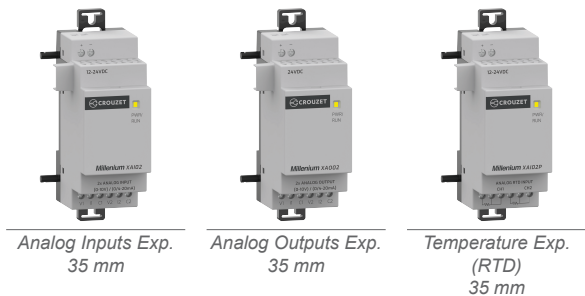


Expansion Modules

Analog & RTD Expansions

Size 35 mm

- Compatible with all bases
- Only 35 mm
- Independant Power Supply



Selection guide					
Type	Inputs	Outputs	Dimensions	Power supply	Part Number
MXAI	2 Analog (V/ma)	-	35 mm	12 → 24 V $\overline{\text{---}}$	MXAI02D7
MXAO	-	2 Analog (V/ma)	35 mm	24 V $\overline{\text{---}}$	MXAO02D1
MXAI	2 RTD (PT100 or PT1000)	-	35 mm	12 → 24 V $\overline{\text{---}}$	MXAI02PD7

	MXAI02D7	MXAO02D1	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	1.8 W		
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 ≥ 120 kΩ) or 0/4 mA → 20 mA (input impedance < 250 Ω)	N/A	
Input type	Common mode	N/A	

Codification
EXPANSION

M

X

R

16

U1

M: Millenium

X: Expandable

S: Static Output

R: Relay Output

AI: Analog Input

AO: Analog Output

16: 08 / 08

08: 04 / 04

02: 02 / 00

00 / 02

Power Supply

U1: 24 V $\overline{\text{---}}$

U3: 110-230 V $\overline{\text{---}}$

D1: 24 V $\overline{\text{---}}$

D7: 12-24 V $\overline{\text{---}}$

Codification
BASE

M

X

D

12

R

U1

ET

M: Millenium

X: Expandable

Display

D: With

B: Without

Input/Output

08 / 04

S: Static Output

R: Relay Output

AI: Analog Input

AO: Analog Output

Power Supply

U1: 24 V $\overline{\text{---}}$

U3: 110-230 V $\overline{\text{---}}$

D1: 24 V $\overline{\text{---}}$

D7: 12-24 V $\overline{\text{---}}$

ET: Ethernet

You have a project? Contact us on www.crouzet.com

Description:

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 **Millenium**: please visit www.crouzet.com

	MXAI02D7	MXAO02D1	MXAI02PD7
Resolution	12 Bit, 0-10 V ₋₋₋ (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	± 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 ₋₋₋	N/A
Load type	N/A	Resistive	N/A
Voltage load	N/A	≥ 5 kΩ	N/A
Current output	N/A	0/4 mA → 20 mA	N/A
Current load	N/A	≤ 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	± 2.5% FS (250 mV / 0.5 mA)	N/A
Short circuit protection	N/A	Voltage: Yes	N/A
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
Type	N/A		PT100 or PT1000
Connection of sensors 2-wire and 3-wire	N/A		Yes
Resolution	N/A		0.1 °C
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	<ul style="list-style-type: none">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	<ul style="list-style-type: none">In accordance with IEC/EN 60529:IP40 on front panelIP20 on terminal block		

	MXAI02D7	MXAO02D1	MXAI02PD7
Overvoltage category	2 in accordance with IEC/EN 60664-1		
Pollution Degree	Degree: 2 in accordance with IEC/EN 61131-2		
Max. Operating Altitude	<ul style="list-style-type: none">▪ Operation: 2000▪ Transport: 3000		
Mechanical resistance	<ul style="list-style-type: none">▪ 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	<ul style="list-style-type: none">▪ 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)		
Storage Temp.	-30 → +70 °C (-22 → 158 °F)		
Relative Humidity	10-95% no condensing		
Screw terminals connection capacity	<p>Euro type terminal</p> <ul style="list-style-type: none">▪ 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

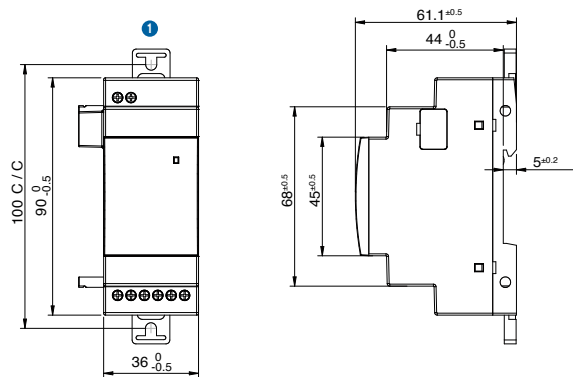
Power/Status LED indicator	Yes
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Product Dimensions

Front and Side

Analog & RTD Expansions

Version 35 mm



1 Fixing Bracket

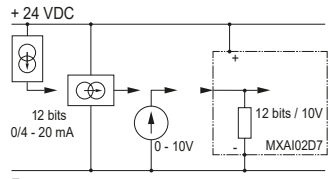
Electronic & Wiring Diagrams

Inputs

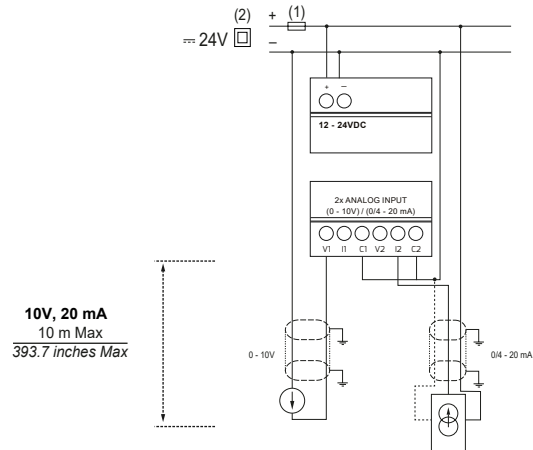
Analog Inputs

MXAI02D7 → Inputs I1, I2

Electronic Diagram



Wiring Diagram



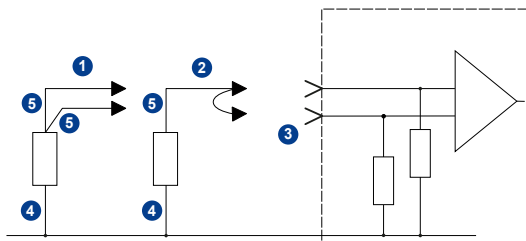
- (1) 1A quick blowing fuse, circuit breaker, or circuit protector
- (2) Isolating Source

Inputs

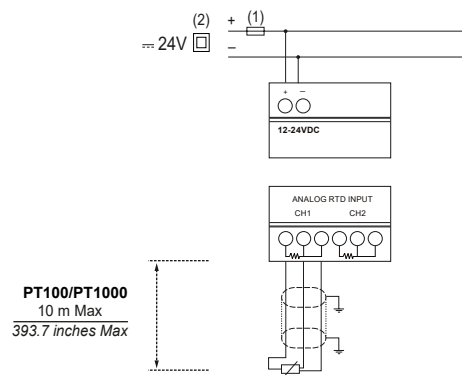
RTD Inputs

MXAI02PD7 → Inputs I1, I2

Electronic Diagram



Wiring Diagram



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

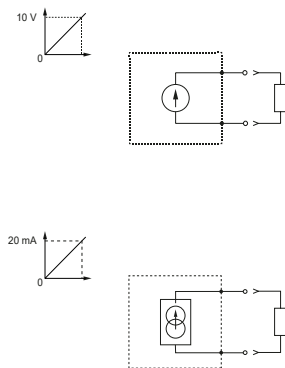
- (1) 1A quick blowing fuse, circuit breaker, or circuit protector
- (2) Isolating Source

Outputs

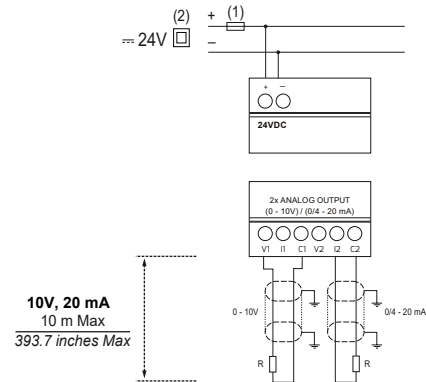
Analog Outputs

MXAO02D1 → Outputs O1, O2

Electronic Diagram



Wiring Diagram



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

Warning:
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