DATASHEET - XN-322-8AI-I

Analog input module; 8 current inputs 0/4 up to 20 mA

Part no. **XN-322-8AI-I**
179288

Powering Business Worldwide™

General specifications

Product name	Eaton XN-322 Accessory Input module
Part no.	XN-322-8AI-I
EAN	7640130098381
Product Length/Depth	104.2 millimetre
Product height	16.8 millimetre
Product width	80.3 millimetre
Product weight	0.056 kilogram
Certifications	CULus UL File No.: E135462 IEC/EN 61000-6-4 CE IEC/EN 61131-2 IEC/EN 61000-6-2
Product Tradename	XN-322
Product Type	Accessory
Product Sub Type	Input module
Catalog Notes	The max. heat dissipation is specified as the maximum power produced inside the device's housing.

Features & Functions

Current measurement	50 Ω typ., input resistance 0 - 20 mA 4 - 20 mA
Electric connection type	Plug-in connection
Features	Fieldbus connection over separate bus coupler possible Analog outputs configurable Input, current Analog inputs configurable Input signal, configurable
Fitted with:	Parameterizable Software input filter 1 kHz, third-order low-pass input filter
Value representation	SIGNED16, Current measurement

General information

Current consumption	30 mA (typ.), for +24 V, Power supply - Input 50 mA (typ.), for +5 V power supply (internal), Power supply - Input
Degree of protection	IP20 NEMA 1
Limit frequency	1 kHz (third-order low-pass filter)
Mounting method	Rail mounting possible
Number of channels	8, Analog Inputs
Overvoltage category	III
Pollution degree	3
Product category	XN-322 analog input module
Resolution	16 Bit (Analog inputs)
Type	XN300 I/O slice module
Used with	XN-312-… XN300
Voltage type	DC

Ambient conditions, mechanical

Height of fall (IEC/EN 60068-2-32) - max	1 m
Mounting position	Horizontal
Shock resistance	15 g, Mechanical, Half-sinusoidal shock 11 ms, 18 Impacts
Vibration resistance	5 - 8.4 / 8.4 -150 Hz, 3,5 mm / 1 g

Climatic environmental conditions

Air pressure	795 - 1080 hPa (operation)

Ambient operating temperature - min	0 °C
Ambient operating temperature - max	60 °C
Ambient storage temperature - min	-20 °C
Ambient storage temperature - max	85 °C
Climatic proofing	Dry heat to IEC 60068-2-2 Damp heat, constant, to IEC 60068-2-3
Environmental conditions	Condensation: prevent with appropriate measures
Relative humidity	0 - 95 % (non-condensing)

Electro magnetic compatibility

Air discharge	8 kV
Burst impulse	2 kV, Supply cable 1 kV, Signal cable
Contact discharge	4 kV
Electromagnetic fields	10 V/m at 0.08 - 1.0 GHz (according to IEC EN 61000-4-3) 1 V/m at 2 - 2.7 GHz (according to IEC EN 61000-4-3) 3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-4-3)
Emitted interference	40 dB (at 30 - 230 MHz, Class A, radiated, high frequency) 47 dB (at 230 - 1000 MHz, Class A, radiated, high frequency)
Radiated RFI	10 V
Surge rating	1 kV, Signal cable, unbalanced, EMC 0.5/0.5 kV, Supply cable, balanced/unbalanced), EMC
Voltage dips	Voltage dips: 10 ms/Voltage fluctuations: Yes

Terminal capacities

Terminal capacity	0.2 - 1.5 mm^2, flexible without ferrule, H07V-K 0.25 - 1.5 mm^2, with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight) 0.25 - 1.5 mm^2, with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight) 0.2 - 1.5 mm^2, solid, H07V-U 24 - 16 AWG
Gauge pin	A1 (according to IEC/EN 60947-1)
Stripping length (main cable)	10 mm
Insulating material group	I

Electrical rating

Rated operational voltage	160 V (terminations)
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	18 V DC
Supply voltage at DC - max	30 V DC

Communication

Connection type	2 conductors, Current measurement Push-in spring-cage terminal (plug-in connection), Connection design in TOP direction
Protocol	Other bus systems

Input/Output

Accuracy	± 0.5 % of full scale, Current measurement
Input	8 Analog current inputs (0/4 - 20 mA)
Input current	Max. 100 mA
Load current	Not specified by plug manufacturer
Measured variables	Current
Number of inputs (analog)	8
Number of outputs (analog)	0
Value refresh time/cycle time	Min. 1 / 1 ms (per channel / all channels), Analog Inputs

Safety

Explosion safety category for dust	None
Explosion safety category for gas	None
Potential isolation	Analog inputs: no

Design verification

Equipment heat dissipation, current-dependent Pvid	0 W
Heat dissipation capacity Pdiss	0 W

Heat dissipation per pole, current-dependent Pvid			0.97 W
Rated operational current for specified heat dissipation (In)			0 A
Static heat dissipation, non-current-dependent Pvs			1.485 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	18 - 30
Voltage type (supply voltage)			DC
Power consumption		W	0.6
Input, current			Yes
Input, voltage			No
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			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 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	Plug-in 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	80.3
Height		mm	16.8
Depth		mm	104.2