#### **DATASHEET - EMS2-RO-T-9-SWD**

No.



Reversing starter, 24 V DC, 1,5 - 7 (AC-53a), 9 (AC-51) A, Push in terminals, SmartWire-DT slave

FACIN

Powering Business Worldwide

**6** 

Part no. EMS2-RO-T-9-SWD Catalog No. 192388
Alternate Catalog EMS2-RO-T-9-SWD

**Delivery program** 

Delivery program			
Product range			Electronic motor starter
Product range			SmartWire-DT slave
Subrange			SmartWire-DT electronic motor starters
Basic function			Reversing starters (complete devices)
Function			For connecting to SmartWire-DT for expanded diagnostics
Description			DOL starting Reversing start Motor protection Circuit design: safety output stage with bypass, three-phase disconnect. Motor current additionally adjustable via SmartWire-DT.
Messages			Operational readiness Operating direction feedback Motor current in % Motor current in A Thermal motor image in % Overload prewarning Trip indications (overload, phase failure, etc.) Set short-circuit release value Device Type
Commands			Operating the motor starter Manual reset Automatic reset
Motor ratings			
Max. rating for three-phase motors, 50 - 60 Hz			
AC-53a			
380 V 400 V 415 V	P	kW	0.55 - 3
Setting range of overload releases	I <sub>r</sub>	A_x	1,5 - 7 (AC-53a) 1,5 - 9 (AC-51)
Actuating voltage			24 V DC
Connection technique			Push in terminals
Connection to SmartWire-DT			yes

# Technical data

General			
Standards			IEC/EN 60947-4-2 UL508
Ambient temperature			
Storage	°(	С	
Min. ambient temperature, storage	°(	С	- 40
Ambient temperature, storage max.	°(	С	+ 80
Open	°(	С	
Operating ambient temperature min.	°(	С	-5
Operating ambient temperature max.	°(	С	+ 55
Weight	kį	g	0.22
Mounting			Top-hat rail IEC/EN 60715, 35 mm
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20
Mounting position			Vertical Motor feeder at bottom
Terminal capacity			

Push-in terminals			
		$\text{mm}^2$	0.2 - 2.5
		AWG	24 - 14
Nain conducting paths			
Rated operational voltage	U <sub>e</sub>	V AC	500
Operational voltage range		V	
Operating voltage range min.		V	42
Operating voltage range max.		V	550
Rated operational current			
AC-51	l <sub>e</sub>	Α	9
AC-53a	le	Α	7
			AC-53a: Please note possible derating.
Setting range of overload releases	l <sub>r</sub>	A_x	1,5 - 7 (AC-53a) 1,5 - 9 (AC-51)
Release class		CLASS	10A
Heat dissipation	$P_V$	W	1 - 12
Control section			
Rated control voltage	Us	V DC	24
Control voltage range		V	19,2 - 30 V DC
Residual ripple on the input voltage		%	≦ 5
Rated control current	Is	mA	60
Current draw inrush		mA	120
Actuating circuit (ON, L, R)			
Rated actuation voltage	U <sub>c</sub>	V	24
Switching level "Low"		V	-3 - +9.6 V DC
Switching level "confirm Off"		V	< 5 V DC
Switching level "High"		V	19.2 - 30 V DC
Rated actuating current	Ic	mA	7
Electromagnetic compatibility (EMC)			
			EN 55011

## **Design verification as per IEC/EN 61439**

Design verification as per illo/liv 01433			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	9
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	12
Static heat dissipation, non-current-dependent	$P_{vs}$	W	2
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.		°C	-5
Operating ambient temperature max.		°C	55
			If necessary, Allow for derating
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.

10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections	Is the panel builder's responsibility.
10.8 Connections for external conductors	Is the panel builder's responsibility.
10.9 Insulation properties	
10.9.2 Power-frequency electric strength	Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.
10.10 Temperature rise	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction

#### **Technical data ETIM 7.0**

Low-voltage industrial components (EG000017) / Motor starter/Motor starter combination (EC001037)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Load breakout, motor breakout / Motor starter combination (ecl@ss10.0.1-27-37-09-05 [AJZ718013])

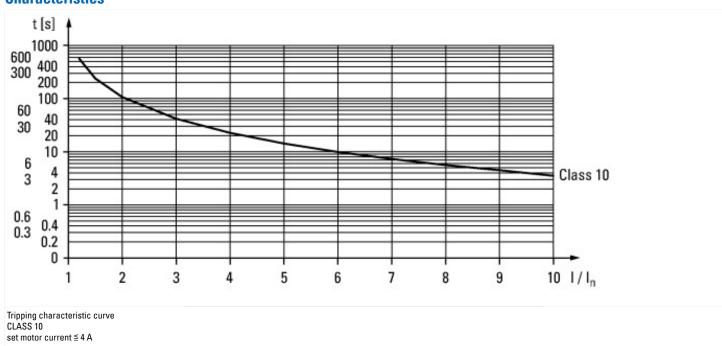
Rated control supply voltage Us at DC         V         24-24           Voltage type for actuating         V         DC           Rated operation power at AC-2, 200 V, 3-phase         RW         0.55           Rated operation power at AC-3, 400 V         RW         1.1           Rated operation current le Rated operation current le AC-3, 400 V         A         3           Rated operation current le AC-3, 400 V         A         3           Rated operation current te AC-3, 400 V         A         3           Rated operation current va MEAD (AU)         A         3           Rated conditional short-circuit current, ype 1, 480 Y/277 V         A         0           Rated conditional short-circuit current, ype 1, 480 Y/277 V         A         0           Rated conditional short-circuit current, ype 1, 400 Y/387 Y         A         0           Rated conditional short-circuit current, ype 1, 400 Y/387 Y         A         0           Rated conditional short-circuit current, ype 1, 400 Y/387 Y         A         0           Rated conditional short-circuit current, ype 1, 400 Y/387 Y         A         0           Rated conditional short-circuit current, ype 2, 400 Y         A         0           Rated conditional short-circuit current, ype 2, 400 Y         A         0           Rated conditional short-circui	[AJZ/18013])		
Rated control supply voltage Us at AC 50HZ         V         0 - 0           Rated control supply voltage Us at DC         V         2 - 24           Voltage type for actualising         DC           Rated operation power at AC-3, 200 V, 3-phase         IW         0.55           Rated operation power at AC-3, 200 V, 3-phase         IW         0           Rated power, 470 V, 60 Hz, 3-phase         IW         0           Rated power, 470 V, 60 Hz, 3-phase         IW         0           Rated power, 470 V, 60 Hz, 3-phase         IW         0           Rated operation current st         A         3           Rated operation current st         A         18-3           Rated operation current st AC-3, 400 V         A         3           Rated conditional short-circuit current, year, 1,600 Yy27 V         A         0           Rated conditional short-circuit current, year, 1,600 Yy27 V         A         0           Rated conditional short-circuit current, year, 1,600 Yy27 V         A         0           Rated conditional short-circuit current, year, 2,600 V         A         0           Rated conditional short-circuit current, year, 2,600 V         A         0           Rated conditional short-circuit current, year, 2,700 V         A         0           Rated conditional	Kind of motor starter		Reversing starter
Rated control supply voltage Us at AC 68HZ         V         0 - 0           Rated control supply voltage Us at DC         V         24 - 24           Voltage type for actuating         M         DC           Rated operation power at AC-3, 200 V.3 -phase         RW         0.5           Rated operation power at AC-3, 400 V         RW         1.1           Rated power, 450 V.5 0 Hz, 3-phase         RW         0           Rated operation current of AC-3, 400 V         AW         3           Rated operation current st AC-3, 400 V         AW         3           Rated operation current st AC-3, 400 V         AW         3           Rated conditional short-circuit current, ye 1, 480 Y277 V         AW         0           Rated conditional short-circuit current, ye 2, 200 V         AW         0           Rated conditional short-circuit current, ye 2, 200 V         AW         0           Rated conditional short-circuit current, ye 2, 200 V         AW         0           Rated conditional short-circuit current, ye 2, 200 V         AW         0           Ambient temperature compensated overload protection         Yes         4           Ambient temperature compensated overload protection         Yes         Yes           Toppe of electrical connection for auxiliary- and control current circuit <td< td=""><td>With short-circuit release</td><td></td><td>No</td></td<>	With short-circuit release		No
Rated control supply voltage Us at DC         V         24-24           Voltage type for actuating         V         DC           Rated operation power at AC-2, 200 V, 3-phase         RW         0.55           Rated operation power at AC-3, 400 V         RW         1.1           Rated operation current le Rated operation current le AC-3, 400 V         A         3           Rated operation current le AC-3, 400 V         A         3           Rated operation current te AC-3, 400 V         A         3           Rated operation current va MEAD (AU)         A         3           Rated conditional short-circuit current, ype 1, 480 Y/277 V         A         0           Rated conditional short-circuit current, ype 1, 480 Y/277 V         A         0           Rated conditional short-circuit current, ype 1, 400 Y/387 Y         A         0           Rated conditional short-circuit current, ype 1, 400 Y/387 Y         A         0           Rated conditional short-circuit current, ype 1, 400 Y/387 Y         A         0           Rated conditional short-circuit current, ype 1, 400 Y/387 Y         A         0           Rated conditional short-circuit current, ype 2, 400 Y         A         0           Rated conditional short-circuit current, ype 2, 400 Y         A         0           Rated conditional short-circui	Rated control supply voltage Us at AC 50HZ	V	0 - 0
Votage type for actuating         DC           Rated operation power at AC-3, 230 V. 3-phase         kW         0.55           Rated operation power at AC-3, 400 V         W         1.1           Rated power, 57 V. 60 Hz. 3-phase         WW         0           Rated operation current early         W         3           Rated operation current early         A         3           Rated operation current early         A         3           Rated conditional short-circuit current, type 1, 480 Y/277 V         A         0           Rated conditional short-circuit current, type 1, 800 Y/37 V         A         0           Rated conditional short-circuit current, type 2, 280 V         A         0           Rated conditional short-circuit current, type 2, 280 V         A         0           Rated conditional short-circuit current, type 2, 280 V         A         0           Rated conditional short-circuit current, type 2, 280 V         A         0           Rated conditional short-circuit current, type 2, 280 V         A         0           Rated conditional short-circuit current, type 2, 280 V         A         0           Rated conditional short-circuit current, type 2, 280 V         A         0           Rated conditional short-circuit current, type 2, 280 V         C         0	Rated control supply voltage Us at AC 60HZ	V	0 - 0
Rated operation power at AC-3, 200 V. 3-phase         kW         0.55           Rated operation power at AC-3, 400 V         kW         1.1           Rated operation power at AC-3, 400 V         kW         0           Rated operation current te         kW         3           Rated operation current at AC-3, 400 V         A         3           Overload release current setting         A         3           Rated conditional short-circuit current, type 1, 480 Y/277 V         A         0           Rated conditional short-circuit current, type 1, 500 Y/387 V         A         0           Rated conditional short-circuit current, type 2, 200 V         A         0           Rated conditional short-circuit current, type 2, 400 V         A         0           Number of auxiliary contacts as normally open contact         P         0           Number of auxiliary contacts as normally open contact         P         0           Release class         P         Ves           With transformer         P         Ves           Number of command positi	Rated control supply voltage Us at DC	V	24 - 24
Rated operation power at AC-3. 400 V         kW         1.1           Rated power, 579 K, 60 Hz, 3-phase         kW         0           Rated operation current at AC-3, 400 V         AC         3           Rated operation current at AC-3, 400 V         AC         3           Rated conditional short-circuit current, kypa 1, 480 Y/277 V         AC         0           Rated conditional short-circuit current, kypa 1, 800 Y/377 V         AC         0           Rated conditional short-circuit current, kypa 2, 800 Y         AC         0           Rated conditional short-circuit current, kypa 2, 800 Y         AC         0           Rated conditional short-circuit current, kypa 2, 800 Y         AC         0           Rated conditional short-circuit current, kypa 2, 800 Y         AC         0           Rated conditional short-circuit current, kypa 2, 800 Y         AC         0           Rated conditional short-circuit current, kypa 2, 400 Y         AC         0           Rated conditional short-circuit current, kypa 2, 400 Y         AC         0           Number of auxiliary contacts as normally closed contact         YC         0           Rated conditional short-circuit current, kypa 2, 400 Y         YC         0           Release class         CLAS 10         0           Release class         CLA	Voltage type for actuating		DC
Rated power, 460 V, 60 Hz, 3-phase         kW         0           Rated power, 575 V, 60 Hz, 3-phase         kW         0           Rated operation current te         kW         3           Rated operation current at AC-3, 400 V         A         3           Overload release current setting         A         3           Rated conditional short-circuit current, type 1, 480 Y/277 V         A         0           Rated conditional short-circuit current, type 2, 280 V         A         0           Rated conditional short-circuit current, type 2, 280 V         A         0           Number of auxiliary contacts as normally closed contact         B         0           Number of suxiliary contacts as normally closed contact         C         0           Number of suxiliary contacts as normally closed contact         S         0           Release class         CLASS 10         CLASS 10           Type of electrical connection of main circuit         Syring clamp connection         Syring clamp connection           Type of electrical connection for auxiliary- and control current circuit         Syring clamp connection         Syring clamp connection           Rail mounting possible         S         0         CLASS 10           Vego of electrical connection for auxiliary- and control current circuit         S         Syring cl	Rated operation power at AC-3, 230 V, 3-phase	kW	0.55
Rated power, 575 V, 60 Hz, 3-phase         AW         3           Rated operation current le         A         3           Rated operation current a ACD, 400 V         A         3           Overload release current setting         A         0.18-3           Rated conditional short-circuit current, type 1, 480 Y/277 V         A         0           Rated conditional short-circuit current, type 2, 230 V         A         0           Rated conditional short-circuit current, type 2, 400 V         A         0           Number of auxiliary contacts as normally closed contact         B         0           Ambient temperature, upper operating limit         C         C           Temperature compensated overload protection         C         C           Release class         C         C         CLASS 10           Release class         C         Spring clamp connection           Type of electrical connection of main circuit         Spring clamp connection         Spring clamp connection           Type of electrical connection of main circuit         Spring clamp connection         Spring clamp connection           With transformer         Suitable for emergency stop         Spring clamp connection           Suitable for emergency stop         S         S           Coordination class according to IEC 60	Rated operation power at AC-3, 400 V	kW	1.1
Rated operation current le         A         3           Rated operation current at AC-3,400 V         A         3           Overload release current setting         A         0.8-3           Rated conditional short-circuit current, type 1,600 Y/347 V         A         0           Rated conditional short-circuit current, type 2,230 V         A         0           Rated conditional short-circuit current, type 2,400 V         A         0           Number of auxiliary contacts as normally closed contact         C         4           Number of auxiliary contacts as normally closed contact         C         4           Ambient temperature, upper operating limit         C         4           Temperature compensated overload protection         C         4           Release class         C         4           Roles class         C         4           Roles class         C         4           Type of electrical connection of main circuit         Spring clamp connection           Type of electrical connection of rauxiliary- and control current circuit         Spring clamp connection           Number of command positions         Y         5           Suitable for emergency stop         C         Y           Cordination class according to IEC 8947-4-3         Y         <	Rated power, 460 V, 60 Hz, 3-phase	kW	0
Rated operation current at AC-3, 400 V         A         3           Overload release current setting         A         0.81-8-3           Rated conditional short-circuit current, type 1, 480 Y/277 V         A         0           Rated conditional short-circuit current, type 1, 500 Y/247 V         A         0           Rated conditional short-circuit current, type 2, 230 V         A         0           Rated conditional short-circuit current, type 2, 200 V         A         0           Number of auxiliary contacts as normally open contact         0         0           Number of auxiliary contacts as normally closed contact         V         0           Ambiant temperature, upper operating limit         C         0           Temperature compensated overload protection         V         0           Release class         CLASS 10         0           Supper of electrical connection of main circuit         Spring clamp connection           Type of electrical connection for auxiliary- and control current circuit         Spring clamp connection           With transformer         N         N           With transformer         N         N           Number of command positions         S         N           Suitable for emergency stop         S         Y           Coordination class	Rated power, 575 V, 60 Hz, 3-phase	kW	0
Overload release current setting         A         0.18-3           Rated conditional short-circuit current, type 1,600 Y347 V         A         0           Rated conditional short-circuit current, type 2,300 Y         A         0           Rated conditional short-circuit current, type 2,400 Y         A         0           Number of auxiliary contacts as normally open contact         0         0           Number of suxiliary contacts as normally closed contact         0         0           Ambient temperature, upper operating limit         °C         40           Temperature compensated overload protection         °C         40           Release class         CLASS 10         50           Type of electrical connection of main circuit         Spring clamp connection         50           Yes         50         50           Number of command positions         Spring clamp connection           Suitable for emergency stop         No         No           Coordination class according to IEC 60947-4-3         No         No           Number of indicator lights         Yes         Yes           External reset possible         Yes         Yes           With fuse         Yes         Yes           Degree of protection (IP)         Iea         Yes <td>Rated operation current le</td> <td>Α</td> <td>3</td>	Rated operation current le	Α	3
Rated conditional short-circuit current, type 1,480 1/377 V Rated conditional short-circuit current, type 1,600 1/347 V Rated conditional short-circuit current, type 2,230 V Rated conditional short-circuit current, type 2,230 V Rated conditional short-circuit current, type 2,400 V Rated conditional short-circuit current, type 2,400 V Rated conditional short-circuit current, type 2,400 V Romber of auxiliary contacts as normally open contact Rumber of command postion of main circuit Rumber of command postion for auxiliary- and control current circuit Rumber of command postions Rumber of command postions Rumber of command postions Rumber of command postions Rumber of indicator lights Rumber	Rated operation current at AC-3, 400 V	Α	3
Rated conditional short-circuit current, type 1, 600 Y/347 V Rated conditional short-circuit current, type 2, 230 V Rated conditional short-circuit current, type 2, 400 V Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Rated conditional short-circuit current, type 2, 400 V Number of auxiliary contacts as normally closed contact Rated conditional short-circuit current, type 2, 400 V Number of auxiliary contacts as normally closed contact Rated conditional short-circuit contection short auxiliary contacts as normally closed contact Rated conditional short-circuit contection of main circuit Rated conditional short-circuit connection of main circuit Rated control current circuit Rated conditional short-circuit connection of main circuit Rated control current circuit Rated conditional short-circuit connection of main circuit Rated control current circuit Rated conditional short-circuit connection of main circuit Rated control connection of main circuit Rated conditional short-circuit connection of main circuit Rated conditional short-circuit connection of main circuit Rated conditional short-circuit connection of main circuit Rated conditional connection of main circuit Rated connection of main circuit Rated connection of main circuit Rated connection	Overload release current setting	Α	0.18 - 3
Rated conditional short-circuit current, type 2, 230 V         A         0           Rated conditional short-circuit current, type 2, 400 V         A         0           Number of auxiliary contacts as normally closed contact         C         40           Ambient temperature, upper operating limit         °C         40           Temperature compensated overload protection         CLASS 10           Release class         CLASS 10           Type of electrical connection of main circuit         Spring clamp connection           Type of electrical connection for auxiliary- and control current circuit         Spring clamp connection           Rail mounting possible         Yes           With transformer         No           Number of command positions         No           Suitable for emergency stop         No           Coordination class according to IEC 60947-4-3         No           Number of indicator lights         Yes           External reset possible         Yes           With fuse         No           Degree of protection (IP)         No           Degree of protection (IPMA)         No           Supporting protocol for TCP/IP         Other           Supporting protocol for TCP/IP         No           Supporting protocol for TCP/IP         No <td>Rated conditional short-circuit current, type 1, 480 Y/277 V</td> <td>Α</td> <td>0</td>	Rated conditional short-circuit current, type 1, 480 Y/277 V	Α	0
Rated conditional short-circuit current, type 2,400 Y         A         0           Number of auxiliary contacts as normally closed contact         0         0           Ambient temperature, upper operating limit         °C         40           Release class         Ves         CLASS 10           Type of electrical connection of main circuit         Pring clamp connection         20           Type of electrical connection for auxiliary- and control current circuit         20         20           Rail mounting possible         Yes         20           With transformer         No         20           Number of command positions         Yes           Suitable for emergency stop         No         20           Coordination class according to IEC 60947-4-3         Yes         20           Number of indicator lights         5         25           External reset possible         Yes         20           With fuse         No         20           Degree of protection (IP)         No         20           Degree of protection (IP)         Yes         20           Supporting protocol for TCP/IP         No         20           Supporting protocol for TCP/IP         No         20           Supporting protocol for TCP/IP         <	Rated conditional short-circuit current, type 1, 600 Y/347 V	Α	0
Number of auxiliary contacts as normally open contact         0           Number of auxiliary contacts as normally closed contact         0           Ambient temperature, upper operating limit         °C         40           Temperature compensated overload protection         Yes           Release class         CLASS 10           Type of electrical connection of main circuit         Spring clamp connection           Type of electrical connection for auxiliary- and control current circuit         Yes           Rail mounting possible         Yes           With transformer         No           Number of command positions         Yes           Suitable for emergency stop         No           Coordination class according to IEC 60947-4-3         Yes           Number of indicator lights         5           External reset possible         Yes           With fuse         No           Degree of protection (IP)         Po2           Degree of protection (IPMA)         Other           Supporting protocol for TCP/IP         No           Supporting protocol for PROFIBUS         No	Rated conditional short-circuit current, type 2, 230 V	Α	0
Number of auxiliary contacts as normally closed contact         0           Ambient temperature, upper operating limit         °C         40           Temperature compensated overload protection         Yes           Release class         CLASS 10           Type of electrical connection of main circuit         Spring clamp connection           Type of electrical connection for auxiliary- and control current circuit         Spring clamp connection           Rail mounting possible         Yes           With transformer         No           Number of command positions         No           Suitable for emergency stop         No           Coordination class according to IEC 60947-4-3         Yes           Number of indicator lights         5           External reset possible         Yes           With fuse         No           Degree of protection (IP)         No           Degree of protection (IP)         Pi20           Degree of protection (NEMA)         Other           Supporting protocol for TCP/IP         No           Supporting protocol for FROFIBUS         No	Rated conditional short-circuit current, type 2, 400 V	Α	0
Ambient temperature, upper operating limit Temperature compensated overload protection Release class Release class Type of electrical connection of main circuit Type of electrical connection for auxiliary- and control current circuit Rail mounting possible With transformer Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Suppo	Number of auxiliary contacts as normally open contact		0
Temperature compensated overload protection Release class CLASS 10 Spring clamp connection Type of electrical connection of main circuit Type of electrical connection for auxiliary- and control current circuit Rail mounting possible With transformer Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse Obegree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for TCP/IP Supporting protocol for PROFIBUS  Ves  Vas  Vas  Vas  Vas  Vas  Vas  Vas	Number of auxiliary contacts as normally closed contact		0
Release class Type of electrical connection of main circuit Type of electrical connection for auxiliary- and control current circuit Rail mounting possible With transformer Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for PROFIBUS  CLASS 10 CIASS 10 CIAS 10 CIASS 10 CIAS 10 CIASS 10 CIASS 10 CIASS 10 CIASS 10 CIASS 10 CIASS 10 CIAS 10 CIASS 10 CIAS 10 CIA	Ambient temperature, upper operating limit	°C	40
Type of electrical connection of main circuit  Type of electrical connection for auxiliary- and control current circuit  Rail mounting possible  With transformer  Number of command positions  Suitable for emergency stop  Coordination class according to IEC 60947-4-3  Number of indicator lights  External reset possible  With fuse  Degree of protection (IP)  Degree of protection (NEMA)  Supporting protocol for TCP/IP  Supporting protocol for PROFIBBUS  Spring clamp connection  Yes  Ves  No  1	Temperature compensated overload protection		Yes
Type of electrical connection for auxiliary- and control current circuit  Rail mounting possible  With transformer  Number of command positions  Suitable for emergency stop  Coordination class according to IEC 60947-4-3  Number of indicator lights  External reset possible  With fuse  Degree of protection (IP)  Degree of protection (NEMA)  Supporting protocol for TCP/IP  Supporting protocol for PROFIBUS  Spring clamp connection  Yes  No  No  No  Other  No  No  No  No  No  No  No  No  No  N	Release class		CLASS 10
Rail mounting possible With transformer With transformer Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for PROFIBUS  Yes No Supporting protocol for PROFIBUS	Type of electrical connection of main circuit		Spring clamp connection
With transformer  Number of command positions  Suitable for emergency stop  Coordination class according to IEC 60947-4-3  Number of indicator lights  External reset possible  With fuse  With fuse  Degree of protection (IP)  Degree of protection (NEMA)  Supporting protocol for TCP/IP  Supporting protocol for PROFIBUS  No  No  No  No  No  No  No  No  No  N	Type of electrical connection for auxiliary- and control current circuit		Spring clamp connection
Number of command positions  Suitable for emergency stop  Coordination class according to IEC 60947-4-3  Number of indicator lights  External reset possible  With fuse  With fuse  Degree of protection (IP)  Degree of protection (NEMA)  Supporting protocol for TCP/IP  Supporting protocol for PR0FIBUS  No  No  No  No  No  No  No  No  No  N	Rail mounting possible		Yes
Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse No Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for PR0FIBUS  No	With transformer		No
Coordination class according to IEC 60947-4-3  Number of indicator lights  External reset possible  With fuse  With fuse  Degree of protection (IP)  Degree of protection (NEMA)  Supporting protocol for TCP/IP  Supporting protocol for PR0FIBUS  With fuse  No  Other  No  No  No  No  No  No  No  No  No  N	Number of command positions		
Number of indicator lights  External reset possible  With fuse  Degree of protection (IP)  Degree of protection (NEMA)  Supporting protocol for TCP/IP  Supporting protocol for PROFIBUS  Descriptions  Supporting protocol for PROFIBUS  Descriptions  Supporting protocol for PROFIBUS  Descriptions  Supporting protocol for PROFIBUS	Suitable for emergency stop		No
External reset possible  With fuse  Degree of protection (IP)  Degree of protection (NEMA)  Supporting protocol for TCP/IP  Supporting protocol for PR0FIBUS  Wes  Yes  No  Other  Other  No  No  No	Coordination class according to IEC 60947-4-3		
With fuseNoDegree of protection (IP)IP20Degree of protection (NEMA)OtherSupporting protocol for TCP/IPNoSupporting protocol for PROFIBUSNo	Number of indicator lights		5
Degree of protection (IP)  Degree of protection (NEMA)  Supporting protocol for TCP/IP  Supporting protocol for PROFIBUS  IP20  Other  No  No	External reset possible		Yes
Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for PROFIBUS Other No No	With fuse		No
Supporting protocol for TCP/IP No Supporting protocol for PROFIBUS No	Degree of protection (IP)		IP20
Supporting protocol for PROFIBUS No	Degree of protection (NEMA)		Other
	Supporting protocol for TCP/IP		No
Supporting protocol for CAN No	Supporting protocol for PROFIBUS		No
	Supporting protocol for CAN		No

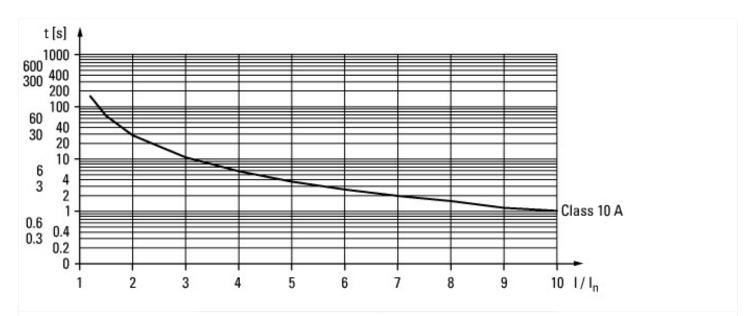
Supporting protocol for INTERBUS		No
Supporting protocol for ASI		No
Supporting protocol for MODBUS		No
Supporting protocol for Data-Highway		No
Supporting protocol for DeviceNet		No
Supporting protocol for SUCONET		No
Supporting protocol for LON		No
Supporting protocol for PROFINET IO		No
Supporting protocol for PROFINET CBA		No
Supporting protocol for SERCOS		No
Supporting protocol for Foundation Fieldbus		No
Supporting protocol for EtherNet/IP		No
Supporting protocol for AS-Interface Safety at Work		No
Supporting protocol for DeviceNet Safety		No
Supporting protocol for INTERBUS-Safety		No
Supporting protocol for PROFIsafe		No
Supporting protocol for SafetyBUS p		No
Supporting protocol for other bus systems		Yes
Width	mm	22.5
Height	mm	112.5
Depth	mm	113.6

## Approvals

Product Standards	UL 60947-4-1; CSA C22.2 No. 60947-4-1-14; CE marking
UL File No.	E338590
UL Category Control No.	NLDX, NLDX7
CSA File No.	UL report applies to both US and Canada
North America Certification	UL listed, certified by UL for use in Canada
Specially designed for North America	No

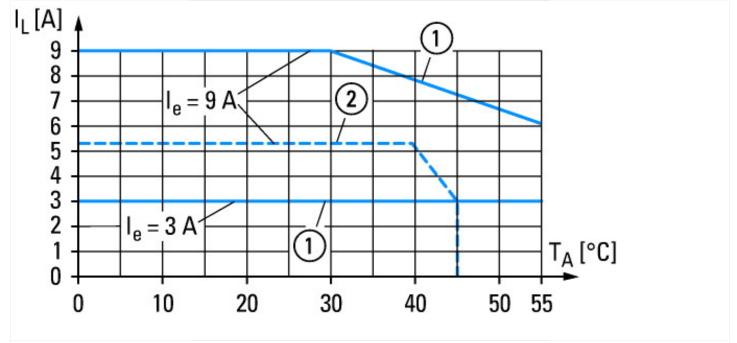
### **Characteristics**





Tripping characteristic curve CLASS 10A set motor current > 4 A





- Current derating

  ① For devices installed with a minimum clearance of 20 mm
  ② For devices in direct sequence

## **Dimensions**

