

Analog input module; 4 analog inputs; Pt/Ni/KTY/R with 2-wire or 3-wire connection



Part no. XN-322-4AI-PTNI
178772

General specifications		
Product name		Eaton XN-322 Accessory Input module
Part no.		XN-322-4AI-PTNI
EAN		7640130098367
Product Length/Depth		104.2 millimetre
Product height		16.8 millimetre
Product width		80.3 millimetre
Product weight		0.056 kilogram
Certifications		UL File No.: E135462 IEC/EN 61000-6-2 CE IEC/EN 61131-2 IEC/EN 61000-6-4 CULus
Product Tradename		XN-322
Product Type		Accessory
Product Sub Type		Input module
Catalog Notes		Measurement current < 0.3 The max. heat dissipation is specified as the maximum power produced inside the device's housing.
Features & Functions		
Electric connection type		Plug-in connection
Features		Input, resistance thermometer Fieldbus connection over separate bus coupler possible Analog outputs configurable Input, resistor Analog inputs configurable Input signal, configurable
Fitted with:		10 kHz, second-order low-pass input filter Parameterizable Software input filter
Measurement ranges		0 - 1000 (Resistance measurement) 0 - 2500 (Resistance measurement) -40 - 300 °C (Temperature measurement, KTY84) 0 - 500 (Resistance measurement) -50 - 150 °C (Temperature measurement, KTY11) -200 - 850 °C (Temperature measurement, PT100/200/500/1000) -60 - 250 °C (Temperature measurement, NI100/1000) -60 - 150 °C (Temperature measurement, NI100/1000) 0 - 250 (Resistance measurement) 0 - 5000 (Resistance measurement) -200 - 150 °C (Temperature measurement, PT100/200/500/1000) -55 - 150 °C (Temperature measurement, KTY81)
Value representation		SIGNED16 (0.1 °C), UNSIGNED16 (0.1 Ω), Temperature and resistance measurement
General information		
Current consumption		37 mA (typ.), for +24 V, Power supply - Input 0 mA (typ.), for +5 V power supply (internal), Power supply - Input
Degree of protection		IP20 NEMA 1
Mounting method		Rail mounting possible
Number of channels		4, Analog Inputs
Overvoltage category		III
Pollution degree		3
Product category		XN-322 analog input module
Resolution		16 Bit (Analog inputs)
Type		Analog input module for four PT100/PT1000/NI100/NI1000KTYxx/R resistance inputs with 2-wire and 3-wire configurations. 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		1 kV, Signal cable 2 kV, Supply cable
Contact discharge		4 kV
Electromagnetic fields		1 V/m at 2 - 2.7 GHz (according to IEC EN 61000-4-3) 10 V/m at 0.08 - 1.0 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		47 dB (at 230 - 1000 MHz, Class A, radiated, high frequency) 40 dB (at 30 - 230 MHz, Class A, radiated, high frequency)
Radiated RFI		10 V
Surge rating		0.5/0.5 kV, Supply cable, balanced/unbalanced), EMC 1 kV, Signal cable, 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 0.2 - 1.5 mm ² , solid, H07V-U 24 - 16 AWG 0.25 - 1.5 mm ² , with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight) 0.25 - 1.5 mm ² , with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)
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-conductor/3-conductor, Temperature and resistance measurement Push-in spring-cage terminal (plug-in connection), Connection design in TOP direction
Protocol		Other bus systems
Input/Output		
Accuracy		± 0.3 % of full scale, Temperature and resistance measurement
Input		4 Analog resistance inputs (Pt/Ni/KTY/R with 2-wire or 3-wire connection)
Load current		Not specified by plug manufacturer
Measured variables		Temperature Resistance
Number of inputs (analog)		4
Number of outputs (analog)		0
Value refresh time/cycle time		Min. 4 / 4 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 Pdis			0 W
Heat dissipation per pole, current-dependent Pvid			0.768 W
Rated operational current for specified heat dissipation (In)			0 A
Static heat dissipation, non-current-dependent Pvs			1.08 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		0.3
Input, current			No
Input, voltage			No
Input, resistor			Yes
Input, resistance thermometer			Yes
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		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