DATASHEET - XN-4AI-U/I

Analog input card XI/ON, 24 V DC, 4AI (-10/0 to +10V, 0/4 to 20mA)

Part no.	**XN-4AI-U/I**
	140158
EL Number (Norway)	**4520678**

General specifications

Product name	Eaton XN Accessory Input card
Part no.	XN-4AI-U/I
EAN	7640130120280
Product Length/Depth	74.1 millimetre
Product height	55.4 millimetre
Product width	12.6 millimetre
Product weight	0.034 kilogram
Certifications	IEC/EN 61000-6-2 IEC/EN 61000-6-4 CSA Class No.: 2252-01, 2252-81 IEC/EN 6113-2 CSA-C22.2 No. 142 CULus UL Recognized UL File No.: E205091 Certified by UL for use in Canada CE UL report applies to both US and Canada UL 508 UL Category Control No.: NRAQ, NRAQ7 IEC/EN 61131-2
Product Tradename	XN
Product Type	Accessory
Product Sub Type	Input card
Catalog Notes	-10/0 to +10 V DC 0.3 0/4 to 20 mA 300 ppm/°C of full scale Switchable as channels

Features & Functions

Electric connection type	Screw-/spring clamp connection
Features	Input signal, configurable Input, current Input, voltage Measuring principle: Delta Sigma Analog outputs configurable Fieldbus connection over separate bus coupler possible Analog inputs configurable
Functions	Diagnosis function

General information

Current consumption	20 mA, from supply terminal 50 mA, from module bus, Analog input modules
Degree of protection	IP20 NEMA 1
Limit frequency	20 Hz (- 3 db)
Mounting method	Rail mounting possible
Number of channels	4
Product category	XN Slice module
Repetition accuracy	0.09 % (deviation)
Resolution	16-bit (Resolution of the A/D converter)
Suitable for	Base modules without C-Connection: 2-wire/3-wire
Type	XI/ON I/O module
Used with	XN-S6S-SBCSBC XN-S6T-SBCSBC
Voltage type	DC

Ambient conditions, mechanical

Drop and topple	According to IEC 60068-2-31, free fall according to IEC 60068-2-32

Shock resistance	Continuous according to IEC/EN 60068-2-29 Mechanical, According to IEC/EN 60068-2-27
Vibration resistance	According to IEC/EN 60068-2-6
Climatic environmental conditions	
Ambient operating temperature - min	0 °C
Ambient operating temperature - max	55 °C
Ambient storage temperature - min	-25 °C
Ambient storage temperature - max	85 °C
Environmental conditions	Harmful gasses - SO2: 10 ppm (relative humidity < 75%, no condensation) Harmful gasses - H2S: 1 ppm (relative humidity < 75%, no condensation)
Relative humidity	5 - 95 % (indoor, Level RH-2, non-condensing for storage at 45°C)
Electro magnetic compatibility	
Air discharge	According to EN 61100-4-2
Burst impulse	According to IEC/EN 61000-4-4
Contact discharge	According to EN 61100-4-2
Electromagnetic fields	According to IEC EN 61100-4-2
Emitted interference	230 - 1000 MHz (radiated, high frequency, according to EN 55016-2-3) 30 - 230 MHz (radiated, high frequency, according to EN 55016-2-3)
Radiated RFI	IEC/EN 61100-4-6
Surge rating	According to IEC/EN 61000-4-5 Level 4
Voltage dips	According to EN 61131-2 (Voltage fluctuations/voltage dips)
Electrical rating	
Rated operational voltage	24 V DC (supply terminal)
Supply voltage at AC, 50 Hz - min	0 V AC
Supply voltage at AC, 50 Hz - max	0 V AC
Supply voltage at DC - min	20.4 V DC
Supply voltage at DC - max	28.8 V DC
Communication	
Protocol	Other bus systems
Input/Output	
Input current	0/4 - 20 mA (Analog input) 50 mA (Analog input)
Input impedance	< 62 kΩ > 98.5 kΩ
Input voltage	-10/0 - 10 V DC (Analog input modules) Max. 35 V DC (continuous)
Linearity	0.05 %
Measured value representation	16-bit signed integer 12-bit signed integer, flush-left
Measured variables	Current Voltage
Number of inputs (analog)	4
Number of outputs (analog)	0
Timing cycle	0.1 % Offset error
Safety	
Explosion safety category for dust	None
Explosion safety category for gas	None
Potential isolation	Through optocoupler: yes
Design verification	
Equipment heat dissipation, current-dependent Pvid	1 W
Heat dissipation capacity Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	0 W
Rated operational current for specified heat dissipation (In)	0 A
Static heat dissipation, non-current-dependent Pvs	1 W
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.
10.9.2 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 9.0

Programmable logic controllers PLC (EG000024) / Fieldbus, decentr. periphery - analogue I/O module (EC001596)			
Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Field bus, decentralized peripheral / Field bus, decentralized peripheral - analogue I/O module (ecl@ss13-27-24-26-01 [BAA061019])			
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 (supply voltage)			DC
Power consumption		W	
Input, current			Yes
Input, voltage			Yes
Input, resistor			No
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			4
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 EtherCAT			No

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	Yes
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)	1
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 built-in possible	No
Rack-assembly possible	No
Suitable for safety functions	No
SIL according to IEC 61508	None
Performance level according 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
Certified for UL hazardous location class I	No
Certified for UL hazardous location class II	No
Certified for UL hazardous location class III	No
Certified for UL hazardous location division 1	No
Certified for UL hazardous location division 2	No
Certified for UL hazardous location group A (acetylene)	No
Certified for UL hazardous location group B (hydrogen)	No
Certified for UL hazardous location group C (ethylene)	No
Certified for UL hazardous location group D (propane)	No
Certified for UL hazardous location group E (metal dusts)	No
Certified for UL hazardous location group F (carbonaceous dusts)	No

Certified for UL hazardous location group G (non-conductive dusts)			No
Width		mm	12.6
Height		mm	55.4
Depth		mm	74.1

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