



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

**Part no.** XNE-8AI-U/I-4PT/NI  
**Catalog No.** 140037

**EL-Nummer (Norway)** 0004520016

## 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 <sub>2</sub> : 10 (rel. humidity < 75%, no condensation) H <sub>2</sub> 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 61000-4-2
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 EAC
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 <sup>2</sup>
Connectable conductors			
"e" solid H07V-U		mm <sup>2</sup>	0.25 - 1.5
"f" flexible H 07V-K		mm <sup>2</sup>	0.25 - 1.5
"f" with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)		mm <sup>2</sup>	0.25 - 1.5
"f" with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)		mm <sup>2</sup>	0.25 - 0.75
Connectable conductors			
"e" solid H07V-U		mm <sup>2</sup>	0.25 - 1.5
"f" flexible H 07V-K		mm <sup>2</sup>	0.25 - 1.5
"f" with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)		mm <sup>2</sup>	0.25 - 1.5
"f" with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)		mm <sup>2</sup>	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 <sub>L</sub>		24 V DC
Rated current consumption from supply terminal	I <sub>L</sub>	mA	35
Rated current consumption from module bus	I <sub>MB</sub>	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 <sub>L</sub>		24 V DC
Rated current consumption from supply terminal	I <sub>L</sub>	mA	35
Rated current consumption from module bus	I <sub>MB</sub>	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	$\leq 30$
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	$\leq 30$
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	$\leq 30$
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	$\leq 30$

### 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	$\leq 30$
Heat dissipation		W	< 1.5

### Measuring modes

Temperature coefficient			200 ppm/°C of full-scale value
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### 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	$\leq 30$

## 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 7.0

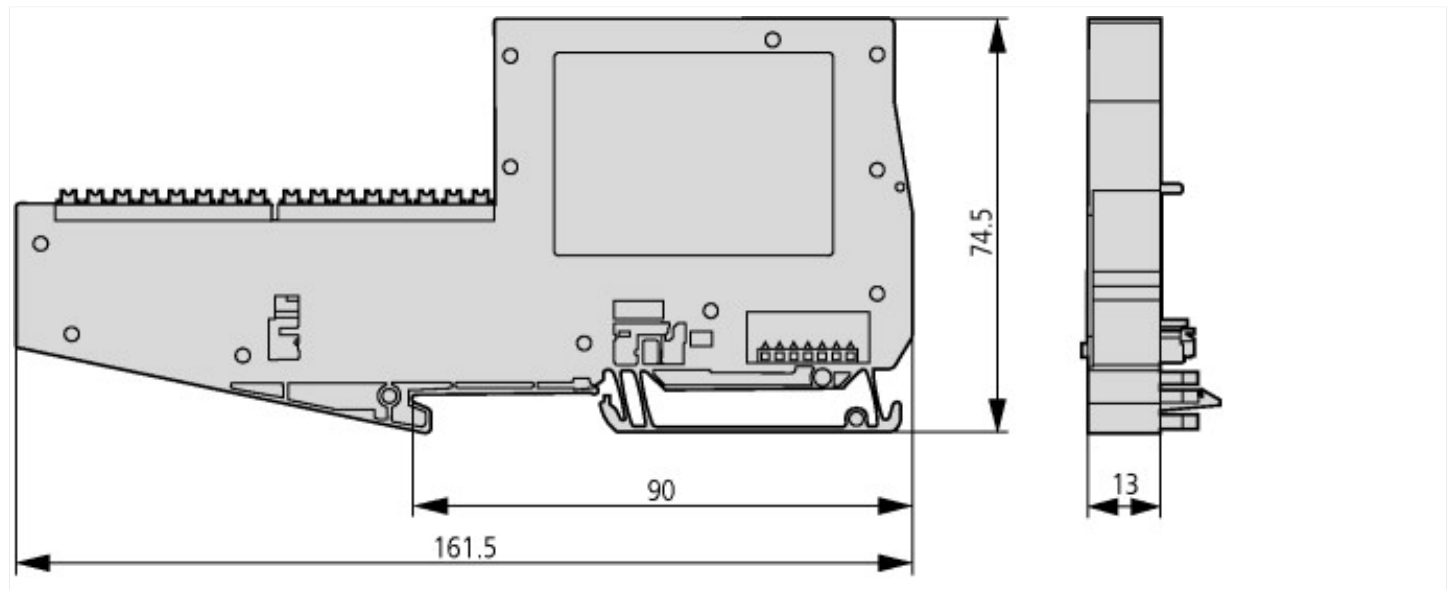
PLC's (EG000024) / Fieldbus, decentr. periphery - analogue I/O module (EC001596)		
Electric engineering, automation, process control engineering / Control / Field bus, decentralized peripheral / Field bus, decentralized peripheral - analogue I/O module (ecl@ss10.0.1-27-24-26-01 [BAA061014])		
Supply 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
Analogue inputs configurable		Yes
Analogue outputs configurable		Yes
Number of HW-interfaces industrial Ethernet		0
Number of 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 USB		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
Degree of protection (NEMA)		
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. 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)

<b>Manual XI/ON analog I/O modules MN05002011Z</b>	
Handbuch XI/ON analoge E/A-Module MN05002011Z - Deutsch	<a href="https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05002011Z_DE.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05002011Z_DE.pdf</a>
Manual XI/ON analog I/O modules MN05002011Z - English	<a href="https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05002011Z_EN.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05002011Z_EN.pdf</a>
Technical Data	<a href="http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=14.111">http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=14.111</a>