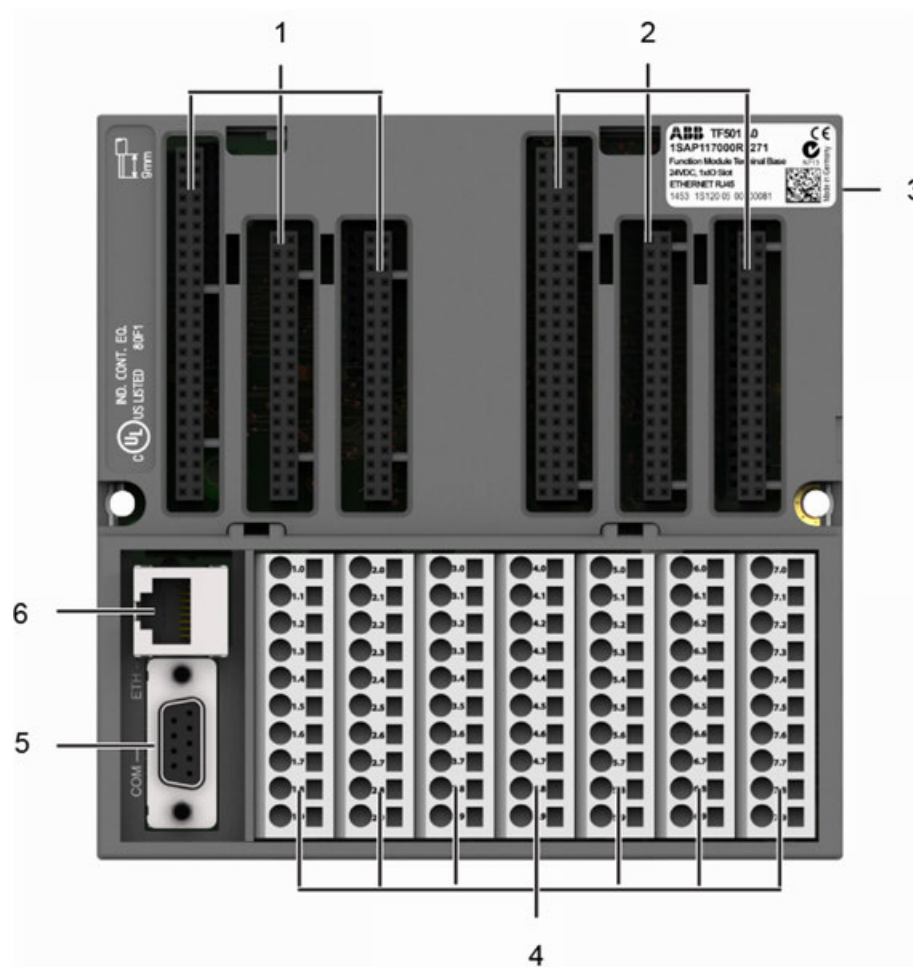
1. TA526 are snapped on the rear side of the module like DIN rails. One TA526 is turned by 180°.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

113.4 Dimensions



The dimensions are in mm and in brackets in inch.

113.5 Connections



- 1 Slots for PM592-ETH
- 2 Slots for FM502-CMS
- 3 I/O bus to galvanically connect the terminal units
- 4 Terminal blocks for analog/digital inputs/outputs
- 5 Serial interface COM1
- 6 Ethernet network interface



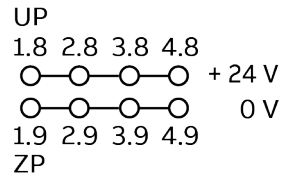
All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

Table 56: Function module terminal base - pin assignment

1.0 FE	2.0 AI0-	3.0 AI0+	4.0 SH	5.0 AI8-	6.0 AI8+	7.0 SH
1.1 A+	2.1 AI1-	3.1 AI1+	4.1 SH	5.1 AI9-	6.1 AI9+	7.1 SH
1.2 A-	2.2 AI2-	3.2 AI2+	4.2 SH	5.2 AI10-	6.2 AI10+	7.2 SH
1.3 B+	2.3 AI3-	3.3 AI3+	4.3 SH	5.3 AI11-	6.3 AI11+	7.3 SH
1.4 B-	2.4 AI4-	3.4 AI4+	4.4 SH	5.4 AI12-	6.4 AI12+	7.4 SH
1.5 Z+	2.5 AI5-	3.5 AI5+	4.5 SH	5.5 AI13-	6.5 AI13+	7.5 SH
1.6 Z-	2.6 AI6-	3.6 AI6+	4.6 SH	5.6 AI14-	6.6 AI14+	7.6 SH
1.7 5V	2.7 AI7-	3.7 AI7+	4.7 SH	5.7 AI15-	6.7 AI15+	7.7 SH

1.8 L+	2.8 DI0	3.8 DC2	4.8 L+	5.8 L+	6.8 L+	7.8 L+
1.9 M	2.9 DI1	3.9 DC3	4.9 M	5.9 M	6.9 M	7.9 M

113.5.1 Process supply voltage

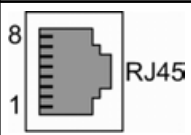


CAUTION!

The process supply voltage must be included in the grounding concept (e. g. grounding of the negative pole).

113.5.2 Ethernet network interface

Pin assignment

	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NU	Not used
	5	NU	Not used
	6	RxD-	Receive data -
	7	NU	Not used
	8	NU	Not used
	Shield	Cable shield	Functional earth



NOTICE!

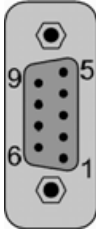
Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

113.5.3 Serial interface COM1

Pin assignment

Serial Interface	Pin	Signal	Interface	Description	
	1	FE	-	Functional earth	
	2	TxD	RS-232	Transmit data	Output
	3	RxD/TxD-P	RS-485	Receive/Transmit	Positive
	4	RTS	RS-232	Request to send	Output
	5	SGND	Signal ground	0 V supply out	
	6	+5 V	-	5 V supply out	
	7	RxD	RS-232	Receive data	Input
	8	RxD/TxD-N	RS-485	Receive/Transmit	Negative
	9	CTS	RS-232	Clear to send	Input
	Shield	FE	-	Functional earth	



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

113.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

113.7 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

113.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

114 TK503

- TK503



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

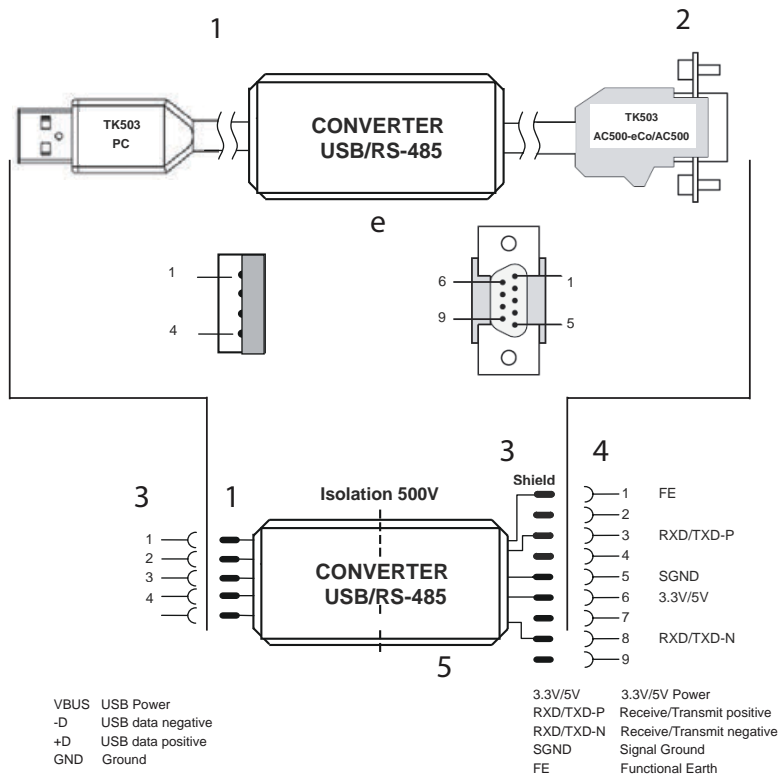
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



Once you have installed the device driver of the cable in your Windows system, make sure that you always use the same USB port on your computer.

Otherwise, Windows will ask you to install the driver a second time if you connect the cable to a different USB port of your computer.

114.1 Connections



114.2 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

114.3 Certification



MSIP-REI-Abb-AC500-eCo

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

114.4 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

115 TK504

- TK504



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

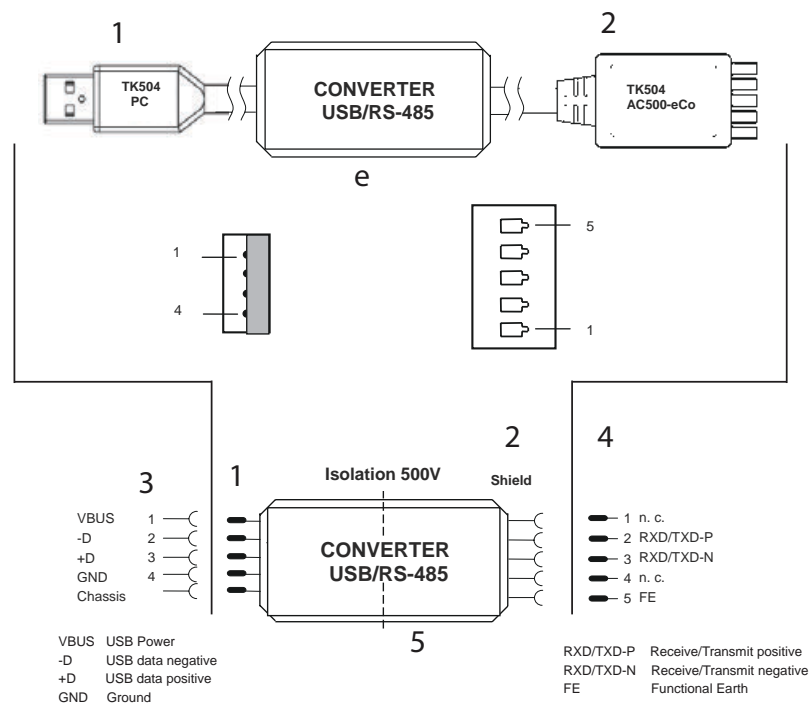
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.



Once you have installed the device driver of the cable in your Windows system, make sure that you always use the same USB port on your computer.

Otherwise, Windows will ask you to install the driver a second time if you connect the cable to a different USB port of your computer.

115.1 Connections




115.2 Cleaning



Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

115.3 Certification

 MSIP-REI-Abb-AC500-eCo	en	Devices with KCC sign on product sticker and packaging
	ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note	
	These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함

115.4 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

116 TK506

- TK506



CAUTION!

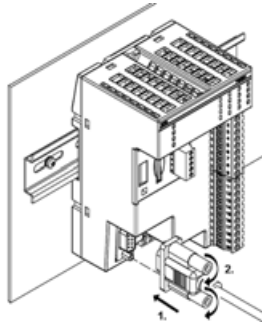
Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

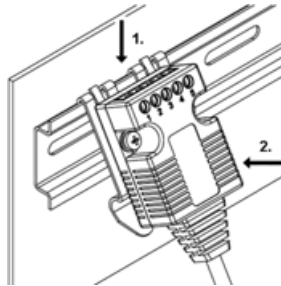
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Read product documentation carefully before wiring. Improper wiring or wrong terminal block from other devices can damage the product!
- Only by qualified personnel.

116.1 Assembly

Assembly to the CPU



Assembly on a DIN rail



Assembly on a metal plate

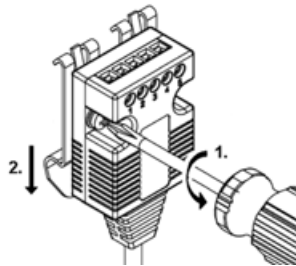


Fig. 94: Phillips No.1 M4

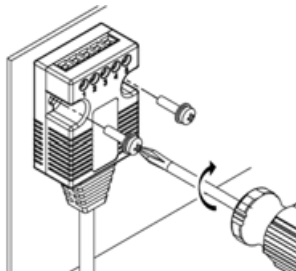
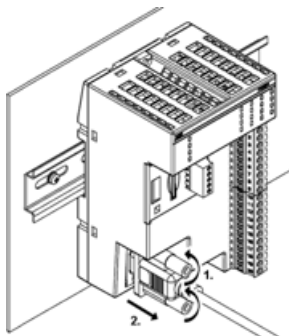


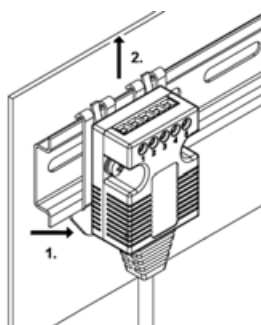
Fig. 95: Phillips No.1 M4 1.2 Nm

116.2 Disassembly

Disassembly from the CPU



Disassembly from a DIN rail



Disassembly from a metal plate

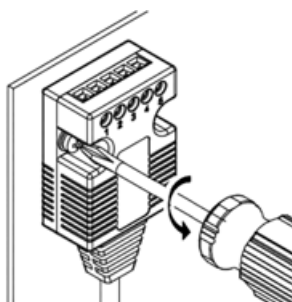


Fig. 96: Phillips No.1 M4

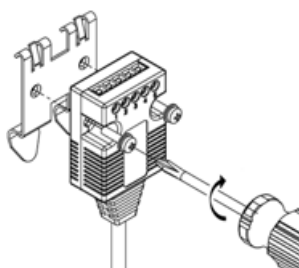
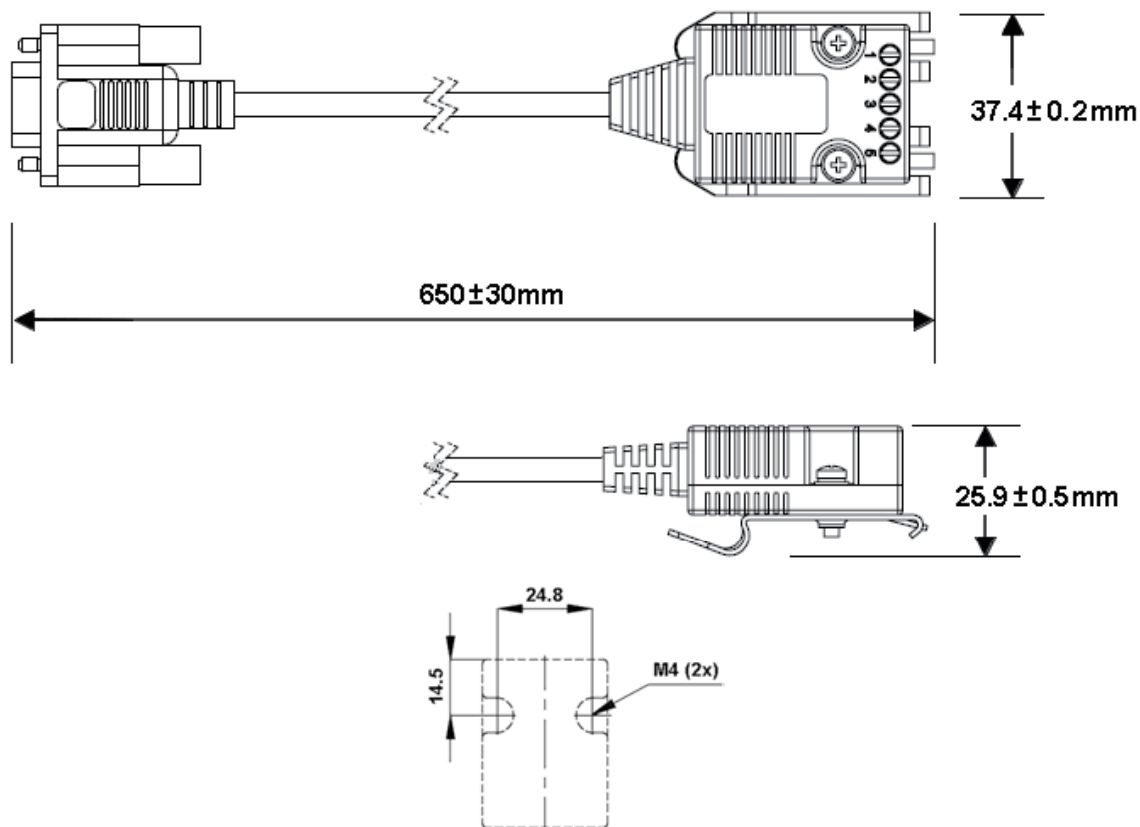


Fig. 97: Phillips No.1 M4 1.2 Nm

116.3 Dimensions



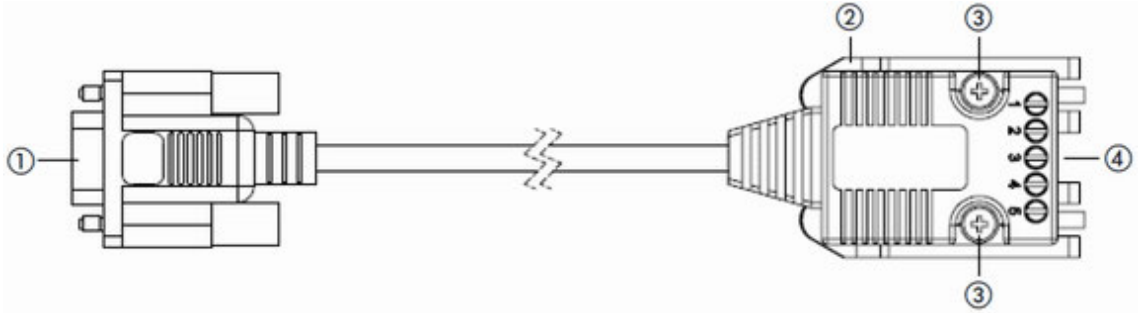
The dimensions are in mm and in brackets in inch.

116.4 Connections



CPUs for this application must be PM554 / PM564 with index version A3 or above

- Isolated side: 5-pin terminal
- AC500-eCo-side: D-sub 9-pin, male
- Length 0.6 m



- 1 D-sub 9-pin, male, RS-485
- 2 DIN rail mounting spring
- 3 Holes for mounting with 2x M4 screws
- 4 5-pin terminal, screw-type, RS-485

116.4.1 D-sub 9-pin, RS-485

Pin assignment


Interface	PIN	Signal	Description
	3	RxD/TxD-P	Receive/transmit positive
	5	GND	0V of 3.3V power supply
	6	3.3V	3.3V input power supply
	8	RxD/TxD-N	Receive/transmit negative

116.4.2 Interface (Terminal 5-pin, RS-485)

Pin assignment

	PIN	Signal	Description
	1	Terminator P	Terminator positive
	2	RxD/TxD-P	Receive/transmit positive
	3	RxD/TxD-N	Receive/transmit negative
	4	Terminator N	Terminator negative
	5	FE	Functional earth (internally connected to DIN rail spring)

116.5 Cleaning




Cleaning instruction

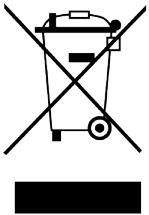
Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

116.6 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

116.7 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

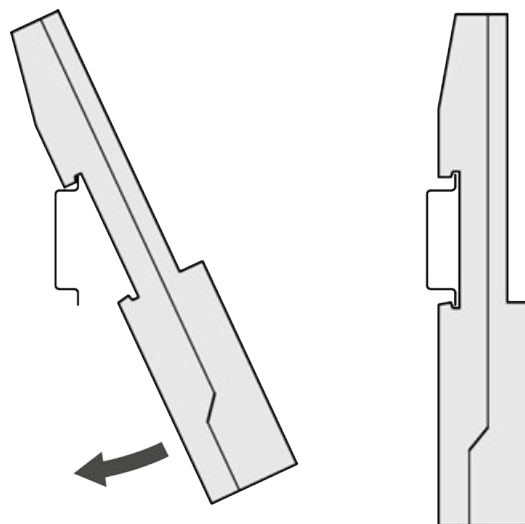
- [illegible]



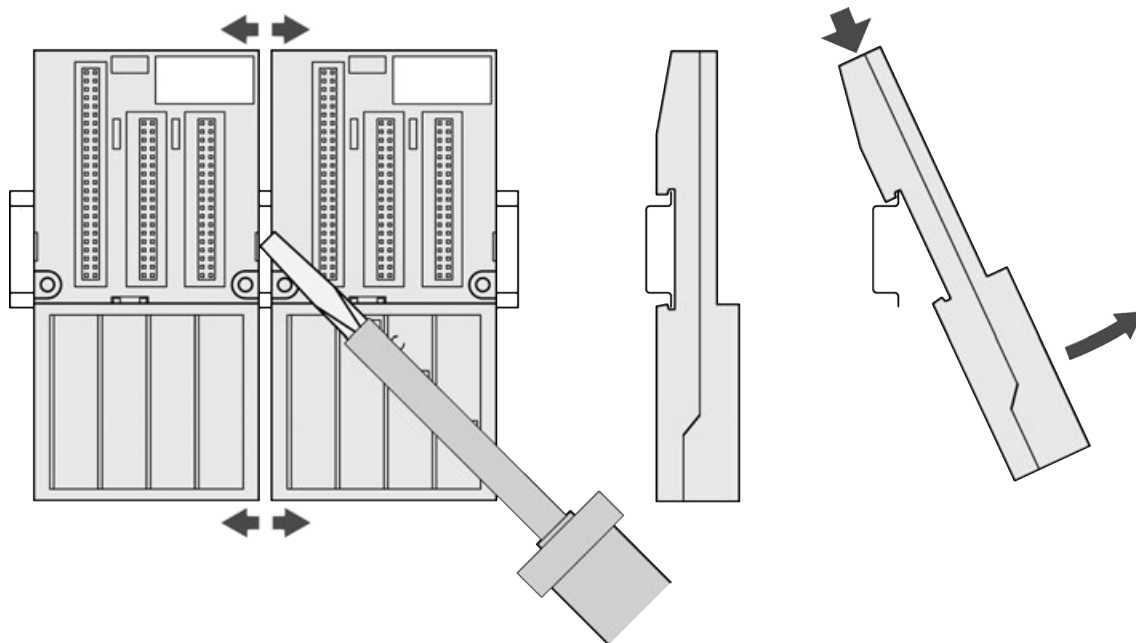
Risk of injury and damaging the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

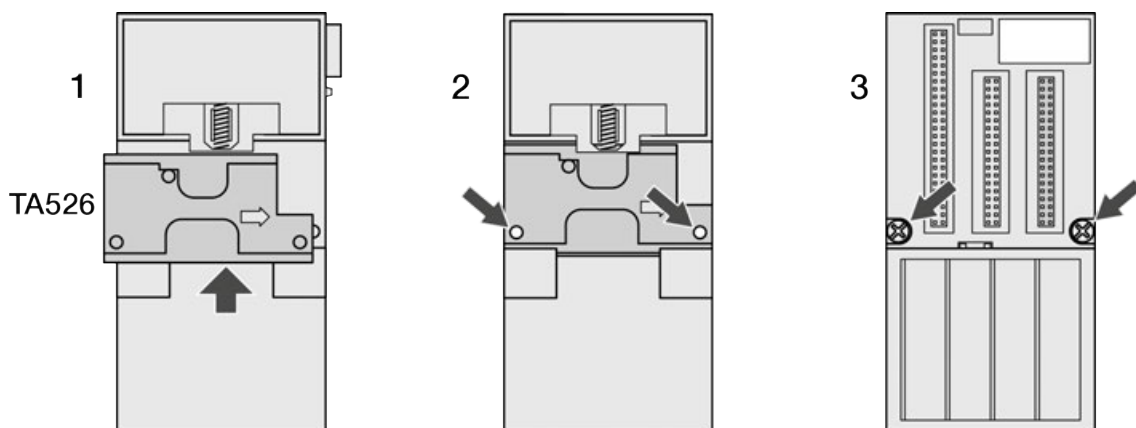
117.1 Assembly



117.2 Disassembly



117.3 Assembly with screws



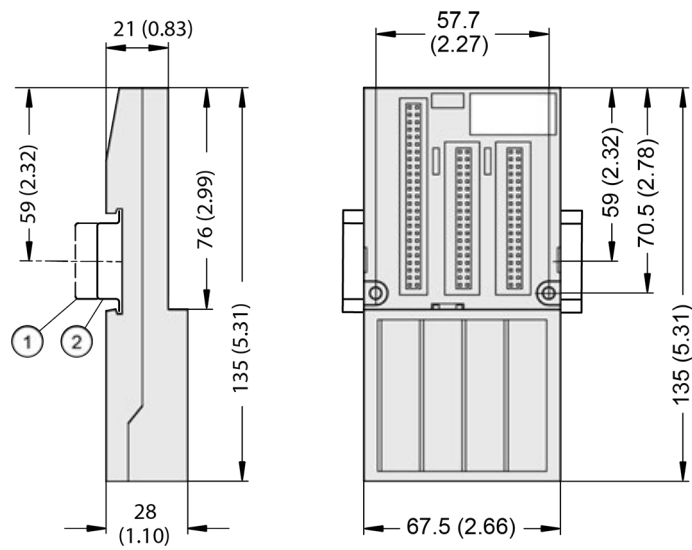
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

117.4 Dimensions

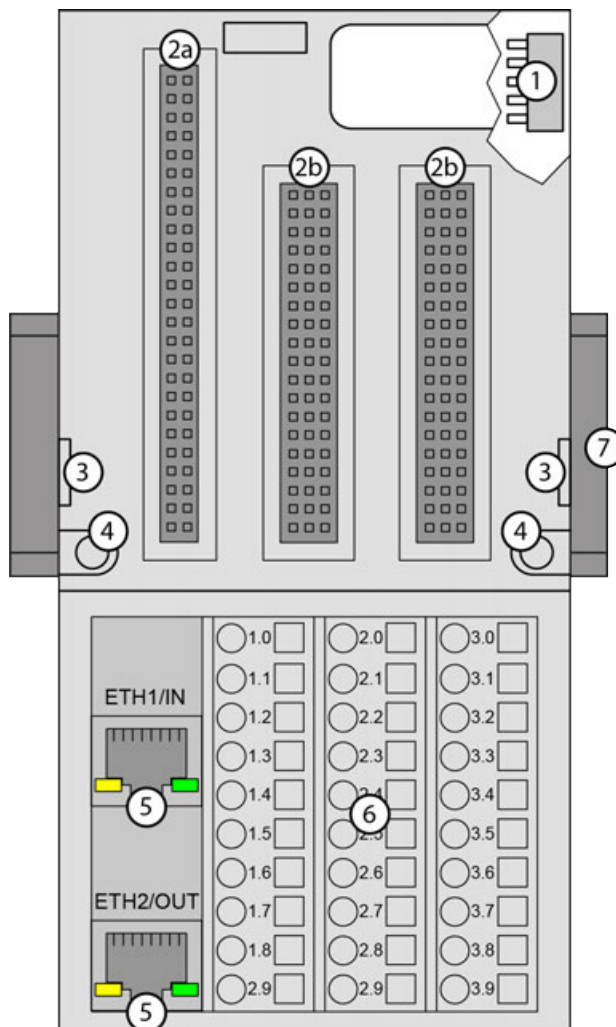


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

117.5 Connections



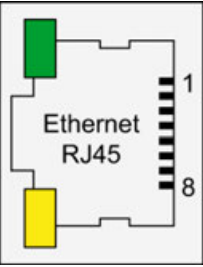
- 1 I/O bus (10 pins, female) to connect the first terminal unit
- 2a Plug (2x 25 pins) to connect the inserted Ethernet communication interface module
- 2b Plug (3x 19 pins) to connect the inserted Ethernet communication interface module
- 3 With a screwdriver, inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
- 4 2 holes for wall mounting
- 5 2 RJ45 interfaces with indication LEDs for connection with the Ethernet network
- 6 30 terminals for signals and process supply voltages (UP and UP3)
- 7 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

117.5.1 Ethernet network interface

Pin assignment

Interface	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NC	Not connected
	5	NC	Not connected
	6	RxD-	Receive data -
	7	NC	Not connected
	8	NC	Not connected
	Shield	Cable shield	Functional earth



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

117.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

117.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

117.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

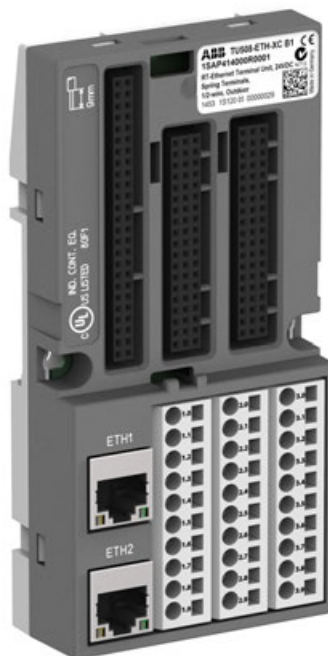
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

118 TU508-ETH(-XC)

- TU508-ETH
- TU508-ETH-XC



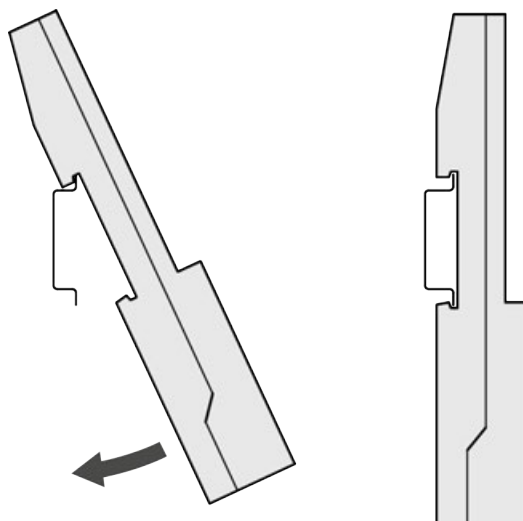
CAUTION!

Risk of injury and damaging the product!

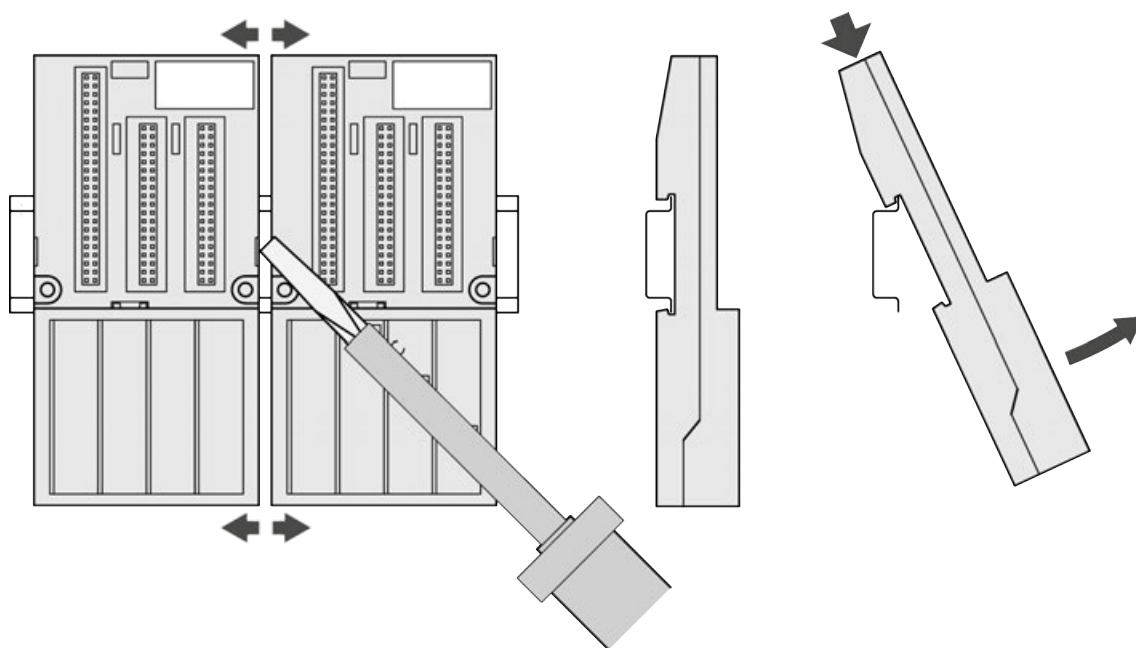
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

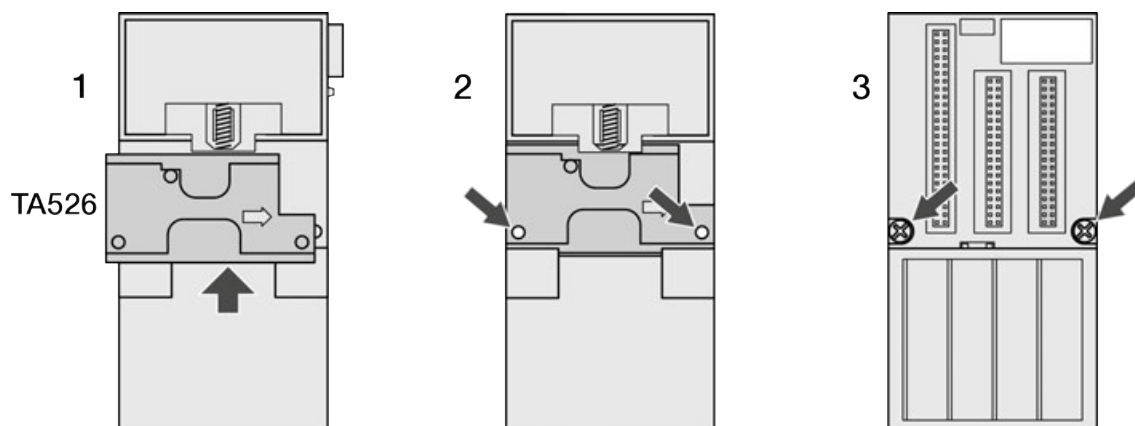
118.1 Assembly



118.2 Disassembly



118.3 Assembly with screws



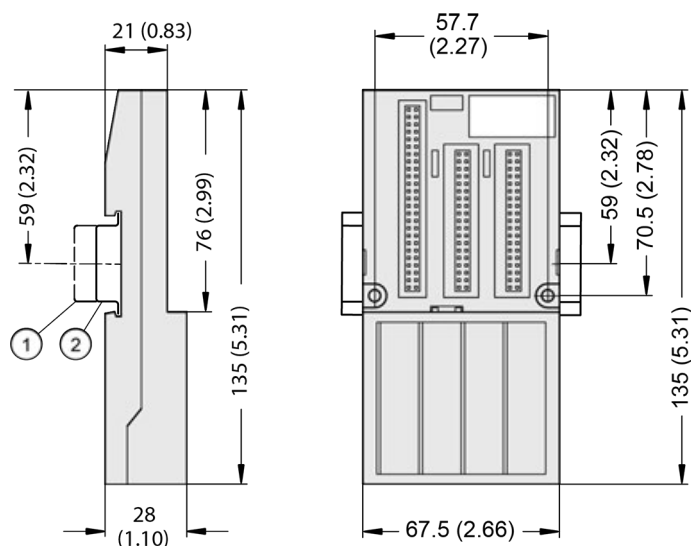
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

118.4 Dimensions

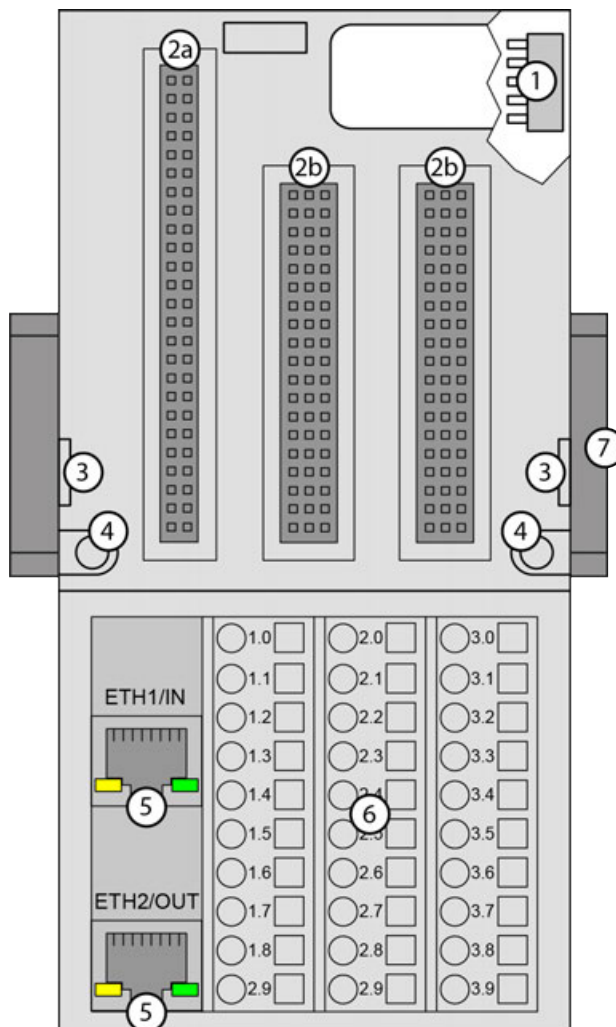


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

118.5 Connections



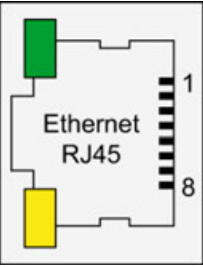
- 1 I/O bus (10 pins, female) to connect the first terminal unit
- 2a Plug (2x 25 pins) to connect the inserted Ethernet communication interface module
- 2b Plug (3x 19 pins) to connect the inserted Ethernet communication interface module
- 3 With a screwdriver, inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
- 4 2 holes for wall mounting
- 5 2 RJ45 interfaces with indication LEDs for connection with the Ethernet network
- 6 30 terminals for signals and process supply voltages (UP and UP3)
- 7 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

118.5.1 Ethernet network interface

Pin assignment

Interface	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NC	Not connected
	5	NC	Not connected
	6	RxD-	Receive data -
	7	NC	Not connected
	8	NC	Not connected
	Shield	Cable shield	Functional earth



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

118.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

118.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

118.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

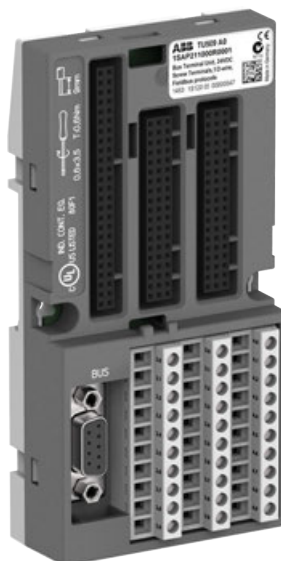
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

119 TU509

- TU509



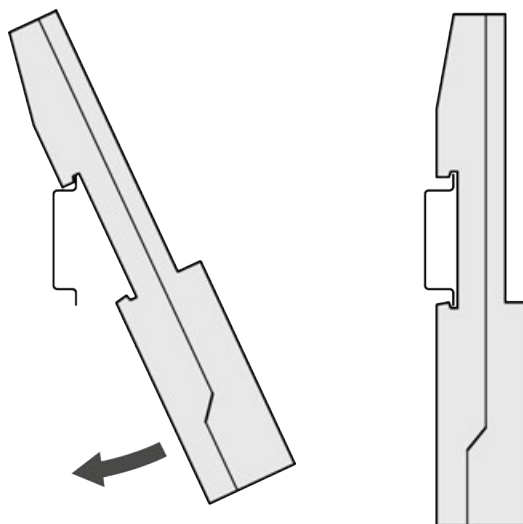
CAUTION!

Risk of injury and damaging the product!

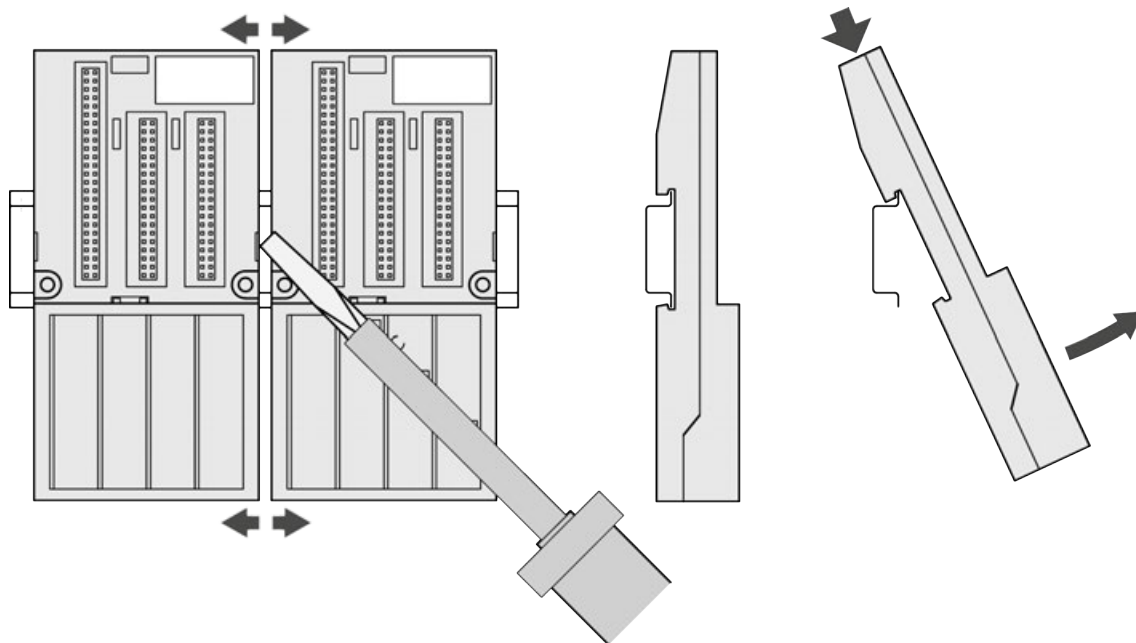
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

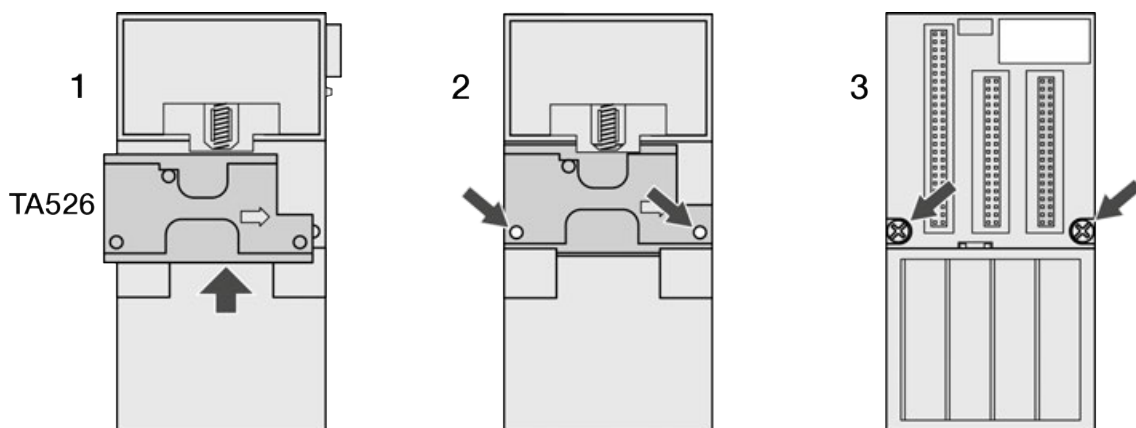
119.1 Assembly



119.2 Disassembly



119.3 Assembly with screws



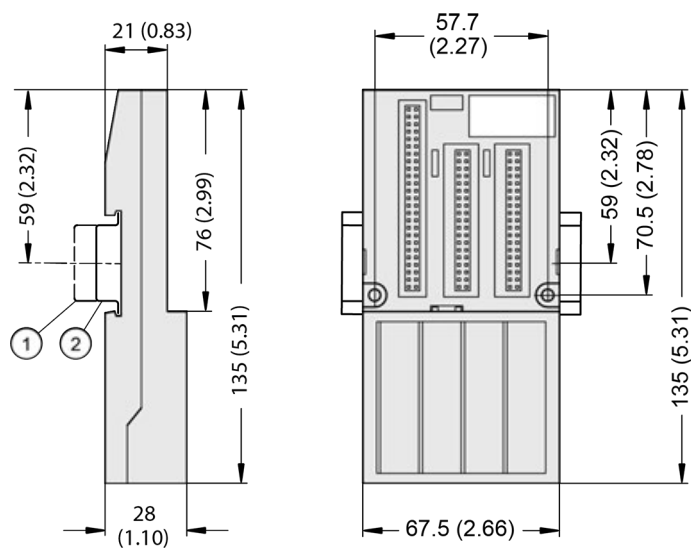
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

119.4 Dimensions

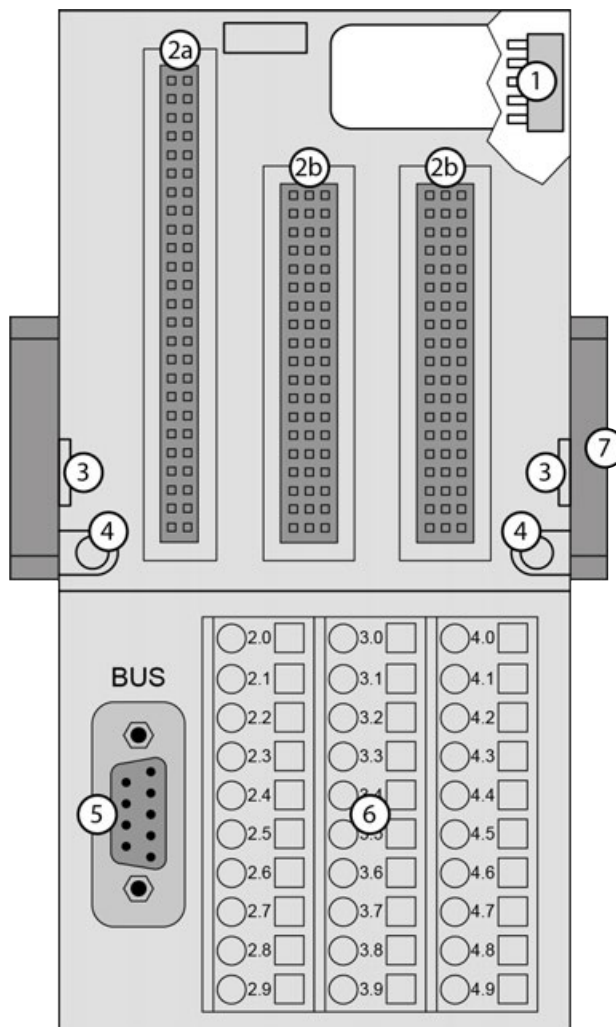


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

119.5 Connections



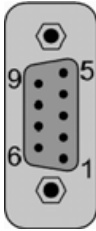
- 1 I/O bus (10 pins, female) to connect the first terminal unit
- 2a Plug (2 25 pins) to connect the inserted communication interface module
- 2b Plug (3 19 pins) to connect the inserted communication interface module
- 3 With a screwdriver, inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
- 4 2 holes for wall mounting
- 5 D-sub 9 (female) for connection with the PROFIBUS network
- 6 30 terminals for signals and process supply voltages (UP and UP3)
- 7 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

119.5.1 Bus interface

Pin assignment

Interface	PIN	DP (PROFIBUS)	CN (CANopen)
	1	-	-
	2	-	CAN-
	3	B	CAN_GND
	4	-	-
	5	DGND	-
	6	VP (5V)	-
	7	-	CAN+
	8	A	-
	9	-	-



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

119.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

119.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

119.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

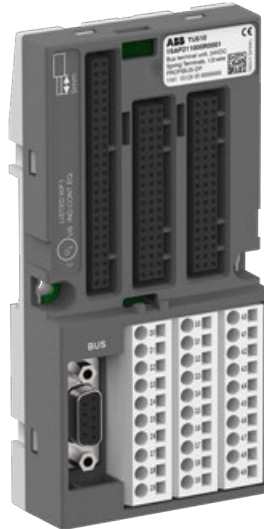
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

120 TU510(-XC)

- TU510
- TU510-XC



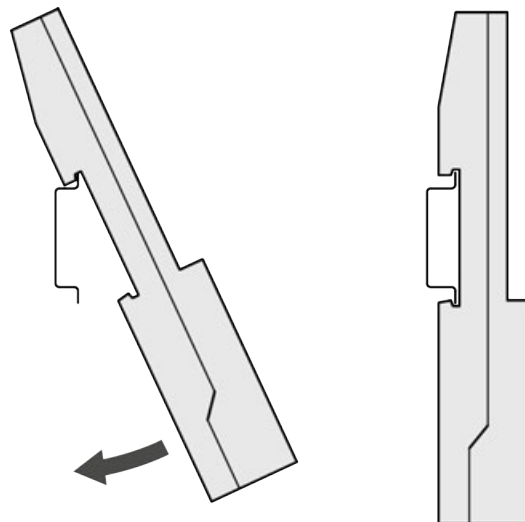
CAUTION!

Risk of injury and damaging the product!

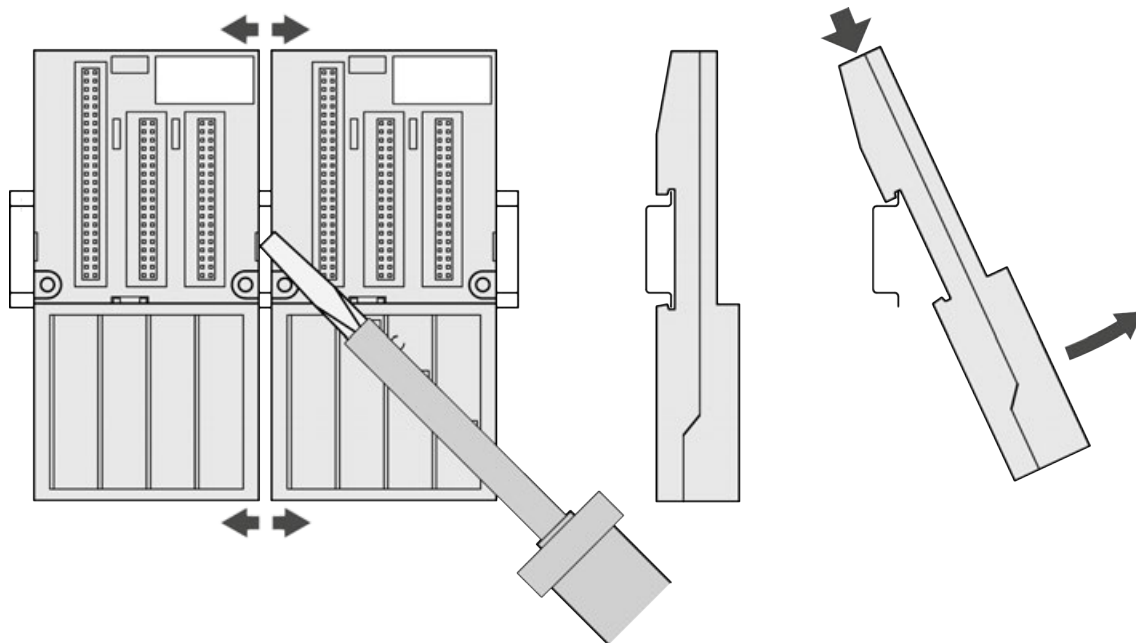
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

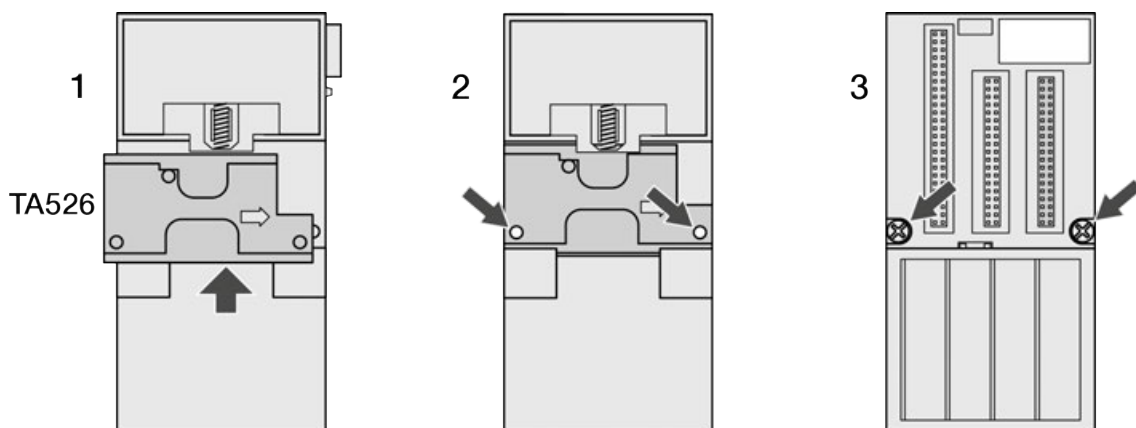
120.1 Assembly



120.2 Disassembly



120.3 Assembly with screws



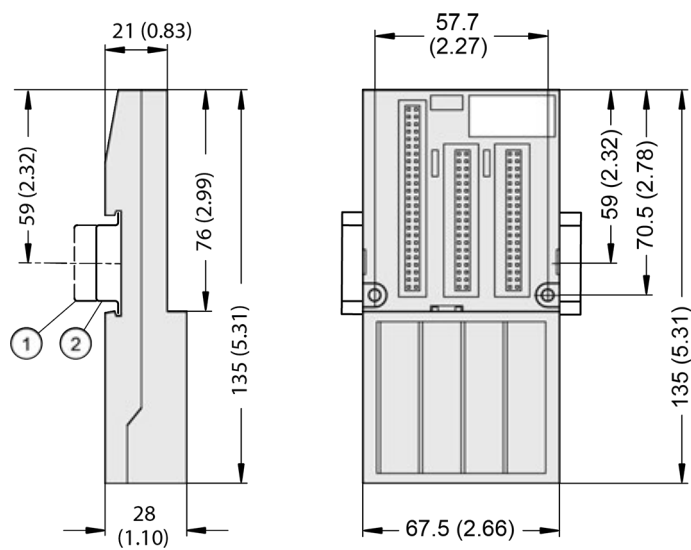
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

120.4 Dimensions

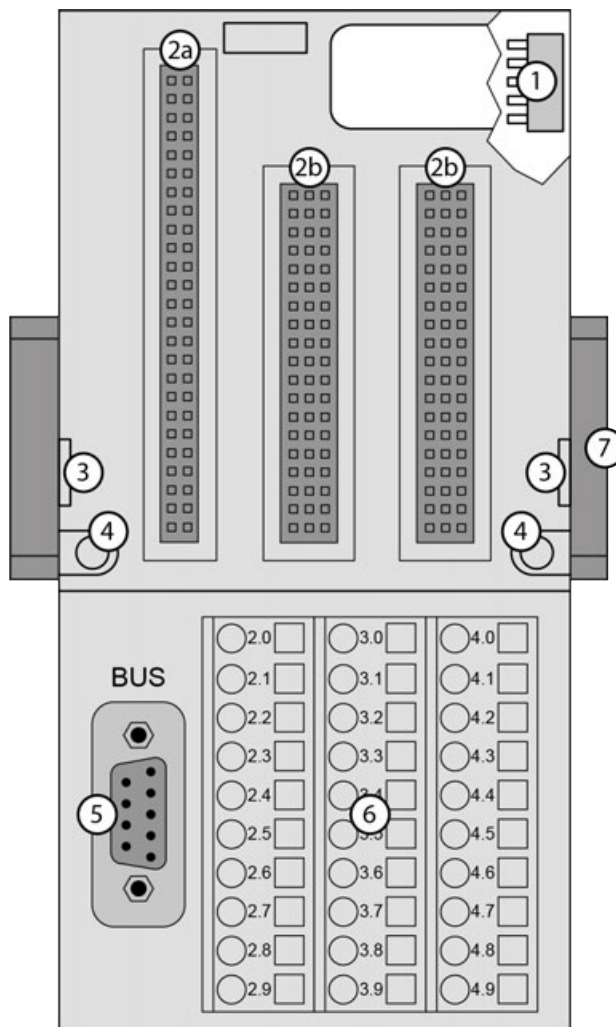


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

120.5 Connections



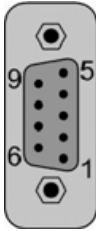
- 1 I/O bus (10 pins, female) to connect the first terminal unit
- 2a Plug (2 25 pins) to connect the inserted communication interface module
- 2b Plug (3 19 pins) to connect the inserted communication interface module
- 3 With a screwdriver, inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
- 4 2 holes for wall mounting
- 5 D-sub 9 (female) for connection with the PROFIBUS network
- 6 30 terminals for signals and process supply voltages (UP and UP3)
- 7 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

120.5.1 Bus interface

Pin assignment

Interface	PIN	DP (PROFIBUS)	CN (CANopen)
	1		
	2		CAN-
	3	B	CAN_GND
	4		
	5	DGND	
	6	VP (5V)	
	7		CAN+
	8	A	
	9		



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

120.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

120.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

120.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

121 TU515 24 V DC

- TU515 24 V DC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

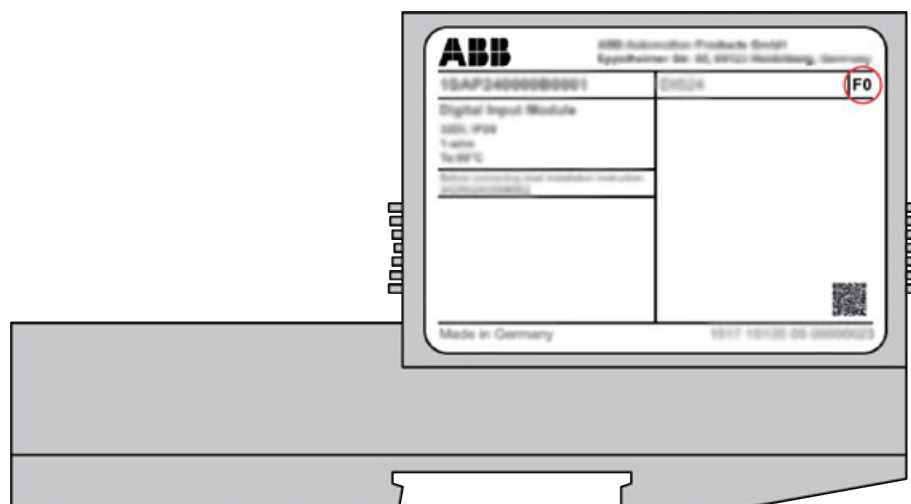
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!



The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

**NOTICE!****Risk of damage to I/O modules!**

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

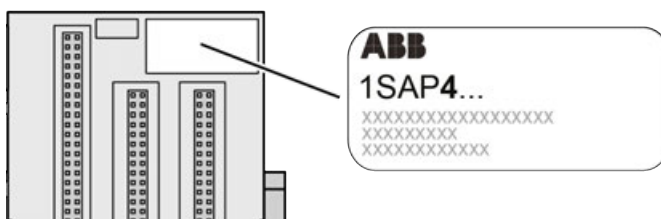
For min. required device index see table below.

Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1

Device	Min. required device index for I/O module as of FW Version 3.0.14
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

XC version

XC = e**X**treme **C**onditions

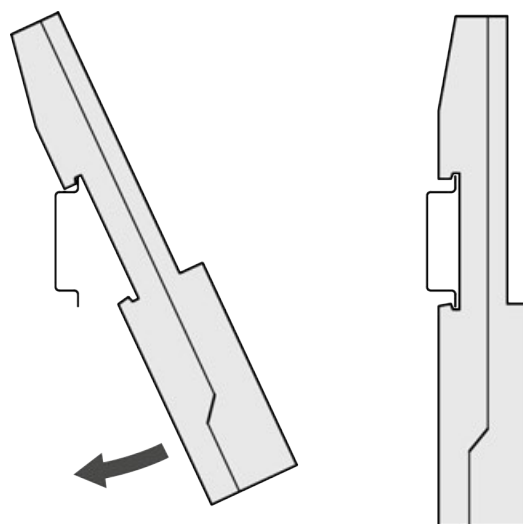


Extreme conditions

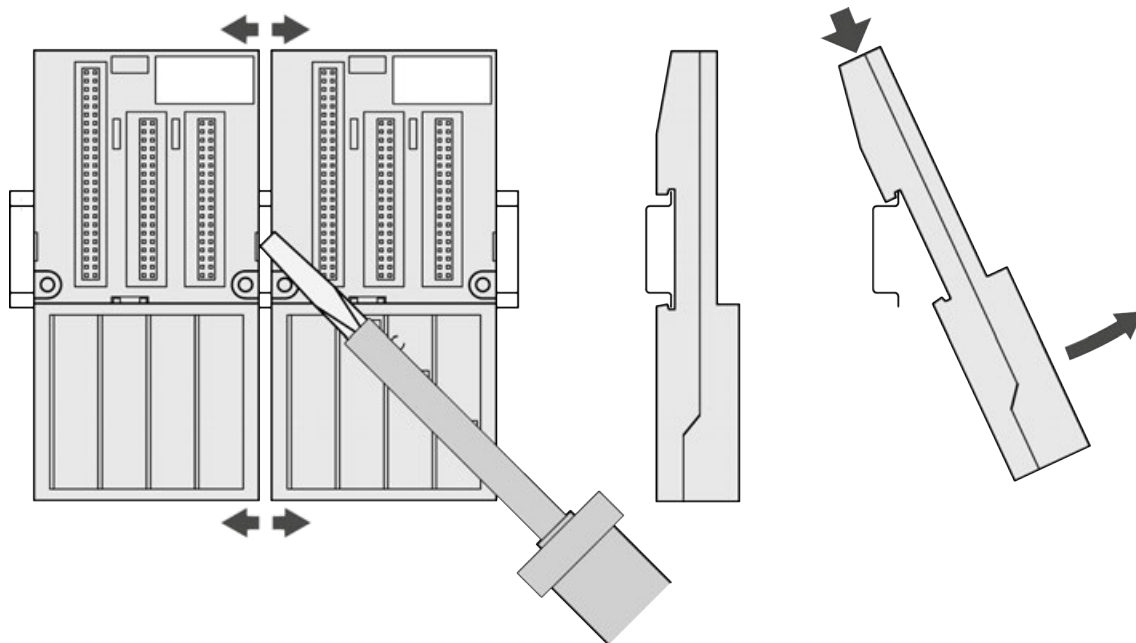
Terminal units for use in extreme ambient conditions have no ❄️ sign for XC version.

The figure 4 in the Part no. 1SAP4... (label) identifies the XC version.

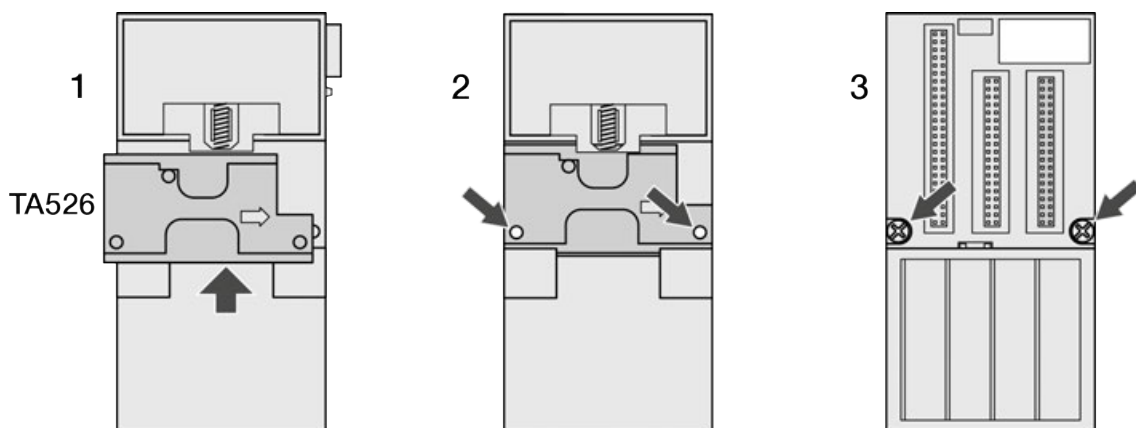
121.1 Assembly



121.2 Disassembly



121.3 Assembly with screws



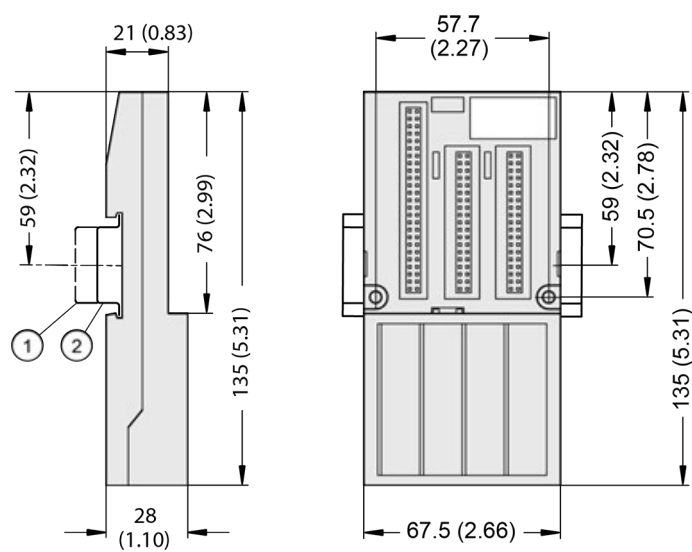
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1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

121.4 Dimensions

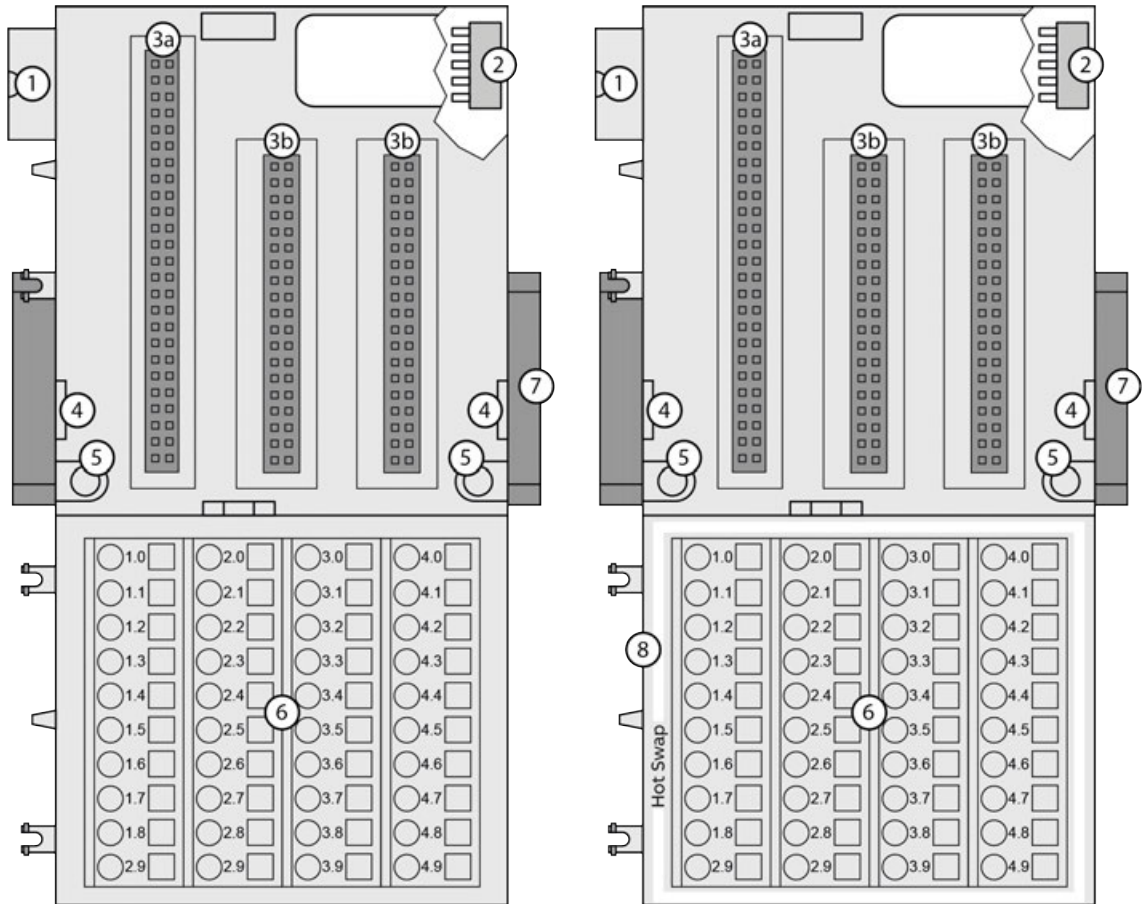


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

121.5 Connections



- 1 I/O bus (10 pins, male) to connect the previous terminal unit, the CPU terminal base or the communication interface module to the terminal unit
- 2 I/O bus (10 pins, female) to connect other terminal units
- 3a Plug (2 x 25 pins) to connect the inserted I/O modules
- 3b Plug (2 x 19 pins) to connect the inserted I/O modules
- 4 With a screwdriver inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
- 5 Holes for screw mounting
- 6 40 terminals for signals and process supply voltage
- 7 DIN rail
- 8 White border signifies hot swap capability of the terminal unit

121.6 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

121.7 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

121.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

122 TU516(-H)(-XC) 24 V DC

- TU516 24 V DC
- TU516-XC 24 V DC
- TU516-H 24 V DC
- TU516-H-XC 24 V DC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

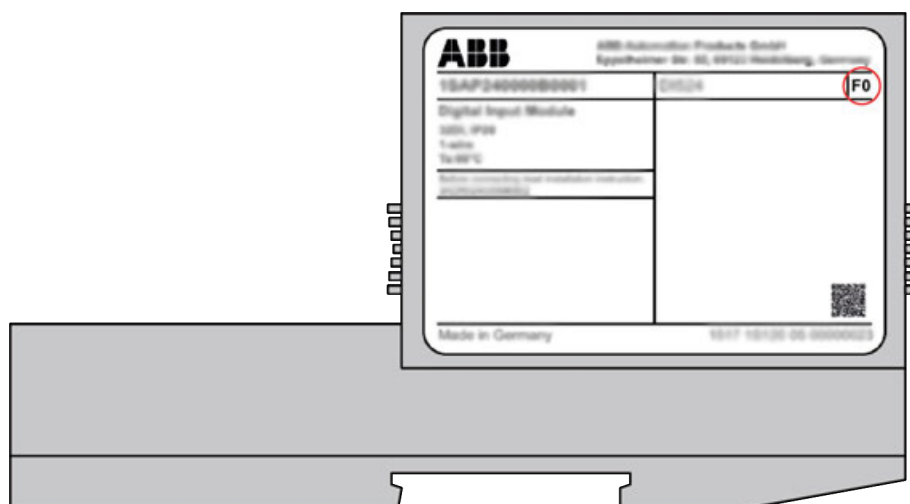
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

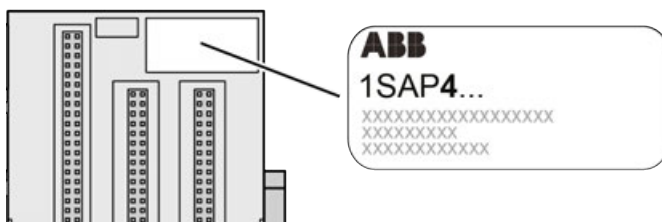
Risk of damage to I/O modules!

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

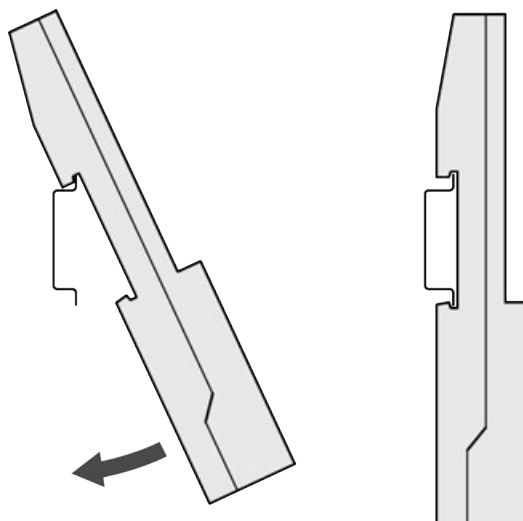
Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

XC version**XC = eXtreme Conditions****Extreme conditions**

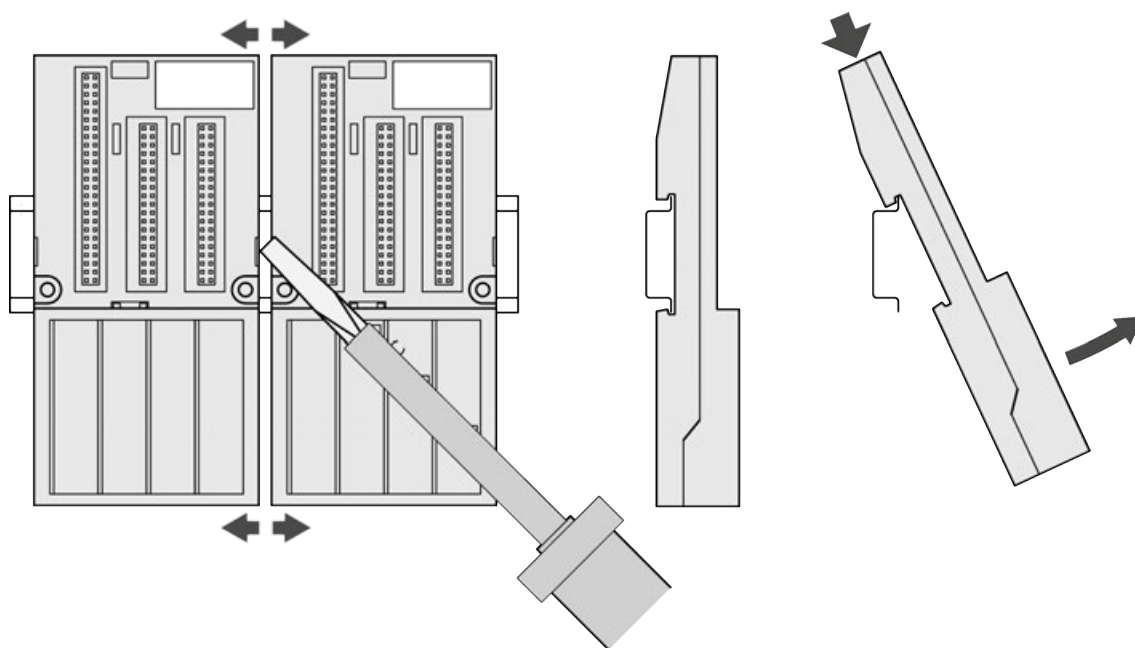
Terminal units for use in extreme ambient conditions have no ☀️ sign for XC version.

The figure 4 in the Part no. 1SAP4... (label) identifies the XC version.

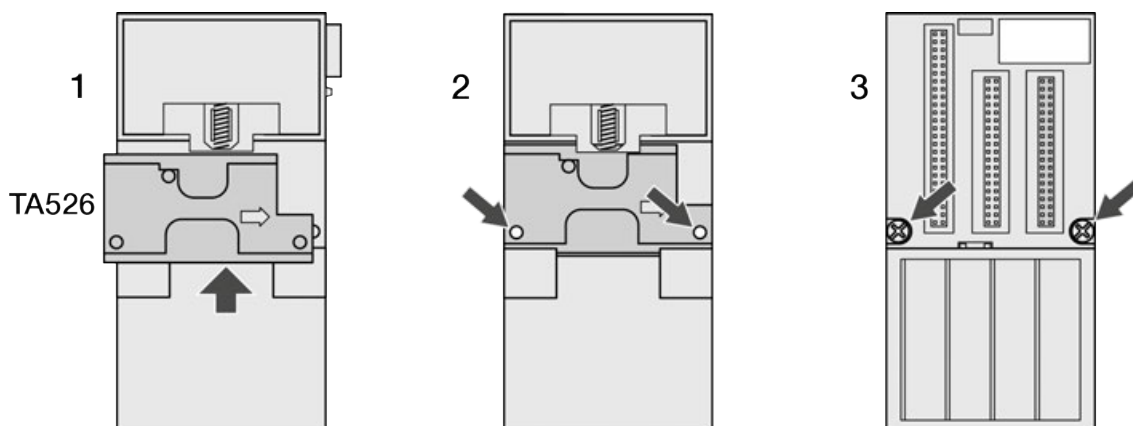
122.1 Assembly



122.2 Disassembly



122.3 Assembly with screws



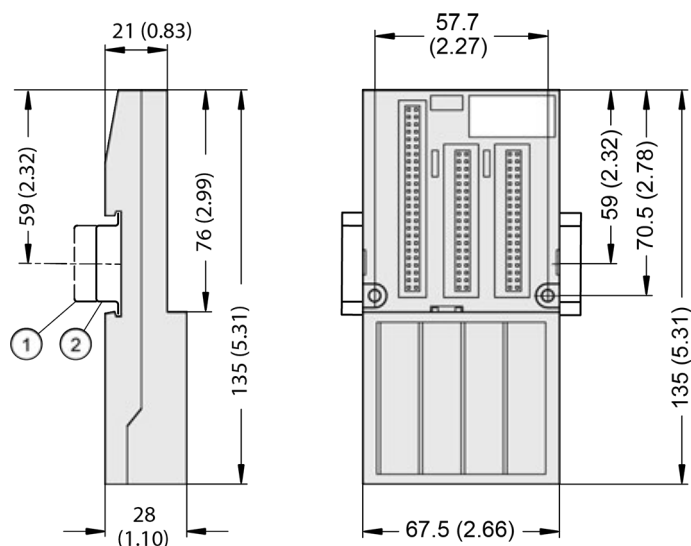
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

122.4 Dimensions

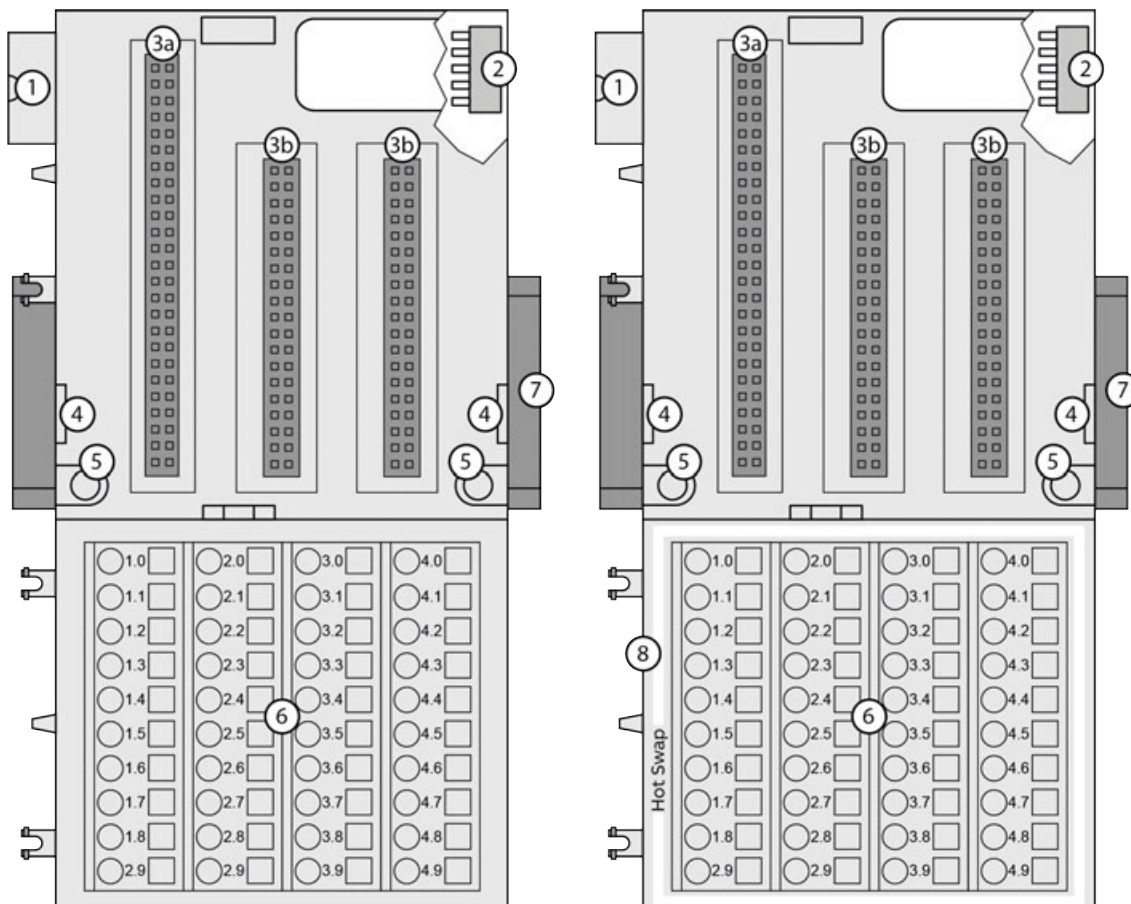


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

122.5 Connections



- 1 I/O bus (10 pins, male) to connect the previous terminal unit, the CPU terminal base or the communication interface module to the terminal unit
- 2 I/O bus (10 pins, female) to connect other terminal units
- 3a Plug (2 x 25 pins) to connect the inserted I/O modules
- 3b Plug (2 x 19 pins) to connect the inserted I/O modules
- 4 With a screwdriver inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
- 5 Holes for screw mounting
- 6 40 terminals for signals and process supply voltage
- 7 DIN rail
- 8 White border signifies hot swap capability of the terminal unit



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

122.6 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

122.7 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

122.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

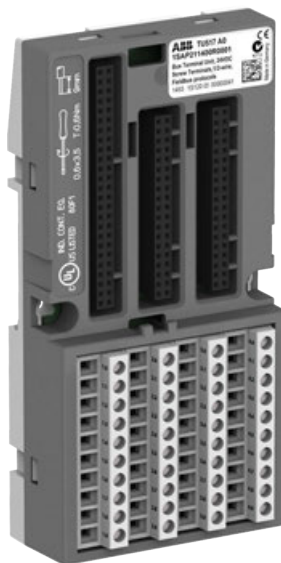
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

123 TU517

- TU517



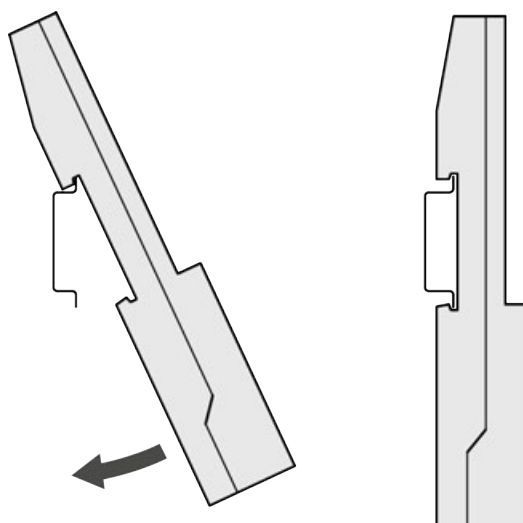
CAUTION!

Risk of injury and damaging the product!

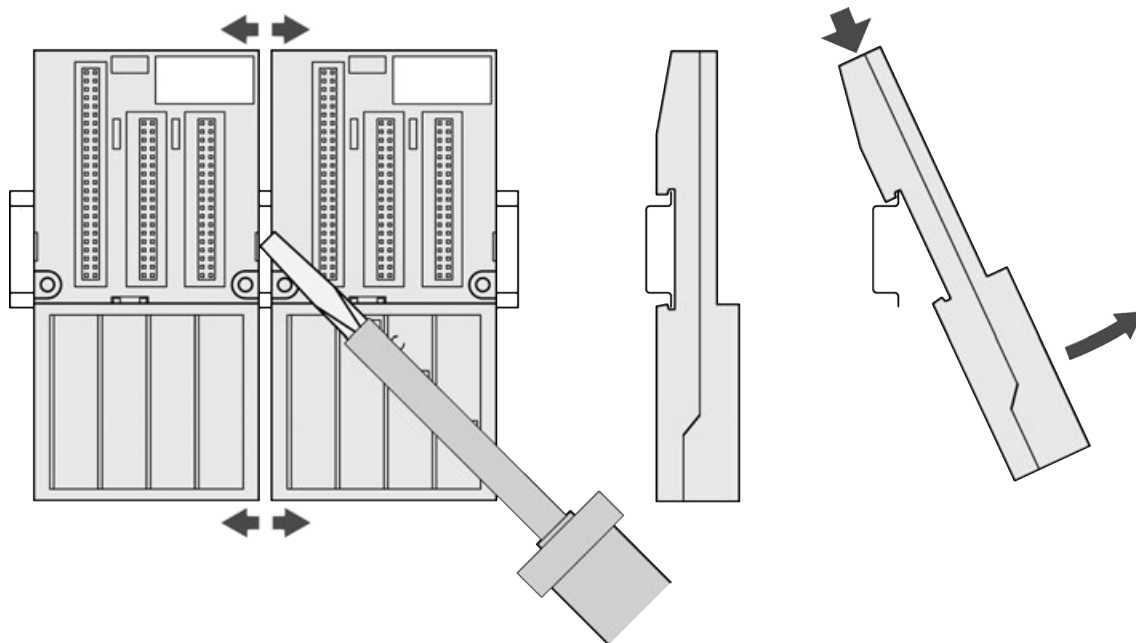
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

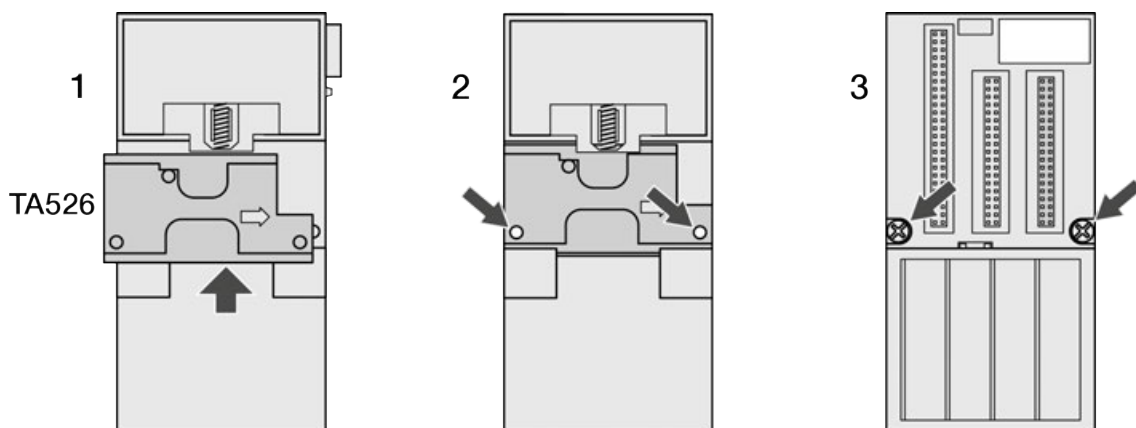
123.1 Assembly



123.2 Disassembly



123.3 Assembly with screws



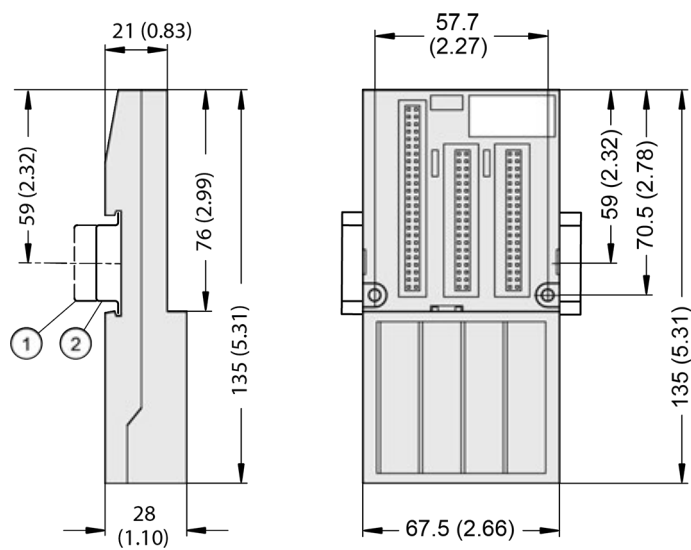
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

123.4 Dimensions

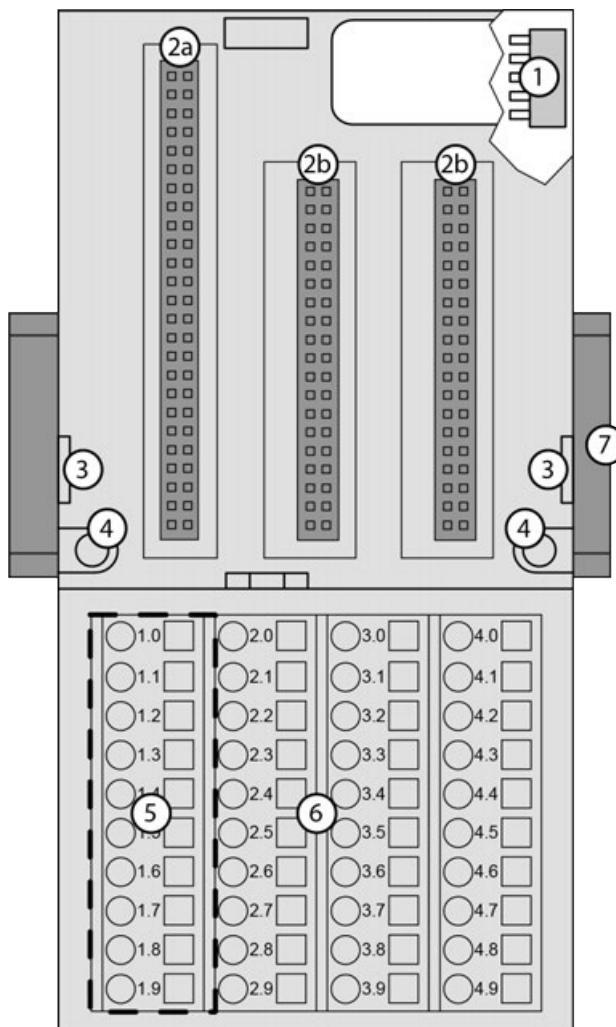


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

123.5 Connections



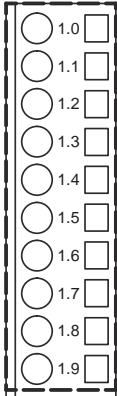
- 1 I/O bus (10 pins, female) to connect the first terminal unit
- 2a Plug (2 25 pins) to connect the inserted communication interface module
- 2b Plug (2 19 pins) to connect the inserted communication interface module
- 3 With a screwdriver, inserted in this place, the terminal unit and the adjacent I/O terminal unit can be shoved from each other
- 4 2 holes for wall mounting
- 5 10 terminals for connection with the bus system
- 6 30 terminals for signals and process supply voltages (UP and UP3)
- 7 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

123.5.1 Bus interface

Pin assignment

Interface	PIN	DP (PROFIBUS)	CN (CANopen)
	1.0	B	CAN+
	1.1	B	CAN+
	1.2	A	CAN-
	1.3	A	CAN-
	1.4	TermB	Term+
	1.5	TermB	Term+
	1.6	TermA	Term-
	1.7	TermA	Term-
	1.8	DGND	CAN_GND
	1.9	DGND	CAN_GND



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

123.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

123.7 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

123.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

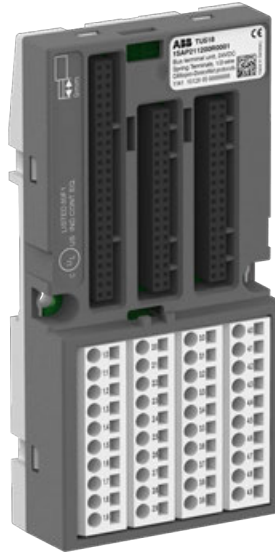
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

124 TU518(-XC)

- TU518
- TU518-XC



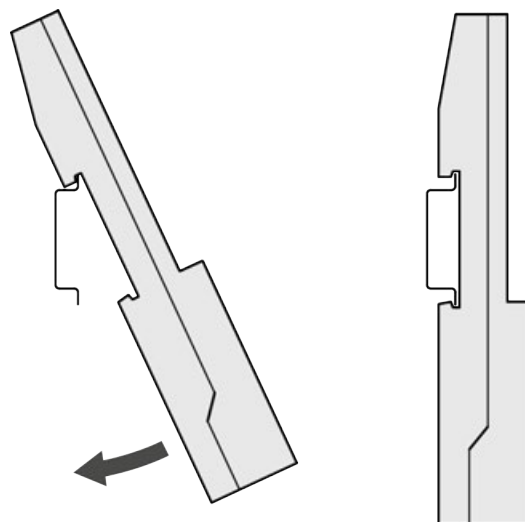
CAUTION!

Risk of injury and damaging the product!

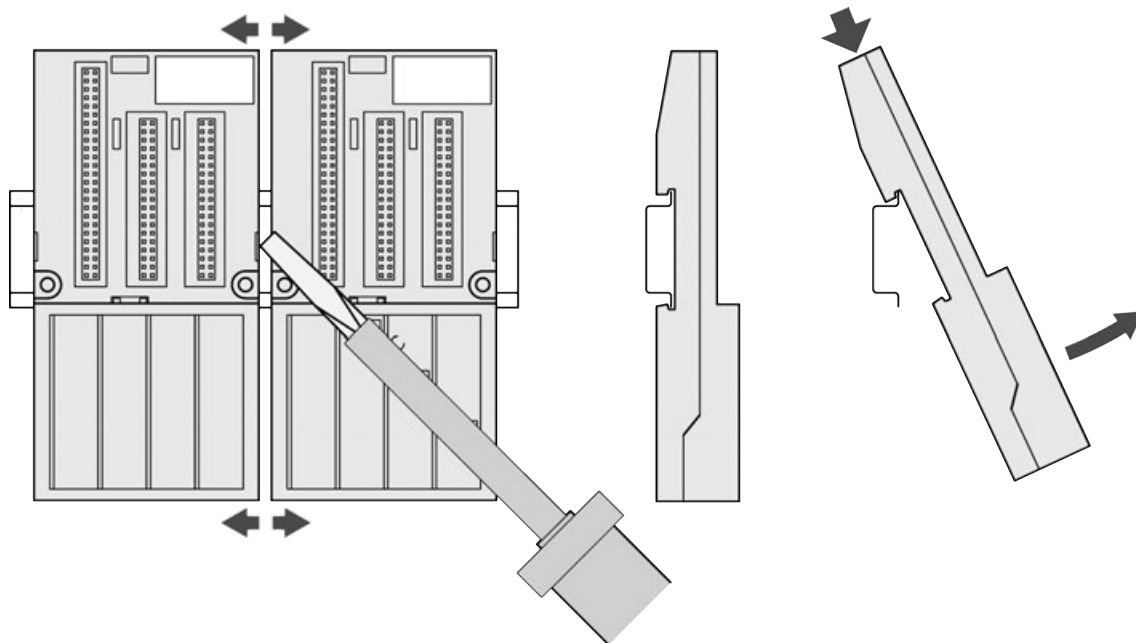
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

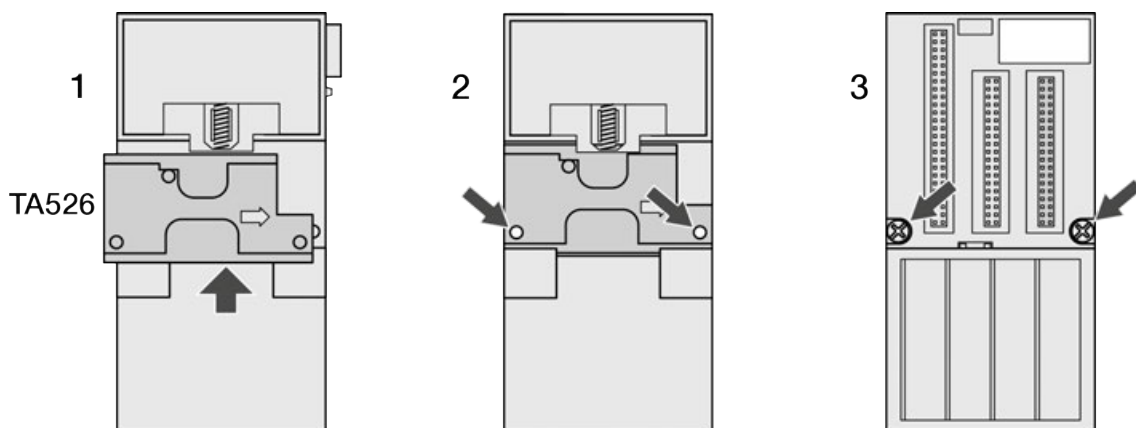
124.1 Assembly



124.2 Disassembly



124.3 Assembly with screws



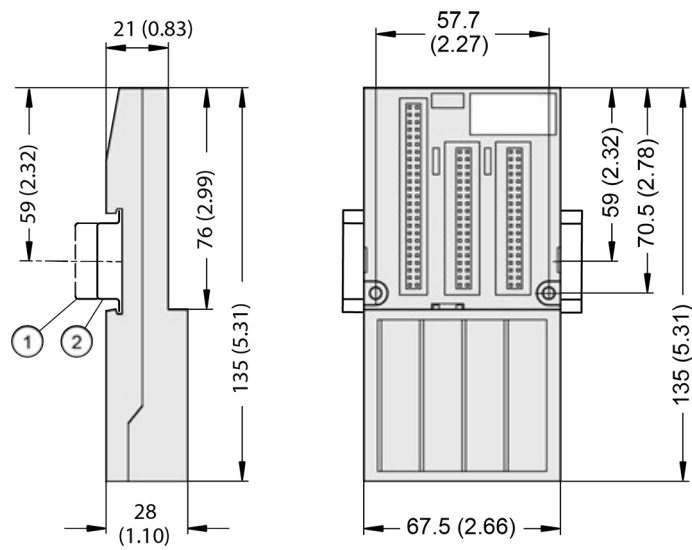
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

124.4 Dimensions

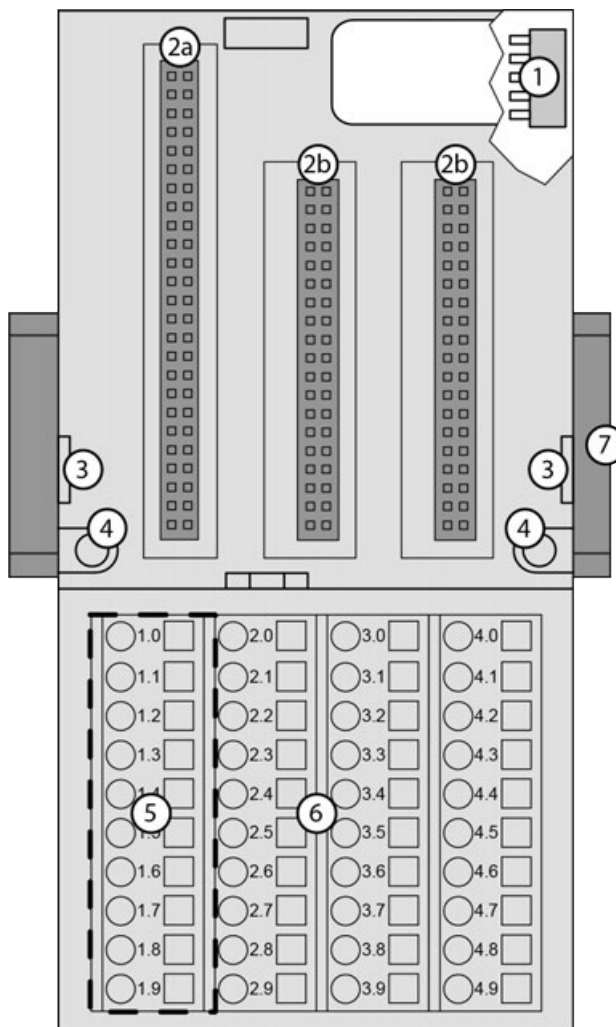


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

124.5 Connections



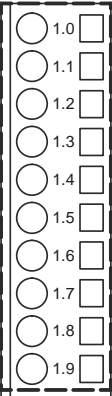
- 1 I/O bus (10 pins, female) to connect the first terminal unit
- 2a Plug (2 25 pins) to connect the inserted communication interface module
- 2b Plug (2 19 pins) to connect the inserted communication interface module
- 3 With a screwdriver, inserted in this place, the terminal unit and the adjacent I/O terminal unit can be shoved from each other
- 4 2 holes for wall mounting
- 5 10 terminals for connection with the bus system
- 6 30 terminals for signals and process supply voltages (UP and UP3)
- 7 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

124.5.1 Bus interface

Pin assignment

Interface	PIN	DP (PROFIBUS)	CN (CANopen)
	1.0	B	CAN+
	1.1	B	CAN+
	1.2	A	CAN-
	1.3	A	CAN-
	1.4	TermB	Term+
	1.5	TermB	Term+
	1.6	TermA	Term-
	1.7	TermA	Term-
	1.8	DGND	CAN_GND
	1.9	DGND	CAN_GND



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

124.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

124.7 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

124.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

125 TU520-ETH(-XC)

- TU520-ETH
- TU520-ETH-XC



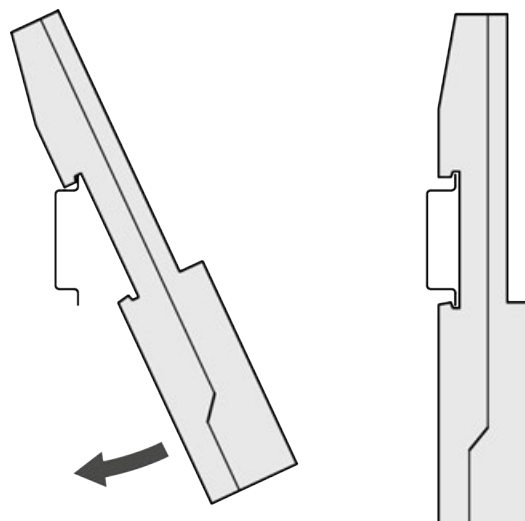
CAUTION!

Risk of injury and damaging the product!

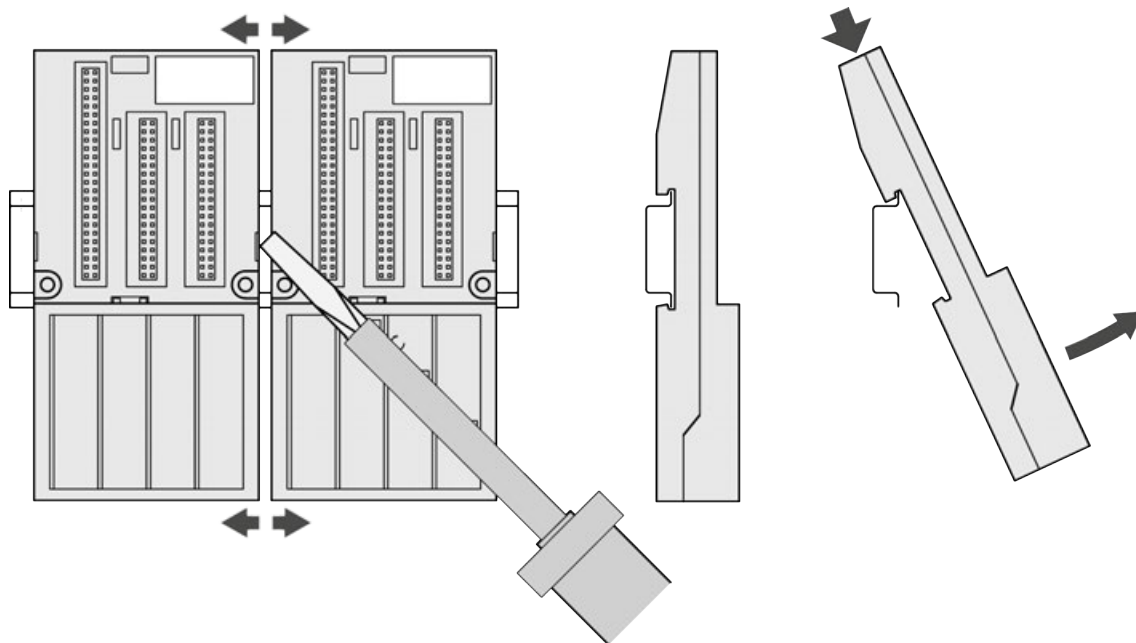
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

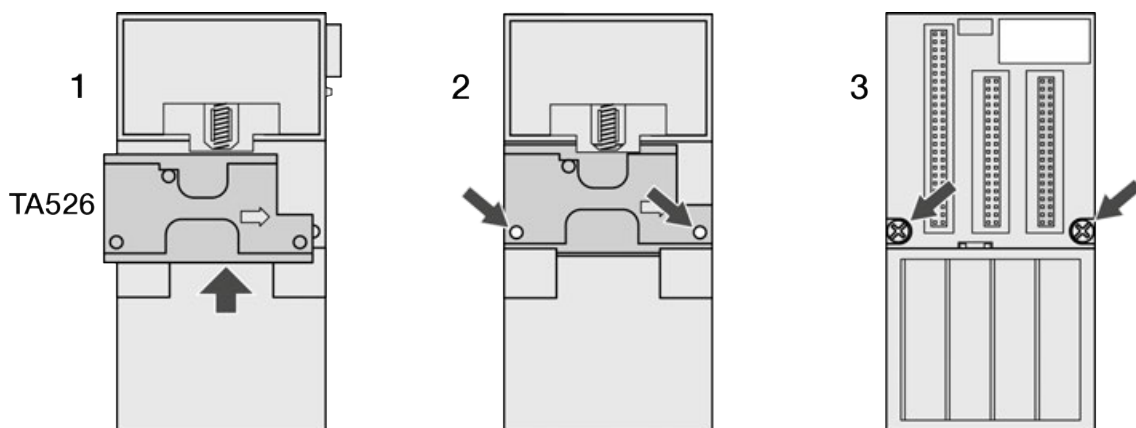
125.1 Assembly



125.2 Disassembly



125.3 Assembly with screws



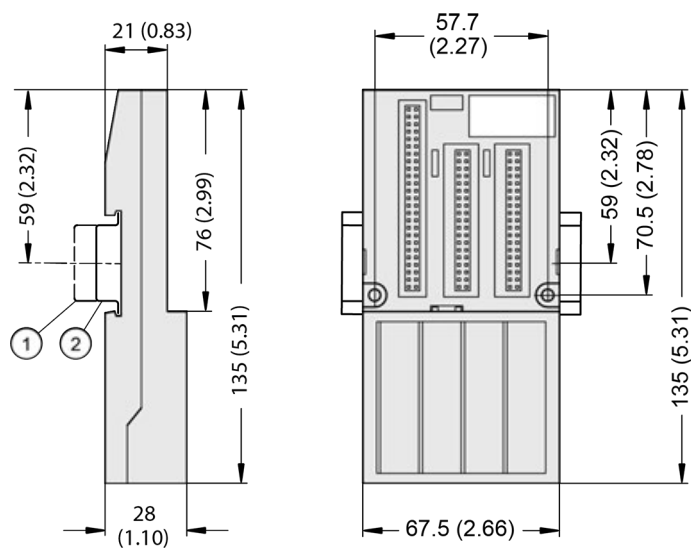
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

125.4 Dimensions

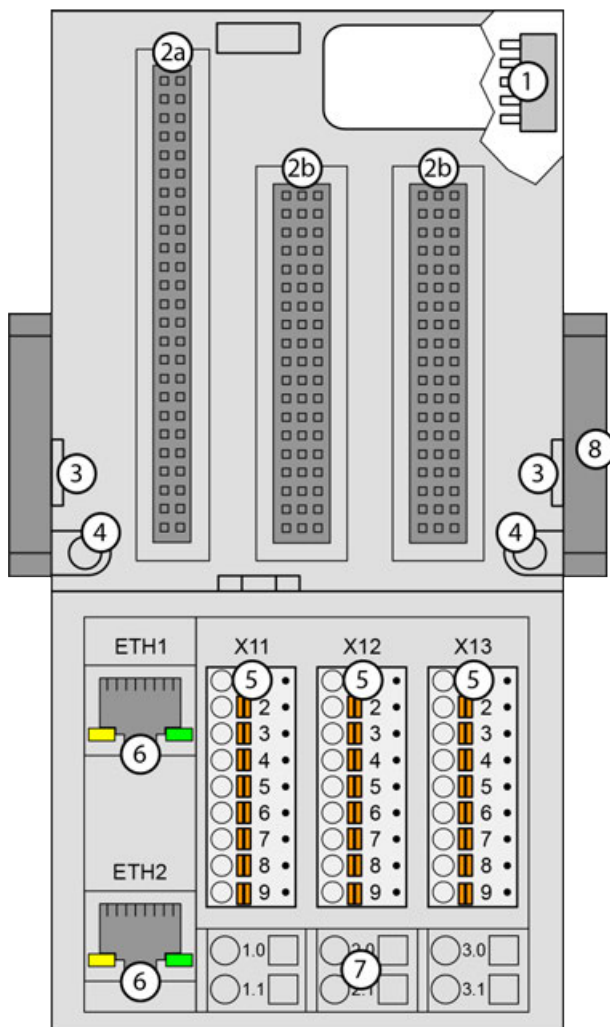


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

125.5 Connections



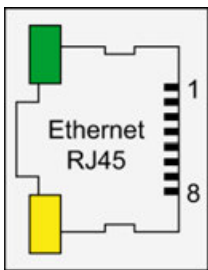
- 1 I/O bus (10 pins, female) to connect the first terminal unit
- 2a Plug (2 25 pins) to connect the inserted PROFINET communication interface module
- 2b Plug (3 19 pins) to connect the inserted PROFINET communication interface module
- 3 With a screwdriver, inserted in this place, the PROFINET I/O terminal unit and the adjacent I/O terminal unit can be shoved from each other
- 4 2 holes for wall mounting
- 5 3 removable connectors to connect the subordinated bus systems
- 6 2 RJ45 interfaces with indication LEDs for connection with the PROFINET network
- 7 6 spring terminals for process supply voltage (UP)
- 8 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

125.5.1 Ethernet network interface

Pin assignment

Interface	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NC	Not connected
	5	NC	Not connected
	6	RxD-	Receive data -
	7	NC	Not connected
	8	NC	Not connected
	Shield	Cable shield	Functional earth



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

125.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

125.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

125.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

126 TU531 230 V AC

- TU531 230 V AC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.

Risk of damage to I/O modules!

Processor modules and communication interface modules must not be removed or inserted during operation.



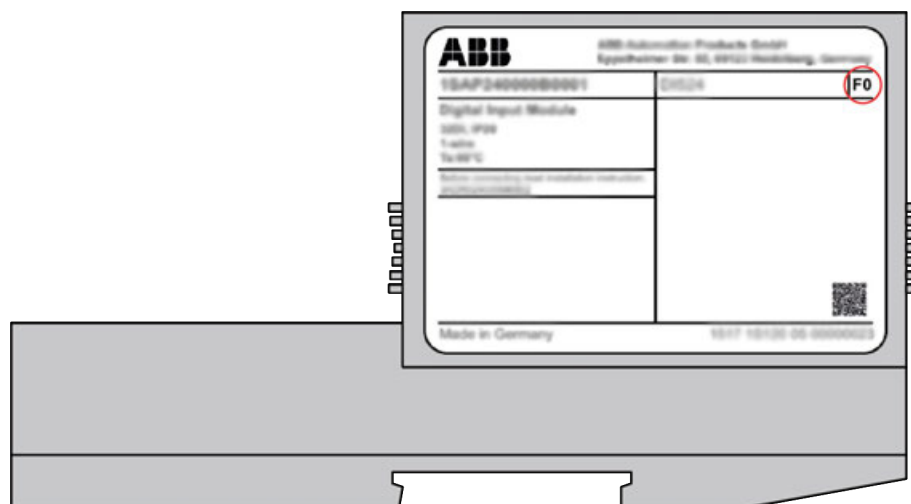
System requirements for hot swapping of I/O modules:

- The following I/O bus masters support hot swapping of attached I/O modules:*

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!



The index of the module is in the right corner of the label.



Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

**NOTICE!****Risk of damage to I/O modules!**

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

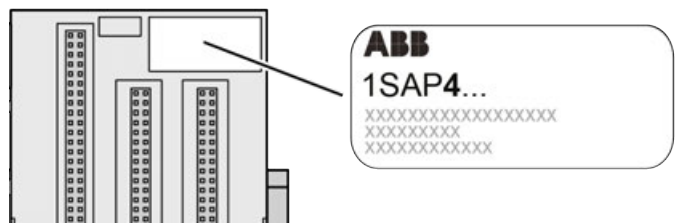
For min. required device index see table below.

Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1

Device	Min. required device index for I/O module as of FW Version 3.0.14
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

XC version

XC = eXtreme Conditions

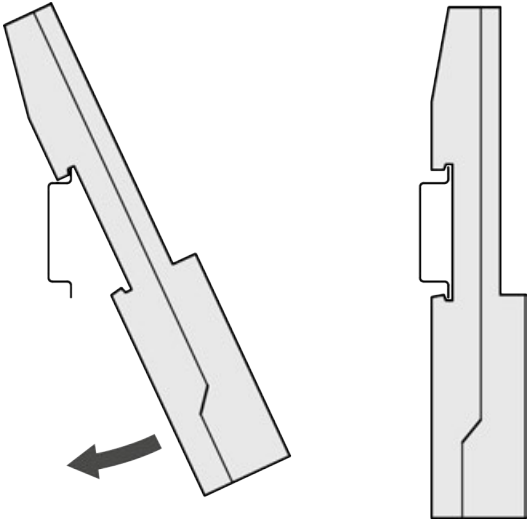


Extreme conditions

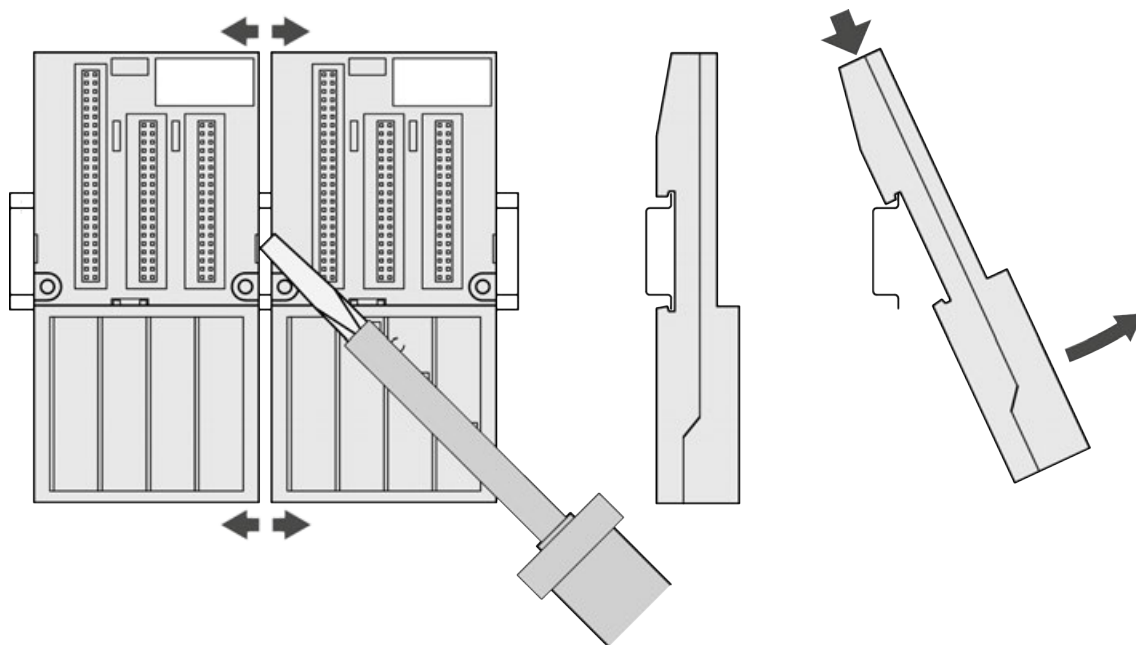
Terminal units for use in extreme ambient conditions have no ❄️ sign for XC version.

The figure 4 in the Part no. 1SAP4... (label) identifies the XC version.

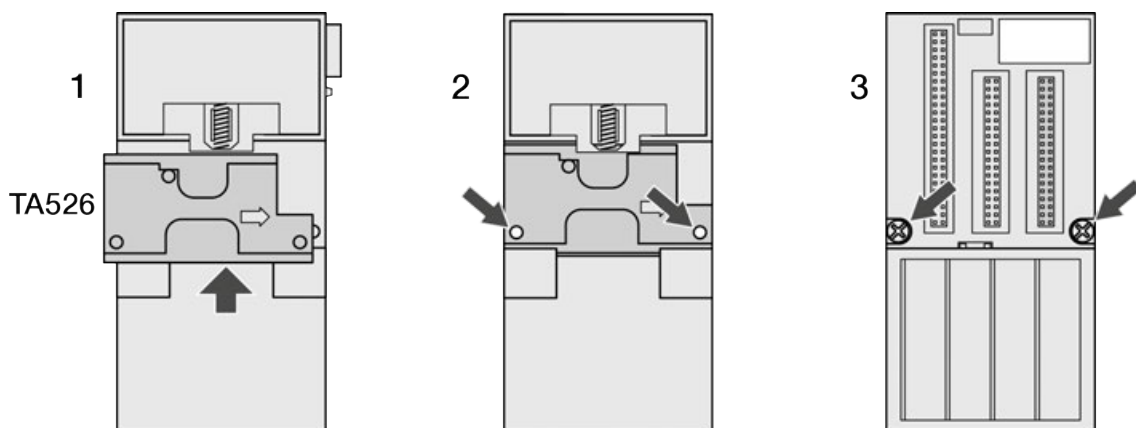
126.1 Assembly



126.2 Disassembly



126.3 Assembly with screws



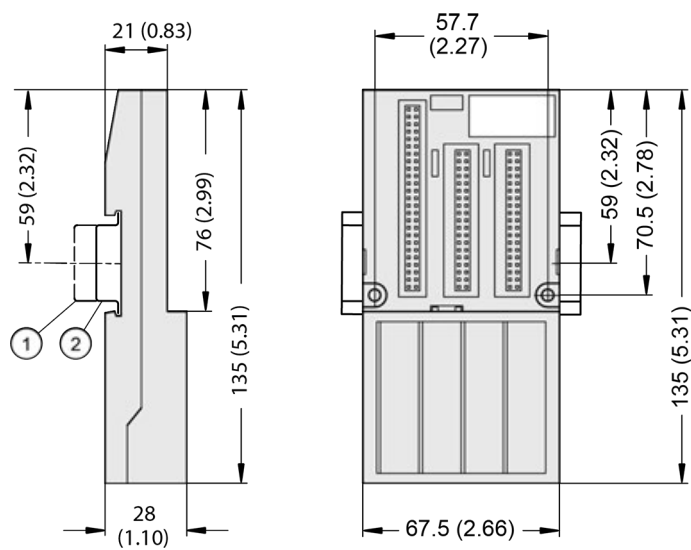
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

126.4 Dimensions




- 1 Din rail 15 mm
- 2 Din rail 7.5 mm

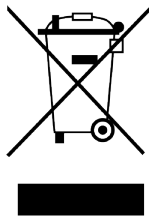


The dimensions are in mm and in brackets in inch.

126.7 Certification

		en	Devices with KCC sign on product sticker and packaging
MSIP-REI-Abb-AC500		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

126.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

127 TU532(-H)(-XC) 230 V AC

- TU532 230 V AC
- TU532-XC 230 V AC
- TU532-H 230 V AC
- TU532-H-XC 230 V AC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

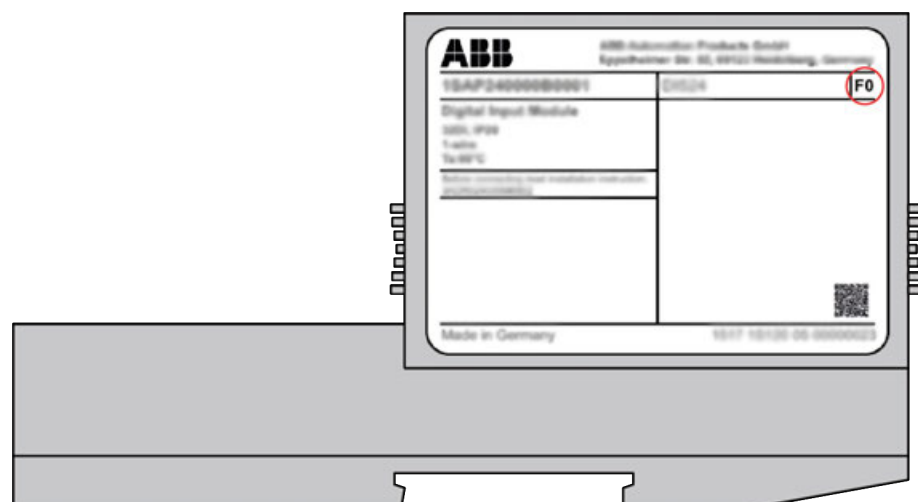
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-H.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

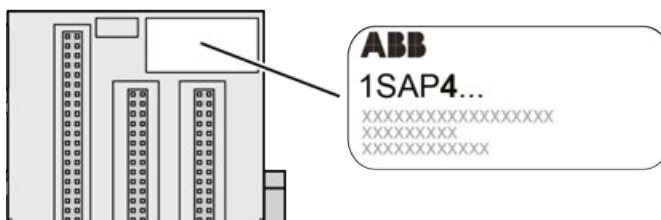
Risk of damage to I/O modules!

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

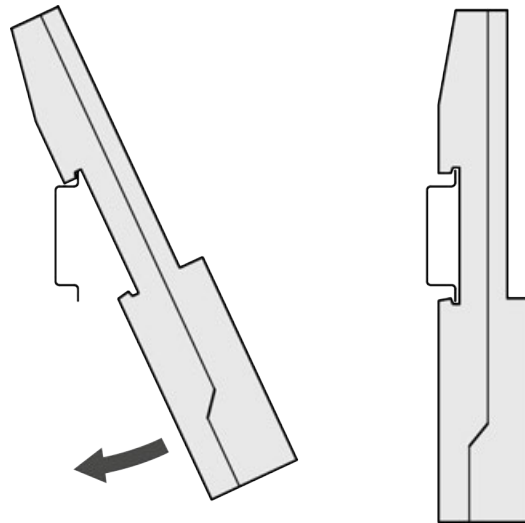
Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

XC version**XC = eXtreme Conditions****Extreme conditions**

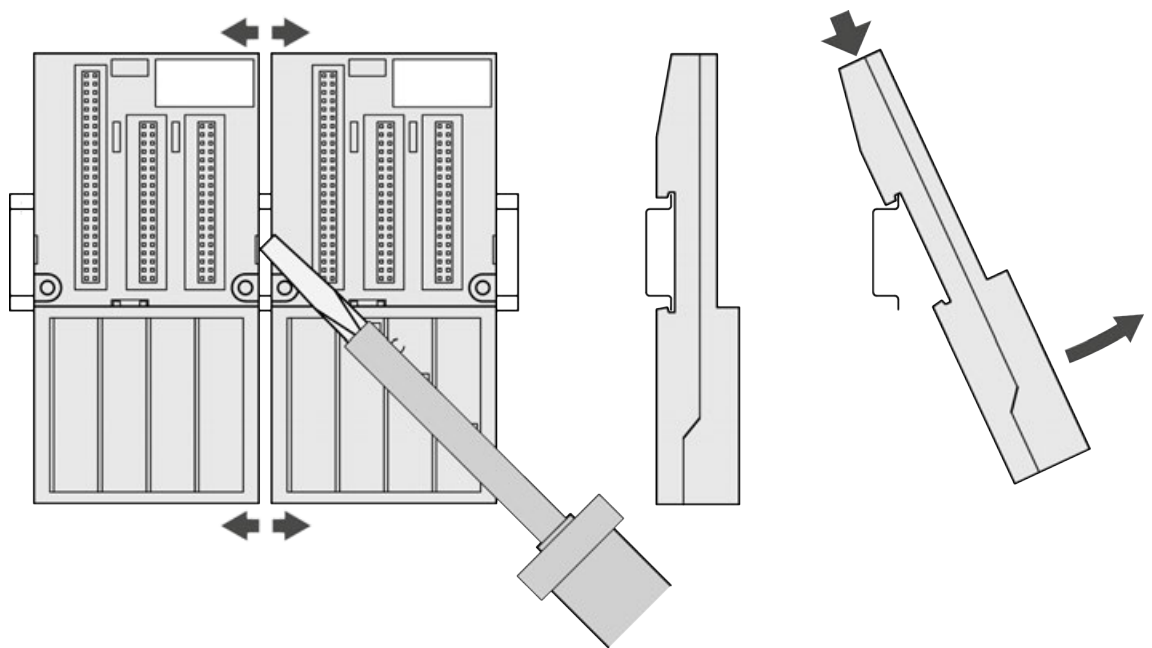
Terminal units for use in extreme ambient conditions have no ☼ sign for XC version.

The figure 4 in the Part no. 1SAP4... (label) identifies the XC version.

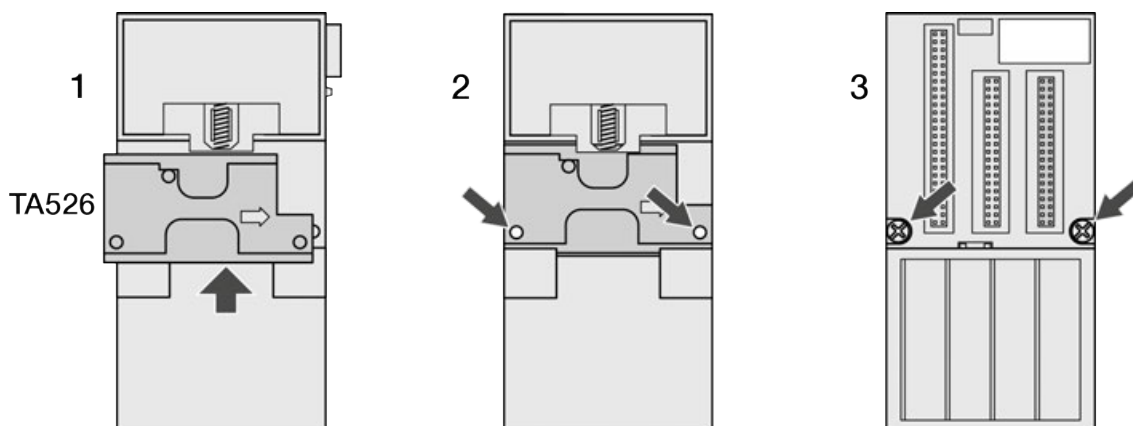
127.1 Assembly



127.2 Disassembly



127.3 Assembly with screws



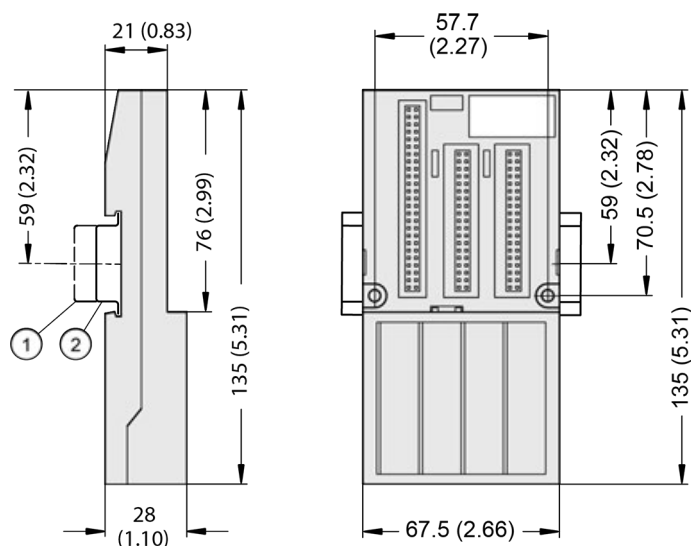
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

127.4 Dimensions

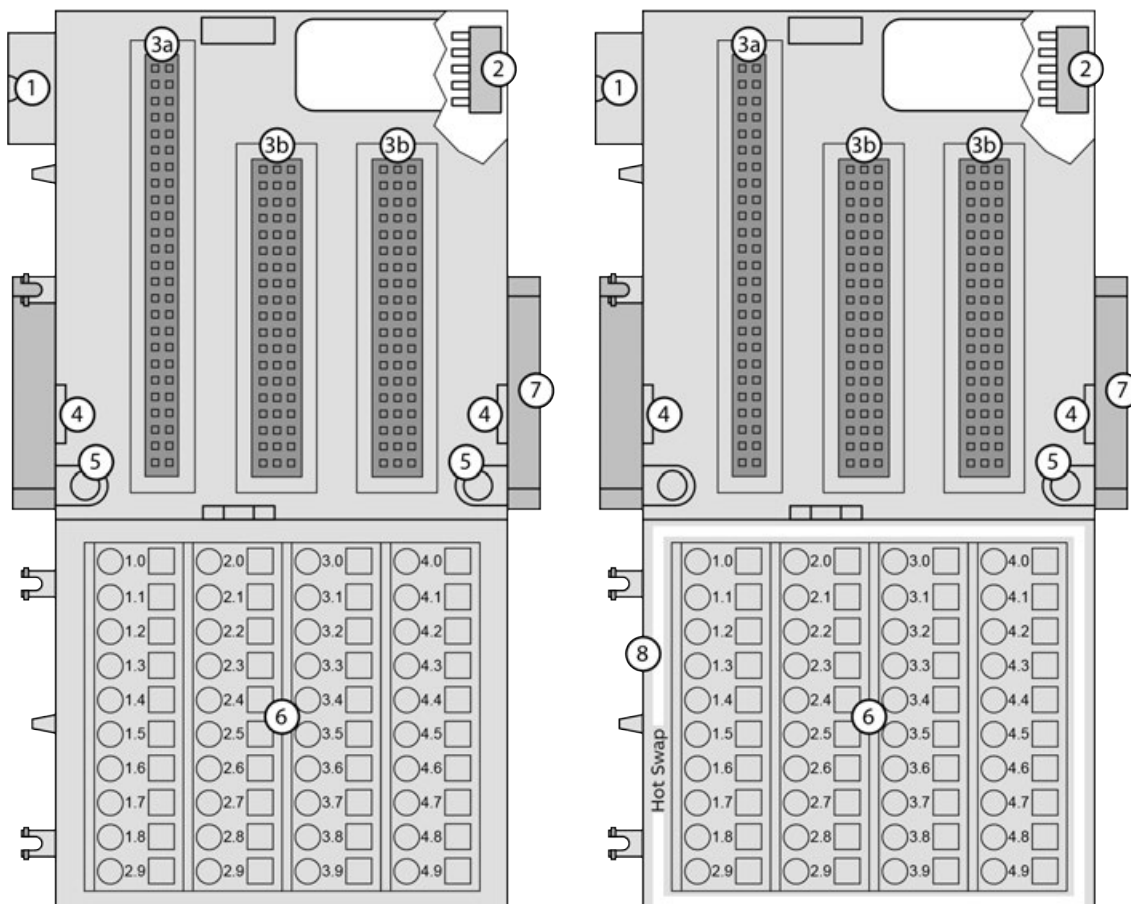


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

127.5 Connections



- 1 I/O bus (10 pins, male) to connect the previous terminal unit, the CPU terminal base or the communication interface module to the terminal unit
- 2 I/O bus (10 pins, female) to connect other terminal units
- 3a Plug (2 x 25 pins) to connect the inserted I/O modules
- 3b Plug (3 x 19 pins) to connect the inserted I/O modules
- 4 With a screwdriver inserted in this place, the terminal unit and the adjacent I/O terminal unit can be shoved from each other
- 5 Holes for screw mounting
- 6 40 terminals for signals and process supply voltage
- 7 DIN rail
- 8 White border signifies hot swap capability of the terminal unit



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

127.6 Cleaning




Cleaning instruction

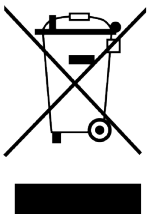
Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

127.7 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

127.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

128 TU541 24 V DC

- TU541 24 V DC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/ protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.

Risk of damage to I/O modules!

Processor modules and communication interface modules must not be removed or inserted during operation.



System requirements for hot swapping of I/O modules:

- The following I/O bus masters support hot swapping of attached I/O modules:*

- Communication interface modules CI5xx as of index F0.
- Processor modules PM56xx-2ETH with firmware version as of V3.2.0.



Hot swap is not supported by AC500-eCo V3 CPU!



The index of the module is in the right corner of the label.



Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

**NOTICE!****Risk of damage to I/O modules!**

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

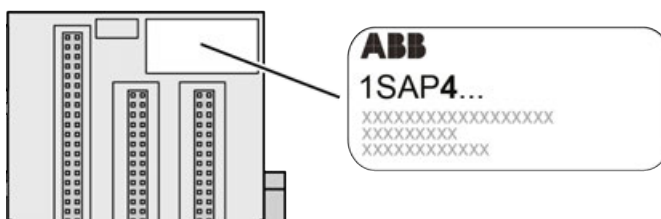
For min. required device index see table below.

Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1

Device	Min. required device index for I/O module as of FW Version 3.0.14
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

XC version

XC = e**X**treme **C**onditions

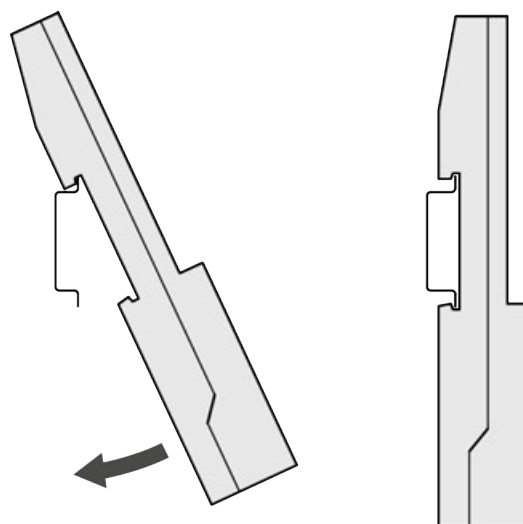


Extreme conditions

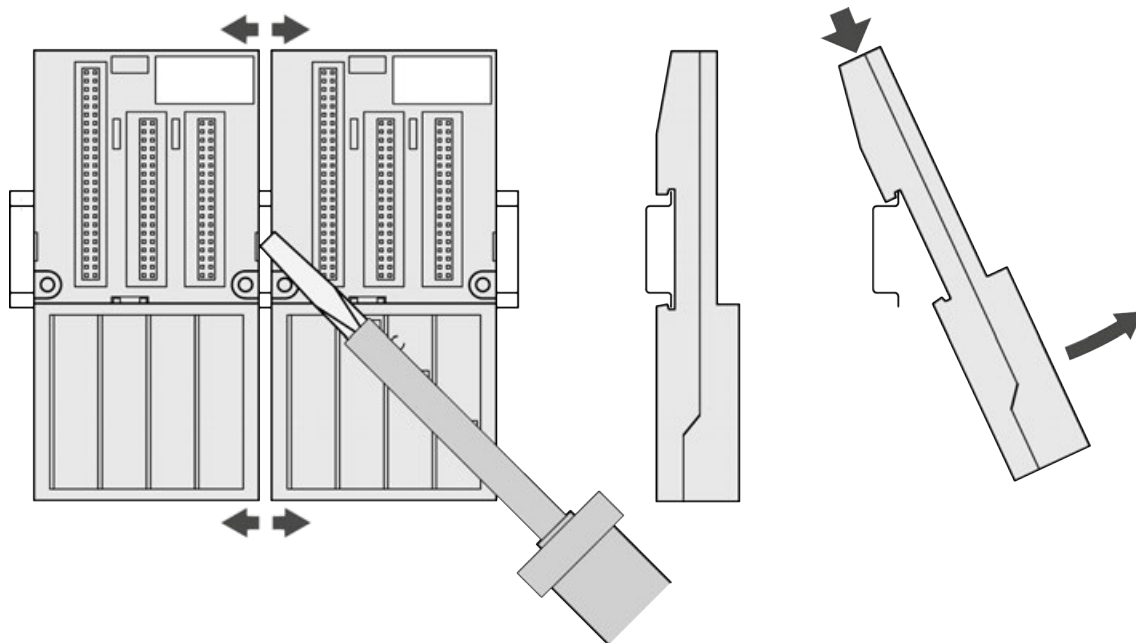
Terminal units for use in extreme ambient conditions have no ❄️ sign for XC version.

The figure 4 in the Part no. 1SAP4... (label) identifies the XC version.

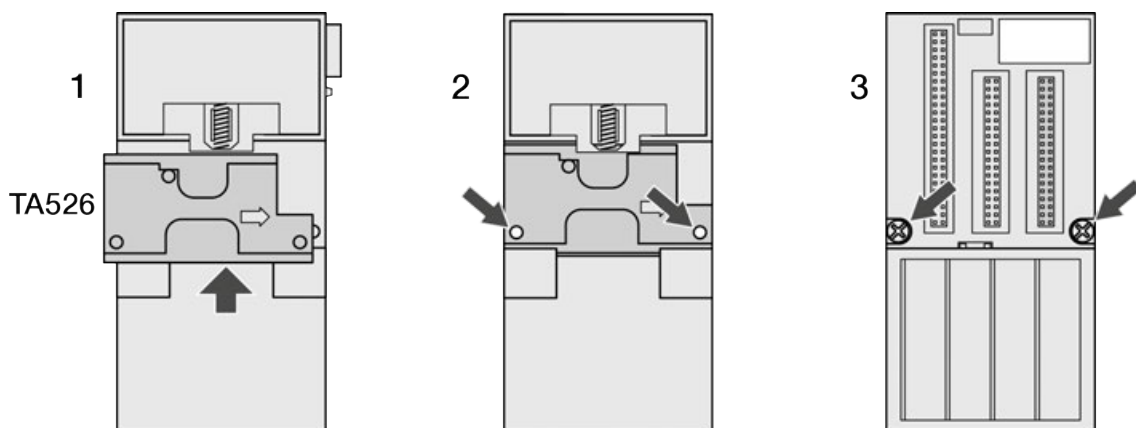
128.1 Assembly



128.2 Disassembly



128.3 Assembly with screws



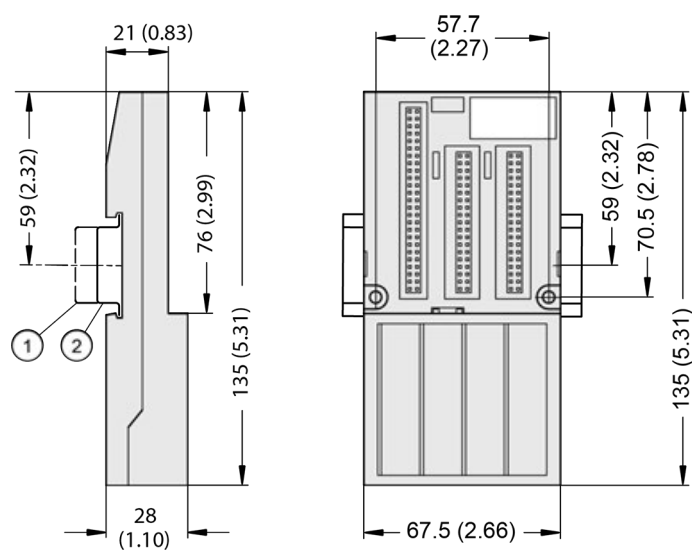
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

128.4 Dimensions

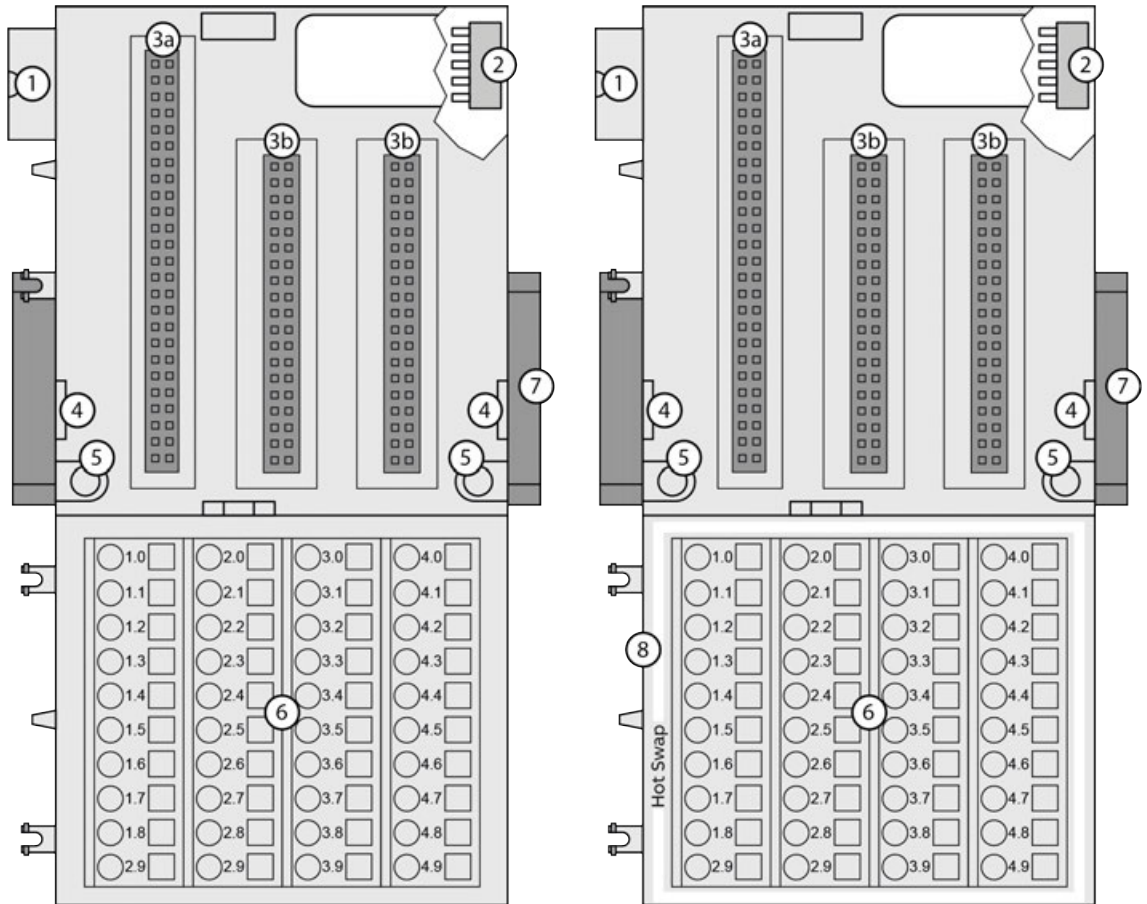


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

128.5 Connections



- 1 I/O bus (10 pins, male) to connect the previous terminal unit, the CPU terminal base or the communication interface module to the terminal unit
- 2 I/O bus (10 pins, female) to connect other terminal units
- 3a Plug (2 x 25 pins) to connect the inserted I/O modules
- 3b Plug (2 x 19 pins) to connect the inserted I/O modules
- 4 With a screwdriver inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
- 5 Holes for screw mounting
- 6 40 terminals for signals and process supply voltage
- 7 DIN rail
- 8 White border signifies hot swap capability of the terminal unit

128.6 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

128.7 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

128.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

129 TU542(-H)(-XC) 24 V DC

- TU542 24 V DC
- TU542-XC 24 V DC
- TU542-H 24 V DC
- TU542-H-XC 24 V DC



CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

Hot swap



WARNING!

Risk of explosion or fire in hazardous environments during hot swapping!

Hot swap must not be performed in flammable environments to avoid life-threatening injury and property damage resulting from fire or explosion.



WARNING!

Electric shock due to negligent behavior during hot swapping!

To avoid electric shock

- make sure the following conditions apply:
 - Digital outputs are not under load.
 - Input/output voltages above safety extra low voltage/protective extra low voltage (SELV/PELV) are switched off.
 - Modules are fully interlocked with the terminal unit with both snap-fits engaged before switching on loads or input/output voltage.
- Never touch exposed contacts (dangerous voltages).
- Stay away from electrical contacts to avoid arc discharge.
- Do not operate a mechanical installation improperly.



NOTICE!

Risk of damage to I/O modules!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

H = Hot swap



Hot swap

System requirements for hot swapping of I/O modules:

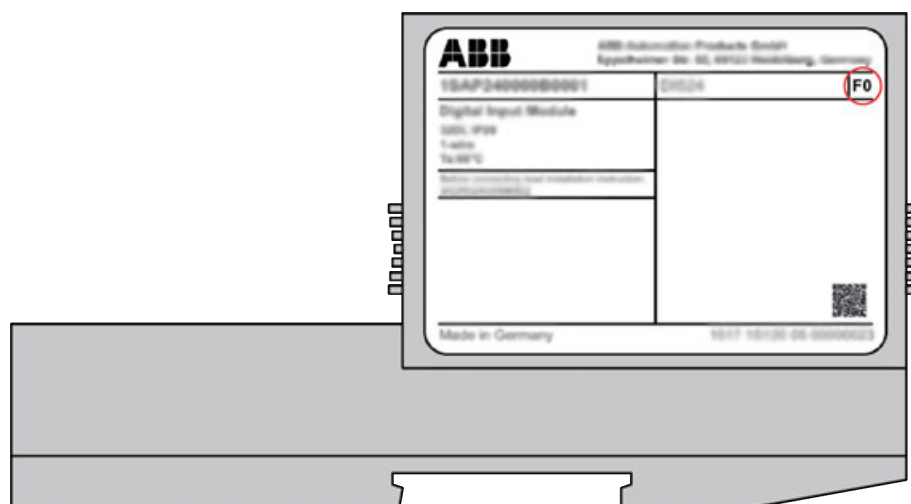
- Types of terminal units that support hot swapping of I/O modules have the appendix TU5xx-**H**.
- I/O modules as of index F0.

The following I/O bus masters support hot swapping of attached I/O modules:

- *Communication interface modules CI5xx as of index F0.*
- *Processor modules PM56xx-2ETH with firmware version as of V3.2.0.*



Hot swap is not supported by AC500-eCo V3 CPU!





The index of the module is in the right corner of the label.



NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.



NOTICE!

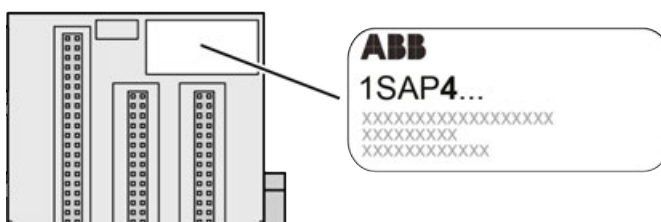
Risk of damage to I/O modules!

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the I/O configuration.

For min. required device index see table below.

Device	Min. required device index for I/O module as of FW Version 3.0.14
AC522(-XC)	F0
AI523 (-XC)	D2
AI531	D4
AI531-XC	D2
AI561	B2
AI562	B2
AI563	B3
AO523 (-XC)	D2
AO561	B2
AX521 (-XC)	D2
AX522 (-XC)	D2
AX561	B2
CD522 (-XC)	D1
DA501 (-XC)	D2
DA502 (-XC)	F0
DC522 (-XC)	D2
DC523 (-XC)	D2
DC532 (-XC)	D2
DC561	B2
DC562	A2
DI524 (-XC)	D2
DI561	B2
DI562	B2
DI571	B2

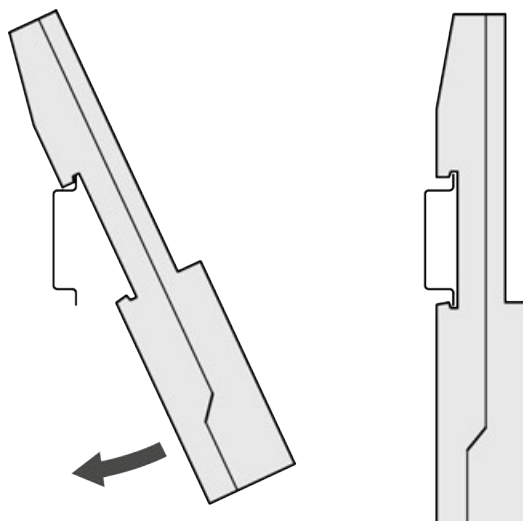
Device	Min. required device index for I/O module as of FW Version 3.0.14
DI572	A1
DO524 (-XC)	A3
DO526	A2
DO526-XC	A0
DO561	B2
DO562	A2
DO571	B3
DO572	B2
DO573	A1
DX522 (-XC)	D2
DX531	D2
DX561	B2
DX571	B3
FM562	A1

XC version**XC = eXtreme Conditions****Extreme conditions**

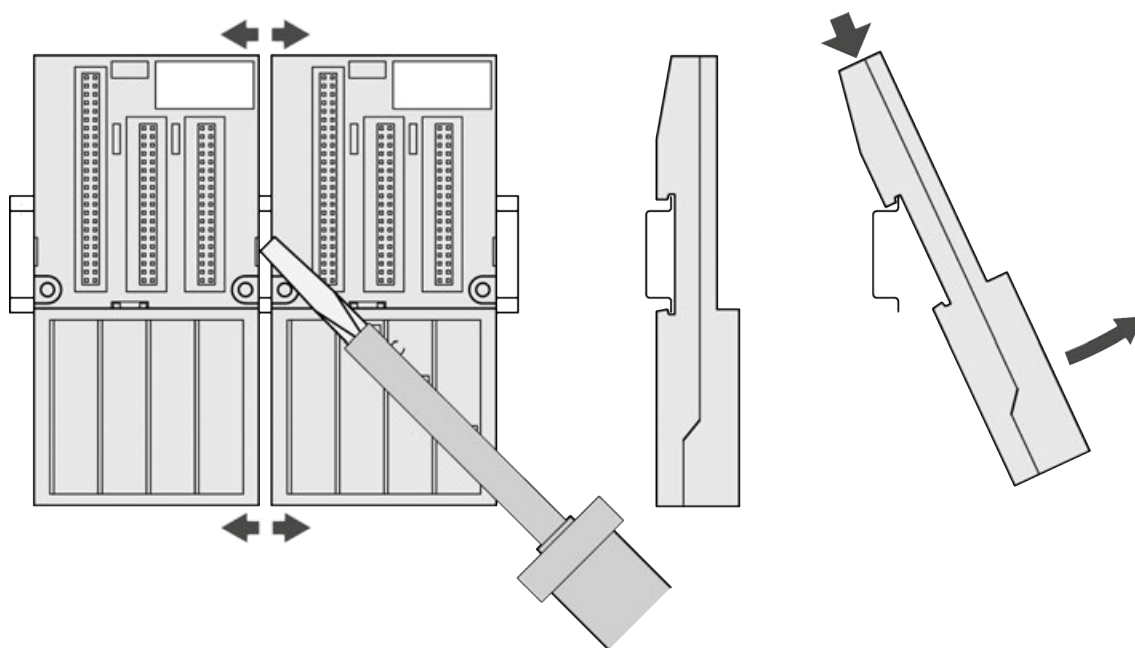
Terminal units for use in extreme ambient conditions have no ☼ sign for XC version.

The figure 4 in the Part no. 1SAP4... (label) identifies the XC version.

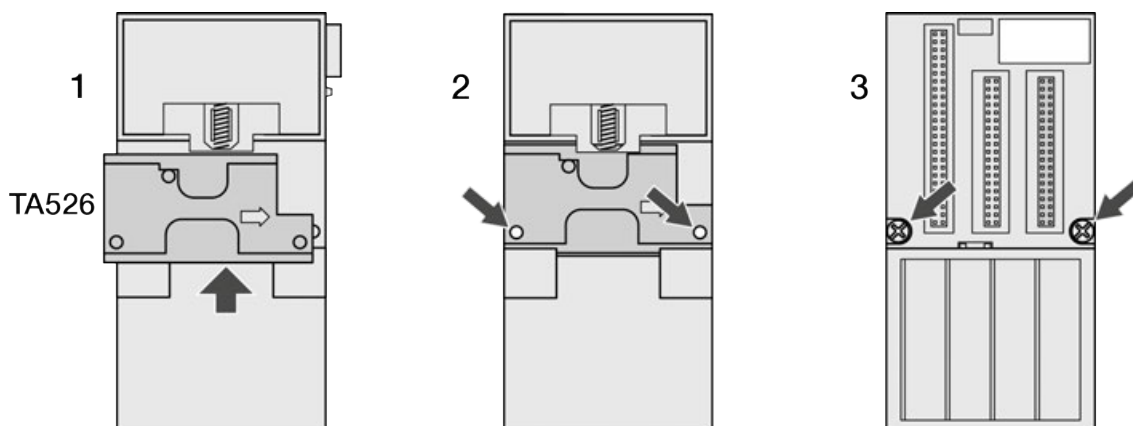
129.1 Assembly



129.2 Disassembly



129.3 Assembly with screws



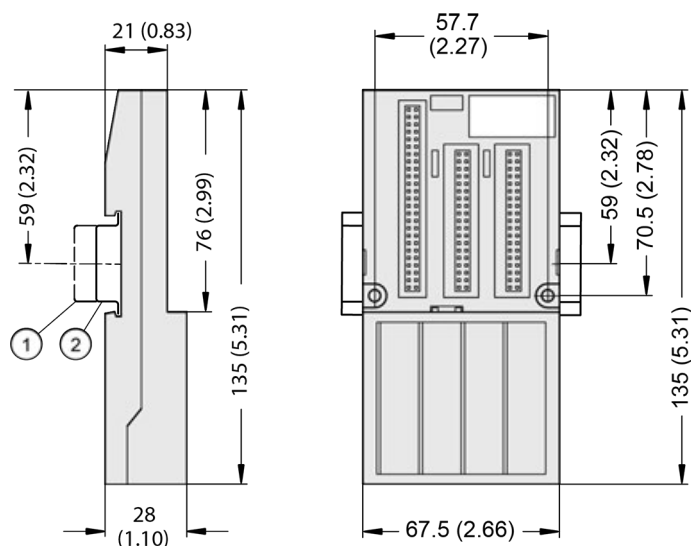
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

129.4 Dimensions

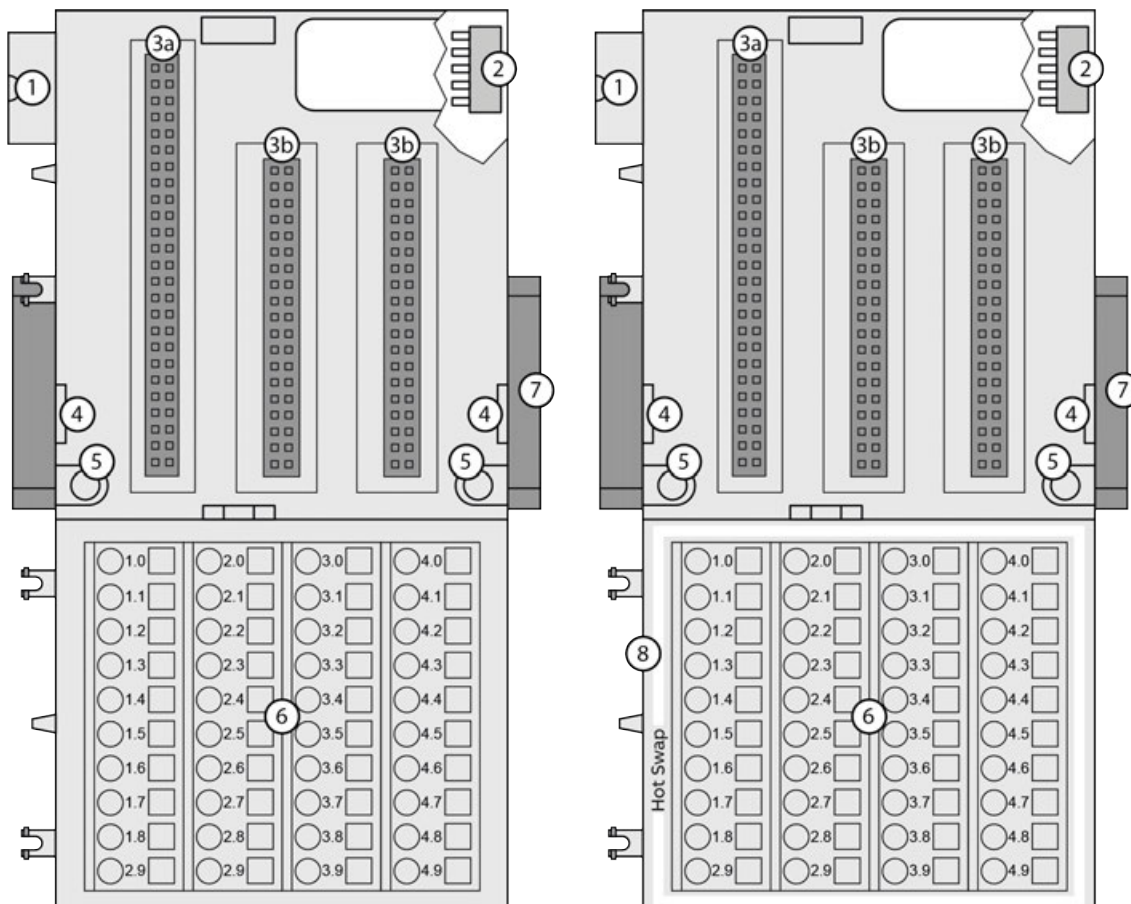


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

129.5 Connections



- 1 I/O bus (10 pins, male) to connect the previous terminal unit, the CPU terminal base or the communication interface module to the terminal unit
- 2 I/O bus (10 pins, female) to connect other terminal units
- 3a Plug (2 x 25 pins) to connect the inserted I/O modules
- 3b Plug (2 x 19 pins) to connect the inserted I/O modules
- 4 With a screwdriver inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
- 5 Holes for screw mounting
- 6 40 terminals for signals and process supply voltage
- 7 DIN rail
- 8 White border signifies hot swap capability of the terminal unit



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

129.6 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

129.7 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

129.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

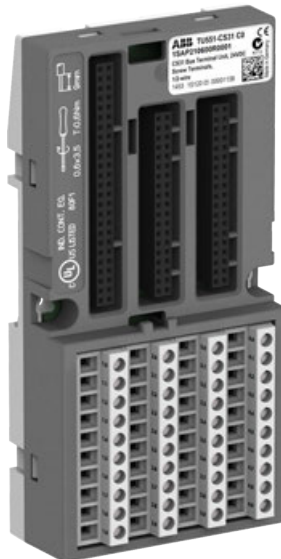
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

130 TU551-CS31

- TU551-CS31



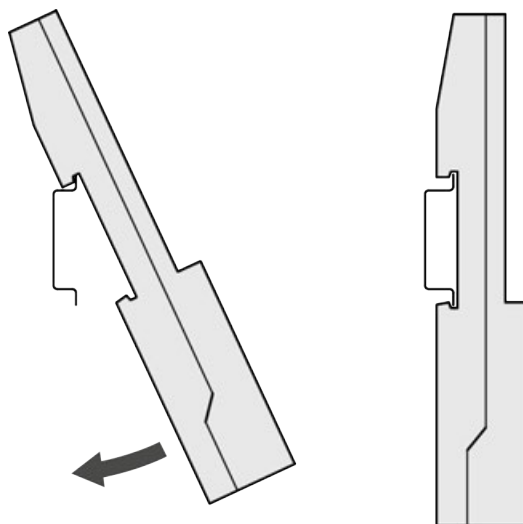
CAUTION!

Risk of injury and damaging the product!

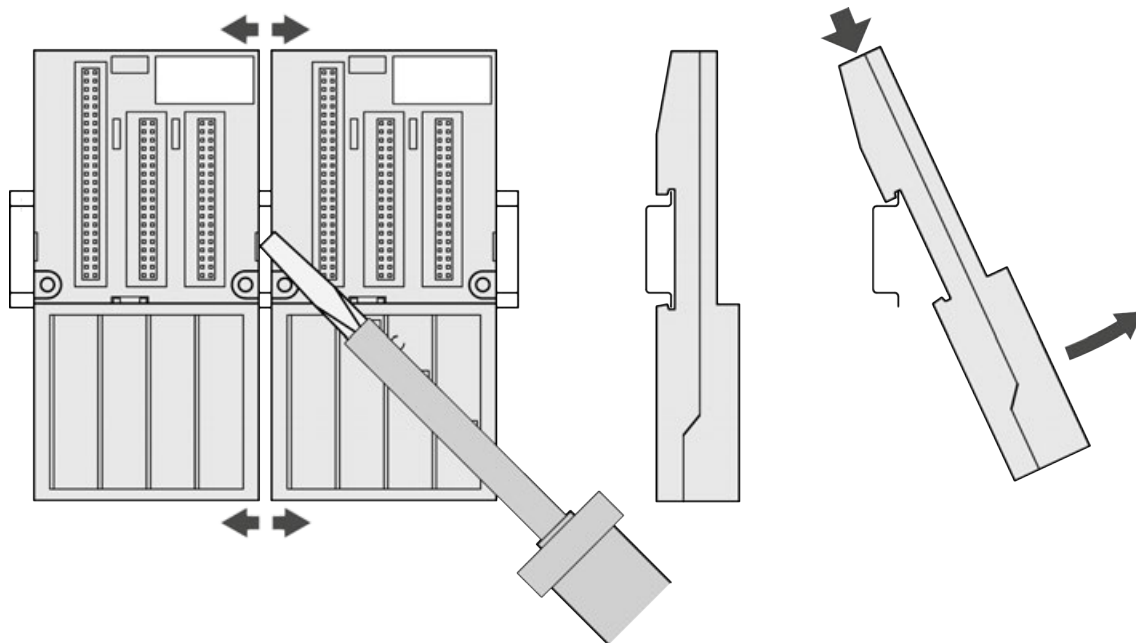
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

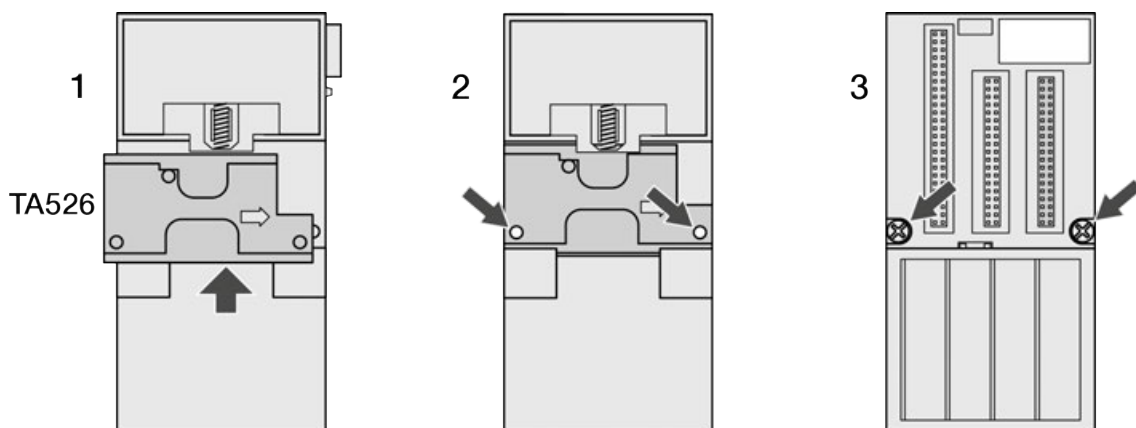
130.1 Assembly



130.2 Disassembly



130.3 Assembly with screws



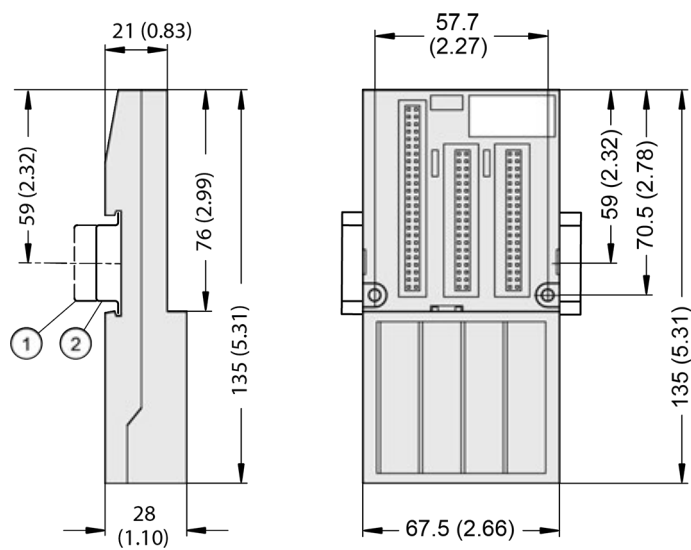
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

130.4 Dimensions

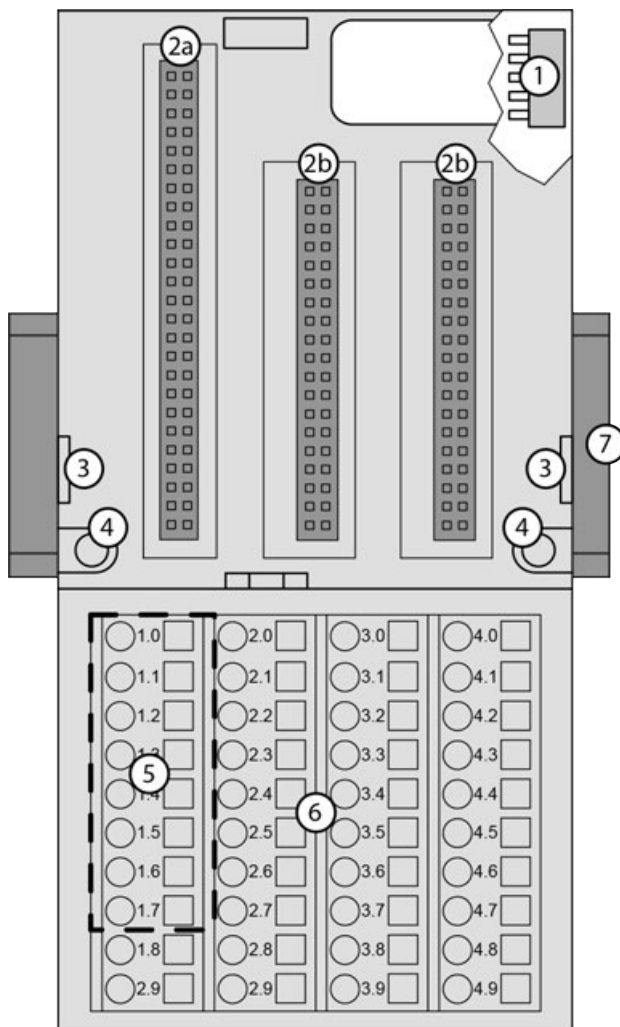


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

130.5 Connections



- 1 I/O bus (10 pins, female) to connect other terminal units
- 2a Plug (2 25 pins) to connect the inserted I/O modules
- 2b Plug (2 19 pins) to connect the inserted I/O modules
- 3 With a screwdriver inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
- 4 2 holes for wall mounting
- 5 CS31 bus interface
- 6 30 terminals for signals and process supply voltage
- 7 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

130.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

130.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

130.8 Recycling



Disposal and recycling information

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The symbol indicates that this product must be recycled/disposed of separately from other household waste.

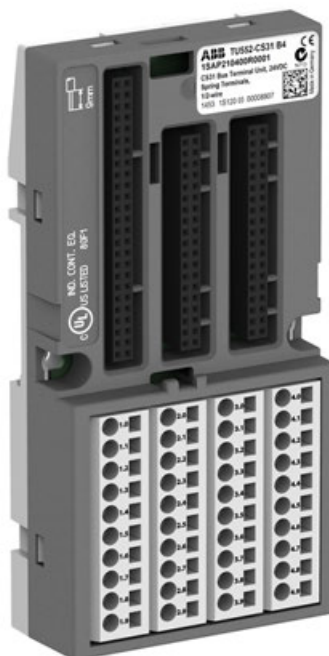
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

131 TU552-CS31(-XC)

- TU552-CS31
- TU552-CS31-XC



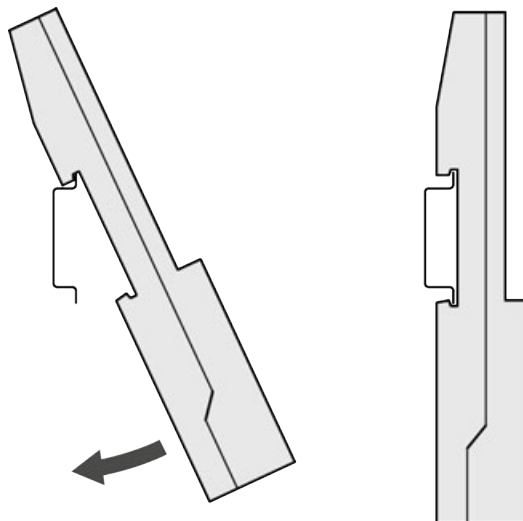
CAUTION!

Risk of injury and damaging the product!

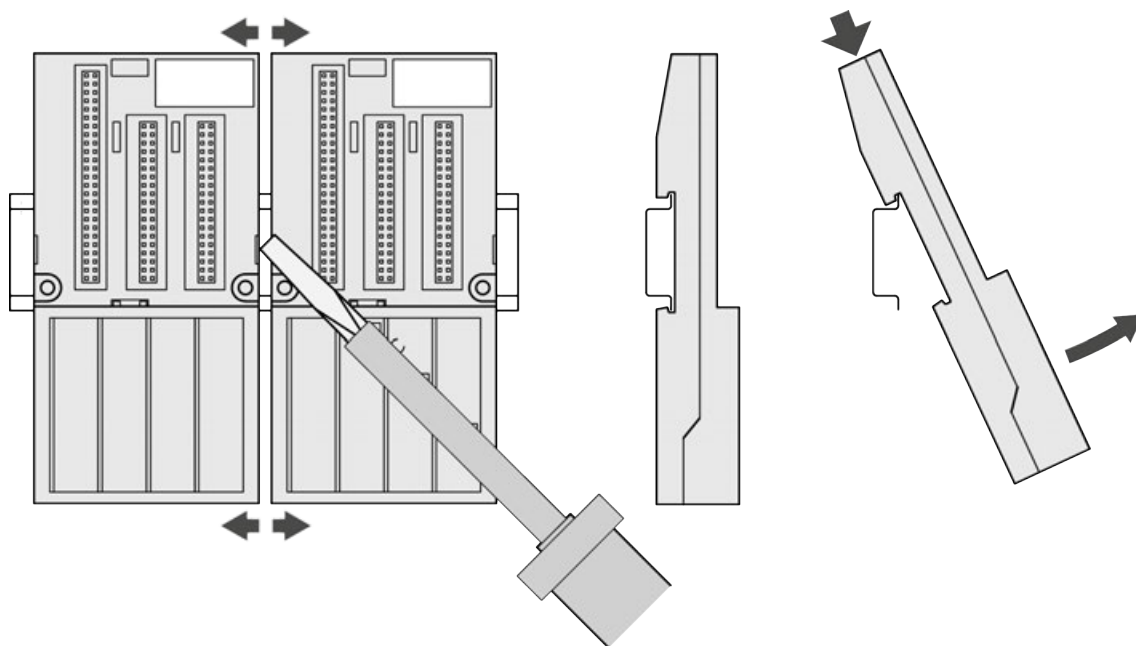
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

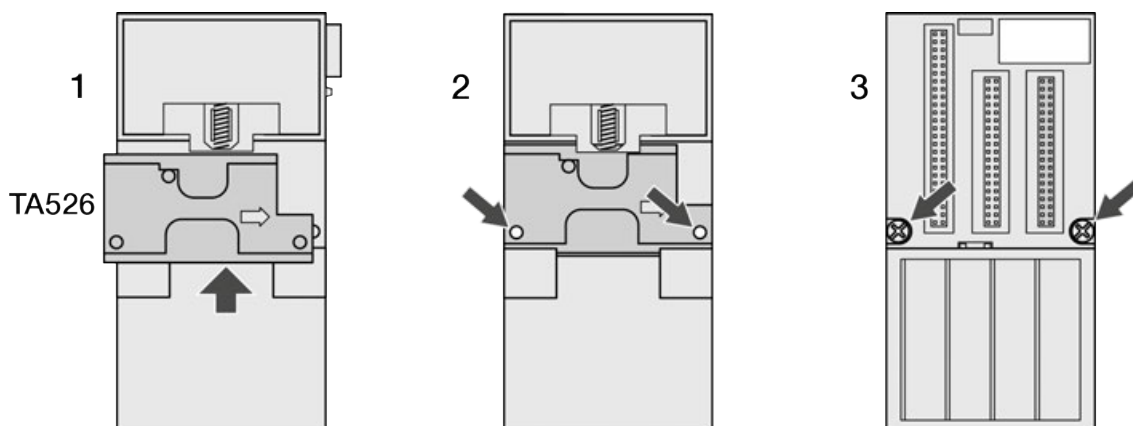
131.1 Assembly



131.2 Disassembly



131.3 Assembly with screws



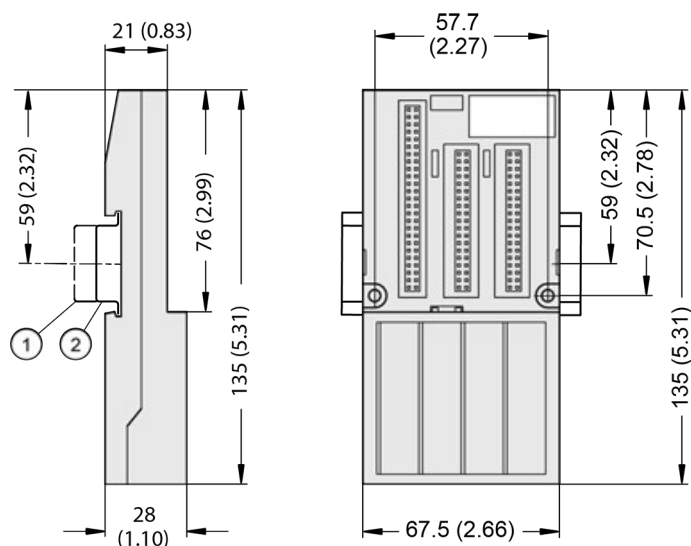
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

131.4 Dimensions

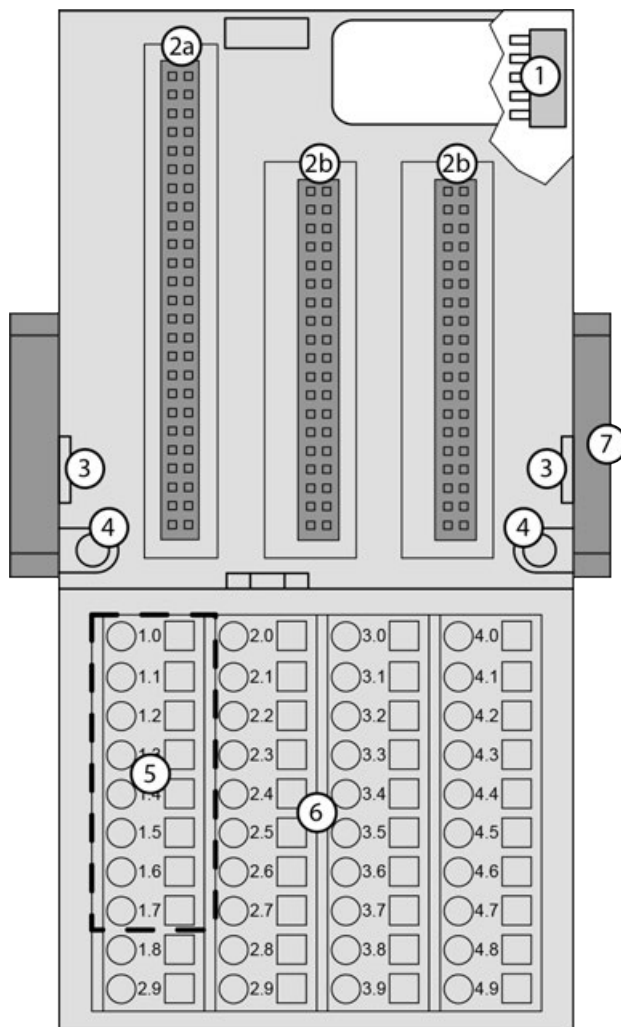


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

131.5 Connections























- 1 I/O bus (10 pins, female) to connect other terminal units
- 2a Plug (2 25 pins) to connect the inserted I/O modules
- 2b Plug (2 19 pins) to connect the inserted I/O modules
- 3 With a screwdriver inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
- 4 2 holes for wall mounting
- 5 CS31 bus interface
- 6 30 terminals for signals and process supply voltage
- 7 DIN rail



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

131.5.1 Bus interface

PIN assignment

	1.0		R1	R1	Resistor + (end-of-line)
	1.1		R2	R2	Resistor - (end-of-line)
	1.2		B1	B1	CS31 bus +
	1.3		B2	B2	CS31 bus -
	1.4		FE	FE	Functional earth
	1.5		B1	B1	CS31 bus +
	1.6		B2	B2	CS31 bus -
	1.7		FE	FE	Functional earth
	1.8		UP	UP	24 V DC process voltage
	1.9		ZP	ZP	0 V process voltage



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

131.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

131.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

131.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

132 TU582-S(-XC) 24 V DC

- TU582-S 24 V DC
- TU582-S-XC 24 V DC



CAUTION!

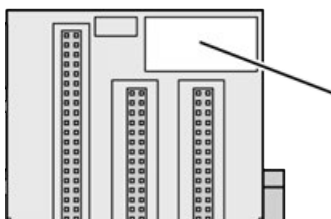
Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

XC version

XC = eXtreme Conditions



ABB

1SAP4...

XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXX
XXXXXXXXXXXX

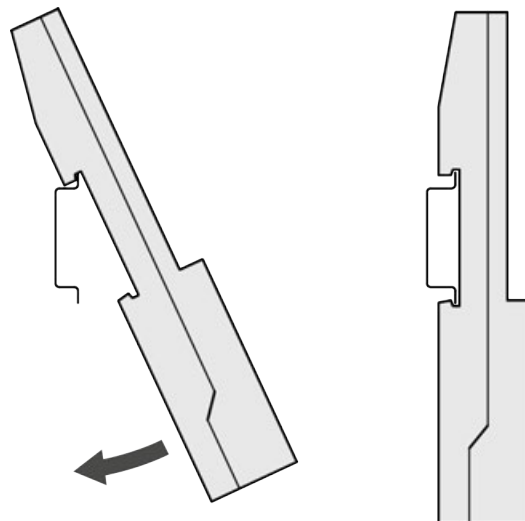


Extreme conditions

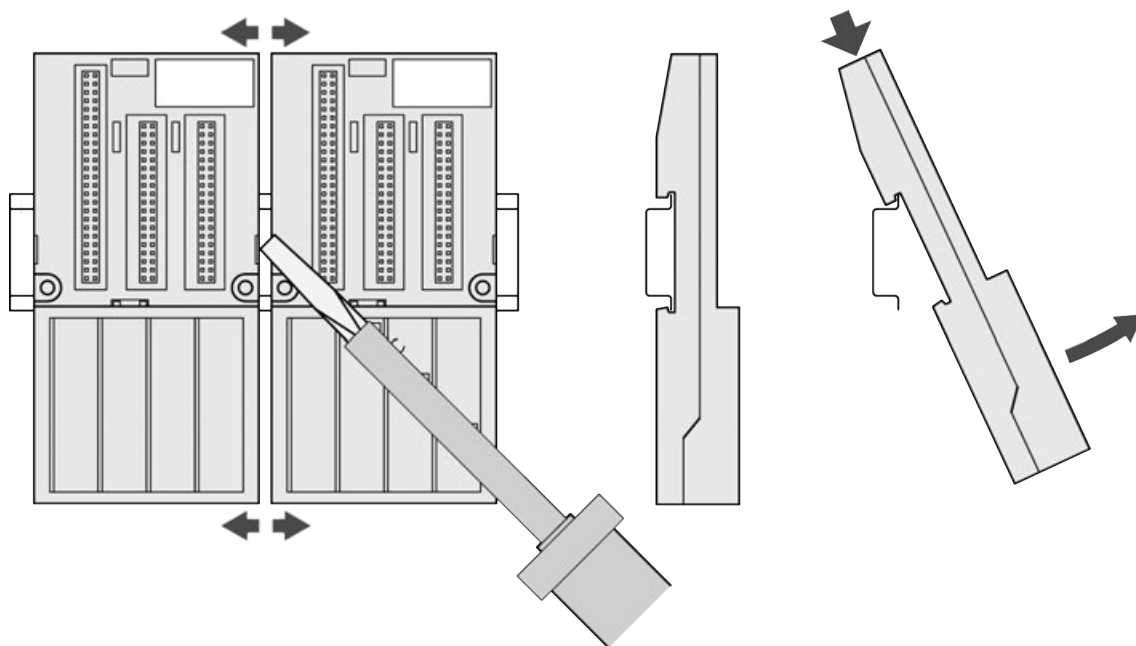
Terminal units for use in extreme ambient conditions have no ☼ sign for XC version.

The figure 4 in the Part no. 1SAP4... (label) identifies the XC version.

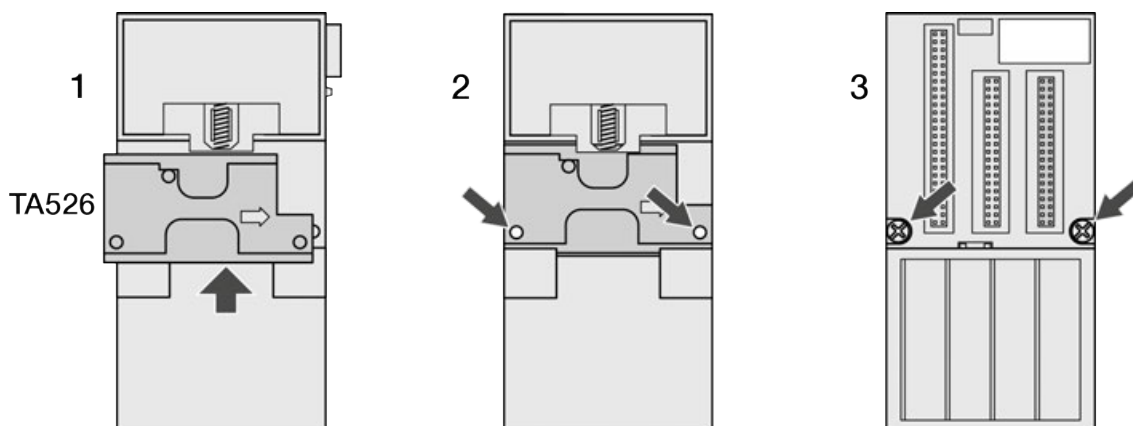
132.1 Assembly



132.2 Disassembly



132.3 Assembly with screws



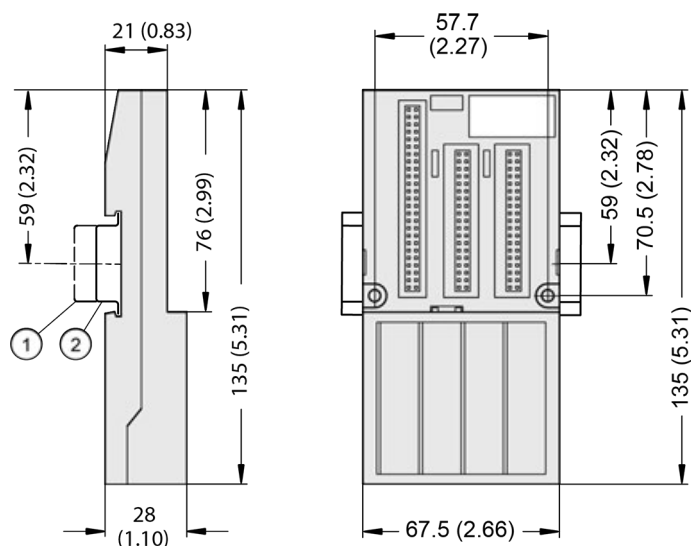
NOTICE!

Use screw mounting accessory to avoid damage!

For screw mounting, the use of the TA526 screw mounting accessory (1SAP180800R0001) is mandatory to prevent bending and damage to the module.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

132.4 Dimensions

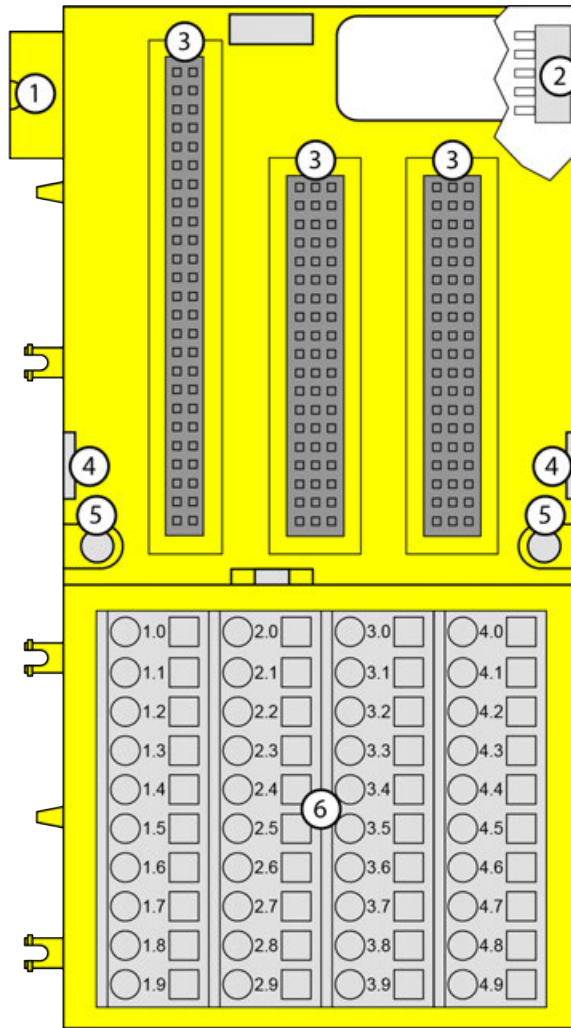


- 1 Din rail 15 mm
- 2 Din rail 7.5 mm



The dimensions are in mm and in brackets in inch.

132.5 Connections



- 1 I/O bus (10 pins, male) to connect the previous terminal unit, the CPU terminal base or the communication interface module to the terminal unit
- 2 I/O bus (10 pins, female) to connect other terminal units
- 3 Plug (1x 50 pins and 2x 57 pins) to connect the inserted I/O modules
- 4 With a screwdriver inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
- 5 Holes for screw mounting
- 6 40 spring terminals for signals and process supply voltage



AC500-S safety user manual

For a detailed description of the connection of the module, please refer to the "AC500-S safety user manual".



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

132.6 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

132.7 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

132.8 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

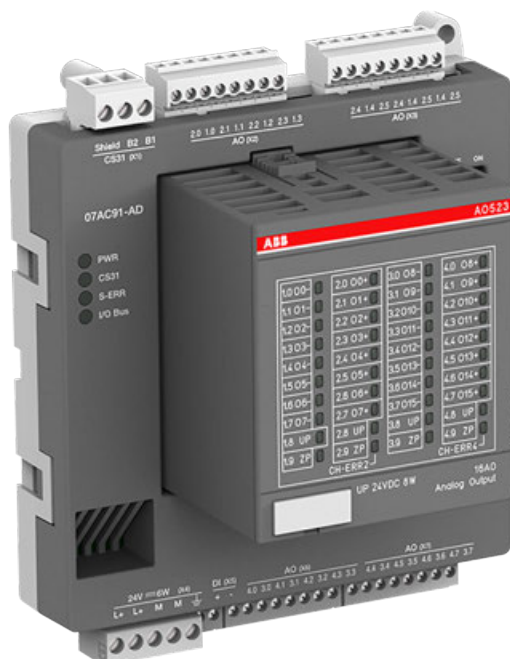
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

133 07AC91-AD

- 07AC91-AD



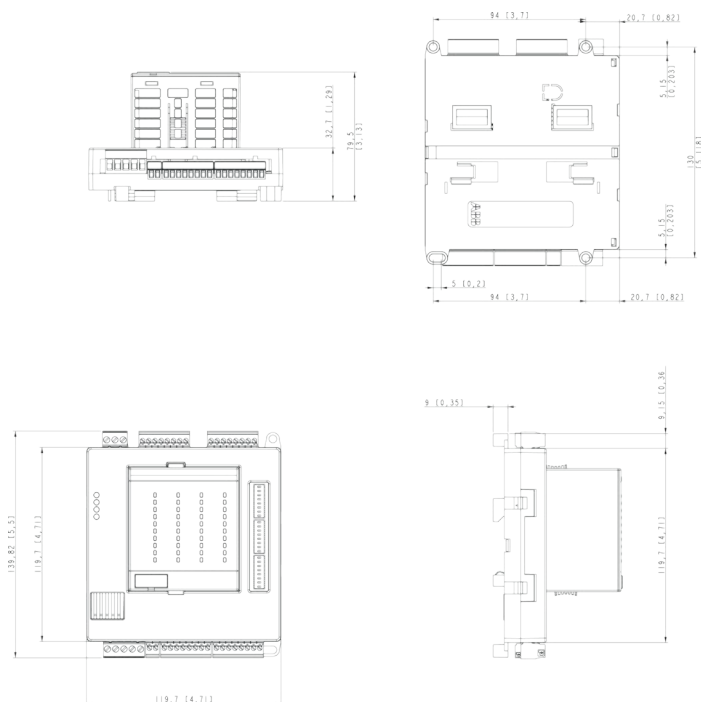
CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

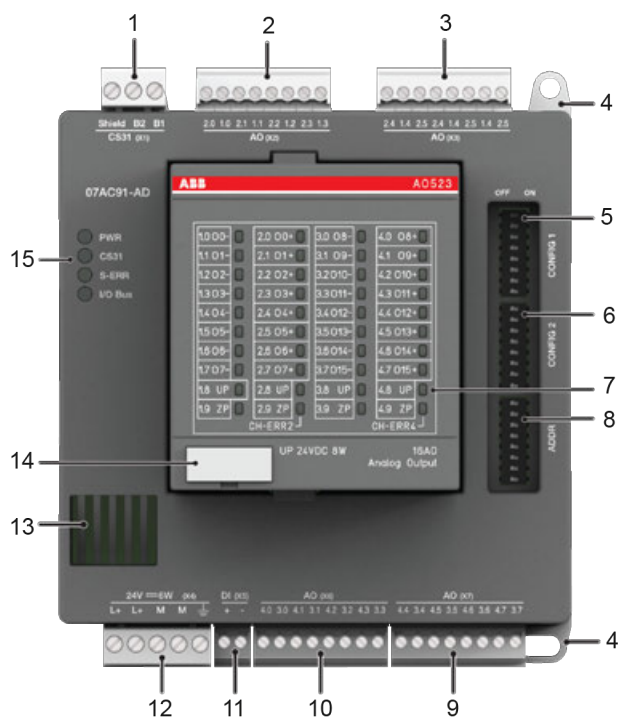
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

133.1 Dimensions



The dimensions are in mm and in brackets in inch.

133.2 Connections




- 1 Connection for CS31 bus (X1)
- 2 Analog outputs (X2): 0 ... 10 V, 0 ... 20 mA
- 3 Analog outputs (X3): 0 ... 10 V

- 4 Hole for screw mounting (screw diameter 4 mm, extension torque 1.2 Nm)
- 5 DIP switch for CONFIG1
- 6 DIP switch for CONFIG2
- 7 Status LEDs for AO523
- 8 DIP switch for ADDR
- 9 Analog outputs (X7): 0 ... 10 V
- 10 Analog outputs (X6): 0 ... 10 V, 0 ... 20 mA
- 11 Enabling input for analog outputs (X5)
- 12 Supply 24 V DC (incl. AO523)
- 13 Ventilation
- 14 TA525: Label
- 15 4 Status LEDs



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

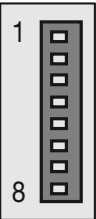
133.2.1 DIP switch for CONFIG1

	Switcher number	ON	OFF
	S1	S1 + S2: AO	see 1)
	S2	0...20 mA	0...+10V
	S3	S3 + S4: AO	see 1)
	S4	0...20 mA	0...+10V
	S5	S5 + S6: AO	see 1)
	S6	NC	0...+10V
	S7	S7 + S8: AO	see 1)
	S8	NC	0...+10V

1) Switch must be set to ON in order to initialize the device.

2) Switch must be set to OFF.

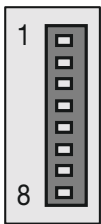
133.2.2 DIP switch for CONFIG2

	Switcher number	ON	OFF
	S1	S1 + S2: AO	see 1)
	S2	0...20 mA	0...+10V
	S3	S3 + S4: AO	see 1)
	S4	0...20 mA	0...+10V
	S5	S5 + S6: AO	see 1)
	S6	NC	0...+10V
	S7	S7 + S8: AO	see 1)
	S8	NC	0...+10V

1) Switch must be set to ON in order to initialize the device.

2) Switch must be set to OFF.

133.2.3 DIP switch for ADDR

	Switcher number	ON	OFF
	S1	8-bit	see 1)
	S2	NC	NC
	S3	No monitoring range limits	0
	S4	ADDR: 8	0
	S5	ADDR: 4	0
	S6	ADDR: 2	0
	S7	ADDR: 1	0
	S8	see 2)	NC

1) Switch must be set to ON in order to initialize the device.

2) Switch must be set to OFF.

133.2.4 Plug connection

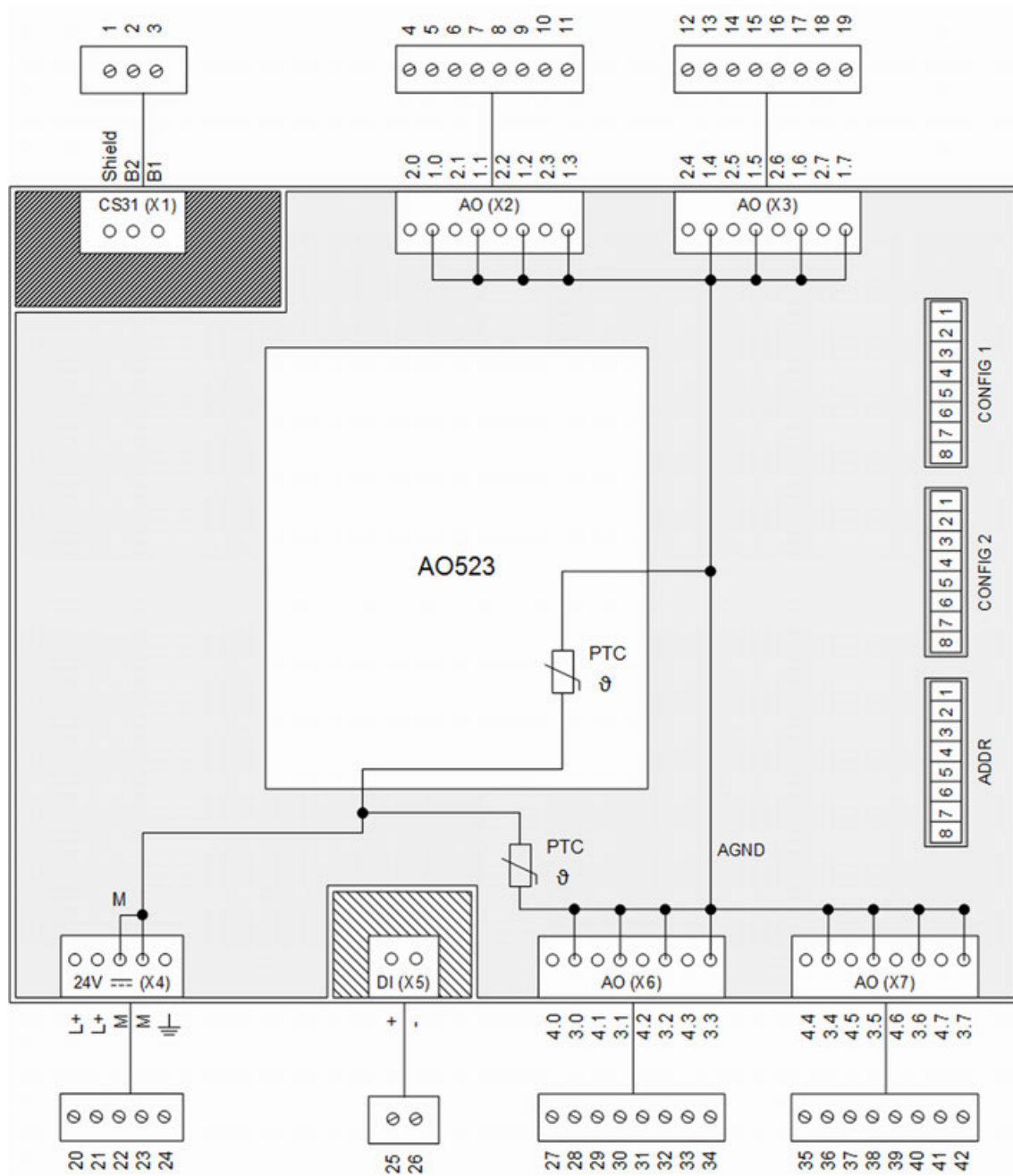


Table 57: Pin assignment CS31 bus (X1)

Connector / Terminal	Pin	Assignment / Signal
X1 / Shield	1	No internal connection
X1 / B2	2	BUS 2
X1 / B1	3	BUS 1

Table 58: Pin assignment AO (X2)

Connector / Terminal	Pin	Assignment / Signal
X2 / 2.0	4	AO523 / O0+
X2 / 1.0	5	AO523 / O0- (AGND)

Connector / Terminal	Pin	Assignment / Signal
X2 / 2.1	6	AO523 / O1+
X2 / 1.1	7	AO523 / O1- (AGND)
X2 / 2.2	8	AO523 / O2+
X2 / 1.2	9	AO523 / O2- (AGND)
X2 / 2.3	10	AO523 / O3+
X2 / 1.3	11	AO523 / O3- (AGND)

Table 59: Pin assignment AO (X3)

Connector / Terminal	Pin	Assignment / Signal
X3 / 2.4	12	AO523 / -
X3 / 1.4	13	AO523 / O4- (AGND)
X3 / 2.5	14	AO523 / -
X3 / 1.5	15	AO523 / O5- (AGND)
X3 / 2.6	16	AO523 / -
X3 / 1.6	17	AO523 / O6- (AGND)
X3 / 2.7	18	AO523 / -
X3 / 1.7	19	AO523 / O7- (AGND)

Table 60: Pin assignment 24 V DC 9W (X4)

Connector / Terminal	Pin	Assignment / Signal
X4 / L+	20	L+
X4 / L+	21	L+
X4 / M	22	M
X4 / M	23	M
X4 / FE	24	FE

Table 61: Pin assignment DI (X5)

Connector / Terminal	Pin	Assignment / Signal
X5 / +	25	IN+
X5 / -	26	IN- (galvanic isolated ground)

Table 62: Pin assignment AO (X6)

Connector / Terminal	Pin	Assignment / Signal
X6 / 4.0	27	AO523 / O8+
X6 / 3.0	28	AO523 / O8- (AGND)
X6 / 4.1	29	AO523 / O9+
X6 / 3.1	30	AO523 / O9- (AGND)
X6 / 4.2	31	AO523 / O10+
X6 / 3.2	32	AO523 / O10- (AGND)
X6 / 4.3	33	AO523 / O11+
X6 / 3.3	34	AO523 / O11- (AGND)

Table 63: Pin assignment AO (X7)

Connector / Terminal	Pin	Assignment / Signal
X7 / 4.4	35	AO523 / O12+
X7 / 3.4	36	AO523 / O12- (AGND)
X7 / 4.5	37	AO523 / O13+
X7 / 3.5	38	AO523 / O13- (AGND)
X7 / 4.6	39	AO523 / O14+
X7 / 3.6	40	AO523 / O14- (AGND)
X7 / 4.7	41	AO523 / O15+
X7 / 3.7	42	AO523 / O15- (AGND)

133.3 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

133.4 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

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참고
이러한 기기는

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KN61000-6-4 "산업 환경 누출 기준"에 적합함

133.5 Recycling



Disposal and recycling information

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The symbol indicates that this product must be recycled/disposed of separately from other household waste.

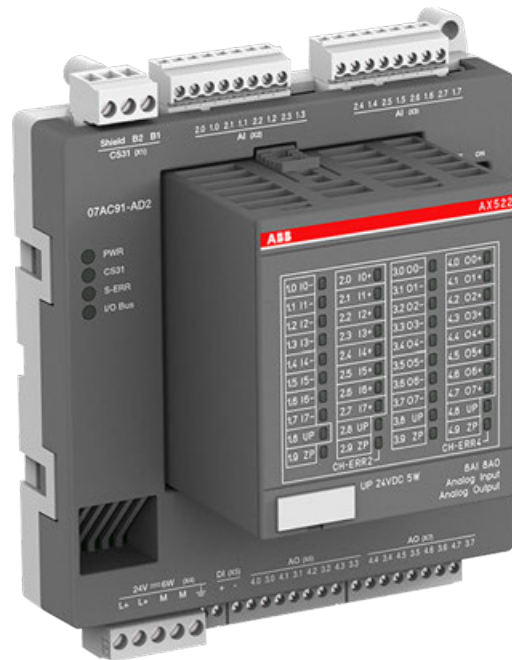
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

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- 07AC91-AD2



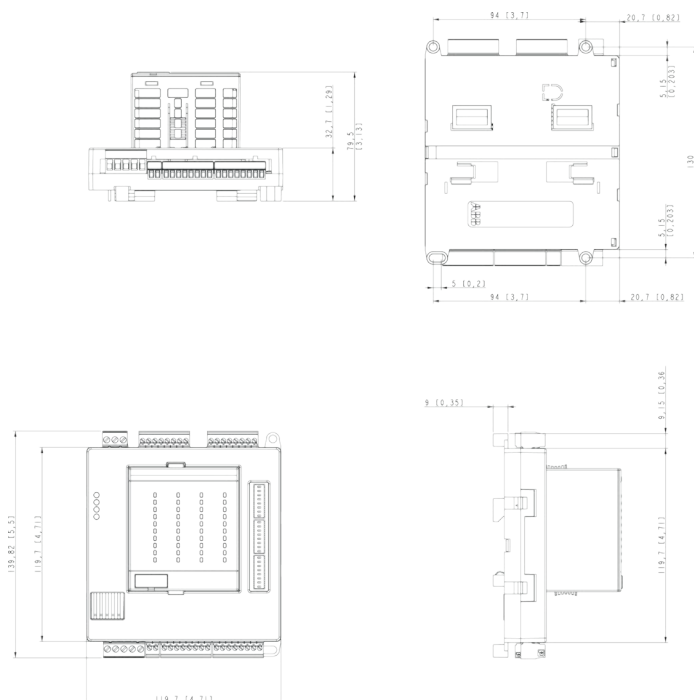
CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

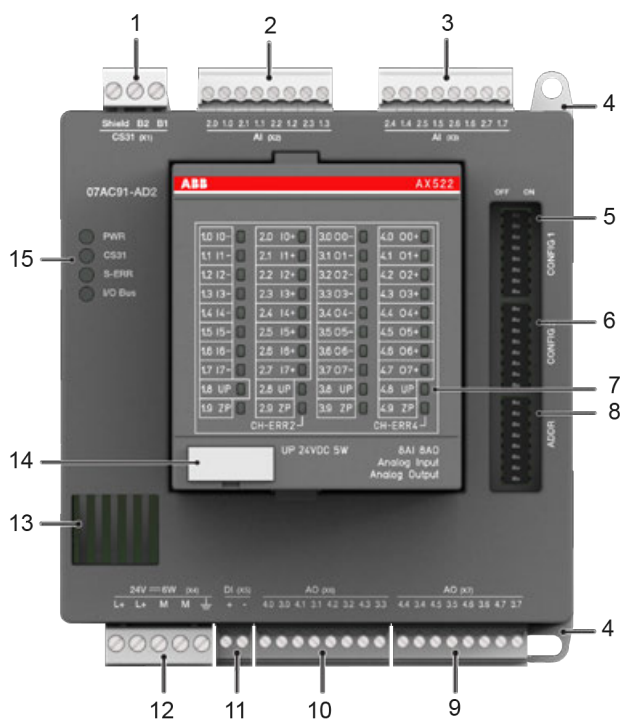
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

134.1 Dimensions



The dimensions are in mm and in brackets in inch.

134.2 Connections



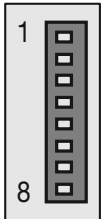
- 1 Connection for CS31 bus (X1)
- 2 Analog inputs (X2): -10 V...+10 V, 0...20 mA
- 3 Analog inputs (X3): -10 V...+10 V, 0...20 mA

- 4 Hole for screw mounting (screw diameter 4 mm, extension torque 1.2 Nm)
- 5 DIP switch for CONFIG1
- 6 DIP switch for CONFIG2
- 7 Status LEDs for AX522
- 8 DIP switch for ADDR
- 9 Analog outputs (X7): -10 V...+10 V
- 10 Analog outputs (X6): -10 V...+10 V, 0...20 mA
- 11 Enabling input for analog outputs (X5)
- 12 Supply 24 V DC (incl. AX522)
- 13 Ventilation
- 14 TA525: Label
- 15 4 Status LEDs



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

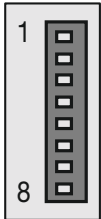
134.2.1 DIP switch for CONFIG1

	Switcher number	ON	OFF
	S1	0...20 mA	-10V...+10V
	S2	0...20 mA	-10V...+10V
	S3	0...20 mA	-10V...+10V
	S4	0...20 mA	-10V...+10V
	S5	0...20 mA	-10V...+10V
	S6	0...20 mA	-10V...+10V
	S7	0...20 mA	-10V...+10V
	S8	0...20 mA	-10V...+10V

1) Switch must be set to OFF.

2) Switch must be set to ON in order to initialize the device.

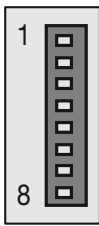
134.2.2 DIP switch for CONFIG2

	Switcher number	ON	OFF
	S1	0...20 mA	-10V...+10V
	S2	0...20 mA	-10V...+10V
	S3	0...20 mA	-10V...+10V
	S4	0...20 mA	-10V...+10V
	S5	see 1)	-10V...+10V
	S6	see 1)	-10V...+10V
	S7	see 1)	-10V...+10V
	S8	see 1)	-10V...+10V

1) Switch must be set to OFF.

2) Switch must be set to ON in order to initialize the device.

134.2.3 DIP switch for ADDR

	Switcher number	ON	OFF
	S1	8-bit	see 2)
	S2	NC	NC
	S3	monitoring range limits	0
	S4	ADDR: 8	0
	S5	ADDR: 4	0
	S6	ADDR: 2	0
	S7	ADDR: 1	0
	S8	NC	NC

1) Switch must be set to OFF.

2) Switch must be set to ON in order to initialize the device.

134.2.4 Plug connection

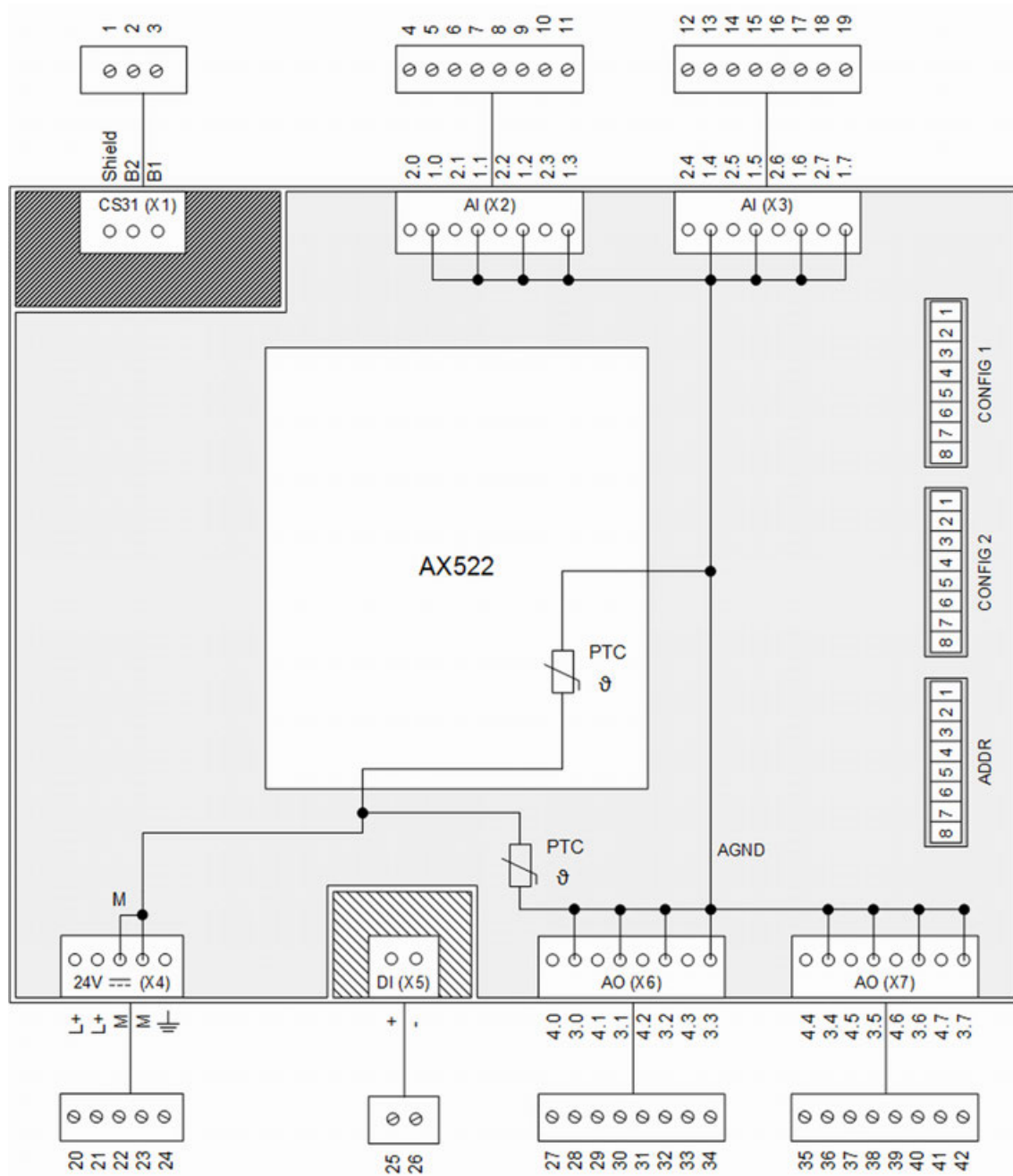


Table 64: Pin assignment CS31 bus (X1)

Connector / Terminal	Pin	Assignment / Signal
X1 / Shield	1	No internal connection
X1 / B2	2	BUS 2
X1 / B1	3	BUS 1

Table 65: Pin assignment AI (X2)

Connector / Terminal	Pin	Assignment / Signal
X2 / 2.0	4	AX522 / IO+
X2 / 1.0	5	AX522 / IO- (AGND)

Connector / Terminal	Pin	Assignment / Signal
X2 / 2.1	6	AX522 / I1+
X2 / 1.1	7	AX522 / I1- (AGND)
X2 / 2.2	8	AX522 / I2+
X2 / 1.2	9	AX522 / I2- (AGND)
X2 / 2.3	10	AX522 / I3+
X2 / 1.3	11	AX522 / I3- (AGND)

Table 66: Pin assignment AI (X3)

Connector / Terminal	Pin	Assignment / Signal
X3 / 2.4	12	AX522 / I4+
X3 / 1.4	13	AX522 / I4- (AGND)
X3 / 2.5	14	AX522 / I5+
X3 / 1.5	15	AX522 / I5- (AGND)
X3 / 2.6	16	AX522 / I6+
X3 / 1.6	17	AX522 / I6- (AGND)
X3 / 2.7	18	AX522 / I7+
X3 / 1.7	19	AX522 / I7- (AGND)

Table 67: Pin assignment 24 V DC 6W (X4)

Connector / Terminal	Pin	Assignment / Signal
X4 / L+	20	L+
X4 / L+	21	L+
X4 / M	22	M
X4 / M	23	M
X4 / FE	24	FE

Table 68: Pin assignment DI (X5)

Connector / Terminal	Pin	Assignment / Signal
X5 / +	25	IN+
X5 / -	26	IN- (galvanic isolated earth)

Table 69: Pin assignment AO (X6)

Connector / Terminal	Pin	Assignment / Signal
X6 / 4.0	27	AX522 / O0+
X6 / 3.0	28	AX522 / O0- (AGND)
X6 / 4.1	29	AX522 / O1+
X6 / 3.1	30	AX522 / O1- (AGND)
X6 / 4.2	31	AX522 / O2+
X6 / 3.2	32	AX522 / O2- (AGND)
X6 / 4.3	33	AX522 / O3+
X6 / 3.3	34	AX522 / O3- (AGND)

Table 70: Pin assignment AO (X7)

Connector / Terminal	Pin	Assignment / Signal
X7 / 4.4	35	AX522 / O4+
X7 / 3.4	36	AX522 / O4- (AGND)
X7 / 4.5	37	AX522 / O5+
X7 / 3.5	38	AX522 / O5- (AGND)
X7 / 4.6	39	AX522 / O6+
X7 / 3.6	40	AX522 / O6- (AGND)
X7 / 4.7	41	AX522 / O7+
X7 / 3.7	42	AX522 / O7- (AGND)



The outputs on connector X7 cannot be configured as current outputs.

134.3 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

134.4 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

134.5 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

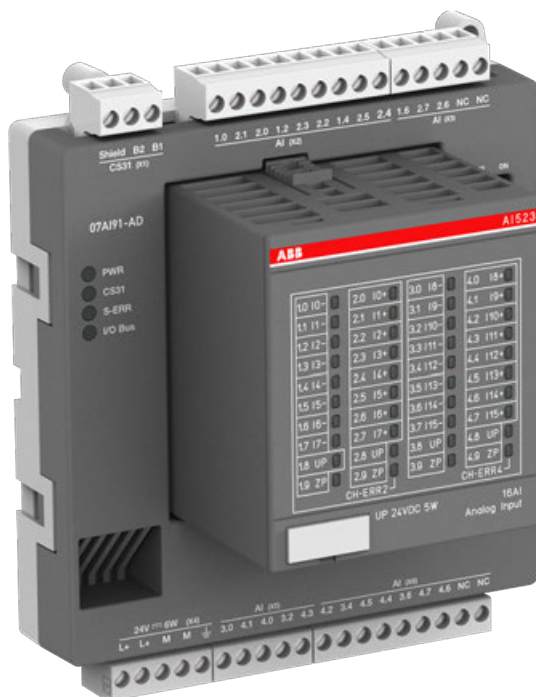
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

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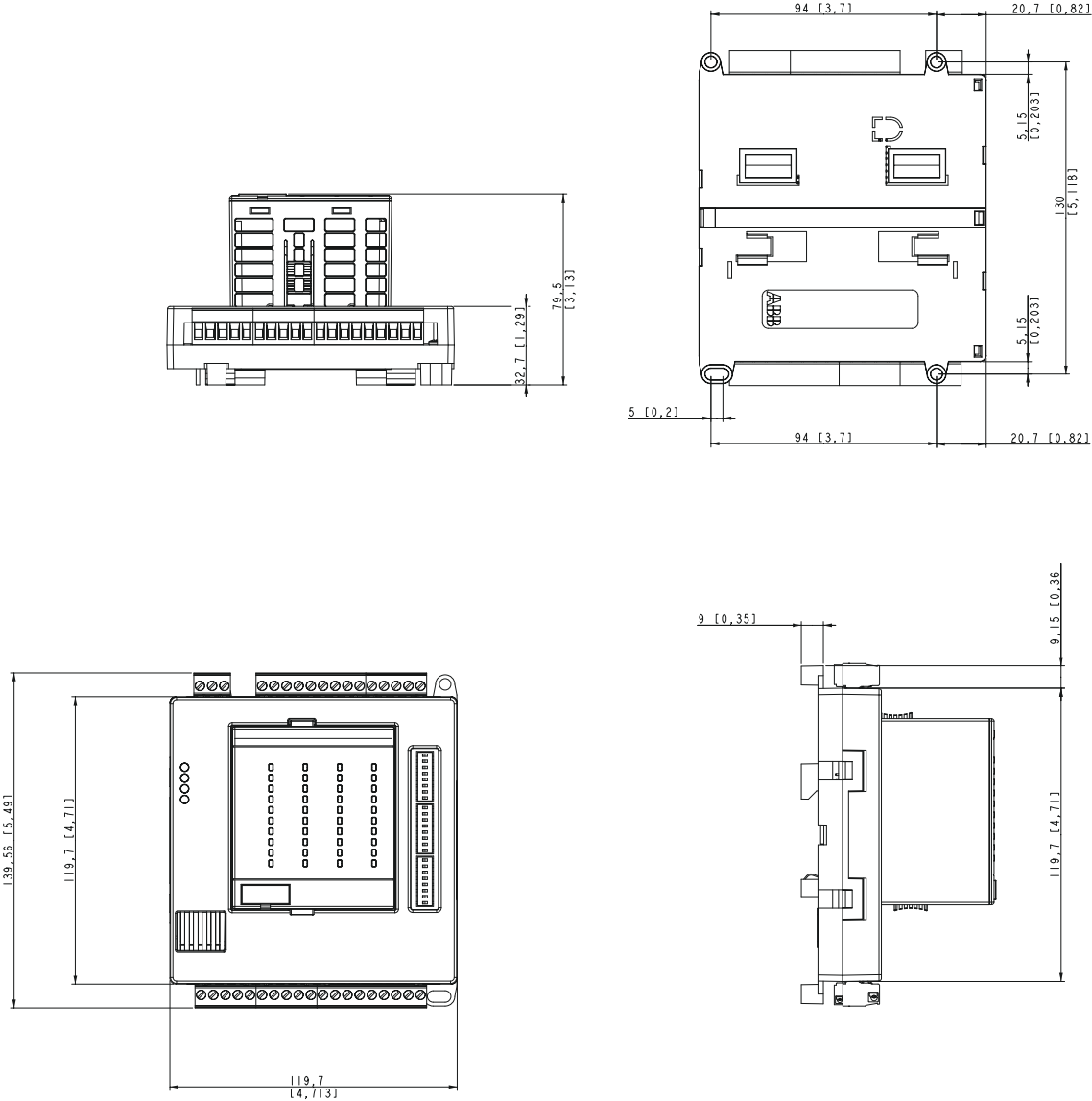
CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

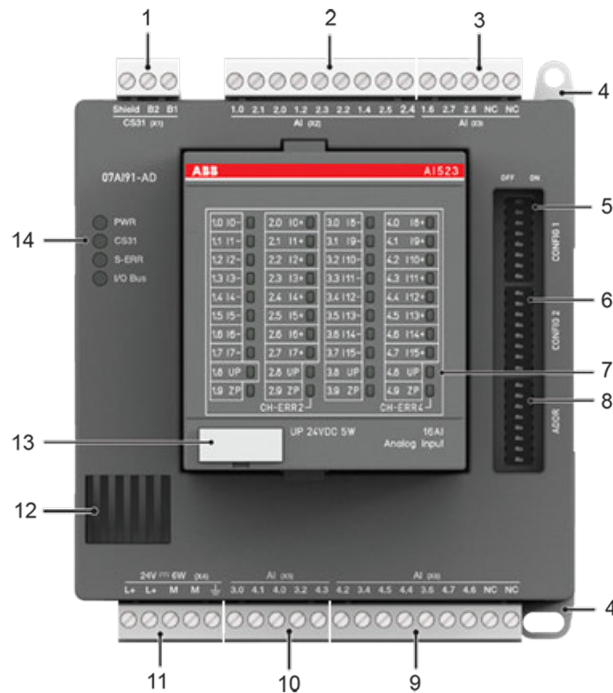
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

135.1 Dimensions



The dimensions are in mm and in brackets in inch.

135.2 Connections



- 1 Connection for CS31 bus (X1)
- 2 Analog inputs (X2). 2.5 AI (± 10 V differential, ± 5 V differential, temperature measurement PT100 / PT1000, 4...20 mA and 0...20 mA with external resistor)
- 3 Analog inputs (X3). 1.5 AI (± 10 V differential, ± 5 V differential, temperature measurement PT100 / PT1000, 4...20 mA and 0...20 mA with external resistor)
- 4 Hole for screw mounting (screw diameter 4 mm, extension torque 1.2 Nm)
- 5 DIP switch for CONFIG1
- 6 DIP switch for CONFIG2
- 7 Status LEDs for AI523
- 8 DIP switch for ADDR
- 9 Analog inputs (X6). 2.5 AI (± 10 V differential, ± 5 V differential, temperature measurement PT100 / PT1000, 4...20 mA and 0...20 mA with external resistor)
- 10 Analog inputs (X5). 1.5 AI (± 10 V differential, ± 5 V differential, temperature measurement PT100 / PT1000, 4...20 mA and 0...20 mA with external resistor)
- 11 Supply 24 V DC (incl. AI523)
- 12 Ventilation
- 13 TA525: Label
- 14 4 Status LEDs of complete device



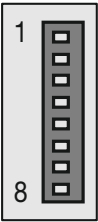
In contrast to the existing device, the following measuring ranges are not available in the replacement device: ± 500 mV, ± 50 mV. Temperature measurement with thermocouples is also not possible.

The replacement device does not perform a self-calibration.

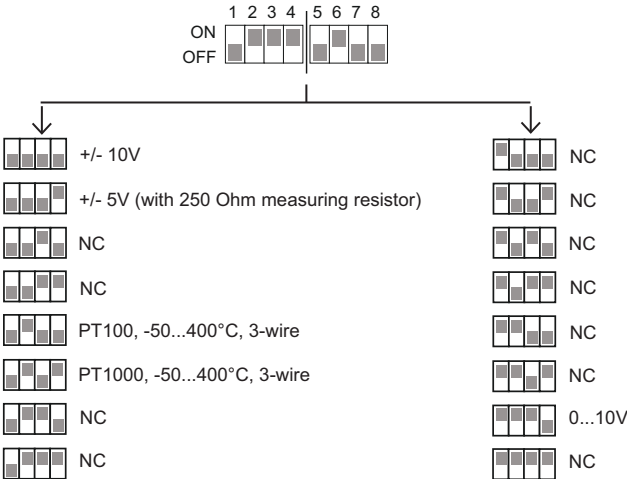


All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

135.2.1 DIP switch for CONFIG1 / CONFIG2



Configuration options for DIP switches CONFIG1 and CONFIG2. Configuration in blocks of 4 switches.

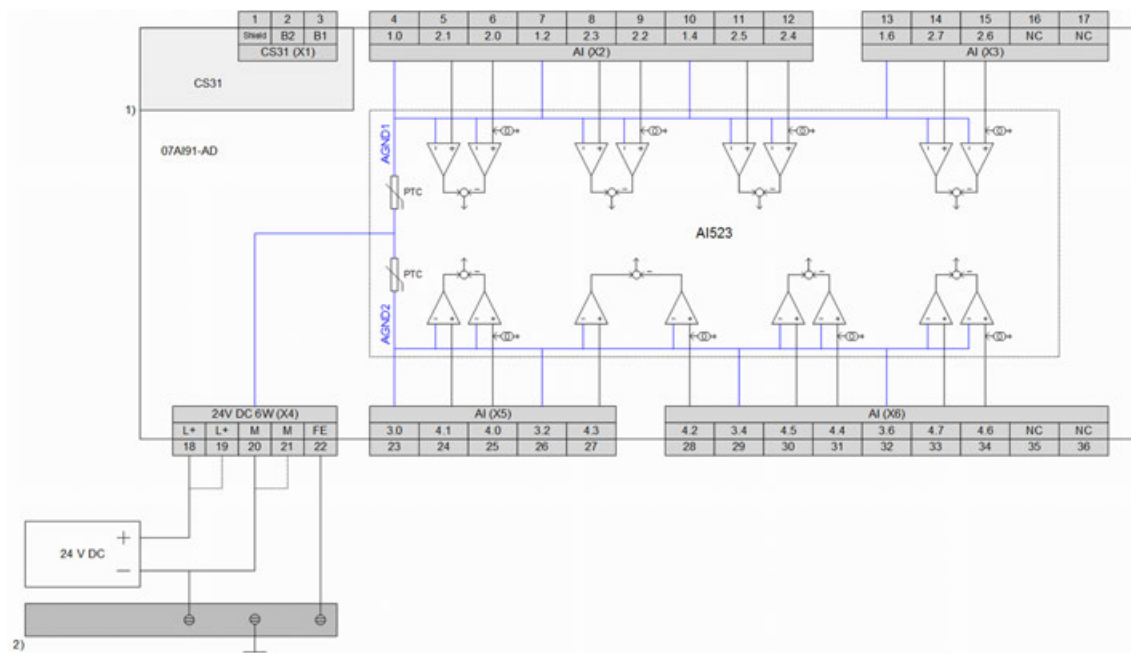


135.2.2 DIP switch for ADDR

	Switcher number	ON	OFF
	S1	NC	NC
	S2	NC	NC
	S3	CS31	see 1)
	S4	ADDR: 8	0
	S5	ADDR: 4	0
	S6	ADDR: 2	0
	S7	ADDR: 1	0
	S8	NC	NC

1) Switch must be set to ON in order to initialize the device.

135.2.3 Plug connection



- 1) Galvanic isolation
- 2) Switchgear cabinet grounding

Table 71: Pin assignment CS31 bus (X1)

Connector / Terminal	Pin	Assignment / Signal
X1 / Shield	1	No internal connection
X1 / B2	2	BUS 2
X1 / B1	3	BUS 1

Table 72: Pin assignment AI (X2)

Connector / Terminal	Pin	Assignment / Signal
X2 / 1.0	4	AI523 / I0- (AGND1)
X2 / 2.1	5	AI523 / I1+
X2 / 2.0	6	AI523 / I0+
X2 / 1.2	7	AI523 / I2- (AGND1)
X2 / 2.3	8	AI523 / I3+
X2 / 2.2	9	AI523 / I2+
X2 / 1.4	10	AI523 / I4- (AGND1)
X2 / 2.5	11	AI523 / I5+
X2 / 2.4	12	AI523 / I4+

Table 73: Pin assignment AI (X3)

Connector / Terminal	Pin	Assignment / Signal
X3 / 1.6	13	AI523 / I6- (AGND1)
X3 / 2.7	14	AI523 / I7+
X3 / 2.6	15	AI523 / I6+

Connector / Terminal	Pin	Assignment / Signal
X3 / NC	16	Not connected
X3 / NC	17	Not connected

Table 74: Pin assignment 24 V DC 6W (X4)

Connector / Terminal	Pin	Assignment / Signal
X4 / L+	18	L+
X4 / L+	19	L+
X4 / M	20	M
X4 / M	21	M
X4 / FE	22	FE

Table 75: Pin assignment AI (X5)

Connector / Terminal	Pin	Assignment / Signal
X5 / 3.0	23	AI523 / I8- (AGND2)
X5 / 4.1	24	AI523 / I9+
X5 / 4.0	25	AI523 / I8+
X5 / 3.2	26	AI523 / I10- (AGND2)
X5 / 4.3	27	AI523 / I11+

Table 76: Pin assignment AI (X6)

Connector / Terminal	Pin	Assignment / Signal
X6 / 4.2	28	AI523 / I10+
X6 / 3.4	29	AI523 / I12- (AGND2)
X6 / 4.5	30	AI523 / I13+
X6 / 4.4	31	AI523 / I12+
X6 / 3.6	32	AI523 / I14- (AGND2)
X6 / 4.7	33	AI523 / I15+
X6 / 4.6	34	AI523 / I14+
X6 / NC	35	Not connected
X6 / NC	36	Not connected

135.3 Cleaning




Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

135.4 Certification

 MSIP-REI-Abb-AC500		en	Devices with KCC sign on product sticker and packaging
		ko	제품 스티커 및 포장에 KCC 표시가 된 기기
en	Note These devices correspond to:	KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments"	
ko	참고 이러한 기기는	KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 누출 기준"에 적합함	

135.5 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

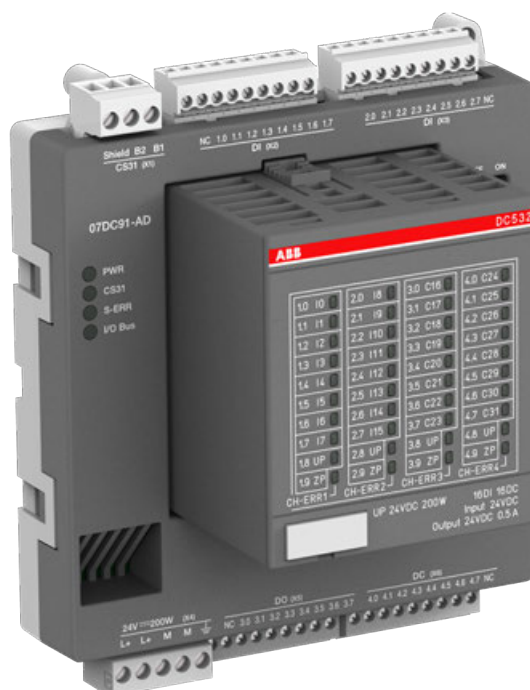
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

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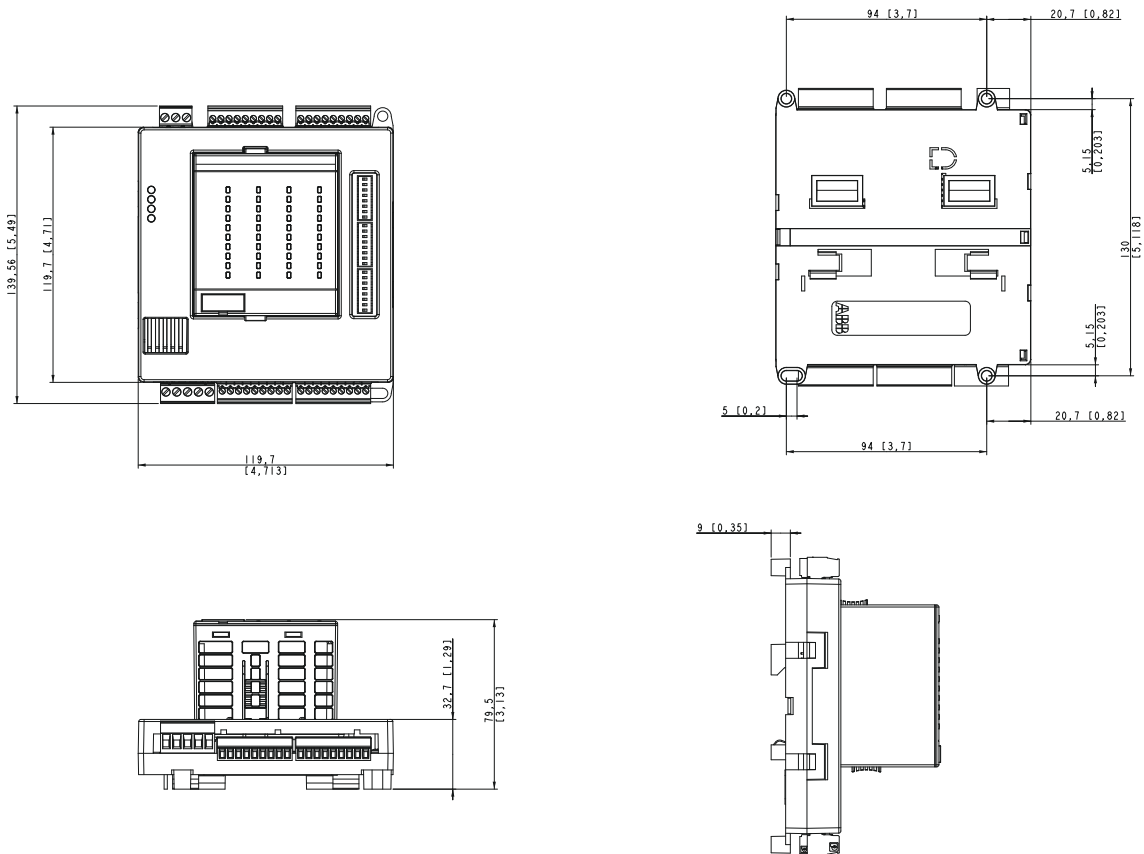
CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

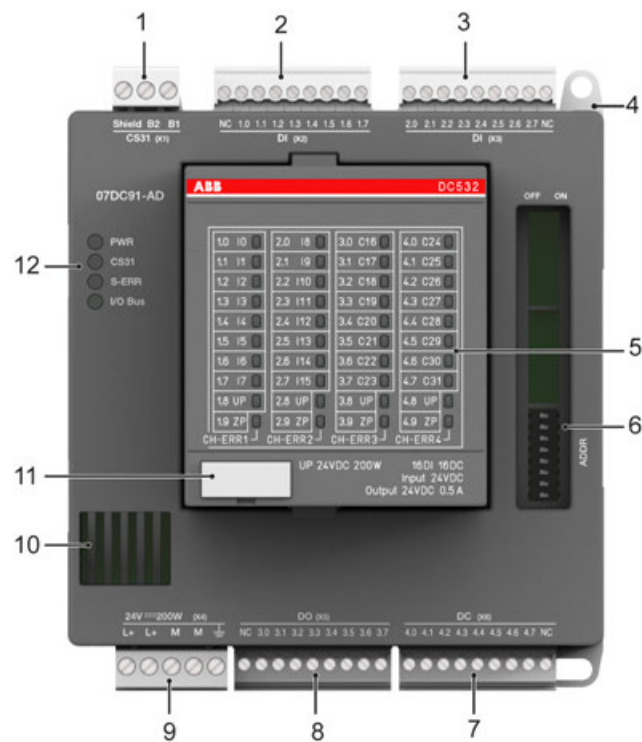
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

136.1 Dimensions




The dimensions are in mm and in brackets in inch.

136.2 Connections

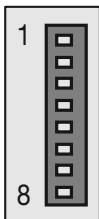


- 1 Connection for CS31 bus (X1)
- 2 8 digital inputs 24 V DC (X2)
- 3 8 digital inputs 24 V DC (X3)
- 4 Hole for screw mounting (screw diameter 4 mm, extension torque 1.2 Nm)
- 5 Status LEDs for DC532
- 6 DIP switch for address setting (ADDR)
- 7 8 digital inputs/outputs 24 V DC / 0.5 A (X6)
- 8 8 digital outputs (X5)
- 9 Supply 24 V DC (X4)
- 10 Ventilation
- 11 TA525: Label
- 12 4 Status LEDs



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

136.2.1 DIP switch for ADDR

		Switcher number	ON	OFF
	1	S1	16 I / 16 O	16 I / 8 O / 8 DC
		S2	ADDR: 32	0
		S3	ADDR: 16	0
		S4	ADDR: 8	0
		S5	ADDR: 4	0

	Switcher number	ON	OFF
	S6	ADDR: 2	0
	S7	ADDR: 1	0
	S8	NC	NC

136.2.2 Plug connection

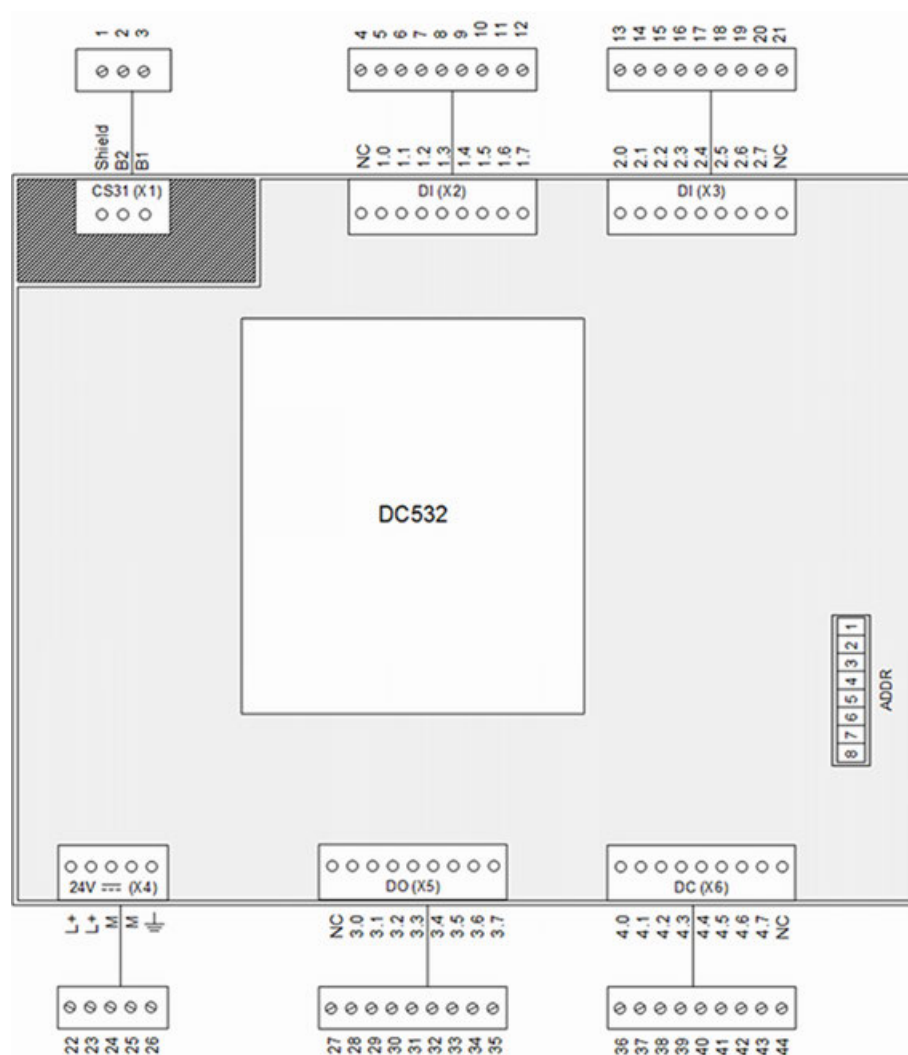


Table 77: Pin assignment CS31 bus (X1)

Connector / Terminal	Pin	Assignment / Signal
X1 / Shield	1	No internal connection
X1 / B2	2	BUS 2
X1 / B1	3	BUS 1

Table 78: Pin assignment DI (X2)

Connector / Terminal	Pin	Assignment / Signal
X2 / NC	4	No internal connection
X2 / 1.0	5	DC532 / I0
X2 / 1.1	6	DC532 / I1
X2 / 1.2	7	DC532 / I2
X2 / 1.3	8	DC532 / I3
X2 / 1.4	9	DC532 / I4
X2 / 1.5	10	DC532 / I5
X2 / 1.6	11	DC532 / I6
X2 / 1.7	12	DC532 / I7

Table 79: Pin assignment DI (X3)

Connector / Terminal	Pin	Assignment / Signal
X3 / 2.0	13	DC532 / I8
X3 / 2.1	14	DC532 / I9
X3 / 2.2	15	DC532 / I10
X3 / 2.3	16	DC532 / I11
X3 / 2.4	17	DC532 / I12
X3 / 2.5	18	DC532 / I13
X3 / 2.6	19	DC532 / I14
X3 / 2.7	20	DC532 / I15
X3 / NC	21	No internal connection

Table 80: Pin assignment 24 V DC 200 W (X4)

Connector / Terminal	Pin	Assignment / Signal
X4 / L+	22	L+
X4 / L+	23	L+
X4 / M	24	M
X4 / M	25	M
X4 / FE	26	FE

Table 81: Pin assignment DO (X5)

Connector / Terminal	Pin	Assignment / Signal
X5 / NC	27	No internal connection
X5 / 3.0	28	DC532 / C16
X5 / 3.1	29	DC532 / C17
X5 / 3.2	30	DC532 / C18
X5 / 3.3	31	DC532 / C19
X5 / 3.4	32	DC532 / C20
X5 / 3.5	33	DC532 / C21
X5 / 3.6	34	DC532 / C22
X5 / 3.7	35	DC532 / C23

Table 82: Pin assignment DC (X6)

Connector / Terminal	Pin	Assignment / Signal
X6 / 4.0	36	DC532 / C24
X6 / 4.1	37	DC532 / C25
X6 / 4.2	38	DC532 / C26
X6 / 4.3	39	DC532 / C27
X6 / 4.4	40	DC532 / C28
X6 / 4.5	41	DC532 / C29
X6 / 4.6	42	DC532 / C30
X6 / 4.7	43	DC532 / C31
X6 / NC	44	No internal connection

136.3 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

136.4 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en **Note**

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko 참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

136.5 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

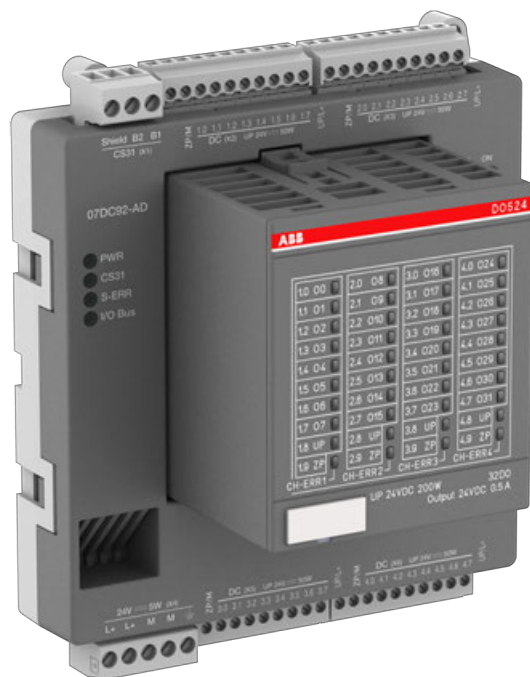
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

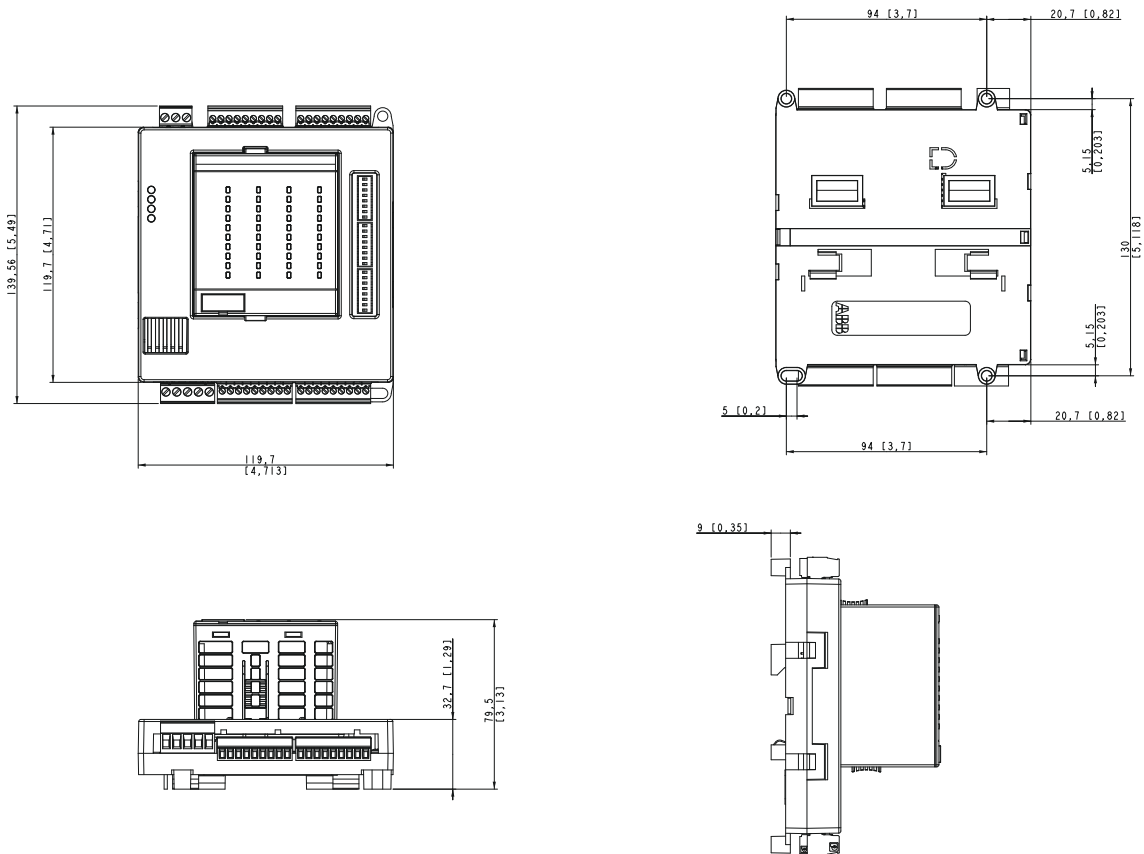
For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

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- 07DC92-AD

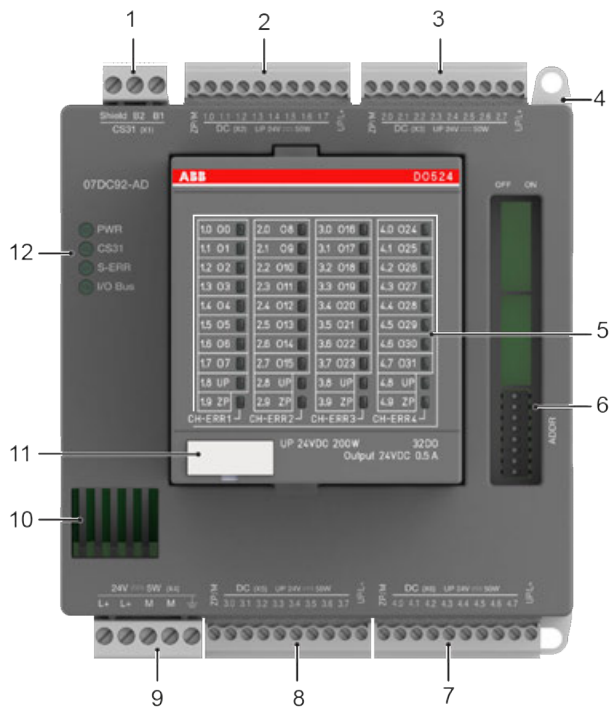


137.1 Dimensions




The dimensions are in mm and in brackets in inch.

137.2 Connections

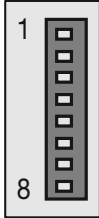


- 1 Connector X1: CS31 bus
- 2 Connector X2: 8 DC + voltage supply (incl. DO524)
- 3 Connector X3: 8 DC + voltage supply (incl. DO524)
- 4 Hole for screw mounting (screw diameter 4 mm, extension torque 1.2 Nm)
- 5 Status LEDs for DO524
- 6 DIP switch for address setting (ADDR)
- 7 Connector X6: 8 DC + voltage supply (incl. DO524)
- 8 Connector X5: 8 DC + voltage supply (incl. DO524)
- 9 Connector X4: Voltage supply (incl. DO524)
- 10 Ventilation
- 11 TA525: Label
- 12 4 LEDs to display the status of the complete 07DC92-AD device



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

137.2.1 DIP switch for ADDR

	Switcher number	ON	OFF
	S1	32 DO	32 DC
	S2	ADDR: 32	0
	S3	ADDR: 16	0
	S4	ADDR: 8	0
	S5	ADDR: 4	0
	S6	ADDR: 2	0

	Switcher number	ON	OFF
	S7	ADDR: 1	0
	S8	NC	NC

137.2.2 Plug connection

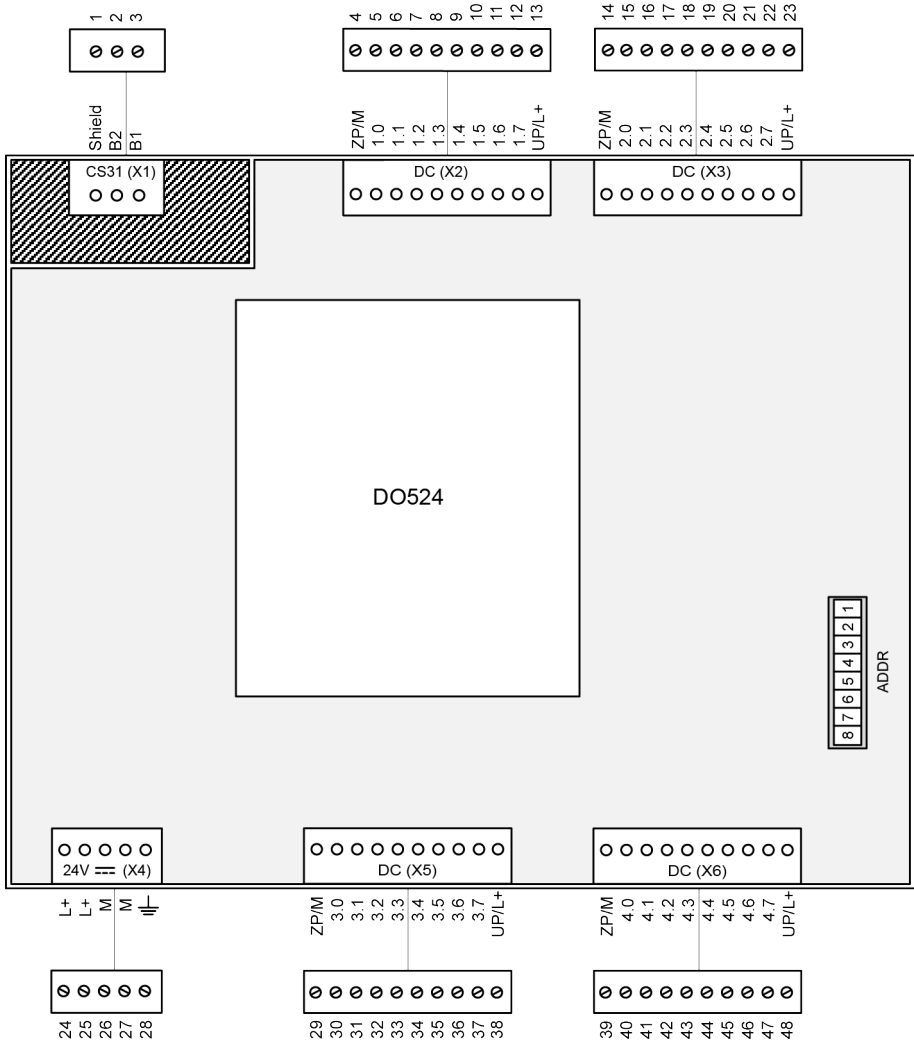


Table 83: Pin assignment CS31 bus (X1)

Connector / Terminal	Pin	Assignment / Signal
X1 / Shield	1	No internal connection
X1 / B2	2	BUS 2
X1 / B1	3	BUS 1

Table 84: Pin assignment DC (X2)

Connector / Terminal	Pin	Assignment / Signal
X2 / ZP/M	4	ZP/M
X2 / 1.0	5	DO524 / O0

Connector / Terminal	Pin	Assignment / Signal
X2 / 1.1	6	DO524 / O1
X2 / 1.2	7	DO524 / O2
X2 / 1.3	8	DO524 / O3
X2 / 1.4	9	DO524 / O4
X2 / 1.5	10	DO524 / O5
X2 / 1.6	11	DO524 / O6
X2 / 1.7	12	DO524 / O7
X2 / UP/L+	13	UP/L+

Table 85: Pin assignment DC (X3)

Connector / Terminal	Pin	Assignment / Signal
X3 / ZP/M	14	ZP/M
X3 / 2.0	15	DO524 / O8
X3 / 2.1	16	DO524 / O9
X3 / 2.2	17	DO524 / O10
X3 / 2.3	18	DO524 / O11
X3 / 2.4	19	DO524 / O12
X3 / 2.5	20	DO524 / O13
X3 / 2.6	21	DO524 / O14
X3 / 2.7	22	DO524 / O15
X3 / UP/L+	23	UP/L+

Table 86: Pin assignment 24 V DC (X4)

Connector / Terminal	Pin	Assignment / Signal
X4 / L+	24	L+
X4 / L+	25	L+
X4 / M	26	M
X4 / M	27	M
X4 / FE	28	FE

Table 87: Pin assignment DC (X5)

Connector / Terminal	Pin	Assignment / Signal
X5 / ZP/M	29	ZP/M
X5 / 3.0	30	DO524 / O16
X5 / 3.1	31	DO524 / O17
X5 / 3.2	32	DO524 / O18
X5 / 3.3	33	DO524 / O19
X5 / 3.4	34	DO524 / O20
X5 / 3.5	35	DO524 / O21
X5 / 3.6	36	DO524 / O22
X5 / 3.7	37	DO524 / O23
X5 / UP/L+	38	UP/L+

Table 88: Pin assignment DC (X6)

Connector / Terminal	Pin	Assignment / Signal
X6 / ZP/M	39	ZP/M
X6 / 4.0	40	DO524 / O24
X6 / 4.1	41	DO524 / O25
X6 / 4.2	42	DO524 / O26
X6 / 4.3	43	DO524 / O27
X6 / 4.4	44	DO524 / O28
X6 / 4.5	45	DO524 / O29
X6 / 4.6	46	DO524 / O30
X6 / 4.7	47	DO524 / O31
X6 / UP/L+	48	UP/L+

137.3 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

137.4 Certification



MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

en

Note

These devices correspond to:

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

ko

참고
이러한 기기는

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

137.5 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

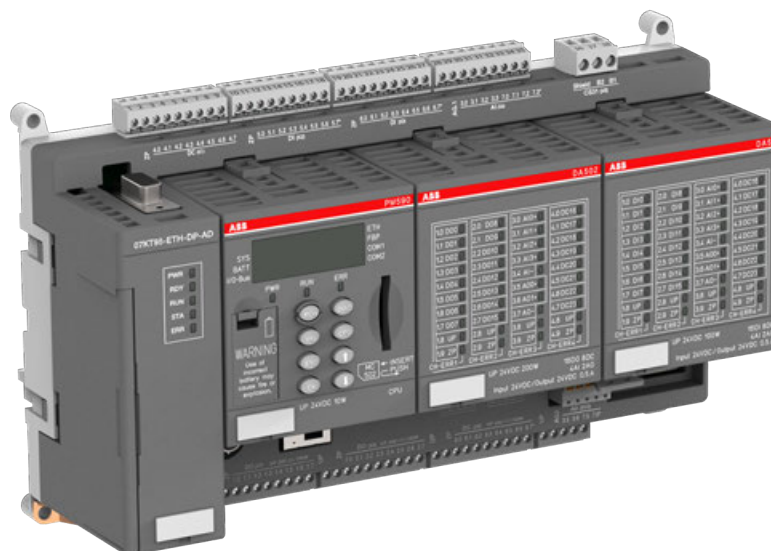
It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

138 07KT9x-AD

- 07KT9x-AD



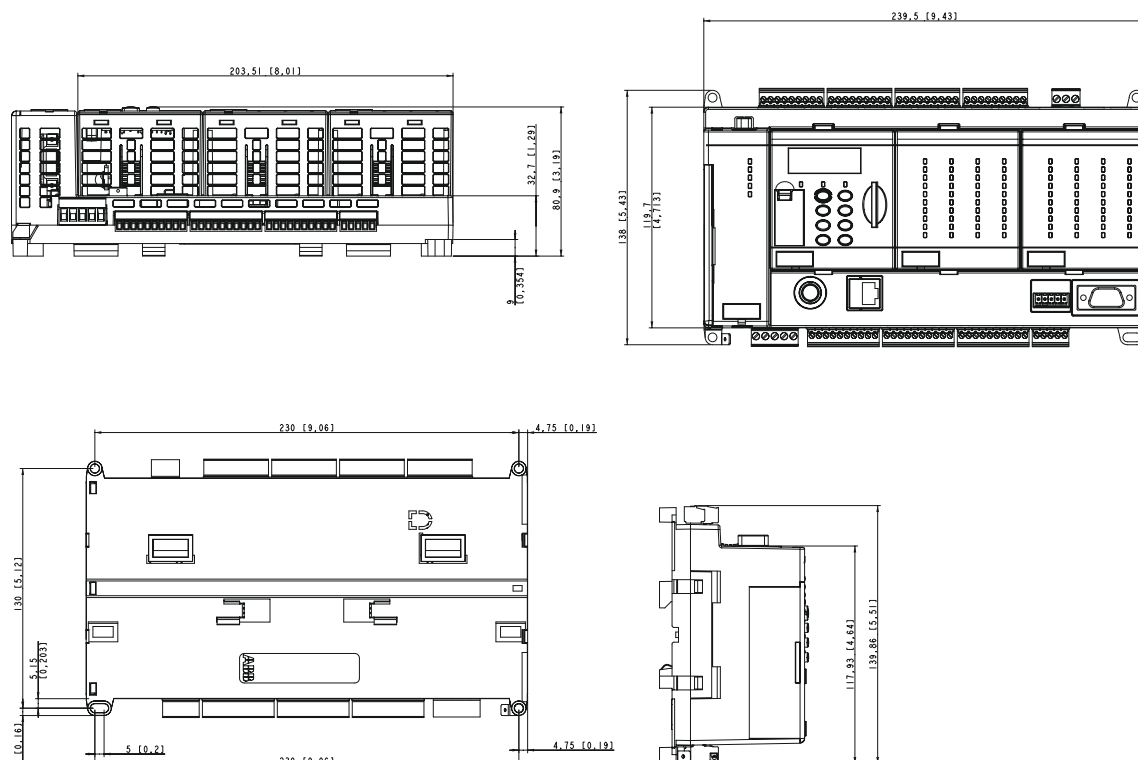
CAUTION!

Risk of injury and damaging the product!

Improper installation and maintenance may result in injury and can damage the product!

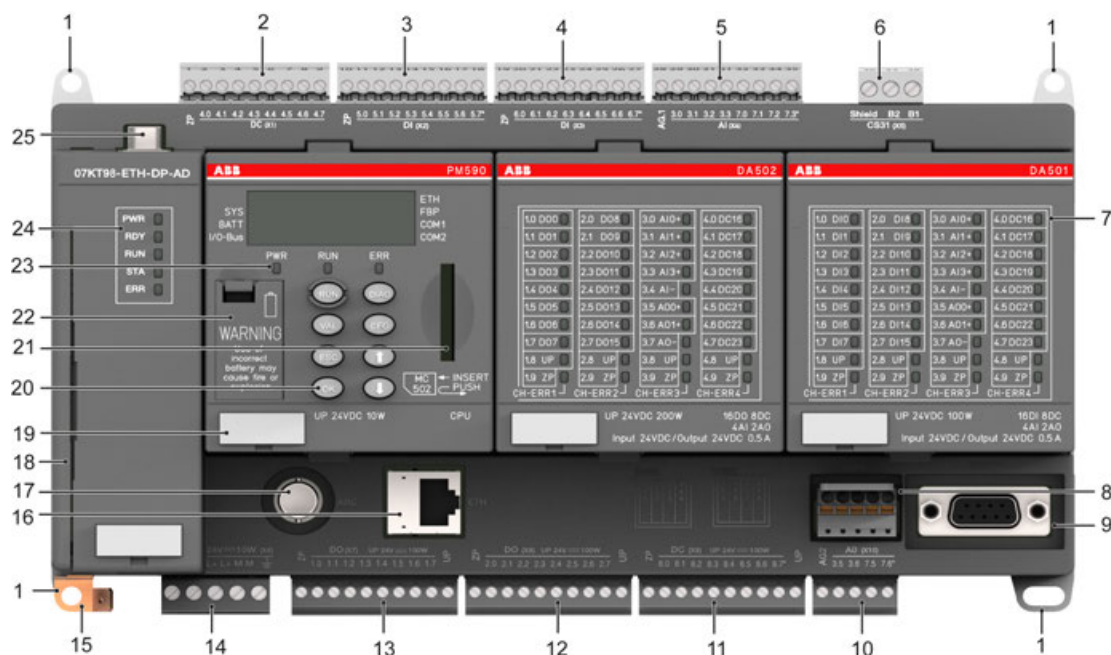
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by qualified personnel.

138.1 Dimensions



The dimensions are in mm and in brackets in inch.

138.2 Connections



- 1 Hole for screw mounting (screw diameter 4 mm, extension torque 1.2 Nm)
- 2 Digital inputs/outputs for DA502

- 3 Digital inputs for DA501
- 4 Digital inputs for DA501
- 5 Analog inputs for DA501/DA502
- 6 CS31 bus Interface
- 7 Status LEDs for DA501/DA502
- 8 DIAG: Serial interface (diagnosis)
- 9 COM2: Serial interface (thread UNC 4-40)
- 10 Analog outputs for DA501/DA502. ± 10 V, 0 ... 20 mA, 4 ... 20 mA in one group
- 11 Digital inputs/outputs for DA501
- 12 Digital outputs for DA502
- 13 Digital outputs for DA502
- 14 Supply voltage connection 24 V DC (CPU and communication module)
- 15 Ground connection (FE). Connection for 6.3 mm Faston.
- 16 Ethernet: Network interface (function depends on device version)
- 17 Interface for ARCNET (BNC)
- 18 External network interface
- 19 TA525: Label
- 20 8 operating buttons
- 21 Memory card
- 22 Battery compartment for lithium battery TA521
- 23 3 system LEDs
- 24 5 status LEDs (only for PROFIBUS)
- 25 Connection for PROFIBUS (optional) (function depends on device version)



All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 V DC.

138.2.1 Diagnosis connector

	PIN	Signal	Description
	1	NC	Not connected
	2	TX	Transmit data
	3	M	M
	4	RX	Receive data
	5	FE	FE

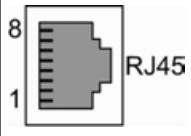
138.2.2 Serial interface COM2

	PIN	Signal	Description
	G	Housing	FE
	1	FE	FE (shield)
	2	TxD	Transmit data (output)
	3	RxD	Receive data (input)
	4	RTS	Request to send (output)
	5	CTS	Clear to send (input)
	6	NC	-

	PIN	Signal	Description
	7	SGND	Signal ground (SGND)
	8	0 V out	-
	9	+5 V out	Reserved

138.2.3 Ethernet network interface

Pin assignment

	PIN	Signal	Description
	1	TxD+	Transmit data +
	2	TxD-	Transmit data -
	3	RxD+	Receive data +
	4	NU	Not used
	5	NU	Not used
	6	RxD-	Receive data -
	7	NU	Not used
	8	NU	Not used
	Shield	Cable shield	Functional earth



NOTICE!

Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices.

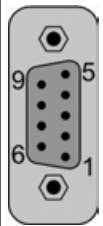
138.2.4 ARCNET



ARCNET BNC

138.2.5 PROFIBUS interface

Pin Assignment

	Pin	Signal	Description
	1	NC	Not connected
	2	NC	Not connected
	3	RxD/TxD-P	Receive/Transmit positive
	4	CNTR-P	Control signal for repeater, positive
	5	DGND	Reference potential for data exchange and +5 V

	Pin	Signal	Description
	6	VP	+5 V (power supply for the bus terminating resistors)
	7	NC	Not connected
	8	RxD/TxD-N	Receive/Transmit negative
	9	NC	Not connected



In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

138.2.6 Plug connection

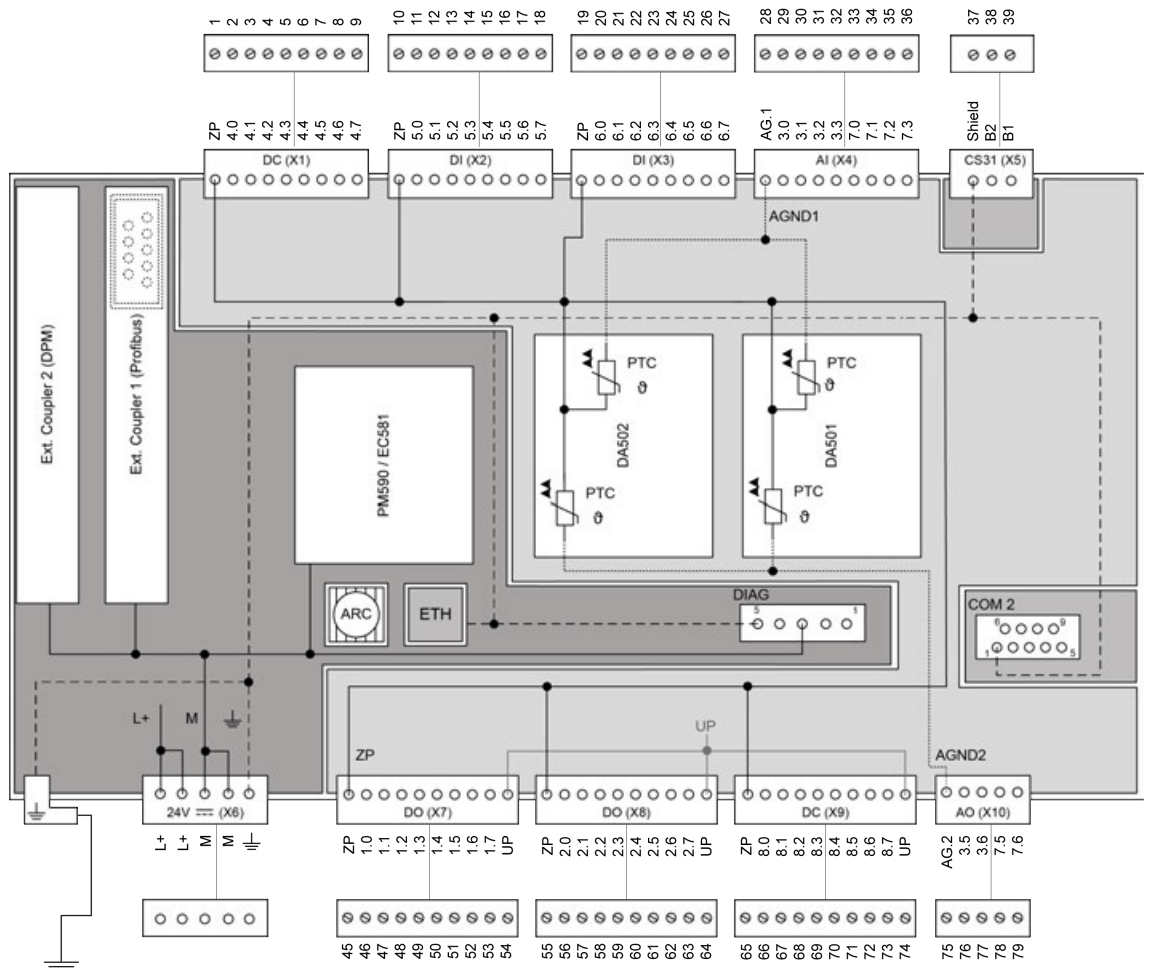


Table 89: Connector (X1)

Connector / Terminal	Pin	Assignment / Signal
X1 / ZP	1	ZP
X1 / 4.0	2	DA502 / DC16
X1 / 4.1	3	DA502 / DC17
X1 / 4.2	4	DA502 / DC18

Connector / Terminal	Pin	Assignment / Signal
X1 / 4.3	5	DA502 / DC19
X1 / 4.4	6	DA502 / DC20
X1 / 4.5	7	DA502 / DC21
X1 / 4.6	8	DA502 / DC22
X1 / 4.7	9	DA502 / DC23

Table 90: Connector X2

Connector / Terminal	Pin	Assignment / Signal
X2 / ZP	10	ZP
X2 / 5.0	11	DA501 / DI0
X2 / 5.1	12	DA501 / DI1
X2 / 5.2	13	DA501 / DI2
X2 / 5.3	14	DA501 / DI3
X2 / 5.4	15	DA501 / DI4
X2 / 5.5	16	DA501 / DI5
X2 / 5.6	17	DA501 / DI6
X2 / 5.7	18	DA501 / DI7

Table 91: Connector (X3)

Connector / Terminal	Pin	Assignment / Signal
X3 / ZP	19	ZP
X3 / 6.0	20	DA501 / DI8
X3 / 6.1	21	DA501 / DI9
X3 / 6.2	22	DA501 / DI10
X3 / 6.3	23	DA501 / DI11
X3 / 6.4	24	DA501 / DI12
X3 / 6.5	25	DA501 / DI13
X3 / 6.6	26	DA501 / DI14
X3 / 6.7	27	DA501 / DI15

Table 92: Connector (X4)

Connector / Terminal	Pin	Assignment / Signal
X4 / AG.1	28	AGND1
X4 / 3.0	29	DA502 / AI0+
X4 / 3.1	30	DA502 / AI1+
X4 / 3.2	31	DA502 / AI2+
X4 / 3.3	32	DA502 / AI3+
X4 / 7.0	33	DA501 / AI0+
X4 / 7.1	34	DA501 / AI1+

Connector / Terminal	Pin	Assignment / Signal
X4 / 7.2	35	DA501 / AI2+
X4 / 7.3	36	DA501 / AI3+

To be able to use the analog inputs, UP must be connected. L+/M and UP/ZP must always be supplied with voltage.

Table 93: Connector (X5)

Connector / Terminal	Pin	Assignment / Signal
X5 / shield	37	Shield (functional earth)
X5 / B2	38	BUS2
X5 / B1	39	BUS1



Terminal "Shield" is internally connected to FE. The previous grounding measures, e.g. with clip at the switchgear cabinet, are still required.

If 07KT9x-AD is connected to one of the bus ends, a 120 Ω resistor must be connected for bus termination. The device 07KT9x-AD always functions as master. Slave operation is not possible. Further information on CS31 bus:

Table 94: Connector (X6)

Connector / Terminal	Pin	Assignment / Signal
X6 / L+	40	Supply voltage +24 V DC
X6 / L+	41	Supply voltage +24 V DC
X6 / M	42	Ground connection (0 V)
X6 / M	43	Ground connection (0 V)
X6 / functional earth	44	The functional earth (FE) is connected to the Faston terminal inside the device. Ensure that no ground loops are created and that FE and Faston are connected to the same ground potential.



NOTICE!

- In addition to connecting the supply voltage (L+/M) to X6, the supply voltage (UP/ZP) must be connected to all connectors.
- ZP must be connected to all connectors (X1, X2, X3, X7, X8, X9).
- UP must be connected to all connectors (X7, X8, X9).
- L+/M and UP/ZP must always be supplied with voltage.

Table 95: Connector (X7)

Connector / Terminal	Pin	Assignment / Signal
X7 / ZP	45	ZP
X7 / 1.0	46	DA502 / DO0

Connector / Terminal	Pin	Assignment / Signal
X7 / 1.1	47	DA502 / DO1
X7 / 1.2	48	DA502 / DO2
X7 / 1.3	49	DA502 / DO3
X7 / 1.4	50	DA502 / DO4
X7 / 1.5	51	DA502 / DO5
X7 / 1.6	52	DA502 / DO6
X7 / 1.7	53	DA502 / DO7
X7 / UP	54	UP

Table 96: Connector (X8)

Connector / Terminal	Pin	Assignment / Signal
X8 / ZP	55	ZP
X8 / 2.0	56	DA502 / DO8
X8 / 2.1	57	DA502 / DO9
X8 / 2.2	58	DA502 / DO10
X8 / 2.3	59	DA502 / DO11
X8 / 2.4	60	DA502 / DO12
X8 / 2.5	61	DA502 / DO13
X8 / 2.6	62	DA502 / DO14
X8 / 2.7	63	DA502 / DO15
X8 / UP	64	UP

Table 97: Connector (X9)

Connector / Terminal	Pin	Assignment / Signal
X9 / ZP	65	ZP
X9 / 8.0	66	DA501 / DC16
X9 / 8.1	67	DA501 / DC17
X9 / 8.2	68	DA501 / DC18
X9 / 8.3	69	DA501 / DC19
X9 / 8.4	70	DA501 / DC20
X9 / 8.5	71	DA501 / DC21
X9 / 8.6	72	DA501 / DC22
X9 / 8.7	73	DA501 / DC23
X9 / UP	74	UP

Connector / Terminal	Pin	Assignment / Signal
X10 / AG.2	75	AGND2
X10 / 3.5	76	DA502 / AO0+
X10 / 3.6	77	DA502 / AO1+

Connector / Terminal	Pin	Assignment / Signal
X10 / 7.5	78	DA501 / AO0+
X10 / 7.6	79	DA501 / AO1+



UP must be connected to connectors X7, X8 and X9. The internal voltage supply to the ADC channels is no longer provided by L+ but by UP in the modules DA501 and DA502.

138.3 Cleaning



Cleaning instruction

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

138.4 Certification



MSIP-REI-Abb-AC500

en

Note

These devices correspond to:

ko

참고
이러한 기기는

en

Devices with KCC sign on product sticker and packaging

ko

제품 스티커 및 포장에 KCC 표시가 된 기기

KN61000-6-2 "Immunity for industrial environments",
KN61000-6-4 "Emission standard for industrial environments"

KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함

138.5 Recycling



Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.

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