DATASHEET - XN-322-8AO-U2

Analog output module; 8 analog outputs; +/-10V

Part no. **XN-322-8AO-U2**
178790

Powering Business Worldwide™

General specifications

Product name	Eaton XN-322 Output module
Part no.	XN-322-8AO-U2
EAN	7640130098244
Product Length/Depth	104.2 millimetre
Product height	16.8 millimetre
Product width	80.3 millimetre
Product weight	0.059 kilogram
Certifications	IEC/EN 61000-6-2 IEC/EN 61000-6-4 CULus IEC/EN 61131-2 UL File No.: E135462 CE
Product Tradename	XN-322
Product Type	Output module
Product Sub Type	None
Catalog Notes	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	Output, voltage Analog outputs configurable Fieldbus connection over separate bus coupler possible

General information

Current consumption	None mA (typ.), for +24 V, Power supply - Input 55 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	8, Analog Outputs
Overvoltage category	III
Pollution degree	3
Product category	XN-322 analog output module
Resolution	12 Bit (Analog outputs)
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	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	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	24 - 16 AWG 0.2 - 1.5 mm^2, solid, H07V-U 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)
Gauge pin	A1 (according to IEC/EN 60947-1)
Stripping length (main cable)	10 mm
Insulating material group	I
Electrical rating	
Rated operational current (Ie)	0.044 A (supply input)
Rated operational voltage	24 V (X5) 160 V (terminations)
Short-circuit current	25 mA, per channel, Analog outputs
Short-circuit protection	Yes, Short-circuit strength, Analog outputs
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, Analog outputs, Output voltage 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, Analog outputs
Capacitive load	0.1 µF, Analog outputs
Load current	Not specified by plug manufacturer
Number of inputs (analog)	0
Number of outputs (analog)	8
Output	8 Voltage Outputs (-10 - 10 V, ± 0.5% of final value, readings displayed in mV, 12-bit, 5 mV resolution) 8 Analog Outputs (± 10 V)
Output voltage	-10 - 10 V DC (analog outputs)
Refresh time	1 ms (analog inputs, all channels)
Resistive load	> 5000 Ω, analog outputs
Safety	
Explosion safety category for dust	None
Explosion safety category for gas	None
Potential isolation	Power supply, Input: no
Design verification	
Equipment heat dissipation, current-dependent Pvid	0 W
Heat dissipation capacity Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	0.994 W

Rated operational current for specified heat dissipation (In)		0 A
Static heat dissipation, non-current-dependent Pvs		1.435 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	1.4
Input, current		No
Input, voltage		No
Input, resistor		No
Input, resistance thermometer		No
Input, thermocouple		No
Input signal, configurable		No
Resolution of the analogue inputs	Bit	0
Output, current		No
Output, voltage		Yes
Output signal configurable		No
Resolution of the analogue outputs	Bit	12
Number of analogue inputs		0
Number of analogue outputs		8
Analogue inputs configurable		No
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

© 04/2023 by Eaton Industries GmbH