

Digital input card XI/ON, 24 V DC, 4DI, pulse-switching



**Part no.** XN-4DI-24VDC-P  
**140052**  
**EL Number** 4520613  
**(Norway)**

General specifications		
Product name		Eaton XN Accessory Input card
Part no.		XN-4DI-24VDC-P
EAN		7640130120303
Product Length/Depth		74.1 millimetre
Product height		55.4 millimetre
Product width		12.6 millimetre
Product weight		0.026 kilogram
Certifications		UL report applies to both US and Canada Certified by UL for use in Canada IEC/EN 6113-2 CE UL Category Control No.: NRAQ, NRAQ7 UL Recognized CSA-C22.2 No. 142 UL 508 UL File No.: E205091 CSA Class No.: 2252-01, 2252-81 IEC/EN 61000-6-4 IEC/EN 61000-6-2 CULus IEC/EN 61131-2
Product Tradename		XN
Product Type		Accessory
Product Sub Type		Input card
Features & Functions		
Electric connection type		Screw-/spring clamp connection
Features		Fieldbus connection over separate bus coupler possible
Functions		Positive switching
General information		
Current consumption		40 mA, from supply terminal 28 mA, from module bus, Analog input modules
Degree of protection		IP20
Mounting method		Rail mounting possible
Number of channels		4
Product category		XN Slice module
Suitable for		Base modules without C-Connection: 2-/3-wire Base modules without C-Connection: 4-wire
Type		I/O module
Used with		XN-S4S-SBBS XN-S4T-SBBS XN-S6S-SBBSBB XN-S6T-SBBSBB
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		Mechanical, According to IEC/EN 60068-2-27 Continuous according to IEC/EN 60068-2-29
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 - SO2: 10 ppm (relative humidity < 75%, no condensation)

Relative humidity		Harmful gasses - H2S: 1 ppm (relative humidity < 75%, no condensation) 5 - 95 % (indoor, Level RH-2, non-condensing for storage at 45°C)
<b>Electro magnetic compatibility</b>		
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)
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)
<b>Electrical rating</b>		
Rated insulation voltage (Ui)		500 V
Rated operational voltage		24 V DC (supply terminal)
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>		
Protocol		Other bus systems
<b>Input/Output</b>		
Input current		0 - 1.5 mA (Digital inputs, low level) 2 - 10 mA (Digital inputs, high level)
Input current at signal 1		2 mA
Input delay		200 µs (rising edge) 200 µs (falling edge)
Input voltage		15 - 30 V (Digital inputs, high level) -30 - 5 V (Digital inputs, low level) 24 V DC (Digital inputs)
Number of inputs (digital)		4
Number of outputs (digital)		0
Output current		0 A
<b>Safety</b>		
Explosion safety category for dust		None
Explosion safety category for gas		None
Potential isolation		Through optocoupler: yes
<b>Design verification</b>		
Equipment heat dissipation, current-dependent Pvid		1 W
Heat dissipation capacity Pdis		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		4
Number of digital outputs		0
Digital inputs configurable		No
Digital outputs configurable		No
Input current at signal 1	mA	2
Permitted voltage at input	V	0 - 30
Type of voltage (input voltage)		DC
Type of digital output		None
Output current	A	0
Permitted voltage at output	V	0 - 0
Type of output voltage		DC
Short-circuit protection, outputs available		No
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	0.1 - 0.3
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	55.4
Depth	mm	74.1