

Expansion Modules

Analog & RTD Expansions

Size 35 mm



Electrical Control & Protection > Analog & RTD Expansions > Size 35 mm

The Millenium is the latest product in Crouzet's Millenium series. This is a compact, networked, and communicative PLC. Its flexible deployment and extensive configuration options with various extensions make it suitable for a wide range of applications.

Accompanied by powerful, intuitive software, it will support you throughout your automation needs.

For more information about: please visit www.crouzet.com

Offer description

› Compatible with all bases

› Independant Power Supply

› Only 35 mm

The Offer

MXAI02D7



Analog Inputs Exp.
Inputs: 2 Analog (V/ma)
Dimensions: 35 mm
Power supply: 12 → 24 V $\overline{\text{---}}$

MXA002D1



Analog Outputs Exp.
Outputs: 2 Analog (V/ma)
Dimensions: 35 mm
Power supply: 24 V $\overline{\text{---}}$

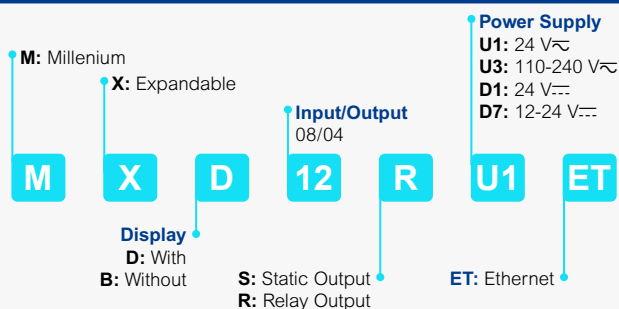
MXAI02PD7



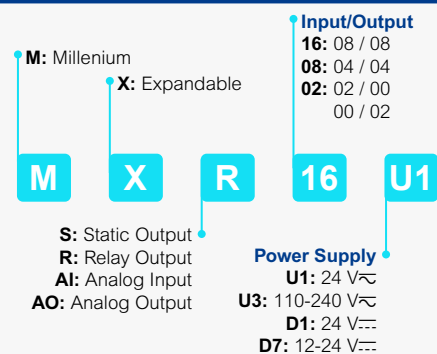
Temperature Exp. (RTD)
Inputs: 2 RTD (PT100 or PT1000)
Dimensions: 35 mm
Power supply: 12 → 24 V $\overline{\text{---}}$

Codification

CONTROLLER



EXPANSION



Specifications

	MXAI02D7	MXA002D1	MXAI02PD7
Power Supply			
Supply characteristics			
Nominal voltage	12 → 24 V $\overline{\text{---}}$	24 V $\overline{\text{---}}$	12 → 24 V $\overline{\text{---}}$
Operating limits	10.8 → 28.8 V $\overline{\text{---}}$	20.4 → 28.8 V $\overline{\text{---}}$	10.8 → 28.8 V $\overline{\text{---}}$
Immunity to micro power cuts	1ms		
Max absorbed Power	1 W @ 12 V $\overline{\text{---}}$ 1.2 W @ 28.8 V $\overline{\text{---}}$		
Power supply earthing	None		
Isolation between Base and Analog expansion	Yes		
Reverse polarity protection	Yes		
Analog input			
Number of Analog Inputs	2 Unipolar	N/A	
Input Range and Input impedance	0 → 10 V $\overline{\text{---}}$ (input impedance $\geq$ 120 k Ω) or 0/4 mA → 20 mA (input impedance < 250 Ω)	N/A	
Input type	Common mode	N/A	
Resolution	12 Bit, 0-10 V $\overline{\text{---}}$ (0 → 4095) 0-20 mA (0 → 2000) 4-20 mA (400 → 2000)	N/A	
Value of LSB (Voltage)	2.5 mV	N/A	
Value of LSB (Current)	0.01 mA	N/A	
Conversion time	Controller cycle time	N/A	
Error limit	$\pm$ 1.5 % FS (150 mV / 0.3 mA)	N/A	
Protection against polarity inversion	Yes	N/A	
Electrical isolation	No (supply/input or input/input)	N/A	
Line length (shielded and twisted)	Max. 10 m	N/A	
Analog output			
No. of Analog Outputs	N/A	2	N/A
Voltage range	N/A	0 → 10 V $\overline{\text{---}}$	N/A
Load type	N/A	Resistive	N/A
Voltage load	N/A	$\geq$ 5 k Ω	N/A
Current output	N/A	0/4 mA → 20 mA	N/A
Current load	N/A	$\leq$ 250 Ω	N/A
Resolution	N/A	10 bit, 0-10V (0 → 1000) 0-20mA (0 → 2000) 4-20mA (400 → 2000)	N/A
Value of LSB (Voltage)	N/A	10 mV	N/A
Value of LSB (Current)	N/A	0.01 mA	N/A
Conversion time	N/A	Controller cycle time	N/A
Error limit	N/A	$\pm$ 2.5 % FS (250 mV / 0.5 mA)	N/A
Short circuit protection	N/A	Voltage: Yes	N/A

Specifications

	MXAI02D7	MXA002D1	MXAI02PD7
Overload protection	N/A	Voltage: Yes	N/A
Electrical isolation	N/A	No (supply/output or output/output)	N/A
Line length (shielded and twisted)	N/A	Max. 10 m	N/A
RTD Inputs			
Number of Inputs	N/A		2
Electrical isolation	N/A		No (supply/input or input/input)
Measurement range	N/A		-50 °C → +700 °C (-58 °F → +1292 °F)
Type	N/A		PT100 or PT1000
Connection of sensors 2-wire and 3-wire	N/A	N/A	Yes
Error limits (3-wire technique) at ambient temperature of +25 °C	N/A		±2.0 °C for range -50 °C to +200 °C ±3.5 °C for range +201 °C to +700 °C
Resolution	N/A		12 bit -50 °C → +700 °C (-500 → +7000)
Conversion time	N/A		Controller cycle time
Cable length (twisted)	N/A		Max. 10 m

General & environment characteristics

Environmental Specification

Certifications	CE, cULus
Environmental certifications	REACH, ROHS
Conformity with programmable controllers	CEI/EN61131-2 (Open equipment)
Conformity with the EMC directive (in accordance with 2014/35/UE)	- IEC/EN 61000-6-1 (Residential, commercial, and light-industrial environments) - IEC/EN 61000-6-2 (Industrial) - IEC/EN 61000-6-3 (Residential, commercial, and light-industrial environments) - IEC/EN 61000-6-4 (Industrial)
Protection rating	- In accordance with IEC/EN 60529: - IP40 on front panel - IP20 on terminal block
Overvoltage category	2 in accordance with IEC/EN 60664-1
Pollution Degree	Degree: 2 in accordance with IEC/EN 61131-2
Max. Operating Altitude	- Operation: 2000 - Transport: 3000
Mechanical resistance	- Immunity to vibrations IEC/EN 60068-2-6, Test Fc - Immunity to Shock IEC/EN 60068-2-27, 15 g peak, 11 ms duration
Resistance to electrostatic discharge	IEC 61000-4-2 Level III (AD: ± 8 kV and CD: ± 4 kV), Criteria B
Resistance to HF interference	- Immunity to radiated electrostatic fields IEC 61000-4-3 - Electrical fast transients IEC 61000-4-4 - Surge IEC 61000-4-5 - Conducted Susceptibility IEC 61000-4-6, - Voltage dips - As per IEC61131 -2
Conducted and radiated emissions	CISPR11 Class B
Operating Temp.	-20 → +55 °C (-4 → +131 °F). Limited to +40 °C (104 °F) in a non-ventilated enclosure
Storage Temp.	-30 → +70 °C (-22 → +158 °F)
Relative Humidity	10-95 % no condensing

Specifications

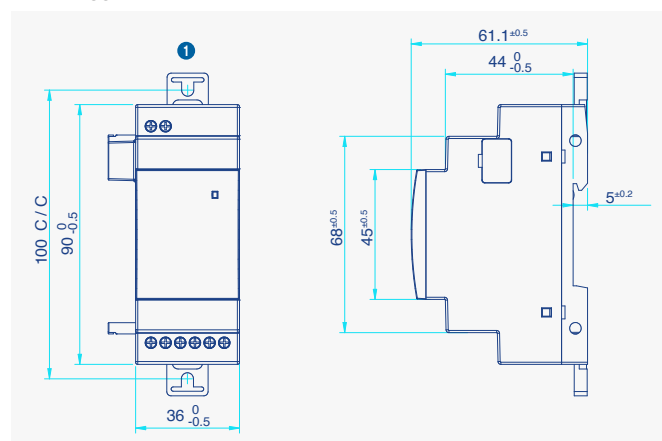
	MXAI02D7	MXA002D1	MXAI02PD7
Screw terminals connection capacity	Euro type terminal ▪ Wire Size 1 x 24 to 12 (AWG) ▪ Solid wire Range: 1*2.5 mm2 or 2*1.5 mm2 ▪ Flexible wire Range: 1*2.5 mm2 or 2*1.5 mm2		
Screw tightening Torque	0.4 N. m. (3.54 lb. in)		
Clearance and creepage	IEC 60664, IEC 61131-2, IEC 61010		
Mechanical Specifications			
Mounting type	Base / Din-Rail Mounting		
Housing material	Polycarbonate		
Housing Color	Light Gray RAL 7035 (sole black RAL9011)		
Dimension (W x H x D) (mm)	36 x 90 x 61.1		
Weight (g)	96		
Enclosure type	2 M		
DIN Rail mounting	Mounting in 35 mm symmetrical DIN rail (see installation sheet of instructions), compatible with modular enclosures		
Panel Mounting	Flat panel mounting by screws (see installation sheet of instructions)		
LED Indication			
Power/Status LED indicator	Yes		

Product Dimensions

Front and Side

Analog & RTD Expansions

Version 35 mm



① Fixing Bracket

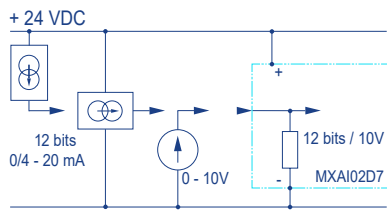
Electronic & Wiring Diagrams

Inputs

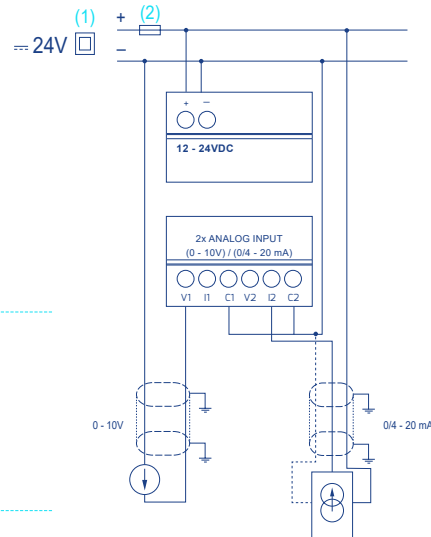
Analog Inputs

MXAI02D7 → Inputs I1, I2

Electronic Diagram



Wiring Diagram



10V, 20 mA
10 m Max
393.7 inches Max

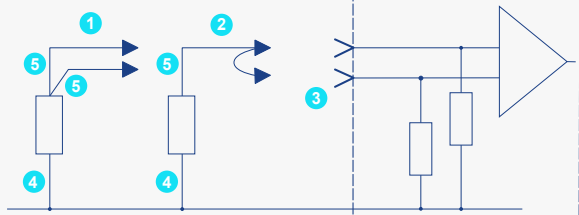
- (1) Isolated Source
- (2) 1A quick blowing fuse, circuit breaker, or circuit protector

Inputs

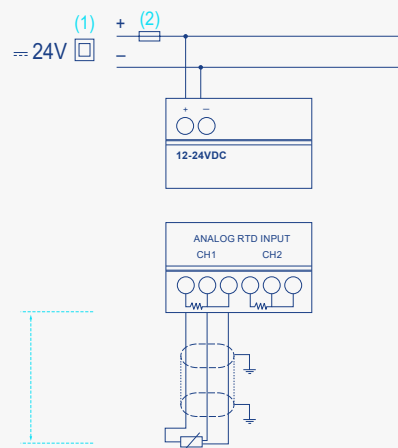
RTD Inputs

MXAI02PD7 → Inputs I1, I2

Electronic Diagram



Wiring Diagram



PT100/PT1000
10 m max
393.7 inches max

- (1) Pt100 3-wire
- (2) Pt100 2-wire
- (3) Analog inputs
- (4) White cable
- (5) Red cable

- (1) Isolated Source
- (2) 1A quick blowing fuse, circuit breaker, or circuit protector

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