



### 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        | 20 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 |

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measurement accuracy      | 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 |
| Sensor power supply       | 5 V DC 50 mA supplied by the controller<br>24 V DC 150 mA supplied by the controller                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| [Us] rated supply voltage | 24 V +/- 10 % AC<br>20...38 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Power consumption in W    | 12 W 24 V AC/DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Realtime clock            | Built-in <= 30 s/month -4...149 °F (-20...65 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Display type              | Without Display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Overvoltage category      | II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Local signalling          | For programmable 1 LED (red)<br>For programmable 1 LED (yellow)<br>For programmable 1 LED (green)<br>For power 1 LED (green)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Mounting Support          | DIN rail<br>Panel mounting with accessory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Width                     | 5.67 in (144 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Height                    | 4.33 in (110 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Depth                     | 2.38 in (60.5 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Net Weight                | 0.66 lb(US) (0.3 kg)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Environment

|                                       |                                                                                                                                                                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Directives                            | 2014/30/EU - electromagnetic compatibility<br>2014/35/EU - low voltage directive                                                                                                                                                          |
| Standards                             | 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 |
| Product Certifications                | EAC<br>CE<br>CURus<br>CSA<br>RCM                                                                                                                                                                                                          |
| Ambient air temperature for operation | -4...149 °F (-20...65 °C) UL 60730-1<br>-4...140 °F (-20...60 °C) horizontal UL 60730-1                                                                                                                                                   |
| 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              | 22537-M171 / M172 HVAC CONTROLLERS |
| Discount Schedule     | PC12                               |
| GTIN                  | 3606489729486                      |
| Nbr. of units in pkg. | 1                                  |
| Package weight(Lbs)   | 13.40 oz (380.0 g)                 |
| Returnability         | Yes                                |

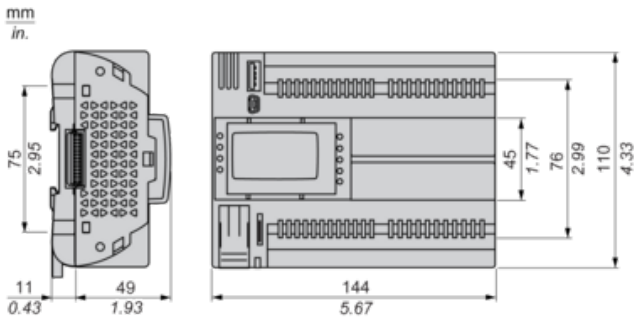
## Packing Units

|                              |                       |
|------------------------------|-----------------------|
| Unit Type of Package 1       | PCE                   |
| Package 1 Height             | 5.31 in (13.5 cm)     |
| Package 1 width              | 3.54 in (9 cm)        |
| Package 1 Length             | 7.48 in (19 cm)       |
| Unit Type of Package 2       | S02                   |
| Number of Units in Package 2 | 6                     |
| Package 2 Weight             | 5.69 lb(US) (2.58 kg) |
| Package 2 Height             | 5.91 in (15 cm)       |
| Package 2 width              | 11.81 in (30 cm)      |
| Package 2 Length             | 15.75 in (40 cm)      |

## Offer Sustainability

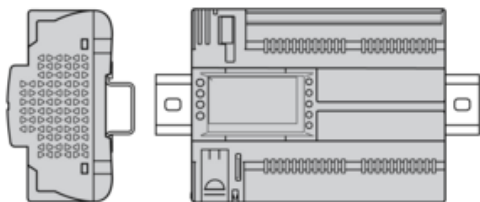
|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                                                                                                                                                                                       |
| 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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                           |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>                                                                                                                                                                                              |
| Mercury free               | Yes                                                                                                                                                                                                                                                                                         |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                                                                                                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>                                                                                                                                                                                                                                                      |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                                                                                                                                                                                               |
| Circularity Profile        | <a href="#">End Of Life Information</a>                                                                                                                                                                                                                                                     |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.                                                                                                                                                                |

Dimensions



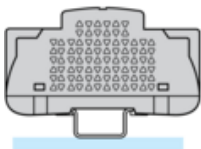
## Mounting Positions

### Correct Mounting Position

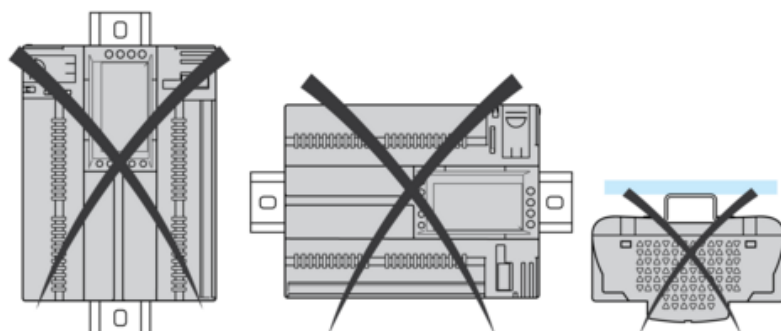


### Acceptable Mounting Position

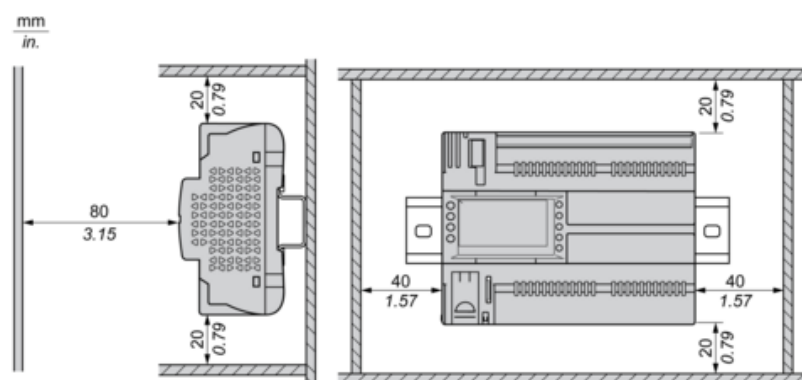
Controller can be mounted horizontally upward with a temperature derating (maximum ambient temperature: 60 °C (140 °F)).



### Incorrect Mounting Position



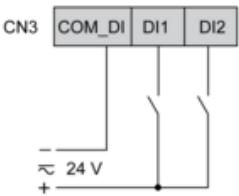
## Clearance



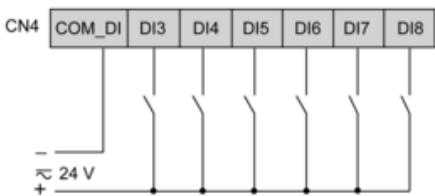
Power Supply

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

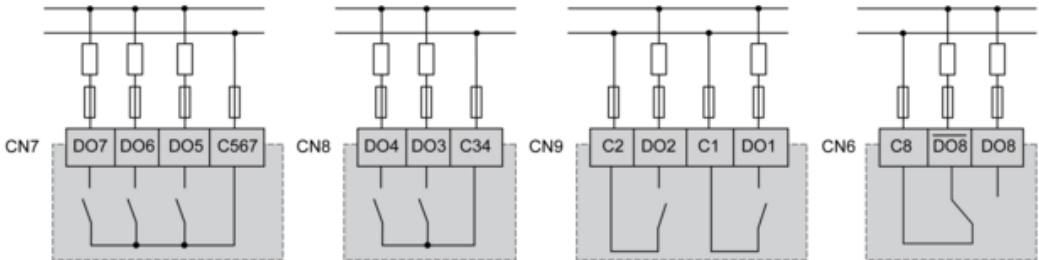
CN3 Fast Digital Inputs



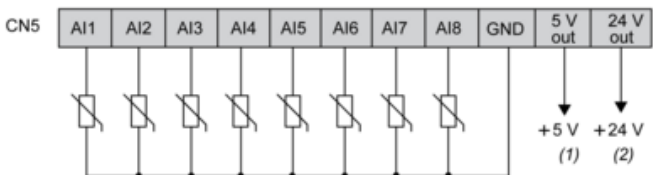
CN4 Digital Inputs



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



CN5 Analog Inputs



(1) Max. current : 50 mA.

(2) Max. current : 150 mA.

## CN2 Analog Outputs

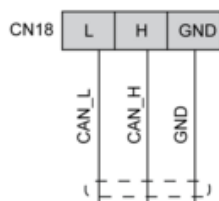
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AO3, AO4 can be used also as PWM generator, up to 2kHz.

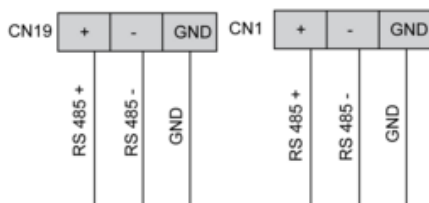
## CN18 CAN Expansion Bus Port

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## CN19, CN1 CAN Expansion Bus Port

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# Mouser Electronics

Authorized Distributor

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