

# Product datasheet

Specifications



## Modicon M172 Performance Display 42 I/Os, Eth, Isolated

TM172PDG42RI

EAN Code: 3606489729523

### 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 for relay outputs SPDT with independent common<br>3 for relay outputs SPST with same common<br>5 for relay outputs SPST with same common<br>2 for relay outputs SPST with independent common |
| Discrete Output Current      | 3 A for relay SPDT<br>3 A for relay SPST   |
| Analogue Input Number        | 12 configurable by pair  |
| Analogue Output Number       | 4 voltage, range: 0...10 V<br>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<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    | 12 analog input(s)<br>6 analog output(s)<br>12 digital input(s)<br>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        | 10 kOhm  |
| Analogue Input Type    | impedance 0...1500 hOhm - resolution: 1 hOhm at 10 kOhm<br>impedance 0...300 daOhm - resolution: 1 daOhm at 2 kOhm<br>NTC 103AT-2 Beta 3435 temperature probe - 50...110 °C - resolution: 0.1 °C at 10 kOhm<br>voltage 0...10 V - resolution: 1 digit at > 10 kOhm<br>NTC NK103 Beta 3977 temperature probe - 40...137 °C - resolution: 0.1 °C at 10 kOhm (extended)<br>current 0...20 mA/4...20 mA - resolution: 1 digit at < 150 Ohm<br>PTC temperature probe - 55...150 °C - resolution: 0.1 °C at 2 kOhm<br>voltage 0...5 V - resolution: 1 digit at > 20 kOhm (absolute or ratiometric)<br>Pt 1000 temperature probe - 200...850 °C - resolution: 0.1 °C at 2 kOhm<br>direct input at > 10 kOhm |

|                                  |  |
|----------------------------------|--|
| <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 at 50 mA supplied by the controller<br>24 V DC at 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>    | 14 W at 24 V AC/DC   |
| <b>Realtime Clock</b>            | Built-in clock, clock drift <= 30 s/month at -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>DIN rail  |
| <b>Width</b>                     | 144 mm   |
| <b>Height</b>                    | 110 mm   |
| <b>Depth</b>                     | 60.5 mm  |
| <b>Net Weight</b>                | 0.385 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> | -20...65 °C conforming to UL 60730-1<br>-20...60 °C horizontal conforming to UL 60730-1   |
| <b>Ambient Air Temperature For Storage</b>   | -30...70 °C   |

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|                         |                         |
|-------------------------|-------------------------|
| Relative Humidity       | 5...95 % non-condensing |
| Ip Degree Of Protection | IP20                    |
| Pollution Degree        | 2                       |
| Operating Altitude      | 0...2000 m              |

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## Packing Units

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|                              |           |
|------------------------------|-----------|
| Unit Type Of Package 1       | PCE       |
| Number Of Units In Package 1 | 1         |
| Package 1 Height             | 13.500 cm |
| Package 1 Width              | 9.000 cm  |
| Package 1 Length             | 19.000 cm |
| Package 1 Weight             | 450.000 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             | 3.005 kg  |

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## Contractual warranty

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|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

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## Sustainability

**Green Premium™ label** is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product's sustainability >](#)



Transparency RoHS/REACH

## Resource performance

Upgradeable Through Digital Modules  
And Upgraded Components

## Well-being performance

Mercury Free

Rohs Exemption Information Yes

## Certifications & Standards

**Reach Regulation** [REACH Declaration](#)

**Eu Rohs Directive** Pro-active compliance (Product out of EU RoHS legal scope)

**China Rohs Regulation** [China RoHS declaration](#)

**Environmental Disclosure** [Product Environmental Profile](#)

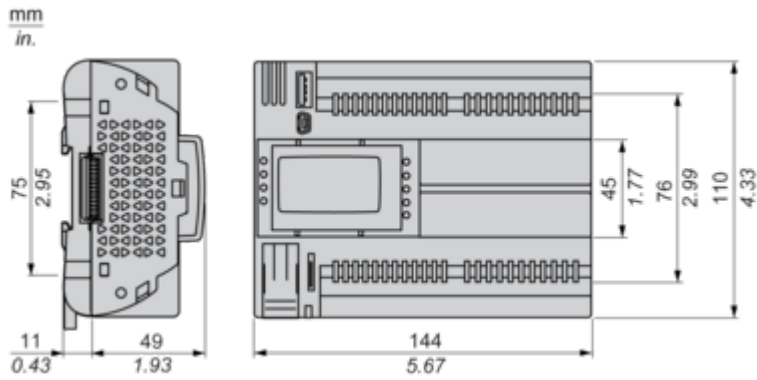
**Weee** The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

**Circularity Profile** [End of Life Information](#)

Dimensions Drawings

Dimensions

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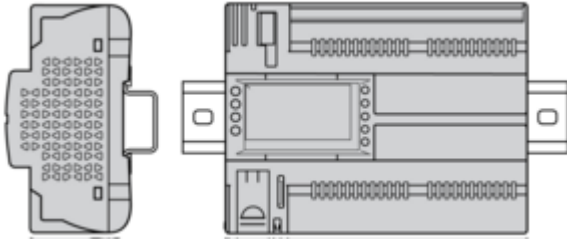


Mounting and Clearance

Mounting Positions

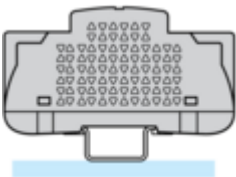
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Correct Mounting Position

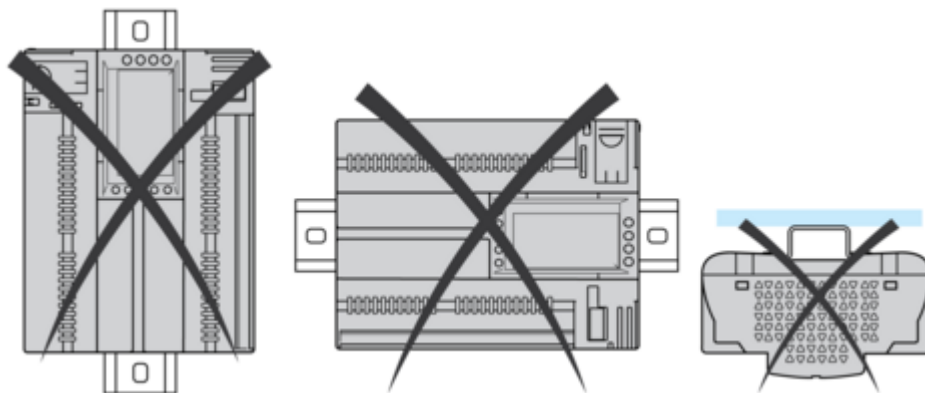


Acceptable Mounting Position

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

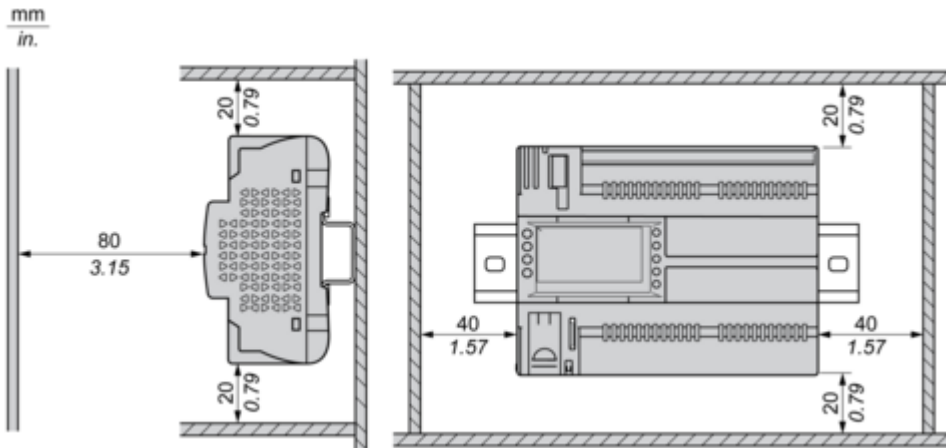


Incorrect Mounting Position



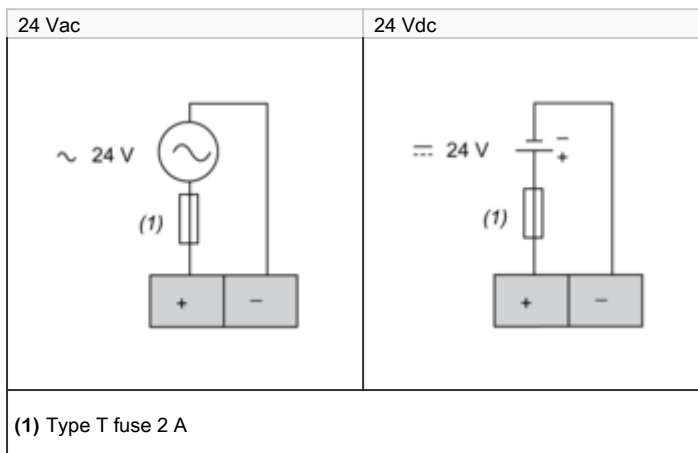
Clearance

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Connections and Schema

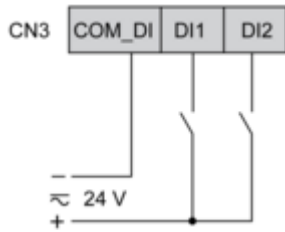
Power Supply





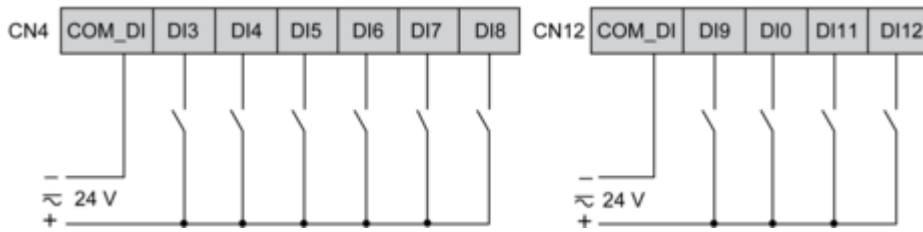
CN3 Fast Digital Inputs

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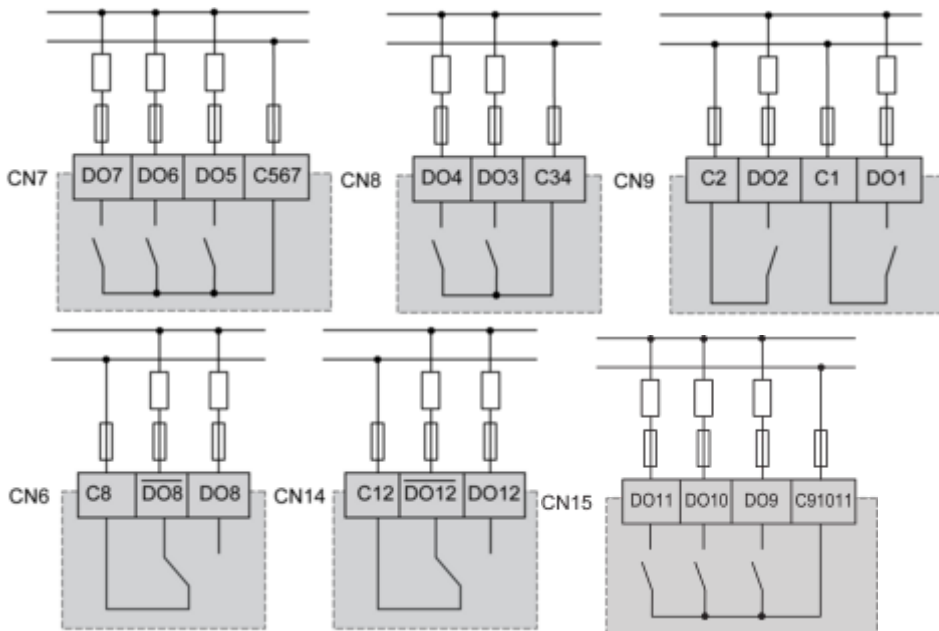


CN4, CN12 Digital Inputs

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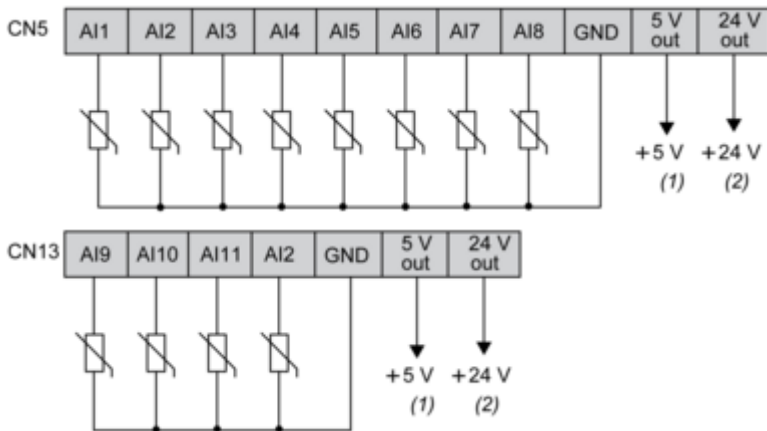


CN7, CN8, CN9, CN6, CN14, CN15 High Voltage Relay SPST Digital Output



**CN5, CN13 Analog Inputs**

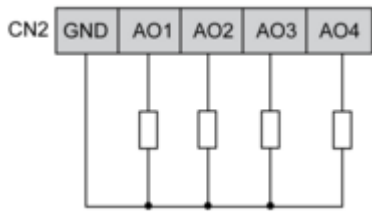
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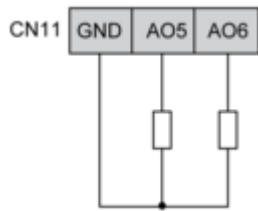
- (1) (CN5 + CN13) Max. current : 50 mA.
- (2) (CN5 + CN13) Max. current : 150 mA.

CN2, CN11 Analog Outputs

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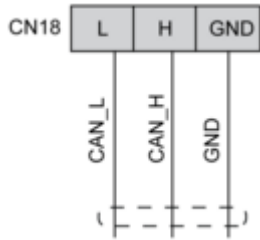


AO3, AO4 can be used also as PWM generator, up to 2kHz.



CN18 CAN Expansion Bus Port

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CN19, CN1 CAN Expansion Bus Port

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