# Product data sheet

Specifications



## Controller, Modicon M171/M172/ M173, performance display 7 IO, Ethernet, Modbus

TM172PDG07R

**Product availability: Stock - Normally stocked in distribution facility**

## Main

| | |
|---|---|
| **Range of Product** | Modicon M171/M172 |
| **Product or Component Type** | Programmable controllers |
| **Product Specific Application** | HVAC |
| **Variant** | Programmable |
| **Total inputs/outputs** | 7 |
| **Discrete input number** | 2 |
| **Discrete output number** | 1 relay outputs SPDT with independent common<br>2 relay outputs SPST with same common |
| **Discrete output current** | 3 A relay SPST<br>3 A relay SPDT |
| **Analogue input number** | 2 configurable by pair |

## Complementary

| | |
|---|---|
| **Number of port** | 1 CAN port - screw terminal block<br>1 USB type A - USB type A female<br>1 USB type mini B - USB device port Mini-B<br>2 RS485 - screw terminal block Modbus serial link or BACnet MS/TP)<br>1 Ethernet - RJ45 Modbus TCP and BACnet IP with webserver) |
| **Input/output number** | 2 digital input<br>2 analog input<br>3 digital output |
| **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** | 10 kOhm |
| **Analogue input type** | NTC NK103 Beta 3977 temperature probe - 40...137 °C 0.1 °C 10 kOhm at 25 °C)<br>NTC 103AT-2 Beta 3435 temperature probe - 50...110 °C 0.1 °C 10 kOhm at 25 °C)<br>voltage 0...10 V 1 digit > 10 kOhm<br>voltage 0...5 V 1 digit > 20 kOhm absolute or ratiometric)<br>impedance 0...1500 hOhm 1 hOhm 10 kOhm<br>impedance 0...300 daOhm 1 daOhm 1500 Ohm<br>PTC temperature probe - 55...150 °C 0.1 °C 1500 Ohm<br>Pt 1000 temperature probe - 200...850 °C 0.1 °C 1500 Ohm<br>current 0...20 mA/4...20 mA 1 digit < 150 Ohm<br>direct input 10 kOhm Dry contact) |

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** | 0...20 mA 0...4 mA +/- 2 % of full scale +/- 1 digit<br>0...20 mA 4...20 mA +/- 1 % of full scale +/- 1 digit<br>4...20 mA +/- 1 % of full scale +/- 1 digit<br>0...10 V +/- 1 % of full scale +/- 1 digit<br>0...5 V +/- 1 % of full scale +/- 1 digit<br>DaOhm 0...300 daOhm +/- 2.5 daOhm<br>NTC NK103 Beta 3977 - 40...+110 °C +/- 1 °C<br>NTC NK103 Beta 3977 110...137 °C +/- 1.9 °C<br>NTC 103AT-2 Beta 3435 - 50…110 °C +/- 1 °C<br>PTC - 55...155 °C +/- 1.1 °C<br>Pt 1000 - 200...-100 °C +/- 10 °C<br>Pt 1000 - 100...-50 °C +/- 2.5 °C<br>Pt 1000 - 50...100 °C +/- 1.5 °C<br>Pt 1000 100…400 °C +/- 2.4 °C<br>Pt 1000 400...850 °C +/- 10 °C<br>HOhm 0...750 hOhm +/- 8.5 hOhm<br>HOhm 750 hOhm...1500 hOhm +/- 24 hOhm |
| **Sensor power supply** | 5 V DC 40 mA supplied by the controller<br>24 V DC 100 mA supplied by the controller |
| **[Us] rated supply voltage** | 24 V +/- 10 % AC<br>20...38 V DC |
| **Power consumption in W** | 10 W 24 V AC/DC |
| **Realtime clock** | Built-in clock, clock drift <= 30 s/month at -4…140 °F (-20…60 °C) |
| **Display type** | Backlit LCD - 128 x 64 pixels |
| **Overvoltage category** | II |
| **Local signalling** | 1 LED (red) for programmable<br>1 LED (yellow) for programmable<br>1 LED (green) for programmable<br>1 LED (green) for power |
| **Mounting Support** | DIN rail<br>Panel mounting with accessory |
| **Width** | 2.8 in (72 mm) |
| **Height** | 4.3 in (110 mm) |
| **Depth** | 2.4 in (60.5 mm) |
| **Net Weight** | 0.4 lb(US) (0.2 kg) |

# Environment

| | |
|---|---|
| **Directives** | 2014/35/EU - low voltage directive<br>2014/30/EU - electromagnetic compatibility |
| **Standards** | EN 60730-1<br>UL 60730-1<br>IEC 61000-4-6<br>IEC 61000-4-3<br>UL 60730-2-9<br>IEC 61000-4-4<br>IEC 61000-4-2<br>CSA E60730-2-9<br>IEC 61000-4-5<br>EN 60068-2-6 Fc<br>IEC 61000-4-11<br>EN 60730-2-9<br>EN 60068-2-27<br>CAN/CSA-E60730-1<br>UL94 (material V0) |
| **Product Certifications** | EAC<br>CSA<br>RCM<br>CE<br>cURus |
| **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** | US1PC1222537 |
| **Discount Schedule** | PC12 |
| **GTIN** | 3606481390073 |
| **Returnability** | Yes |
| **Country of origin** | IT |

## Packing Units

| | |
|---|---|
| **Unit Type of Package 1** | PCE |
| **Nbr. of units in pkg.** | 1 |
| **Package 1 Height** | 2.756 in (7.000 cm) |
| **Package 1 Width** | 3.583 in (9.100 cm) |
| **Package 1 Length** | 5.315 in (13.500 cm) |
| **Package weight(Lbs)** | 8.783 oz (249.000 g) |
| **Unit Type of Package 2** | S02 |
| **Number of Units in Package 2** | 15 |
| **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** | 8.333 lb(US) (3.780 kg) |

## Contractual warranty

| | |
|---|---|
| **Warranty (in months)** | 18 |

## 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 | **445 kg CO2 eq.** |
| Carbon footprint of the manufacturing phase [A1 to A3] | **29 kg CO2 eq.** |
| Carbon footprint of the distribution phase [A4] | **0.1 kg CO2 eq.** |
| Carbon footprint of the installation phase [A5] | **0 kg CO2 eq.** |
| Carbon footprint of the use phase [B2, B3, B4, B6] | **414 kg CO2 eq.** |
| Carbon footprint of the end-of-life phase [C1 to C4] | **0.6 kg CO2 eq.** |
| Environmental Disclosure | Product Environmental Profile |

## Use Better

### Materials and Substances

| | |
|---|---|
| Packaging made with recycled cardboard | **Yes** |
| SCIP Number | **5f084ad3-a632-46a2-a550-32cd53bdbb5a** |
| 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

| | |
|---|---|
| Upgradeability | **Yes** |

## Use Again

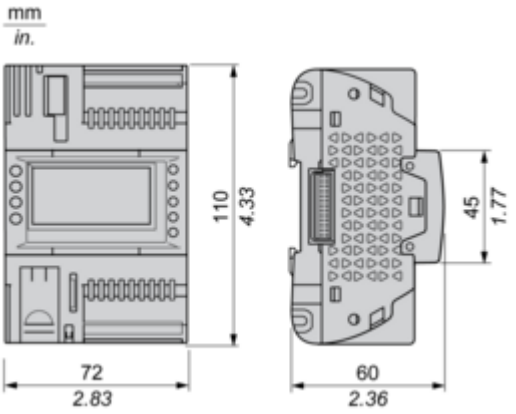
### Repack and remanufacture

| | |
|---|---|
| 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 Drawings

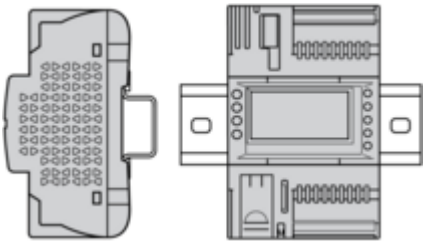
### Dimensions



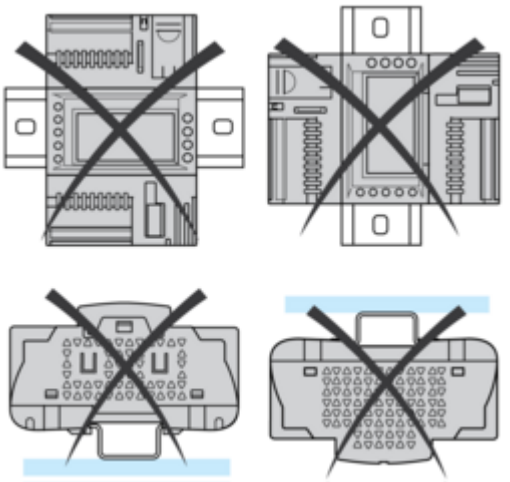
Mounting and Clearance

## Mounting Positions

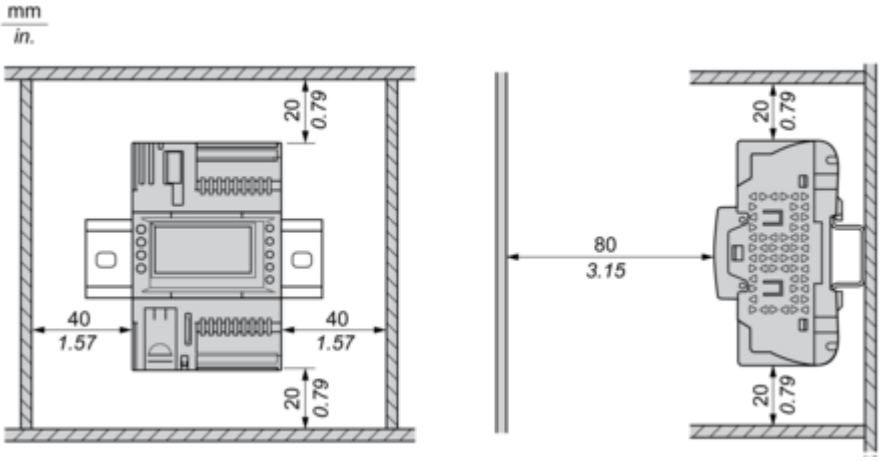
### Correct Mounting Position



### Incorrect Mounting Position

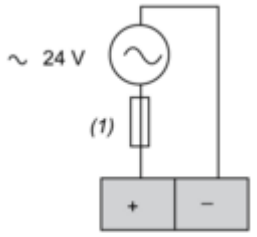
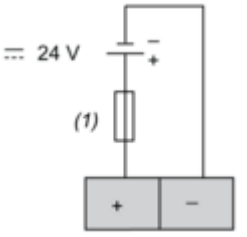


## Clearance

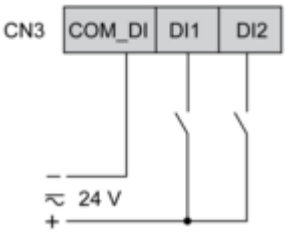


Connections and Schema

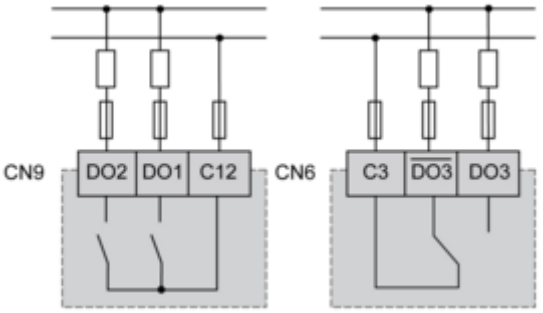
## Power Supply

| 24 Vac | 24 Vdc |
| --- | --- |
|  |  |
| **(1)** Type T fuse 2 A | |

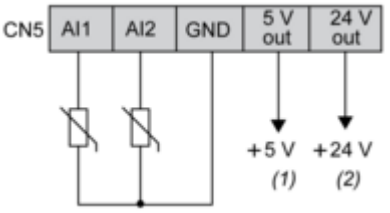
## CN3 Fast Digital Inputs



## CN9, CN6 High Voltage Relay SPST Digital Output

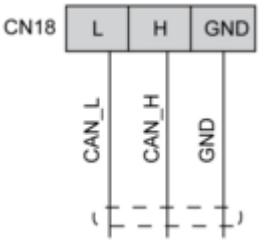


## CN5 Analog Inputs

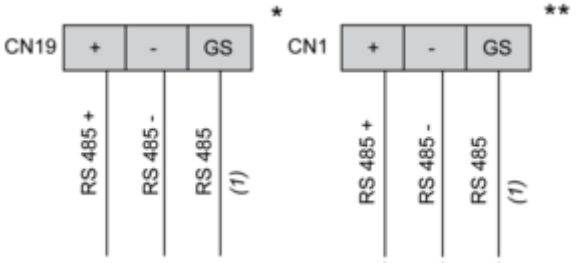



**(1)** Max. current : 50 mA.
**(2)** Max. current : 100 mA.

## 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