Product data sheet
Characteristics

TM172PDG18R
Modicon M172 Performance Display 18 I/Os, Ethernet, 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 for relay outputs SPDT with independent common 2 for relay outputs SPST with same common 3 for relay outputs SPST with independent common
Discrete output current	3 A for relay SPST 3 A for relay SPDT
Analogue input number	8 configurable by pair
Analogue output number	2 voltage/current, range: 4...20 mA or 0...10 V or PWM (2 kHz)

Complementary

Number of port	1 CAN port - screw terminal block 1 USB type A - USB type A female 1 USB type mini B - USB device port Mini-B 2 RS485 - screw terminal block (Modbus serial link or BACnet MS/TP) 1 Ethernet - RJ45 (Modbus TCP and BACnet IP with webserver)
Input/Output number	2 analog output(s) 6 digital output(s) 8 analog input(s) 2 digital input(s)
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 - resolution: 0.1 °C at 10 kOhm (at 25 °C) NTC 103AT-2 Beta 3435 temperature probe - 50...110 °C - resolution: 0.1 °C at 10 kOhm (at 25 °C) voltage 0...10 V - resolution: 1 digit at > 10 kOhm

Disclaimer: 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

	voltage 0...5 V - resolution: 1 digit at > 20 kOhm (absolute or ratiometric) impedance 0...1500 hOhm - resolution: 1 hOhm at 10 kOhm impedance 0...300 daOhm - resolution: 1 daOhm at 1500 Ohm PTC temperature probe - 55...150 °C - resolution: 0.1 °C at 1500 Ohm Pt 1000 temperature probe - 200...850 °C - resolution: 0.1 °C at 1500 Ohm current 0...20 mA/4...20 mA - resolution: 1 digit at < 150 Ohm direct input at 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
Sensor power supply	5 V DC at 40 mA supplied by the controller 24 V DC at 100 mA supplied by the controller
[Us] rated supply voltage	24 V +/- 10 % AC 20...38 V DC
Power consumption in W	11 W at 24 V AC/DC
Realtime clock	Built-in clock, clock drift <= 30 s/month at -20…60 °C
Display type	Backlit LCD - 128 x 64 pixels
Overvoltage category	II
Local signalling	1 LED (red)programmable: 1 LED (yellow)programmable: 1 LED (green)programmable: 1 LED (green)power:
Mounting support	DIN rail Panel mounting with accessory
Width	72 mm
Height	110 mm
Depth	60.5 mm
Net weight	0.225 kg

Environment

Directives	2014/35/EU - low voltage directive 2014/30/EU - electromagnetic compatibility 2011/65/EU - RoHS directive 1907/2006/EC - REACH directive
Standards	IEC 61000-4-6 CAN/CSA-E60730-1 IEC 61000-4-5 CSA E60730-2-9 IEC 61000-4-2 UL 60730-1 IEC 61000-4-3 EN 60068-2-27 UL 60730-2-9 EN 60068-2-6 Fc IEC 61000-4-4 EN 60730-2-9 IEC 61000-4-11 EN 60730-1
Product certifications	CSA RCM CURus CE EAC

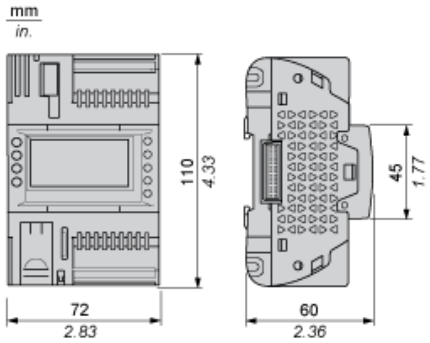
Ambient air temperature for operation	-20…60 °C
Ambient air temperature for storage	-30…70 °C
Relative humidity	5…95 % non-condensing
IP degree of protection	IP20
Pollution degree	2

Offer Sustainability

Sustainable offer status	Green Premium product
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

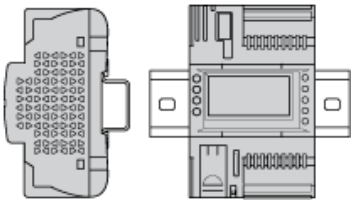
Dimensions Drawings

Dimensions

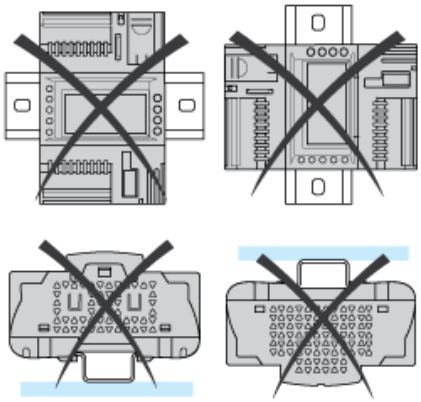


Mounting Positions

Correct Mounting Position

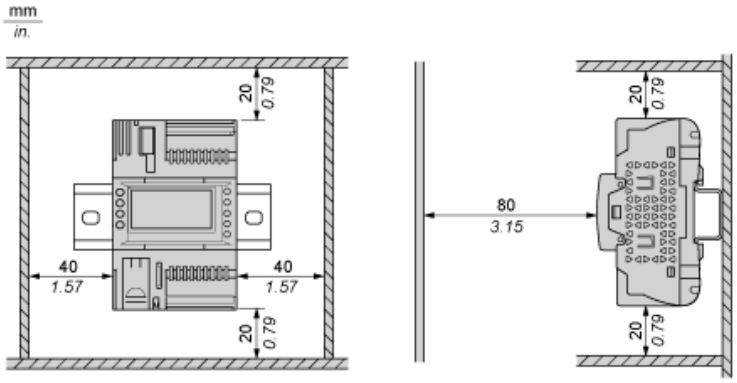


Incorrect Mounting Position

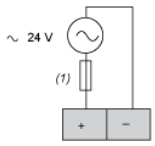
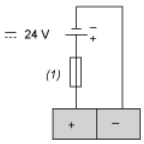


TM172PDG18R

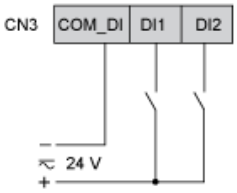
Clearance



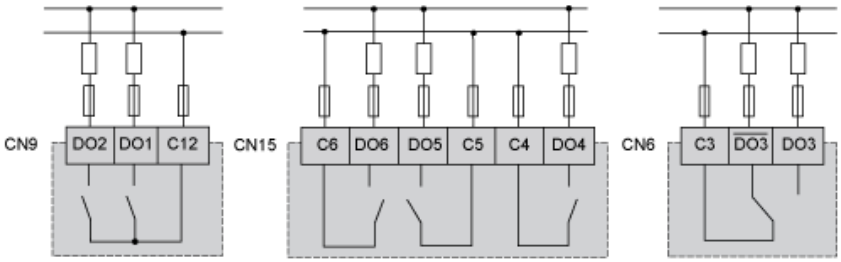
Power Supply

24 Vac	24 Vdc
	

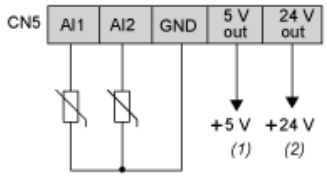
CN3 Fast Digital Inputs



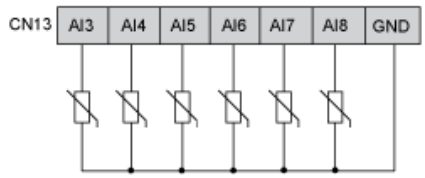
CN9, CN15, CN6 High Voltage Relay SPST Digital Output



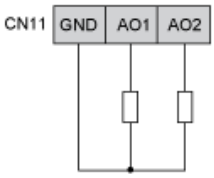
CN5, CN13 Analog Inputs



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

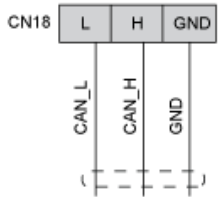


CN11 Analog Outputs

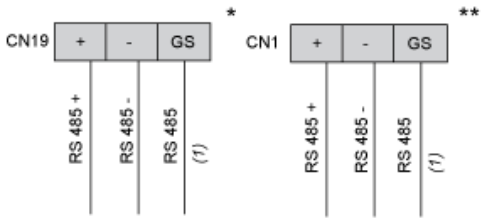


AO1, AO2 can be used also as PWM generator, up to 2kHz.

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