

Product data sheet

Specifications



Controller, Modicon M171/M172/ M173, performance, display, 42 IO, Ethernet, solid state relay

TM172PDG42SI

**Product availability: Non-Stock - Not normally stocked in
distribution facility**

Main

Range of Product	Modicon M171/M172
Product or Component Type	Programmable controllers
Product Specific Application	HVAC control
Variant	Programmable
Total inputs/outputs	42
Discrete input number	12
Discrete output number	2 relay outputs SPDT with independent common 3 relay outputs SPST with same common 5 relay outputs SPST with same common 2 solid state, isolated SPST with independent common
Discrete output current	3 A relay SPDT 3 A relay SPST 0.5 A solid state, isolated
Analogue input number	12 configurable by pair
Analogue output number	4 voltage 0...10 V 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 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 6 analog output 12 digital input 12 digital output
Discrete input logic	Sink or source (positive/negative)
Discrete input voltage	24 V AC/DC
Discrete input current	2.5 mA
Input impedance	10 kOhm
Analogue input type	impedance 0...1500 hOhm 1 hOhm 10 kOhm impedance 0...300 daOhm 1 daOhm 2 kOhm NTC 103AT-2 Beta 3435 temperature probe - 50...110 °C 0.1 °C 10 kOhm voltage 0...10 V 1 digit > 10 kOhm NTC NK103 Beta 3977 temperature probe - 40...137 °C 0.1 °C 10 kOhm extended) current 0...20 mA/4...20 mA 1 digit < 150 Ohm PTC temperature probe - 55...150 °C 0.1 °C 2 kOhm voltage 0...5 V 1 digit > 20 kOhm absolute or ratiometric) Pt 1000 temperature probe - 200...850 °C 0.1 °C 2 kOhm direct input > 10 kOhm

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

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

Measurement accuracy	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 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 hOhm 0...1500 hOhm +/- 8.5 hOhm daOhm 0...300 daOhm +/- 2.5 daOhm
Sensor power supply	5 V DC 50 mA supplied by the controller 24 V DC 150 mA supplied by the controller
[Us] rated supply voltage	24 V +/- 10 % AC 20...38 V DC
Power consumption in W	14 W 24 V AC/DC
Realtime clock	Built-in clock, clock drift <= 30 s/month at -4...149 °F (-20...65 °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	5.7 in (144 mm)
Height	4.3 in (110 mm)
Depth	2.4 in (60.5 mm)
Product Weight	0.849 lb(US) (0.385 kg)

Environment

Directives	2014/30/EU - electromagnetic compatibility 2014/35/EU - low voltage directive
Standards	CAN/CSA-E60730-1 CSA E60730-2-9 EN 60068-2-27 EN 60068-2-6 Fc EN 60730-1 EN 60730-2-9 UL 60730-1 UL 60730-2-9 IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-11 UL94 (material V0)
Product Certifications	EAC CE cURus CSA RCM
Ambient air temperature for operation	-4...149 °F (-20...65 °C) UL 60730-1 -4...131 °F (-20...55 °C) horizontal
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	US1PC1222537
Discount Schedule	PC12
GTIN	3606489729530
Returnability	No
Country of origin	IT

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	5.315 in (13.500 cm)
Package 1 Width	3.740 in (9.500 cm)
Package 1 Length	7.323 in (18.600 cm)
Package weight(Lbs)	15.450 oz (438.000 g)
Unit Type of Package 2	S02
Number of Units in Package 2	6
Package 2 Height	5.906 in (15.000 cm)
Package 2 Width	11.811 in (30.000 cm)
Package 2 Length	15.748 in (40.000 cm)
Package 2 Weight	6.468 lb(US) (2.934 kg)

Contractual warranty

Warranty (in months)	18
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Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)



Environmental footprint

Total lifecycle Carbon footprint	622 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	40 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.2 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	580 kg CO2 eq.
Carbon footprint of the end-of-life phase [C1 to C4]	1 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile

Use Better



Materials and Substances

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
SCIP Number	2c365b3a-5b0a-48fd-acc7-751c89a723a2
EU RoHS Directive	Compliant By Exemption
REACH Regulation	Reference contains Substances of Very High Concern above the threshold
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

Use Longer



Lifetime extension

Repair	No
Upgradeability	Yes

Use Again



Repack and remanufacture

Recyclability potential, in %	0
Circularity Profile	End of Life Information
Removable battery	Yes
Take-back	No

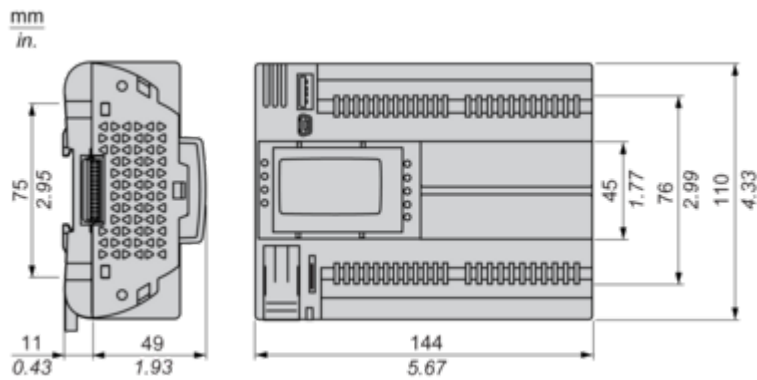
WEEE Label



The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.

Dimensions Drawings

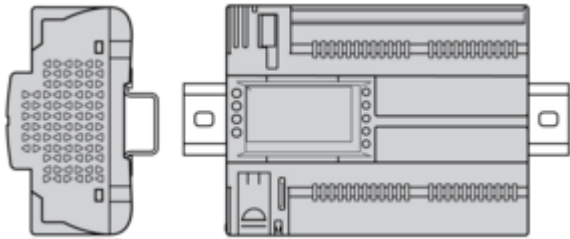
Dimensions



Mounting and Clearance

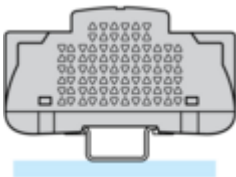
Mounting Positions

Correct Mounting Position

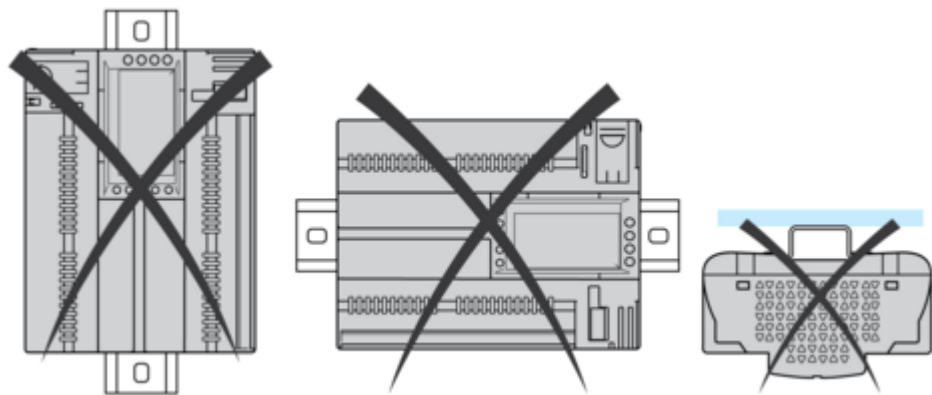


Acceptable Mounting Position

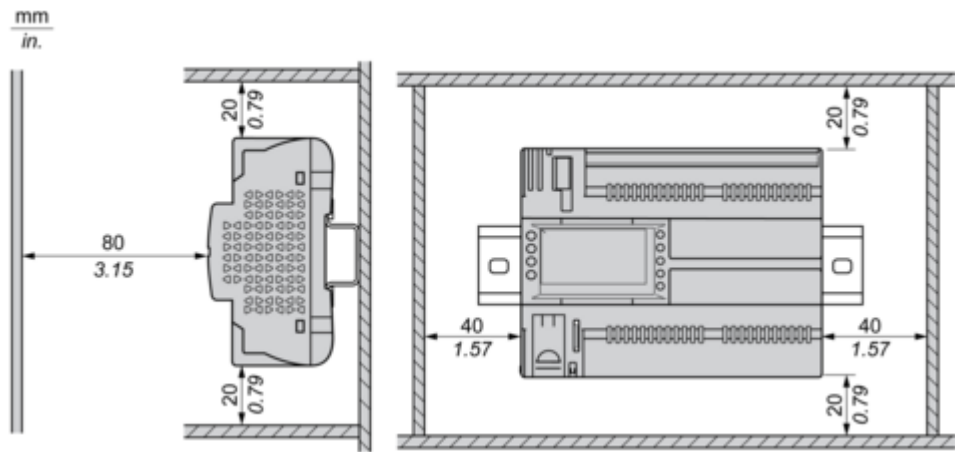
Controller can be mounted horizontally upward with a temperature derating (maximum ambient temperature: 60 °C (140 °F)).



Incorrect Mounting Position

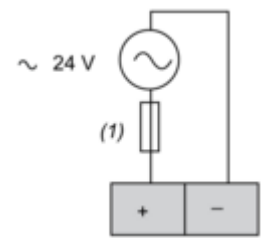
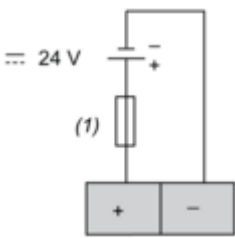


Clearance

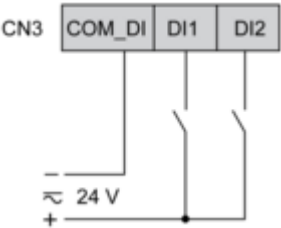


Connections and Schema

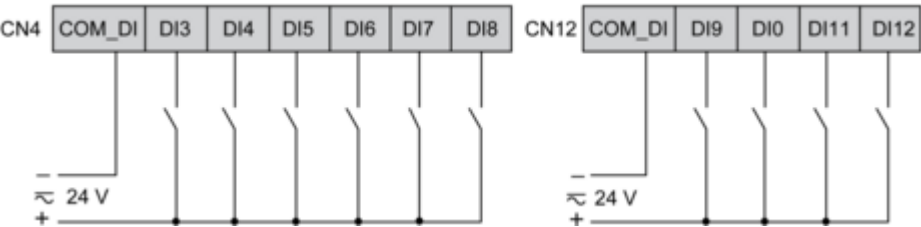
Power Supply

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

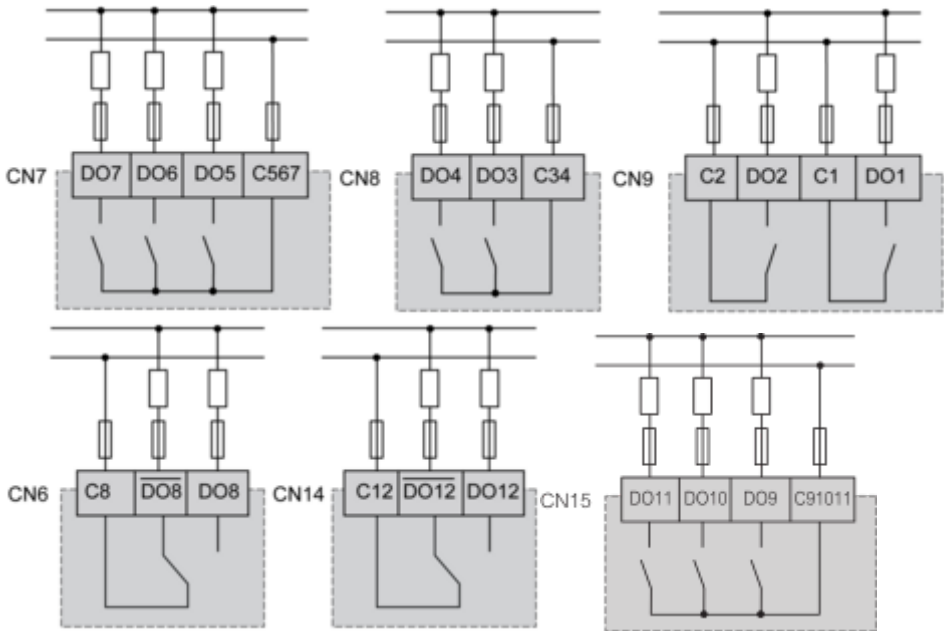
CN3 Fast Digital Inputs



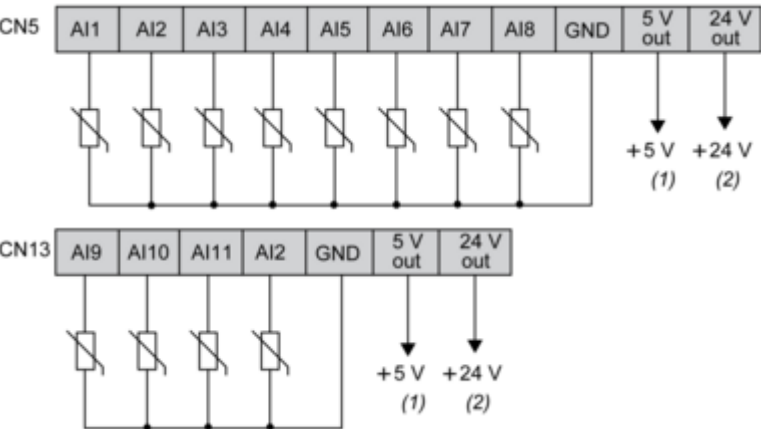
CN4, CN12 Digital Inputs



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

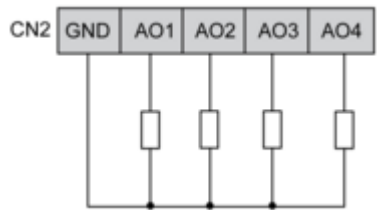


CN5, CN13 Analog Inputs

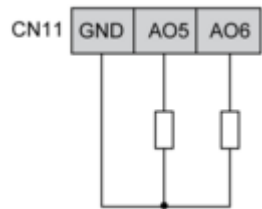


- (1) (CN5 + CN13) Max. current : 50 mA.
- (2) (CN5 + CN13) Max. current : 150 mA.

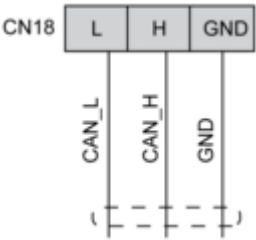
CN2, CN11 Analog Outputs



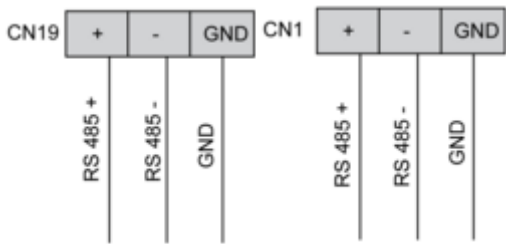
AO3, AO4 can be used also as PWM generator, up to 2kHz.



CN18 CAN Expansion Bus Port



CN19, CN1 CAN Expansion Bus Port



Technical Illustration

Dimensions

