



Analog input card XI/ON ECO, 24 V DC, 8AI(voltage, current)/4(PT, ni, R)

Part no. XNE-8AI-U/I-4PT/NI
Article no. 140037

Delivery program

Function			XI/ON I/O modules
Function			XNE Slice module
Short Description			8 Analog input U/I or 4 Analog inputs PT/NI -10/0 to +10 V DC 0/4 to 20 mA Acquisition of normalized signals for temperature measurement Connection of sensor types Pt100, Pt200, Pt500, Pt1000 and Ni100, Ni1000, NI1000TK5000 in 2- or 3-wire circuit

Technical data

General



Standards			EN 61000-6-2 EN 61000-6-4 EN 61131-2
Potential isolation			Yes, through optocoupler
Ambient temperature			
Ambient temperature, operation		°C	0 - +55
Storage, transport	θ	°C	-25 - +85
Relative humidity			
Relative humidity			5 - 95 % (indoor), Level RH-2, no condensation (for storage at 45°C)
Ambient conditions, mechanical			
Degree of Protection			IP20
Harmful gases		ppm	SO ₂ : 10 (rel. humidity < 75%, no condensation) H ₂ S: 1.0 (rel. humidity < 75 %,no condensation)
Vibration resistance, operating conditions			according to IEC/EN 60068-2-6
Mechanical shock resistance		g	according to IEC 60068-2-27
Continuous shock resistance (IEC/EN 60068-2-29)			According to IEC 60068-2-29
Drop and topple			According to IEC 60068-2-31, free fall according to IEC 60068-2-32
Electromagnetic compatibility (EMC)			
ESD	Air/contact discharge	kV	EN 61100-4-2
Electromagnetic fields	(0.08...1) / (1,4...2) / (2...2,7) GHz	V/m	EN 61100-4-2
Burst			EN 61100-4-4
Surge			EN 61100-4-5
Radiated RFI		V	EN 61100-4-6
Emitted interference (radiated, high frequency)	(30...230 MHz) / (230...1000 MHz)	dB	EN 55016-2-3
Voltage fluctuations/voltage dips			EN 61131-2

Type test			to EN 61131-2
Approvals			CE, cULus
Other technical data (sheet catalogue)			Technical Data


Terminations

Rated data			according to VDE 0611 Part 1/8.92 / IEC/EN 60947-7-1
Connection design in TOP direction			Push-In spring-cage terminals
Stripping length		mm	8
Clamping range			max. 0.14 - 1.5 mm ²
Connectable conductors			
"e" solid H07V-U		mm ²	0.25 - 1.5
"f" flexible H 07V-K		mm ²	0.25 - 1.5
"f" with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)		mm ²	0.25 - 1.5
"f" with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)		mm ²	0.25 - 0.75
Connectable conductors			
"e" solid H07V-U		mm ²	0.25 - 1.5
"f" flexible H 07V-K		mm ²	0.25 - 1.5
"f" with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)		mm ²	0.25 - 1.5
"f" with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)		mm ²	0.25 - 0.75
Gauge pin IEC/EN 60947-1			A1

Analog input modules


Measured variables			Voltage, current, temperature (PT, NI), resistance R
Channels		Number	8 (U/I), 4 (PT/NI/R)
Rated voltage through supply terminal	U _L		24 V DC
Rated current consumption from supply terminal	I _L	mA	35
Rated current consumption from module bus	I _{MB}	mA	 30
Heat dissipation		W	< 1.5
Input current		mA	0/4 - 20
Maximum input current		mA	40 (Max. input voltage: < 17 V)
Input voltage			-10/0 to +10 V DC
Maximum input voltage		V DC	± 20
Input impedance			< 62 Ω /  200 kΩ
Limit frequency (-3 db)		Hz	1.5
Offset error		%	0.1
Basic error limit at 23 °C		%	0.2
Temperature coefficient			200 ppm/°C of full-scale value
Measured value representation			16-bit signed integer 12-bit full range, flush left Standard/extended range/PA (NE43)
Connectable sensors			Platinum sensors: Pt100, Pt500, Pt1000 (as per IEC 751) Nickel sensors: Ni100, Ni1000 (as per DIN 43760)
Temperature range		°C, (°F)	PT: -200 - +850 (-328 - +1562)/-200 - +150 (-328 - +302) Ni: -60 - +250 (-76 - +482)/-60 - +150 (-76 - +302)
Diagnostics			Yes
Base modules			
without C connection			Already built in

Analog output modules


Measured variables			Voltage, current, temperature (PT, NI), resistance R
Channels		Number	8 (U/I), 4 (PT/NI/R)
Rated voltage through supply terminal	U _L		24 V DC
Rated current consumption from supply terminal	I _L	mA	35
Rated current consumption from module bus	I _{MB}	mA	 30
Heat dissipation		W	< 1.5

Offset error		%	0.1
Basic error limit at 23 °C		%	0.2
Temperature coefficient			200 ppm/°C of full-scale value
Measured value representation			16-bit signed integer 12-bit full range, flush left Standard/extended range/PA (NE43)
Base modules			
without C connection			Already built in

Digital outputs

Channels		Number	8 (U/I), 4 (PT/NI/R)
Rated voltage through supply terminal	U_L		24 V DC
Rated current consumption from the supply terminal (at load current = 0 mA)	I_L	mA	35
Rated current consumption from module bus	I_{MB}	mA	 30
Can be connected			Platinum sensors: Pt100, Pt500, Pt1000 (as per IEC 751) Nickel sensors: Ni100, Ni1000 (as per DIN 43760)
Diagnostics			Yes


Digital inputs

Channels		Number	8 (U/I), 4 (PT/NI/R)
Rated voltage through supply terminal	U_L		24 V DC
Rated current consumption from supply terminal	I_L	mA	35
Rated current consumption from module bus	I_{MB}	mA	 30
Heat dissipation		W	< 1.5
Base modules			
without C connection			Already built in


Relay modules

Rated voltage through supply terminal	U_L		24 V DC
Rated current consumption from supply terminal	I_L	mA	35
Rated current consumption from module bus	I_{MB}	mA	 30
Can be connected			Platinum sensors: Pt100, Pt500, Pt1000 (as per IEC 751) Nickel sensors: Ni100, Ni1000 (as per DIN 43760)
Base modules			
without C connection			Already built in

Power supply module

Rated voltage through supply terminal	U_L		24 V DC
Rated current consumption from supply terminal	I_L	mA	35
Rated current consumption from module bus	I_{MB}	mA	 30


Counter module

Channels		Number	8 (U/I), 4 (PT/NI/R)
Rated voltage through supply terminal	U_L		24 V DC
Rated current consumption from supply terminal	I_L	mA	35
Rated current consumption from module bus	I_{MB}	mA	 30
Heat dissipation		W	< 1.5

Measuring modes

Temperature coefficient			200 ppm/°C of full-scale value
-------------------------	--	--	--------------------------------

Interfaces

Rated voltage through supply terminal	U_L		24 V DC
Rated current consumption from supply terminal	I_L	mA	35
Rated current consumption from module bus	I_{MB}	mA	 30

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	0
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	0

Static heat dissipation, non-current-dependent	P _{vs}	W	1.5
Heat dissipation capacity	P _{diss}	W	0
Operating ambient temperature min.		°C	0
Operating ambient temperature max.		°C	55
Degree of Protection			IP20
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			Meets the product standard's requirements.
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.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility.
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 6.0

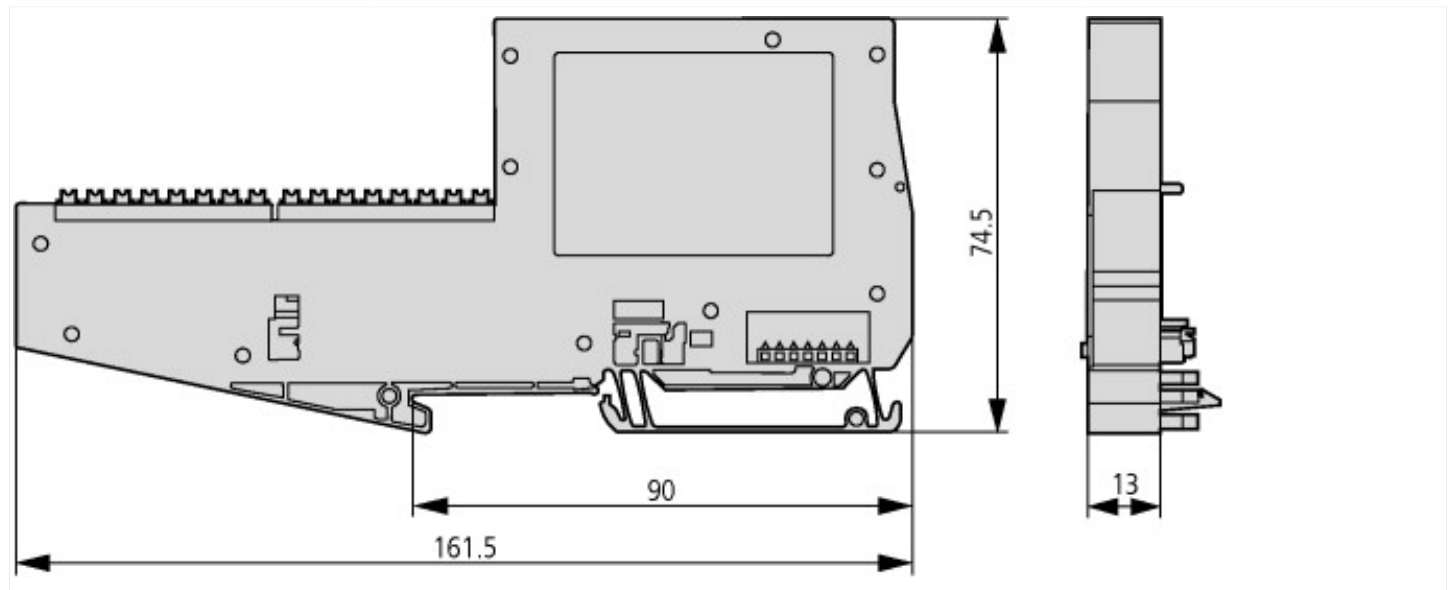
PLC's (EG000024) / Fieldbus, decentr. periphery - analogue I/O module (EC001596)			
Electric engineering, automation, process control engineering / Control / Field bus, decentralized peripheral / Field bus, decentralized peripheral - analogue I/O module (ecl@ss8.1-27-24-26-01 [BAA061011])			
Supply voltage AC 50 Hz		V	0 - 0
Supply voltage AC 60 Hz		V	0 - 0
Supply voltage DC		V	20.4 - 28.8
Voltage type of supply voltage			DC
Input, current			Yes
Input, voltage			Yes
Input, resistor			Yes
Input, resistance thermometer			No
Input, thermocouple			No
Input signal, configurable			Yes
Resolution of the analogue inputs		Bit	16
Output, current			No
Output, voltage			No
Output signal configurable			No
Resolution of the analogue outputs		Bit	0
Number of analogue inputs			8
Number of analogue outputs			0
Analog inputs configurable			Yes
Analog outputs configurable			Yes
Number of HW-interfaces industrial Ethernet			0

Number of HW-interfaces PROFINET		0
Number of HW-interfaces RS-232		0
Number of HW-interfaces RS-422		0
Number of HW-interfaces RS-485		0
Number of HW-interfaces serial TTY		0
Number of HW-interfaces parallel		0
Number of HW-interfaces Wireless		0
Number of HW-interfaces other		1
Supporting protocol for TCP/IP		No
Supporting protocol for PROFIBUS		No
Supporting protocol for CAN		No
Supporting protocol for INTERBUS		No
Supporting protocol for ASI		No
Supporting protocol for KNX		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		No
Radio standard Bluetooth		No
Radio standard WLAN 802.11		No
Radio standard GPRS		No
Radio standard GSM		No
Radio standard UMTS		No
IO link master		No
System accessory		Yes
Degree of protection (IP)		IP20
Type of electric connection		Screw-/spring clamp connection
Fieldbus connection over separate bus coupler possible		Yes
Rail mounting possible		Yes
Wall mounting/direct mounting		No
Front build in possible		No
Rack-assembly possible		No
Suitable for safety functions		No
Category according to EN 954-1		
SIL according to IEC 61508		None
Performance level acc. to EN ISO 13849-1		None
Appendant operation agent (Ex ia)		No
Appendant operation agent (Ex ib)		No
Explosion safety category for gas		None
Explosion safety category for dust		None
Width	mm	13
Height	mm	161.5
Depth	mm	74.5

Approvals

Product Standards		IEC/EN 6113-2; CE marking
North America Certification		Request filed for UL and CSA
Specially designed for North America		No
Current Limiting Circuit-Breaker		No
Degree of Protection		IEC: IP20, UL/CSA Type: -

Dimensions



Dimensions

Additional product information (links)

MN05002011Z Manual XI/ON analog I/O modules	
MN05002011Z Handbuch XI/ON Analoge I/O-Module - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05002011Z_DE.pdf
MN05002011Z Manual XI/ON analog I/O modules - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05002011Z_EN.pdf
Technical Data	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=14.111