DATASHEET - XN-2AO-U(-10/0...+10VDC)

Analog output module XI/ON, 24 V DC, 2AO (0-10V, +-10V)

Part no.	**XN-2AO-U(-10/0...+10VDC)**
	140066
EL Number (Norway)	**4520623**

General specifications

Product name	Eaton XN Output module
Part no.	XN-2AO-U(-10/0...+10VDC)
EAN	7640130120150
Product Length/Depth	55.4 millimetre
Product height	74.1 millimetre
Product width	12.6 millimetre
Product weight	0.034 kilogram
Certifications	IEC/EN 6113-2 UL File No.: E205091 Certified by UL for use in Canada UL Recognized IEC/EN 61131-2 CSA Class No.: 2252-01, 2252-81 CSA-C22.2 No. 142 IEC/EN 61000-6-4 UL Category Control No.: NRAQ, NRAQ7 CULus CE UL report applies to both US and Canada IEC/EN 61000-6-2 UL 508
Product Tradename	XN
Product Type	Output module
Product Sub Type	None
Catalog Notes	-10/0 to +10 V DC 0.2 300 ppm/°C of full scale

Features & Functions

Electric connection type	Screw-/spring clamp connection
Features	Fieldbus connection over separate bus coupler possible Analog outputs configurable Output, voltage Output signal configurable

General information

Current consumption	50 mA, from supply terminal 43 mA, from module bus, Analog input modules
Degree of protection	IP20 NEMA 1
Mounting method	Rail mounting possible
Number of channels	2
Product category	XN Slice module
Repetition accuracy	0.09 % (deviation)
Residual ripple	0.02 %
Type	XI/ON I/O module
Used with	XN-S3S-SBB XN-S3T-SBB
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 gases - H2S: 1 ppm (relative humidity < 75%, no condensation) Harmful gases - SO2: 10 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	30 - 230 MHz (radiated, high frequency, according to EN 55016-2-3) 230 - 1000 MHz (radiated, high frequency, according to EN 55016-2-3)
Interference voltage suppression	Differential-mode > 70 dB (Analog output modules) Crosstalk between the channels > 50 dB (Analog output modules) Common-mode > 90 dB (Analog output modules)
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	
Power loss	1 W
Rated operational voltage	24 V DC (supply terminal)
Short-circuit current	40 mA, Analog output modules
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	
Number of bytes	6 parameter bytes (3 per channel)
Protocol	Other bus systems
Input/Output	
Frequency	100 Hz (Transfer)
Linearity	0.1 %
Load resistance	> 1 µF (capacitive load) > 1000 Ω
Measured value representation	12-bit signed integer left-justified 16-bit signed integer 12-bit full range left-justified
Measured variables	Voltage
Number of inputs (analog)	0
Number of outputs (analog)	2
Output	2 Analog Outputs
Output voltage	-10 - 10 V DC
Settling time	0.5 ms, Capacitive load, Analog output modules 0.5 ms, Inductive load, Analog output modules 0.1 ms, Resistive load, Analog output modules
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		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		Yes
Resolution of the analogue outputs	Bit	16
Number of analogue inputs		0
Number of analogue outputs		2
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	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	74.1
Depth		mm	55.4

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