

Part no. **XIO-EXT121-1**
290450

General specifications		
Product name		Eaton XIOC Insulated enclosure
Part no.		XIO-EXT121-1
EAN		4015082904500
Product Length/Depth		100 millimetre
Product height		100 millimetre
Product width		60 millimetre
Product weight		0.195 kilogram
Certifications		CSA CSA-C22.2 No. 0-M UL File No.: E135462 UL/CSA CE CSA-C22.2 No. 142-M Shipping classification (DNV, GL, ABS, BV, LR) UL IEC/EN 61131-2 UL508 CSA File No.: 012528 CSA Class No.: 2252-01 UL Category Control No.: NRAQ EN 50178
Product Tradename		XIOC
Product Type		Insulated enclosure
Product Sub Type		None
Features & Functions		
Electric connection type		Plug-in connection
Features		Analog input, current Analog input, resistor temperature Analog input, voltage Analog output, voltage
Functions		Digital in-/outputs, configurable Overvoltage protection
General information		
Admissible range		20.4 - 28.8 V DC, Rated voltage for the digital outputs
Degree of protection		IP20
Duty factor		100 % (Digital outputs)
Operating frequency		40000 Operations/h at resistive load
Overvoltage category		II
Pollution degree		2
Repetition rate		1 s
Residual current		0.1 mA (on signal "1" per channel)
Residual ripple		5 % (digital outputs) ≤ 5 %
Resistance		10 kΩ (impedance) 18.5 - 175.8 Ω (Pt100)
Resolution		10 Bit 12 Bit (Analog outputs, voltage)
Voltage type		DC
Ambient conditions, mechanical		
Mounting position		Horizontal
Shock resistance		15 g, Mechanical, Shock duration 11 ms
Vibration resistance		9 - 150 Hz, 1 g constant acceleration 5 - 9 Hz, Amplitude 3.5 mm
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		-25 °C
Ambient storage temperature - max		70 °C
Operating temperature - min		-200 °C
Operating temperature - max		200 °C
Relative humidity		10 - 95 % (non-condensing)
Electro magnetic compatibility		
Emitted interference		According to IEC/EN 61000-6-4
Interference immunity		According to EN 61000-6-2
Voltage dips		10 ms
Terminal capacities		
Terminal capacity		0.5 - 1.0 mm ² , solid/stranded, Spring-loaded terminal block, 20-pole, B2L 3.5 (Weidmüller) 0.5 - 1.0 mm ² , solid, Spring-loaded terminal block, 10-pole, BLZF 3.5/180 or BLI/O 3.5/10F with LEDs (Weidmüller)
Terminals		Plug in spring-cage terminals
Electrical rating		
Inrush current		Max. 1 A
Peak short-circuit current		32 A
Power consumption		Max. 1.68 W
Power loss		Max. 1.7 W
Rated insulation voltage (Ui)		500 V
Rated operational current (Ie)		0.5 A at 24 V AC (state "1") 3.3 mA (on signal "1")
Rated operational voltage		24 V DC > 15 V DC on 1 signal < 5 V DC on 0 signal
Short-circuit tripping current		0.7 ≤ Ie ≤ 2 per output, For Ra ≤ 10 mΩ, Digital outputs 16 A, Total, 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		20.4 V DC
Supply voltage at DC - max		28.8 V DC
Communication		
Connection type		Spring-loaded terminal block, 20-pole, B2L 3.5 (Weidmüller), X1 plug Spring-loaded terminal block, 10-pole, BLZF 3.5/180 or BLI/O 3.5/10F with LEDs (Weidmüller), X2/X3 plug
Input/Output		
Accuracy		≤ ± 1 % (of end of scale), Analog inputs/Analog outputs ≤ ± 2 %, Pt 100
Conversions		5 ms
Delay time		Off 24 V → 0 V 20 μs, Digital inputs, On 0 V → 24 V 20 ms, Digital inputs 250 μs, Digital inputs
Input		6 analog inputs (0 - 10V: 2, 0 - 20 mA: 2 or Pt100: 2) 8 additional digital inputs (can also be used as outputs) 10 digital inputs (6 can also be used as interrupts)
Input current		70 mA
Input current at signal 1		0 mA
Input impedance		50 Ω 200 kΩ
Input voltage		24 V DC (Power supply of local inputs/outputs) 24 V DC (Power supply) 0 - 10 V
Lamp load		5 W (without Rv per channel)
Number of inputs (analog)		2
Number of inputs (digital)		X3: 8 (can also be used as outputs) X2: 9 with plug BLI/O 3.5/10F or 10 with plug BLZF 3.5/180 8
Number of outputs (analog)		2
Number of outputs (digital)		8
Output		Parallel switching

		8 Digital Outputs (also usable as inputs) 2 Analog Outputs (0 - 10 V)
Output current		2 A
Output voltage		U = U# - 1 V (signal 1 at I# = 0.5 A, transistor outputs) Max. 2.5 V (at signal 0 at external load < 10 MΩ, transistor outputs) 0 - 10 V
Rapid counter inputs		With X3: 8 (can also be used as inputs)
Utilization factor		1
Safety		
Explosion safety category for dust		None
Explosion safety category for gas		None
Potential isolation		Between Digital inputs: no Digital outputs: no X2 Interface: DI4 - DI9: no
Protection against polarity reversal		Yes
Design verification		
Equipment heat dissipation, current-dependent Pvid		0 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		1.7 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) / PLC analogue/digital I/O-module (EC001421)			
Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Programmable logic control (SPS) / SPS analog/digital input/output module (ecl@ss13-27-24-22-02 [AKE525019])			
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
Number of digital inputs			8
Number of digital outputs			8
Number of analogue inputs			2
Number of analogue outputs			2
Digital in-/outputs, configurable			Yes

Input current at signal 1	mA	0
Permitted voltage at input	V	20.4 - 28.8
Type of voltage (input voltage)		DC
Type of digital output		Transistor
Output current at digital output	A	0.5
Output voltage at digital output	V	20.4 - 28.8
Type of output voltage		DC
Short-circuit protection, digital outputs available		No
Analogue input, current		Yes
Analogue input, voltage		Yes
Analogue input, resistor		No
Analogue input, resistor temperature		Yes
Analogue input, thermocouple		No
Resolution of the analogue inputs	Bit	10
Analogue input signal configurable		No
Analogue output, current		No
Analogue output, voltage		Yes
Resolution of the analogue outputs	Bit	12
Analogue output signal configurable		No
Type of electric connection		Plug-in connection
Time delay at signal change	ms	0 - 0
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
Width	mm	60
Height	mm	100
Depth	mm	100