DATASHEET - XN-2DO-24VDC-0.5A-P



Digital output module XI/ON, 24 V DC, 2DO, 0.5A, pulse-switching

Part no.	**XN-2DO-24VDC-0.5A-P**
	140053
EL Number (Norway)	**4520621**

General specifications

Product name	Eaton XN Output module
Part no.	XN-2DO-24VDC-0.5A-P
EAN	7640130120211
Product Length/Depth	55.4 millimetre
Product height	74.1 millimetre
Product width	12.6 millimetre
Product weight	0.029 kilogram
Certifications	CSA Class No.: 2252-01, 2252-81 IEC/EN 61000-6-2 UL Recognized CULus CE UL 508 IEC/EN 61131-2 IEC/EN 6113-2 UL Category Control No.: NRAQ, NRAQ7 UL File No.: E205091 UL report applies to both US and Canada Certified by UL for use in Canada CSA-C22.2 No. 142 IEC/EN 61000-6-4
Product Tradename	XN
Product Type	Output module
Product Sub Type	None

Features & Functions

Electric connection type	Screw-/spring clamp connection
Features	Fieldbus connection over separate bus coupler possible
Fitted with:	Connectable sensors for resistive loads Connectable sensors for lamp loads Connectable sensors for inductive loads
Functions	Short-circuit protection, outputs available Positive switching Diagnosis function

General information

Current consumption	20 mA, from supply terminal 32 mA, from module bus, Analog input modules
Degree of protection	IP20
Mounting method	Rail mounting possible
Number of channels	2
Operating frequency	< 2 at inductive load
Product category	XN Slice module
Suitable for	Base modules with C-connection: 2-wire/3-wire Base modules with C-connection: 4-wire
Switching frequency	10 Hz, with lamp load, Digital outputs 5000 Hz, with resistive load RLO < 1 kΩ, Digital outputs 2 Hz
Type	XI/ON I/O module
Used with	XN-S4T-SBCS XN-S3T-SBC XN-S4S-SBCS XN-S3S-SBC
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 gasses - H2S: 1 ppm (relative humidity < 75%, no condensation) Harmful gasses - 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	230 - 1000 MHz (radiated, high frequency, according to EN 55016-2-3) 30 - 230 MHz (radiated, high frequency, according to EN 55016-2-3)
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 protection	Protected, Short-circuit rating, Digital outputs
Short-circuit release	Automatic, Ii, Reset after short-circuit rectified, Digital 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	
Interfaces	Terminating resistor: > 48 Ω
Number of bytes	2 diagnostic bytes
Protocol	Other bus systems
Input/Output	
Delay time	100 µs, Digital outputs, Delay on signal change and resistive load, from Low to High signal 100 µs, Digital outputs, Delay on signal change and resistive load, from High to Low signal
Input current at signal 1	0 mA
Input voltage	Min. L+ 1 V (Digital inputs, high level)
Lamp load	≤ 3 W (at RLL)
Load resistance	≥ 48 Ω 1.2 h (inductive load)
Number of inputs (digital)	0
Number of outputs (digital)	2
Output	2 Digital Outputs (24 V DC, 0.5 A)
Output current	0.5 A 1 A, Module total current, Digital outputs < 0.6 A (high level, permissible range)
Output voltage	23 V DC (Digital outputs)
Utilization factor	100 %
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	0 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 - digital I/O module (EC001599)

Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Field bus, decentralized peripheral / Field bus, decentralized peripheral - digital I/O module (ecl@ss13-27-24-26-04 [BAA055019])

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
Number of digital inputs		0
Number of digital outputs		2
Digital inputs configurable		No
Digital outputs configurable		No
Input current at signal 1	mA	0
Permitted voltage at input	V	0 - 0
Type of voltage (input voltage)		DC
Type of digital output		Transistor
Output current	A	0.5
Permitted voltage at output	V	0 - 30
Type of output voltage		DC
Short-circuit protection, outputs available		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

With optical interface			No
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
Type of electric connection			Screw-/spring clamp connection
Time delay at signal change		ms	0.05 - 0.1
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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