DATASHEET - XN-322-12DO-P17

Digital output module; 12 digital outputs short-circuit proof 24 V DC/1.7 A each; pulse-switching

Powering Business Worldwide

Part no. XN-322-12DO-P17
178788

General specifications

Product name	Eaton XN-322 Output module
Part no.	XN-322-12DO-P17
EAN	7640130098220
Product Length/Depth	104.2 millimetre
Product height	16.8 millimetre
Product width	80.3 millimetre
Product weight	0.057 kilogram
Certifications	CE IEC/EN 61000-6-2 IEC/EN 61000-6-4 CULus IEC/EN 61131-2 UL File No.: E135462
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	Fieldbus connection over separate bus coupler possible
Functions	Short-circuit protection, outputs available

General information

Current consumption	45 mA (typ.), for +5 V power supply (internal), Power supply - Input None mA (typ.), for +24 V, Power supply - Input
Degree of protection	IP20
Mounting method	Rail mounting possible
Number of channels	12, Digital Outputs
Overvoltage category	III
Pollution degree	3
Product category	XN-322 digital output module
Type	Digital I/O module with twelve 24 V DC / 1.7 A short-circuit proof outputs, featuring undervoltage diagnostics for the three power supply rails. 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	55 °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	2 kV, Supply cable 1 kV, Signal cable
Contact discharge	4 kV
Electromagnetic fields	10 V/m at 0.08 - 1.0 GHz (according to IEC EN 61000-4-3) 1 V/m at 2 - 2.7 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	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, solid, H07V-U 0.25 - 1.5 mm^2, with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight) 24 - 16 AWG 0.2 - 1.5 mm^2, flexible without ferrule, H07V-K 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)	3.4 A (supply input)
Rated operational voltage	160 V (terminations) 24 V (terminal + 3) 24 V (terminal +1) 24 V (terminal + 2)
Short-circuit protection	Yes, Short-circuit rating, 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	
Connection type	Push-in spring-cage terminal (plug-in connection), Connection design in TOP direction
Protocol	Other bus systems
Input/Output	
Delay time	< 200 µs, Digital outputs, Delay on signal change and resistive load, from Low to High signal < 200 µs, Digital outputs, Delay on signal change and resistive load, from High to Low signal
Input current at signal 1	0 mA
Load current	Not specified by plug manufacturer
Load resistance	> 14.1 Ω
Number of inputs (digital)	0
Number of outputs (digital)	12
Output	Protective devices must be installed directly at the inductive load in order to prevent interference. 12 Digital Outputs (short-circuit proof, 24 V DC, 1.7 A, pulse-switching)
Output current	< 0.5 mA (low level) 1.7 A
Output voltage	< 24 V DC (High level, digital outputs) 24 V DC (digital outputs) < 1 V DC (Low level, digital outputs)
Utilization factor	50 % (# IAmax = 10.2A)
Safety	
Explosion safety category for dust	None
Explosion safety category for gas	None
Potential isolation	Power supply, Input: no

			Between Digital outputs: no

Design verification

Equipment heat dissipation, current-dependent Pvid			0.383 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			3.529 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			12
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	1.7
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		Plug-in connection
Time delay at signal change	ms	0.1 - 0.2
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