

Expansion Modules

AC/DC Digital Expansion

35 & 70 mm



Electrical Control & Protection > Expansion Modules > AC/DC Digital Expansion > 35 & 70 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 many base (See Datasheet for Supply constraint)
- › Can be used to reach a 60 I/Os configuration
- › 2 Dimensions available: 35 and 70 mm
- › External power supply
- › Possibility to add several extensions

The Offer

MXR08U3



Digital Expansions
Inputs: 4
Outputs: 4 relays
Power supply: 110 → 240 V $\sim$
Dimensions: 35 mm

MXR16U3



Digital Expansions
Inputs: 8
Outputs: 8 relays
Power supply: 110 → 240 V $\sim$
Dimensions: 70 mm

MXR08U1



Digital Expansions
Inputs: 4
Outputs: 4 relays
Power supply: 24 V $\sim$
Dimensions: 35 mm

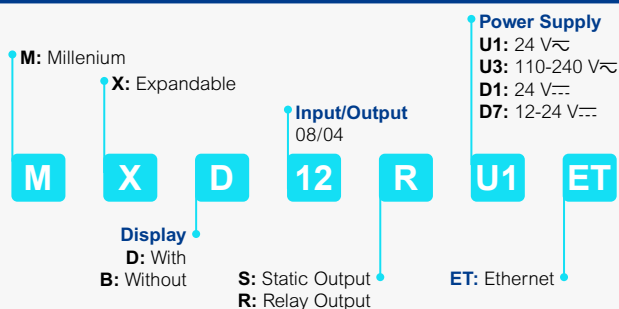
MXR16U1



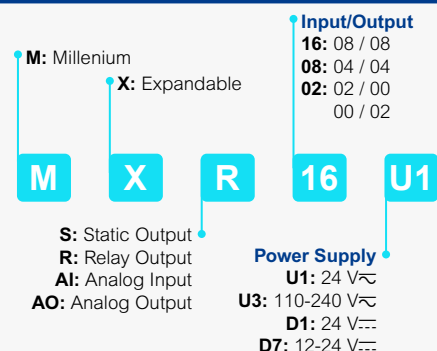
Digital Expansions
Inputs: 8
Outputs: 8 relays
Power supply: 24 V $\sim$
Dimensions: 70 mm

Codification

CONTROLLER



EXPANSION



Specifications

	MXR08U3	MXR16U3	MXR08U1	MXR16U1
Power Supply				
Supply characteristics				
Nominal voltage	110-240 V~		24 V~	
Operating limits	85 → 265 V~ / 100 → 253 V---	86 → 265 V~ / 100 → 253 V---	20.4 → 26.4 V~ / 20.4 → 28.8 V---	
Max. absorbed power	6.5 VA @ 90 V~	10 VA @ 90 V~	4 VA @ 20.4 V~	8 VA @ 20.4 V~
	6.5 VA @ 265 V~	10 VA @ 265 V~	4 VA @ 26.4 V~	11 VA @ 26.4 V~
	2.5 W @ 100 V---	4 W @ 100 V---	2 W @ 20.4 V---	4.5 W @ 20.4 V---
	2.5 W @ 253 V---	4 W @ 253 V---	2 W @ 28.8 V---	6 W @ 28.8 V---
Supply frequency range	50 → 60 Hz (AC) (±3 Hz)			
Power supply earthing	None			
Reverse polarity protection	Yes			
Inputs				
Digital input				
Number of Inputs	4	8	4	8
Input voltage	0 - 265 V~ / 0 → 253 V---		0 – 26.4 V~ / 0 → 28.8 V---	
Input current AC	≈ 0.62 mA @ 85 V~		≈ 3.79 mA @ 20.4 V~	
	≈ 0.80 mA @ 110 V~		≈ 4.54 mA @ 24 V~	
	≈ 1.76 mA @ 240 V~		≈ 5.04 mA @ 26.4 V~	
	≈ 1.95 mA @ 265 V~			
Input current DC	≈ 0.51 mA @ 100 V---		≈ 2.55 mA @ 20.4 V---	
	≈ 0.56 mA @ 110 V---		≈ 3.07 mA @ 24 V---	
	≈ 1.24 mA @ 240 V---		≈ 3.78 mA @ 28.8 V---	
	≈ 1.37 mA @ 265 V---			
Input Impedance	400 KΩ		13.4 KΩ	
Logic 1 voltage threshold	> 79 V~, > 79 V---		> 12 V~	
Making current at logic state 1	0.54 mA – 79 V~ / 0.38 mA – 79 V---		2.04 mA – 12 V~ / 1.31 mA – 12 V---	
Logic 0 voltage threshold	< 40 V~, < 30 V---		< 5 V~	
Release current at logic state 0	0.28 mA – 40 V~ / 0.13 mA – 30 V---		0.58 mA – 5 V~ / 0.29 mA – 5 V---	
Response time	1 to 2 cycle time (normal input)			
Input type	Resistive			
Conforming to IEC/EN 61131-2	Type 1			
Isolation between power supply and inputs	None			
Isolation between inputs	None			
Protection against polarity inversion	Yes			
Max cable length	≤30m			
Status indicator	On Display (LCD) when used with LCD base			
Outputs				
Relay Outputs				
Quantity	4 relays outputs	8 relays outputs	4 relays outputs	8 relays outputs
Max. breaking voltage	250 V~ 30 V---			
Max. Breaking current	5 A @ 230 V~ (resistive) 5 A @ 30 V--- (resistive)			
Mechanical life	1x 10 ⁷			
Electrical durability	Resistive load at 85 °C: 5 A, 250 V~, 50 K Cycles			

Specifications

	MXR08U3	MXR16U3	MXR08U1	MXR16U1
Minimum switching capacity	100 mA (at minimum voltage of 12V)			
Maximum rate	10Hz			
Voltage for withstanding shocks	2kV			
Response time	Make = 1 cycle time + 8 ms Release = 1 cycle time + 5 ms			
Isolation between power supply and outputs	Yes			
Isolation between outputs	Yes			
Built-in protections	▪ Against short-circuits: None ▪ Against overvoltages and overloads: None			
Status indicator	On LCD screen (Only on PLC with display)			
Cable length	≤ 30 meter			
General & environment characteristics				
Certifications	CE, cULus			
Environmental certifications	REACH, ROHS			
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: 2 in accordance with IEC/EN 61131-2			
Max operating Altitude (m)	▪ 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 temperature	-20 → +55 °C (-4 → 131 °F). Limited to +40 °C (104 °F) in a non-ventilated enclosure			
Storage temperature	-30 → +70 °C (-22 → 158 °F)			
Relative humidity	10-95 % no condensing			
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) (Including earth terminal)			
Clearance and creepage	IEC 60664, IEC 61131-2, IEC 61010			

Specifications

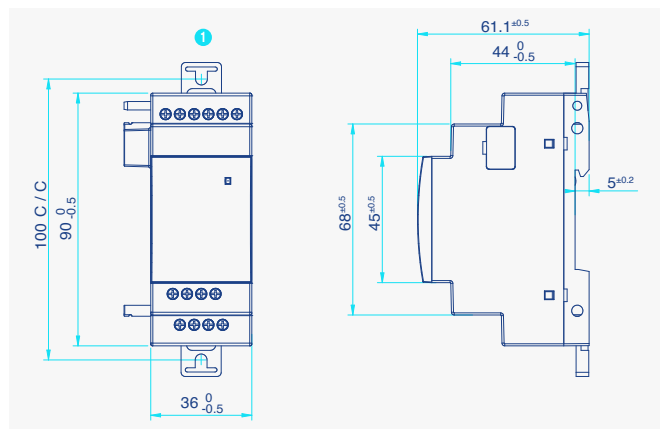
	MXR08U3	MXR16U3	MXR08U1	MXR16U1
Mechanical Specifications				
Mounting Type	Base / Din-Rail Mounting			
Housing material	Polycarbonate			
Housing Color	Light Gray RAL 7035 (sole black RAL9011)			
Dimension (W x H x D) (mm)	36 x 90 x 61.1	72 x 90 x 61.1	36 x 90 x 61.1	72 x 90 x 61.1
Weight (g)	123	220	120	211
Enclosure type	2 M	4 M	2 M	4 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

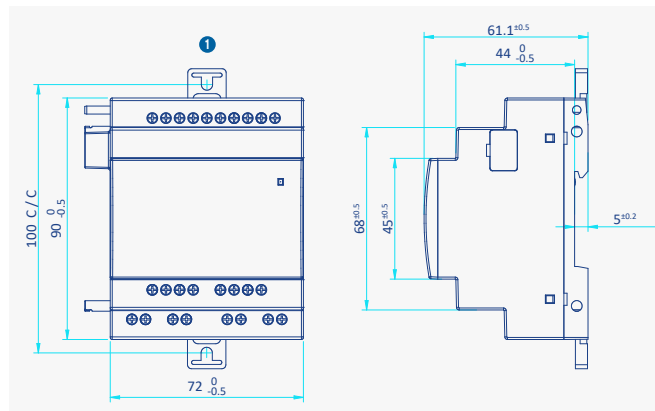
Front and Side

Digital Expansions

Version 35 mm



Version 70 mm



1 Fixing Bracket

Electronic & Wiring Diagrams

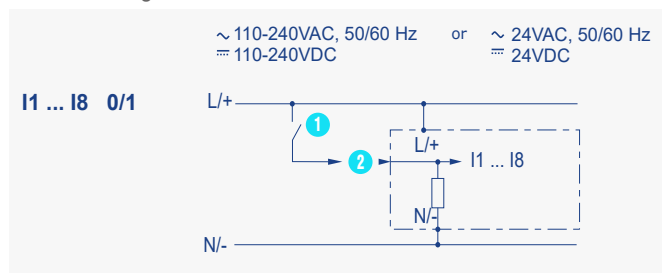
Inputs

Digital Inputs (AC/DC Voltage)

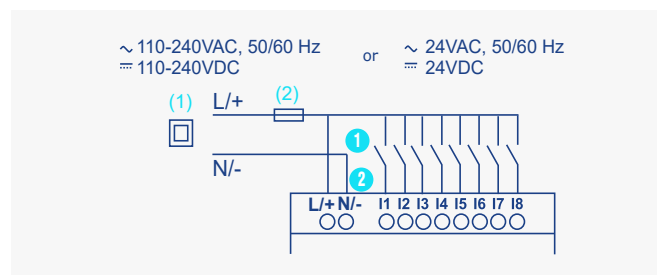
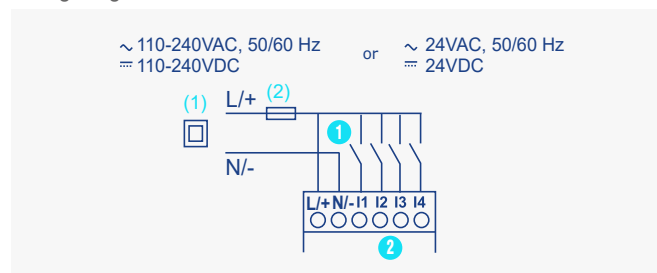
MXR08U3, MXR08U1 → Inputs I1....I4

MXR16U3, MXR16U1 → Inputs I1....I8

Electronic Diagram



Wiring Diagram



- ① Contact
- ② Digital Input

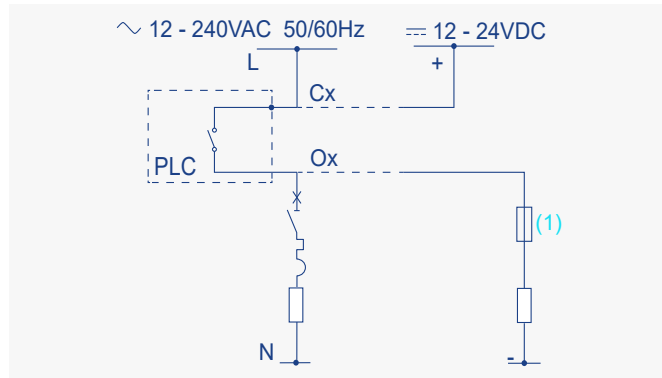
- (1) Isolated source if 24 V~ or 24 V= supply
- (2) 1A quick blowing fuse, circuit breaker, or circuit protector
- L: Line
- N: Neutral

Outputs

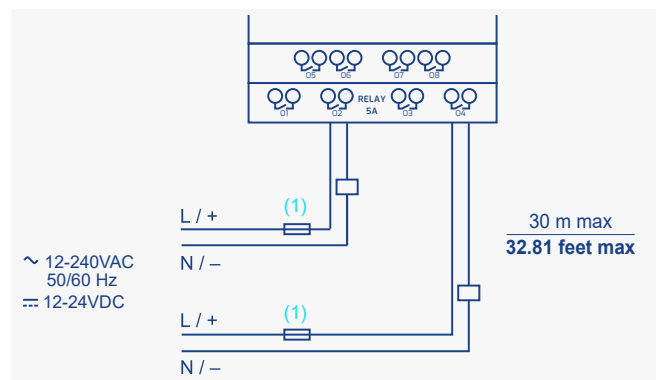
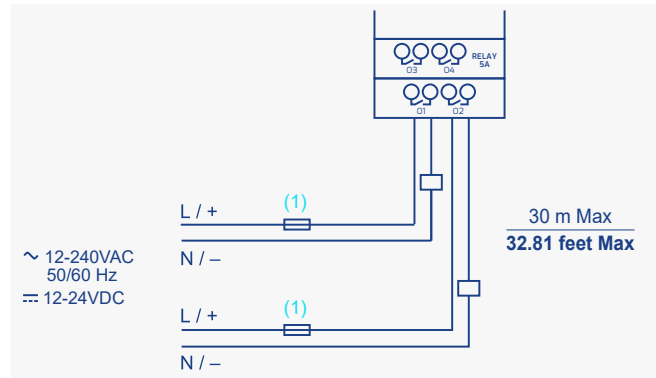
Relay Outputs

MXR08U3, MXR08U1
MXR16U3, MXR16U1

Electronic Diagram



Wiring Diagram



(1) Fuse, circuit breaker or current protector as per relay rating.
For 8A relay use 8A circuit breaker or current protector.
For 5A relay use 5A circuit breaker or current protector.

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