

## Analog input module; 6 analog inputs; +/-10V; 1 PT/KTY; Uref



Part no. **XN-322-7AI-U2PT**  
**178789**

## General specifications

Product name	Eaton XN-322 Accessory Input module
Part no.	XN-322-7AI-U2PT
EAN	7640130098237
Product Length/Depth	104.2 millimetre
Product height	16.8 millimetre
Product width	80.3 millimetre
Product weight	0.062 kilogram
Certifications	UL File No.: E135462 CULus IEC/EN 61000-6-2 IEC/EN 61000-6-4 CE IEC/EN 61131-2
Product Tradename	XN-322
Product Type	Accessory
Product Sub Type	Input module
Catalog Notes	Input resistance 33 kΩ Reference voltage output: permissible output current of 4.17 mA per channel Supply voltage UAUX 14 V DC The max. heat dissipation is specified as the maximum power produced inside the device's housing.

## Features &amp; Functions

Electric connection type	Plug-in connection
Features	Fieldbus connection over separate bus coupler possible Input, resistance thermometer Analog outputs configurable Input, voltage Output, voltage Analog inputs configurable Input signal, configurable
Fitted with:	1 kHz, third-order low-pass input filter Parameterizable Software input filter
Measurement ranges	-50 - 150 °C (Temperature measurement, KTY10) -25 - 850 °C (Temperature measurement, PT1000)
Value representation	SIGNED16 (0.1 °C), Temperature and resistance measurement SIGNED16, mV, Voltage measurement
Voltage measurement	The channels can also be used as potentiometer inputs. > 10 MΩ, Input resistance ± 12 V DC, Common-mode range -10 - 10 V DC, Measurement range Open wire monitoring.

## General information

Current consumption	68 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	7, Analog Inputs
Oversupply category	III
Pollution degree	3
Product category	XN-322 analog input module
Resolution	16 Bit (Analog inputs)
Type	Analog I/O module with six +/-10 V / 16-bit inputs, one KTY10 / PT1000 temperature input (optionally a second temperature input), and one 10 V/15 mA reference voltage output. XN300 I/O slice module
Used with	XN300 XN-312-...

Voltage type	DC
<b>Ambient conditions, mechanical</b>	
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
<b>Climatic environmental conditions</b>	
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)
<b>Electro magnetic compatibility</b>	
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	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
<b>Terminal capacities</b>	
Terminal capacity	0.25 - 1.5 mm <sup>2</sup> , with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight) 0.25 - 1.5 mm <sup>2</sup> , with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight) 0.2 - 1.5 mm <sup>2</sup> , solid, H07V-U 24 - 16 AWG 0.2 - 1.5 mm <sup>2</sup> , flexible without ferrule, H07V-K
Gauge pin	A1 (according to IEC/EN 60947-1)
Stripping length (main cable)	10 mm
Insulating material group	I
<b>Electrical rating</b>	
Rated control supply voltage	10 V (Sensor/transmitter supply)
Rated operational current (Ie)	Max. 0.025 A (supply output)
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
<b>Communication</b>	
Connection type	Push-in spring-cage terminal (plug-in connection), Connection design in TOP direction 2 conductors, Voltage measurement 2 conductors, Temperature and resistance measurement
Protocol	Other bus systems
<b>Input/Output</b>	
Accuracy	± 0.3 % of full scale, Voltage measurement ± 0.5 % of full scale, Temperature and resistance measurement
Input	Analog inputs 1 and 7 can be used as temperature inputs 6 Analog inputs (±10 V, 1 PT/KTY, Uref)
Input voltage	Max. 14 V DC

Load current	Not specified by plug manufacturer	
Measured variables	Voltage or potentiometer Temperature	
Number of inputs (analog)	7	
Number of outputs (analog)	1	
Value refresh time/cycle time	Min. 1 / 1 ms (per channel / all channels), Analog Inputs	
<b>Safety</b>		
Explosion safety category for dust	None	
Explosion safety category for gas	None	
Potential isolation	Power supply, Input: yes	
<b>Design verification</b>		
Equipment heat dissipation, current-dependent Pvid	0 W	
Heat dissipation capacity Pdiss	0 W	
Heat dissipation per pole, current-dependent Pvid	1.21 W	
Rated operational current for specified heat dissipation (In)	0 A	
Static heat dissipation, non-current-dependent Pvs	2.525 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	1.8
Input, current		No
Input, voltage		Yes
Input, resistor		No
Input, resistance thermometer		Yes
Input, thermocouple		No
Input signal, configurable		Yes
Resolution of the analogue inputs	Bit	16

Output, current		No
Output, voltage		Yes
Output signal configurable		No
Resolution of the analogue outputs	Bit	0
Number of analogue inputs		7
Number of analogue outputs		1
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