

TM172OBM18R

Modicon M172 Optimized Blind 18 I/Os, Modbus



Main

Range of Product	Modicon M171/M172
Product or Component Type	Programmable controllers
Product Specific Application	HVAC
Variant	Programmable
Total inputs/outputs	18
Discrete input number	2
Discrete output number	1 relay outputs SPDT with independent common 2 relay outputs SPST with same common 3 relay outputs SPST with independent common
Discrete output current	3 A relay SPST 3 A relay SPDT
Analogue input number	8 configurable by pair
Analogue output number	2 voltage/current 4...20 mA or 0...10 V or PWM (2 kHz)

Complementary

Number of port	1 CAN port - screw terminal block 1 USB type mini B - USB device port Mini-B 2 RS485 - screw terminal block Modbus serial link or BACnet MS/TP)
Input/output number	2 analog output 6 digital output 8 analog input 2 digital input
Discrete input logic	Sink or source (positive/negative) up to 2 kHz
Discrete input voltage	24 V AC/DC
Discrete input current	5 mA AC/DC
Input impedance	20 kOhm
Analogue input type	NTC NK103 Beta 3977 temperature probe - 40...137 °C 0.1 °C 10 kOhm at 25 °C) NTC 103AT-2 Beta 3435 temperature probe - 50...110 °C 0.1 °C 10 kOhm at 25 °C) Voltage 0...10 V 1 digit > 10 kOhm Voltage 0...5 V 1 digit > 20 kOhm absolute or ratiometric) Impedance 0...1500 hOhm 1 hOhm 10 kOhm Impedance 0...300 daOhm 1 daOhm 1500 Ohm PTC temperature probe - 55...150 °C 0.1 °C 1500 Ohm Pt 1000 temperature probe - 200...850 °C 0.1 °C 1500 Ohm Current 0...20 mA/4...20 mA 1 digit < 150 Ohm Direct input 10 kOhm Dry contact)
Measurement accuracy	0...20 mA 0...4 mA +/- 2 % of full scale +/- 1 digit 0...20 mA 4...20 mA +/- 1 % of full scale +/- 1 digit 4...20 mA +/- 1 % of full scale +/- 1 digit 0...10 V +/- 1 % of full scale +/- 1 digit 0...5 V +/- 1 % of full scale +/- 1 digit DaOhm 0...300 daOhm +/- 2.5 daOhm NTC NK103 Beta 3977 - 40...+110 °C +/- 1 °C NTC NK103 Beta 3977 110...137 °C +/- 1.9 °C NTC 103AT-2 Beta 3435 - 50...110 °C +/- 1 °C PTC - 55...155 °C +/- 1.1 °C Pt 1000 - 200...-100 °C +/- 10 °C Pt 1000 - 100...-50 °C +/- 2.5 °C Pt 1000 - 50...100 °C +/- 1.5 °C Pt 1000 100...400 °C +/- 2.4 °C Pt 1000 400...850 °C +/- 10 °C HOhm 0...750 hOhm +/- 8.5 hOhm HOhm 750 hOhm...1500 hOhm +/- 24 hOhm

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

Sensor power supply	5 V DC 40 mA supplied by the controller 24 V DC 100 mA supplied by the controller
[Us] rated supply voltage	24 V +/- 10 % AC 20...38 V DC
Power consumption in W	10 W 24 V AC/DC
Realtime clock	Built-in <= 30 s/month -4...140 °F (-20...60 °C)
Display type	Without Display
Overvoltage category	II
Local signalling	For programmable 1 LED (red) For programmable 1 LED (yellow) For programmable 1 LED (green) For power 1 LED (green)
Mounting Support	DIN rail Panel mounting with accessory
Width	2.83 in (72 mm)
Height	4.33 in (110 mm)
Depth	2.38 in (60.5 mm)
Net Weight	0.37 lb(US) (0.17 kg)

Environment

Directives	2014/30/EU - electromagnetic compatibility 2014/35/EU - low voltage directive
Standards	EN 60068-2-6 Fc UL 60730-1 IEC 61000-4-3 IEC 61000-4-6 IEC 61000-4-5 IEC 61000-4-4 IEC 61000-4-11 CSA E60730-2-9 CAN/CSA-E60730-1 UL 60730-2-9 EN 60730-1 EN 60068-2-27 EN 60730-2-9 IEC 61000-4-2
Product Certifications	RCM EAC CURus CE CSA
Ambient air temperature for operation	-4...140 °F (-20...60 °C)
Ambient Air Temperature for Storage	-22...158 °F (-30...70 °C)
Relative humidity	5...95 % non-condensing
IP degree of protection	IP20
Pollution degree	2
Operating altitude	0...6561.68 ft (0...2000 m)

Ordering and shipping details

Category	22537-M171 / M172 HVAC CONTROLLERS
Discount Schedule	PC12
GTIN	3606481284990
Nbr. of units in pkg.	1
Package weight(Lbs)	9.56 oz (271.0 g)
Returnability	No

Packing Units

Unit Type of Package 1	PCE
Package 1 Height	2.95 in (7.5 cm)
Package 1 width	3.74 in (9.5 cm)
Package 1 Length	5.31 in (13.5 cm)
Unit Type of Package 2	S02

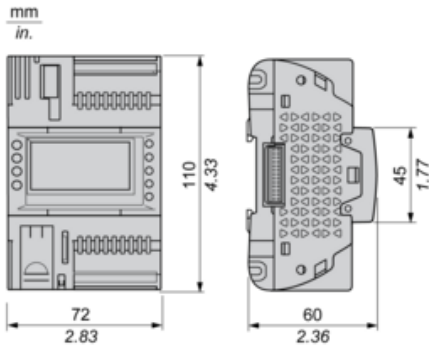
Number of Units in Package 2	15
Package 2 Weight	9.59 lb(US) (4.351 kg)
Package 2 Height	5.91 in (15 cm)
Package 2 width	11.81 in (30 cm)
Package 2 Length	15.75 in (40 cm)

Offer Sustainability

Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
REACH Regulation	REACH Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS Declaration
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End Of Life Information
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.

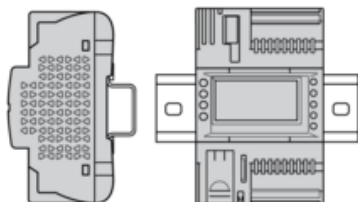
Dimensions Drawings

Dimensions

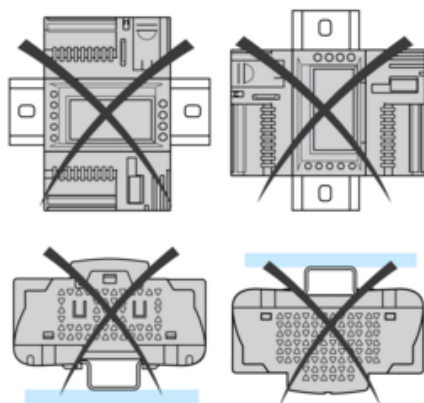


Mounting Positions

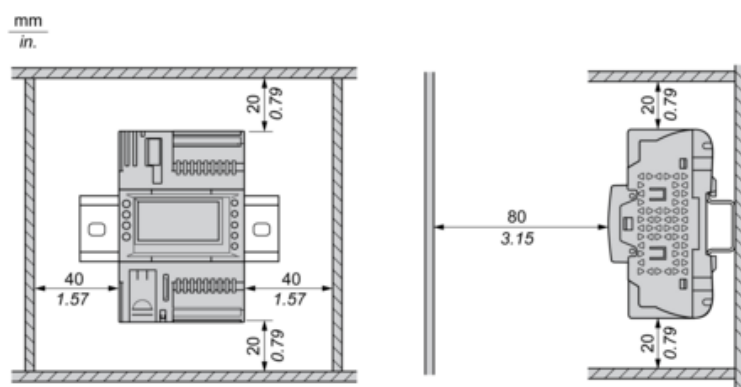
Correct Mounting Position



Incorrect Mounting Position



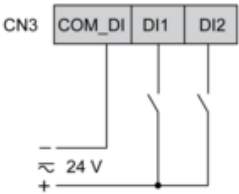
Clearance



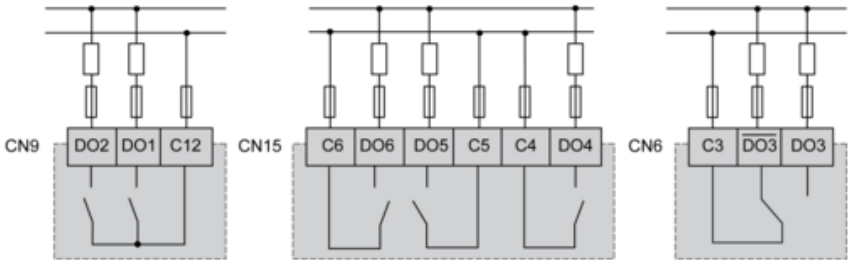
Power Supply

24 Vac	24 Vdc
	
(1) Type T fuse 2 A	

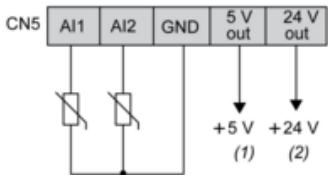
CN3 Fast Digital Inputs



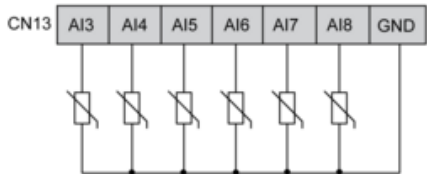
CN9, CN15, CN6 High Voltage Relay SPST Digital Output



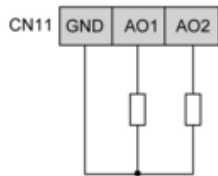
CN5, CN13 Analog Inputs



- (1) Max. current : 40 mA.
(2) Max. current : 100 mA.

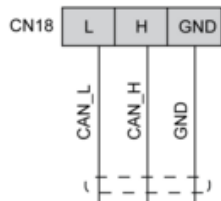


CN11 Analog Outputs

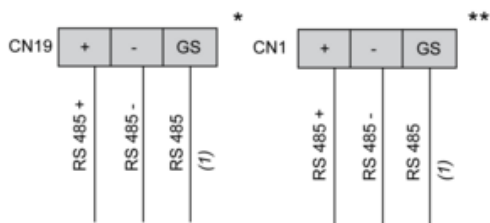


AO1, AO2 can be used also as PWM generator, up to 2kHz.

CN18 CAN Expansion Bus Port



CN19, CN1 RS485 Bus Port



(1) Signal reference

* RS485-1 Modbus SL

** RS485-2 Modbus SL or BACnet MS/TP