

# Product data sheet

Specifications



## Controller, Modicon M171/M172/ M173, performance, display, 28 IO, Ethernet, isolated

TM172PDG28RI

**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 control   |
| Variant                      | Programmable   |
| Total inputs/outputs         | 28   |
| Discrete input number        | 8  |
| Discrete output number       | 1 relay outputs SPDT with independent common<br>3 relay outputs SPST with same common<br>2 relay outputs SPST with same common<br>2 relay outputs SPST with independent common |
| Discrete output current      | 3 A relay SPDT<br>3 A relay SPST   |
| Analogue input number        | 8 configurable by pair   |
| Analogue output number       | 2 voltage 0...10 V<br>2 voltage/current 4...20 mA or 0...10 V or PWM (2 kHz)   |

### 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    | 8 digital input<br>8 analog input<br>4 analog output<br>8 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<br>impedance 0...300 daOhm 1 daOhm 2 kOhm<br>NTC 103AT-2 Beta 3435 temperature probe - 50...110 °C 0.1 °C 10 kOhm<br>voltage 0...10 V 1 digit > 10 kOhm<br>NTC NK103 Beta 3977 temperature probe - 40...137 °C 0.1 °C 10 kOhm extended)<br>current 0...20 mA/4...20 mA 1 digit < 150 Ohm<br>PTC temperature probe - 55...150 °C 0.1 °C 2 kOhm<br>voltage 0...5 V 1 digit > 20 kOhm absolute or ratiometric)<br>Pt 1000 temperature probe - 200...850 °C 0.1 °C 2 kOhm<br>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.

|                                  |  |
|----------------------------------|--|
| <b>Measurement accuracy</b>      | 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>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>HOhm 0...1500 hOhm +/- 8.5 hOhm<br>DaOhm 0...300 daOhm +/- 2.5 daOhm |
| <b>Sensor power supply</b>       | 5 V DC 50 mA supplied by the controller<br>24 V DC 150 mA supplied by the controller   |
| <b>[Us] rated supply voltage</b> | 24 V +/- 10 % AC<br>20...38 V DC   |
| <b>Power consumption in W</b>    | 12 W 24 V AC/DC  |
| <b>Realtime clock</b>            | Built-in clock, clock drift <= 30 s/month at -4...149 °F (-20...65 °C)   |
| <b>Display type</b>              | Backlit LCD - 128 x 64 pixels  |
| <b>Overvoltage category</b>      | II   |
| <b>Local signalling</b>          | 1 LED (red) for programmable<br>1 LED (yellow) for programmable<br>1 LED (green) for programmable<br>1 LED (green) for power   |
| <b>Mounting Support</b>          | Panel mounting with accessory<br>Carril DIN  |
| <b>Width</b>                     | 5.7 in (144 mm)  |
| <b>Height</b>                    | 4.3 in (110 mm)  |
| <b>Depth</b>                     | 2.4 in (60.5 mm)   |
| <b>Net Weight</b>                | 0.7 lb(US) (0.3 kg)  |

## Environment

|  |   |
|--|---|
| <b>Directives</b>                            | 2014/30/EU - electromagnetic compatibility<br>2014/35/EU - low voltage directive  |
| <b>Standards</b>                             | CAN/CSA-E60730-1<br>CSA E60730-2-9<br>EN 60068-2-27<br>EN 60068-2-6 Fc<br>EN 60730-1<br>EN 60730-2-9<br>UL 60730-1<br>UL 60730-2-9<br>IEC 61000-4-2<br>IEC 61000-4-3<br>IEC 61000-4-4<br>IEC 61000-4-5<br>IEC 61000-4-6<br>IEC 61000-4-11<br>UL94 (material V0) |
| <b>Product Certifications</b>                | EAC<br>CE<br>cURus<br>CSA<br>RCM  |
| <b>Ambient air temperature for operation</b> | -4...149 °F (-20...65 °C) UL 60730-1<br>-4...140 °F (-20...60 °C) horizontal UL 60730-1   |
| <b>Ambient Air Temperature for Storage</b>   | -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              | 3606489729493 |
| Returnability     | Yes           |
| Country of origin | US            |

## Packing Units

|                              |                         |
|------------------------------|-------------------------|
| Unit Type of Package 1       | PCE                     |
| Number of Units in Package 1 | 1                       |
| Package 1 Height             | 5.31 in (13.5 cm)       |
| Package 1 Width              | 3.54 in (9.0 cm)        |
| Package 1 Length             | 7.48 in (19.0 cm)       |
| Package 1 Weight             | 14.3 oz (406.0 g)       |
| Unit Type of Package 2       | S02                     |
| Number of Units in Package 2 | 6                       |
| Package 2 Height             | 5.91 in (15.0 cm)       |
| Package 2 Width              | 11.81 in (30.0 cm)      |
| Package 2 Length             | 15.75 in (40.0 cm)      |
| Package 2 Weight             | 6.030 lb(US) (2.735 kg) |

## 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

Carbon footprint (kg CO2 eq, Total Life cycle) 550

Environmental Disclosure [Product Environmental Profile](#)

## Use Better

### Materials and Substances

Packaging made with recycled cardboard Yes

Packaging without single use plastic No

[EU RoHS Directive](#) Pro-active compliance (Product out of EU RoHS legal scope)

SCIP Number D5a4c98e-c915-42d0-a4fd-30a2daa081a3

REACH Regulation [REACH Declaration](#)

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](http://www.P65Warnings.ca.gov)

## Use Again

### Repack and remanufacture

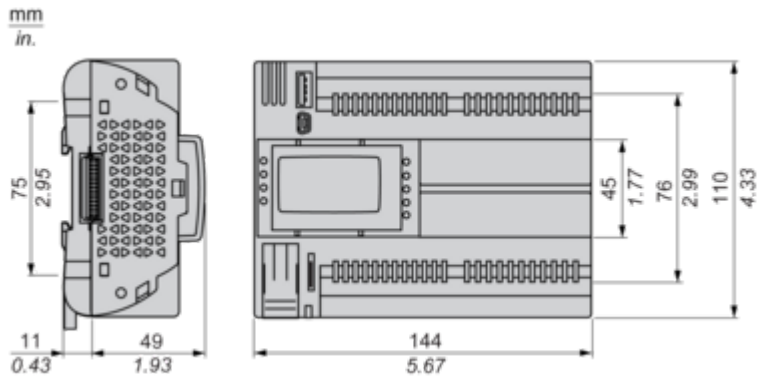
Circularity Profile [End of Life Information](#)

Take-back No

Dimensions Drawings

Dimensions

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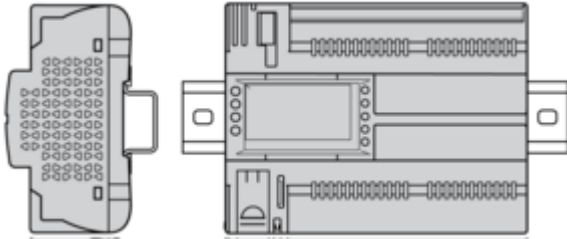


Mounting and Clearance

Mounting Positions

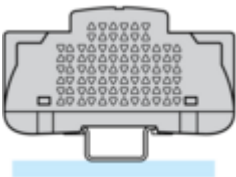
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Correct Mounting Position

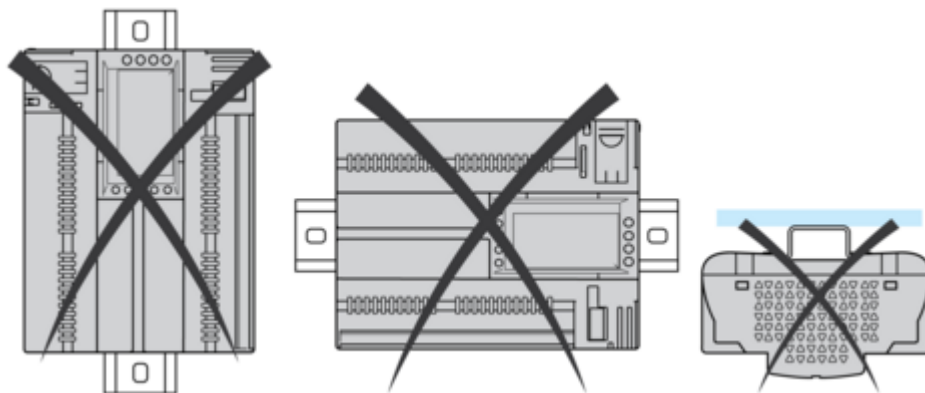


Acceptable Mounting Position

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

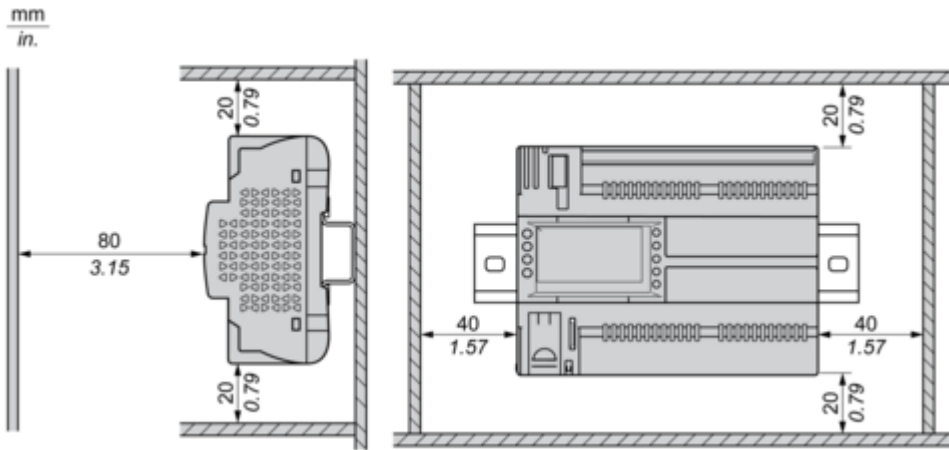


Incorrect Mounting Position



Clearance

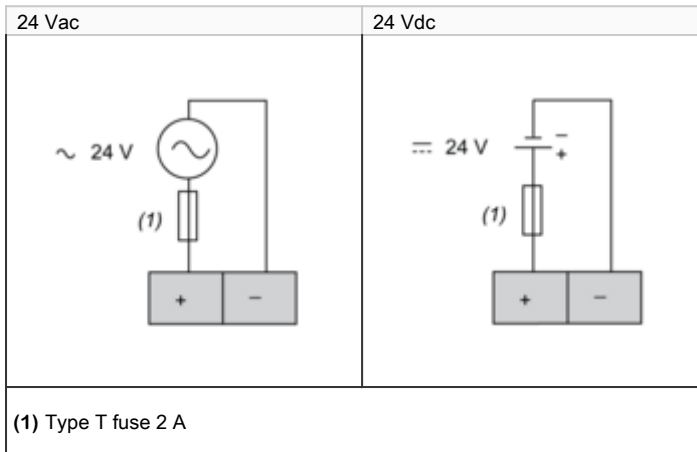
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Connections and Schema

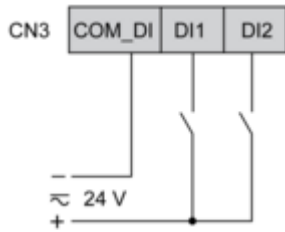
Power Supply

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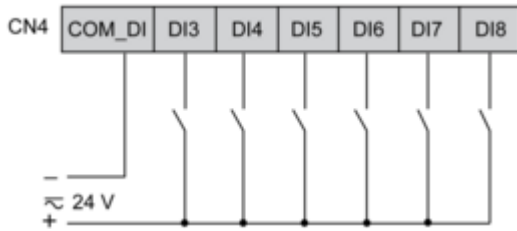
CN3 Fast Digital Inputs

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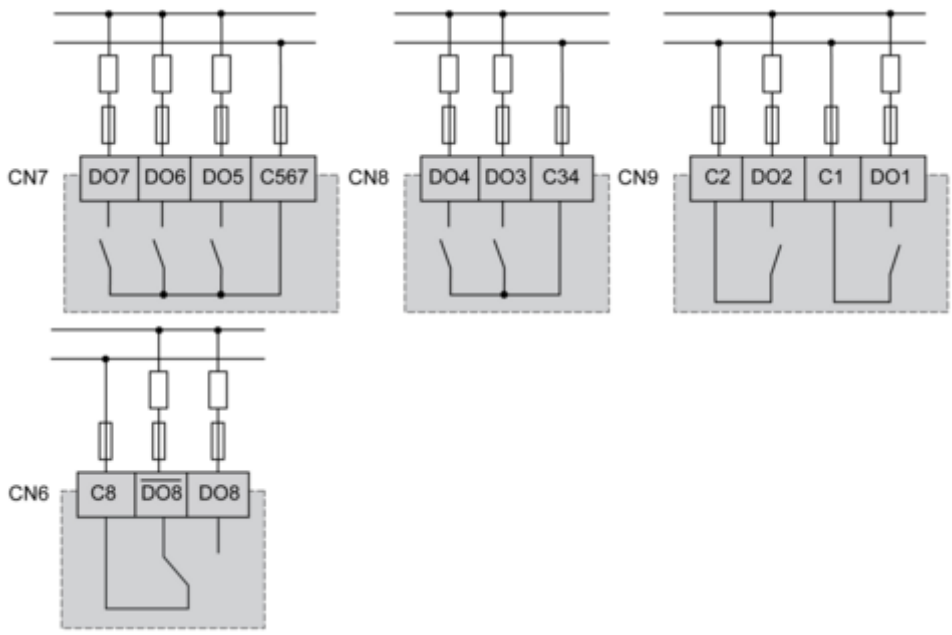


CN4 Digital Inputs

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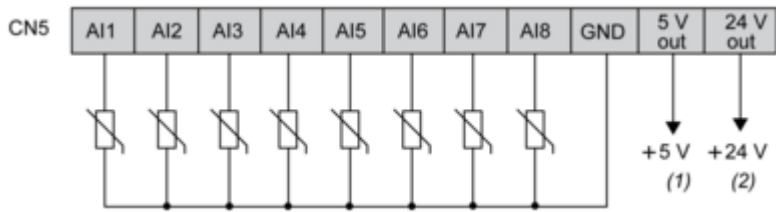


CN7, CN8, CN9, CN6 High Voltage Relay SPST Digital Output



**CN5 Analog Inputs**

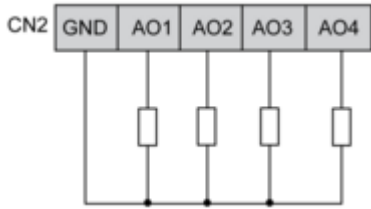
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- (1) Max. current : 50 mA.
- (2) Max. current : 150 mA.

CN2 Analog Outputs

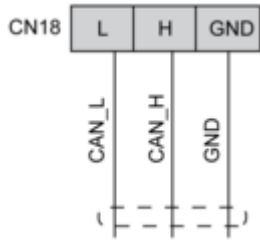
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AO3, AO4 can be used also as PWM generator, up to 2kHz.

CN18 CAN Expansion Bus Port

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CN19, CN1 CAN Expansion Bus Port

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