Product data sheet
Characteristics

TM172PDG42R
Controller, Modicon M171/M172/M173, Modicon M172, performance, display, 42 IO, Ethernet, Modbus

Main

Range of produc	Modicon M171/M172
Product or component type	Programmable controllers
Product specific application	HVAC and pumping solution
Variant	Programmable
Total inputs/outputs	42
Discrete input number	12
Discrete output number	2 for relay outputs SPST with same common 2 for relay outputs SPST with independent common 2 for relay outputs SPDT with same common 3 for relay outputs SPST with independent common 3 for relay outputs SPST with same common
Discrete output current	1 A for relay SPDT 3 A for relay SPST
Analogue input number	12 configurable by pair
Analogue output number	4 voltage, range: 0...10 V 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	12 analog input(s) 6 analog output(s) 12 digital input(s) 12 digital output(s)
Discrete input logic	Sink or source (positive/negative)
Discrete input voltage	24 V AC/DC
Discrete input current	2.5 mA
Input impedance	20 kOhm
Analogue input type	Impedance 0...1500 hOhm Impedance 0...300 daOhm Direct input NTC temperature probe - 50...110 °C - resolution: 0.1 °C (extended) Voltage 0...10 V NTC temperature probe - 40...150 °C - resolution: 0.1 °C Current 0...20 mA/4...20 mA PTC temperature probe - 55...150 °C - resolution: 0.1 °C Voltage 0...5 V (absolute or ratiometric) Pt 1000 temperature probe - 200...850 °C - resolution: 0.1 °C
Sensor power supply	5 V DC at 50 mA supplied by the controller 24 V DC at 150 mA supplied by the controller
[Us] rated supply voltage	24 V +/- 10 % AC 20...38 V DC
Power consumption in W	15 W at 24 V AC/DC
Realtime clock	Built-in clock at -20…60 °C
Display type	Backlit LCD - 128 x 64 pixels
Overvoltage category	II

Local signalling	1 LED (red) for programmable 1 LED (yellow) for programmable 1 LED (green) for programmable 1 LED (green) for power
Mounting support	Panel mounting with accessory DIN rail
Width	144 mm
Height	110 mm
Depth	60.5 mm
Net weight	0.385 kg

Environment

Directives	2006/95/EC - low voltage directive 86/188/EEC - physical agents (noise) directive
Standards	EN/IEC 60730 UL94 (material V0)
Product certifications	CE[RETURN]EAC[RETURN]CSA[RETURN]cURus
Ambient air temperature for operation	-20…60 °C conforming to UL 60730-1 -20…65 °C with derating conforming to UL 60730-1
Ambient air temperature for storage	-30…70 °C
Relative humidity	5…95 % non-condensing
IP degree of protection	IP20
Pollution degree	2
Operating altitude	0...2000 m

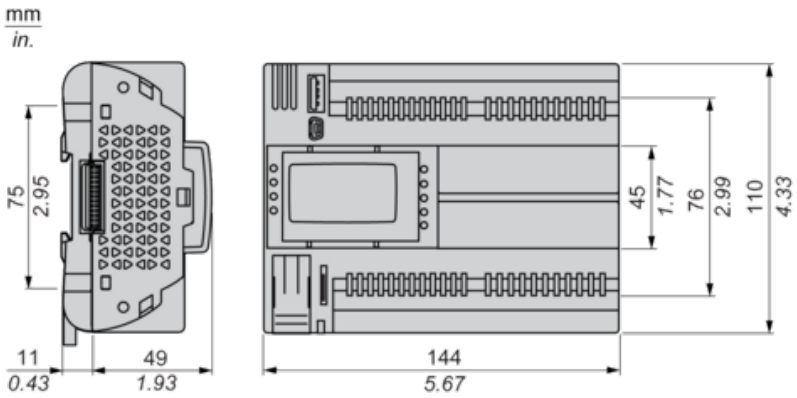
Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	13.200 cm
Package 1 Width	9.000 cm
Package 1 Length	18.600 cm
Package 1 Weight	446.000 g
Unit Type of Package 2	S02
Number of Units in Package 2	6
Package 2 Height	15.000 cm
Package 2 Width	30.000 cm
Package 2 Length	40.000 cm
Package 2 Weight	2.880 kg

Offer Sustainability

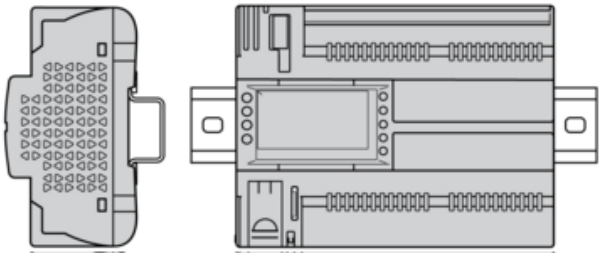
Sustainable offer status	Green Premium product
REACh Regulation	REACh Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
China RoHS Regulation	China RoHS Declaration
RoHS exemption information	Yes
Environmental Disclosure	Product Environmental Profile
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
Upgradeability	Upgradeable through digital modules and upgraded components

Dimensions



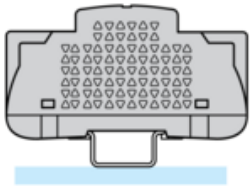
Mounting Positions

Correct Mounting Position

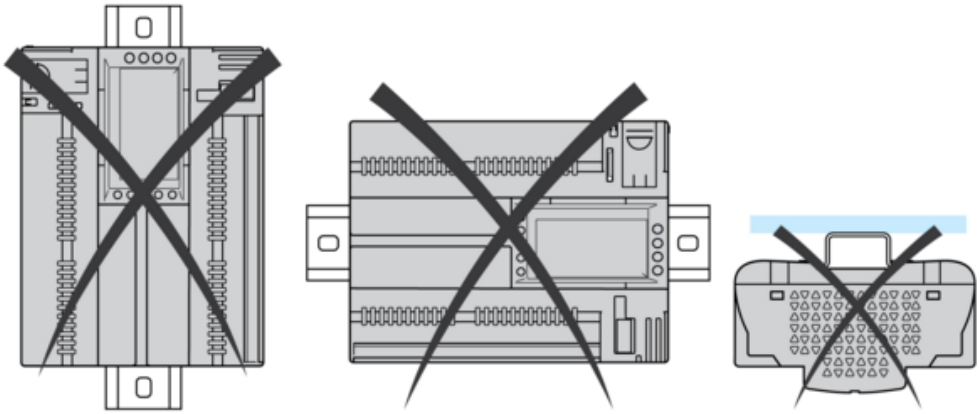


Acceptable Mounting Position

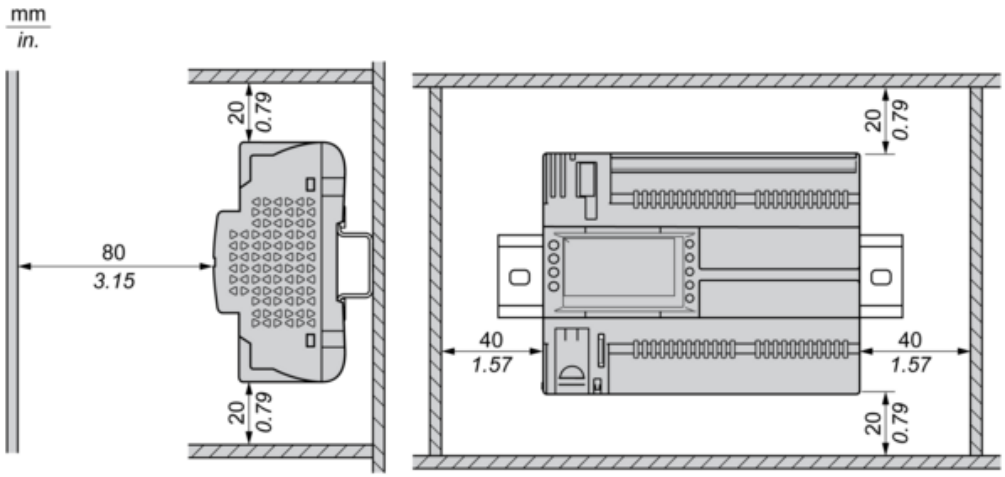
Controller can be mounted horizontally upward with a temperature derating (maximum ambient temperature: 60 °C (140 °F)).



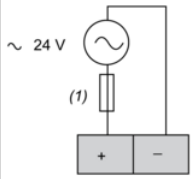
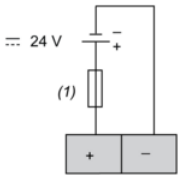
Incorrect Mounting Position



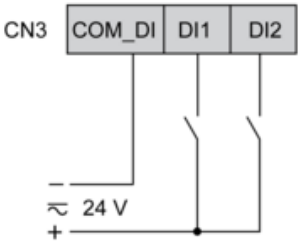
Clearance


mm
in.
20
0.79
80
3.15
20
0.79
20
0.79
40
1.57
40
1.57
20
0.79

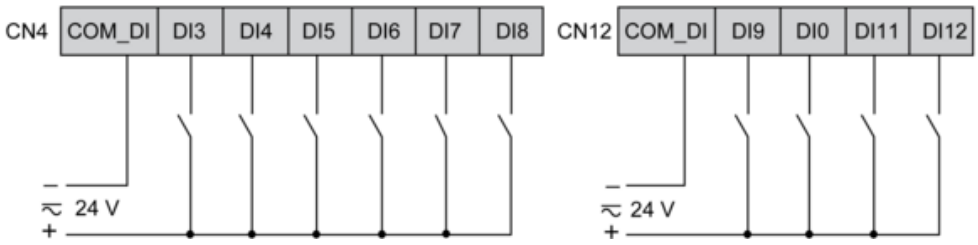
Power Supply

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

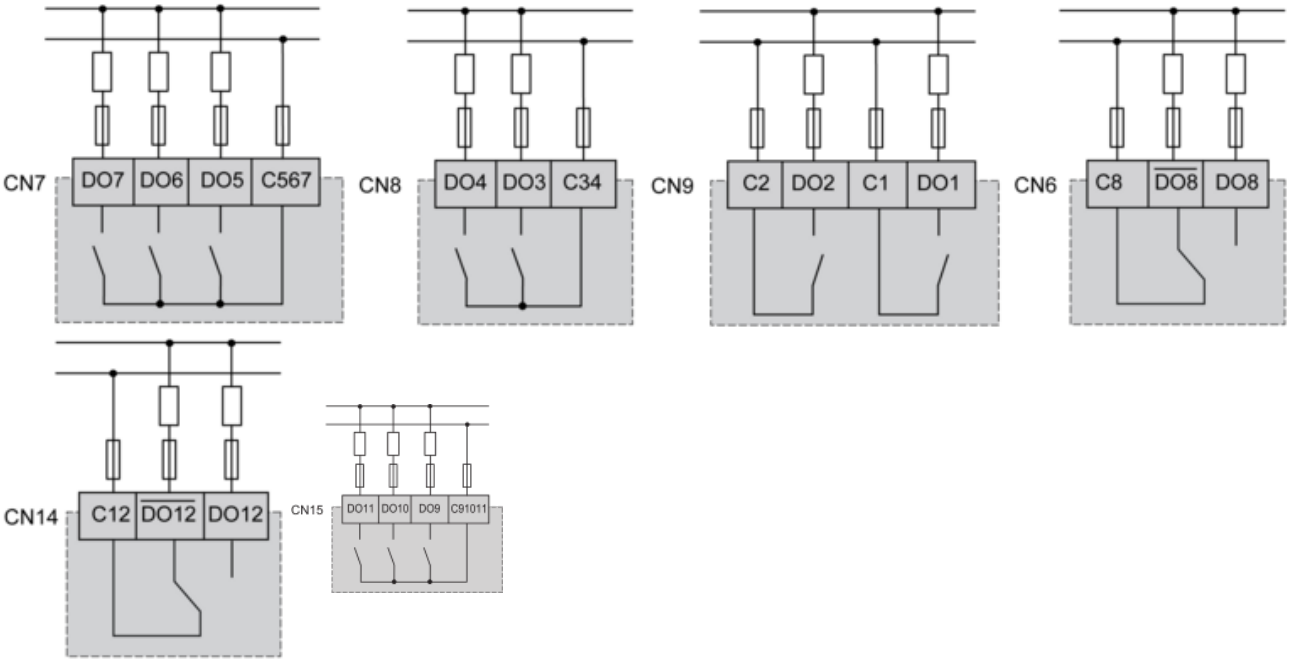
CN3 Fast Digital Inputs



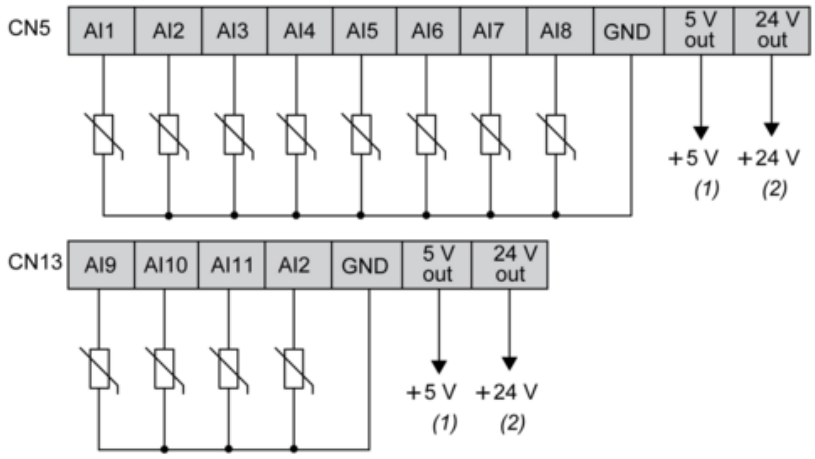
CN4, CN12 Digital Inputs



CN7, CN8, CN9, CN6, CN14, CN15 High Voltage Relay SPST Digital Output



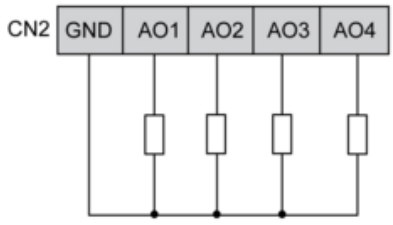
CN5, CN13 Analog Inputs



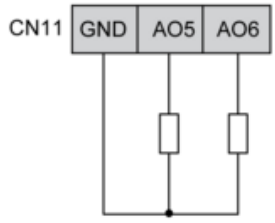
(1) (CN5 + CN13) Max. current : 50 mA.

(2) (CN5 + CN13) Max. current : 150 mA.

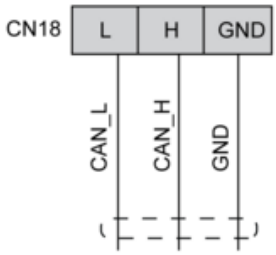
CN2, CN11 Analog Outputs



AO3, AO4 can be used also as PWM generator, up to 2kHz.



CN18 CAN Expansion Bus Port



CN19, CN1 CAN Expansion Bus Port