



### 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 for relay outputs SPDT with independent common<br>2 for relay outputs SPST with same common |
| Discrete output current      | 3 A for relay SPST<br>3 A for 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(s)<br>2 analog input(s)<br>3 digital output(s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 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        | 20 kOhm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Analogue input type    | NTC NK103 Beta 3977 temperature probe - 40...137 °C - resolution: 0.1 °C at 10 kOhm (at 25 °C)<br>NTC 103AT-2 Beta 3435 temperature probe - 50...110 °C - resolution: 0.1 °C at 10 kOhm (at 25 °C)<br>Voltage 0...10 V - resolution: 1 digit at > 10 kOhm<br>Voltage 0...5 V - resolution: 1 digit at > 20 kOhm (absolute or ratiometric)<br>Impedance 0...1500 hOhm - resolution: 1 hOhm at 10 kOhm<br>Impedance 0...300 daOhm - resolution: 1 daOhm at 1500 Ohm<br>PTC temperature probe - 55...150 °C - resolution: 0.1 °C at 1500 Ohm<br>Pt 1000 temperature probe - 200...850 °C - resolution: 0.1 °C at 1500 Ohm<br>Current 0...20 mA/4...20 mA - resolution: 1 digit at < 150 Ohm<br>Direct input at 10 kOhm (Dry contact)   |
| 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 at 40 mA supplied by the controller<br>24 V DC at 100 mA supplied by the controller                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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|                           |                                                                                                              |
|---------------------------|--------------------------------------------------------------------------------------------------------------|
| [Us] rated supply voltage | 24 V +/- 10 % AC<br>20...38 V DC                                                                             |
| Power consumption in W    | 10 W at 24 V AC/DC                                                                                           |
| Realtime clock            | Built-in clock, clock drift <= 30 s/month at -20...60 °C                                                     |
| Display type              | Without display                                                                                              |
| Overvoltage category      | II                                                                                                           |
| Local signalling          | 1 LED (red)programmable:<br>1 LED (yellow)programmable:<br>1 LED (green)programmable:<br>1 LED (green)power: |
| Mounting support          | DIN rail<br>Panel mounting with accessory                                                                    |
| Width                     | 72 mm                                                                                                        |
| Height                    | 110 mm                                                                                                       |
| Depth                     | 60.5 mm                                                                                                      |
| Net weight                | 0.175 kg                                                                                                     |

## Environment

|                                       |                                                                                                                                                                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Directives                            | 2014/35/EU - low voltage directive<br>2014/30/EU - electromagnetic compatibility<br>1907/2006/EC - REACH directive<br>2011/65/EU - RoHS directive                                                                                         |
| Standards                             | IEC 61000-4-6<br>UL 60730-1<br>IEC 61000-4-3<br>EN 60730-1<br>IEC 61000-4-5<br>IEC 61000-4-2<br>EN 60068-2-6 Fc<br>EN 60730-2-9<br>CSA E60730-2-9<br>EN 60068-2-27<br>CAN/CSA-E60730-1<br>IEC 61000-4-11<br>UL 60730-2-9<br>IEC 61000-4-4 |
| Product certifications                | CE<br>RCM<br>CURus<br>CSA<br>EAC                                                                                                                                                                                                          |
| Ambient air temperature for operation | -20...60 °C                                                                                                                                                                                                                               |
| Ambient air temperature for storage   | -30...70 °C                                                                                                                                                                                                                               |
| Relative humidity                     | 5...95 % non-condensing                                                                                                                                                                                                                   |
| IP degree of protection               | IP20                                                                                                                                                                                                                                      |
| Pollution degree                      | 2                                                                                                                                                                                                                                         |

## Packing Units

|                  |          |
|------------------|----------|
| Package 1 Weight | 0.275 kg |
| Package 1 Height | 0.900 dm |
| Package 1 width  | 0.127 dm |
| Package 1 Length | 0.720 dm |

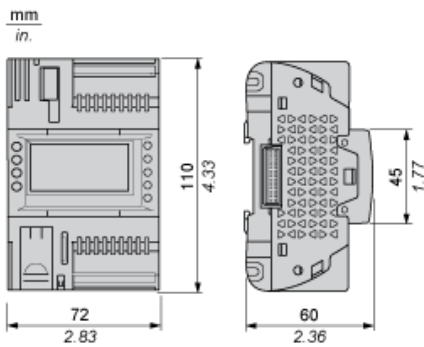
## Offer Sustainability

|                            |                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                          |
| 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 |  End Of Life Information                    |
| WEEE                | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |

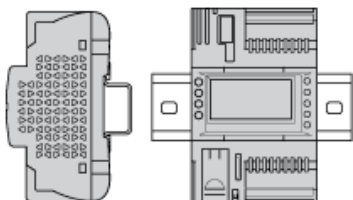
Dimensions Drawings

Dimensions

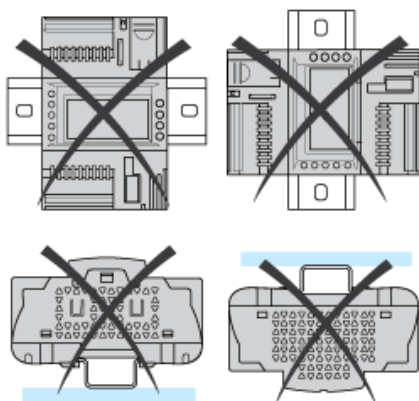


## Mounting Positions

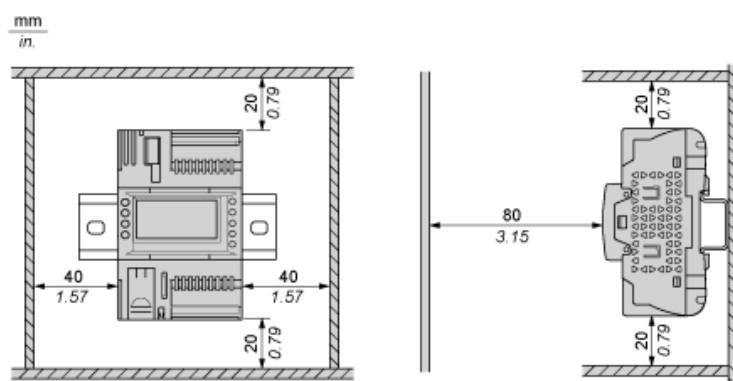
### Correct Mounting Position



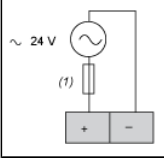
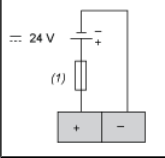
### Incorrect Mounting Position



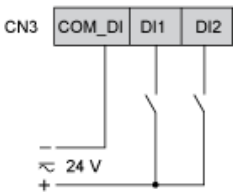
## Clearance



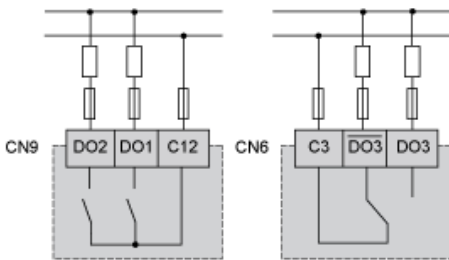
Power Supply

| 24 Vac                                                                            | 24 Vdc                                                                            |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |

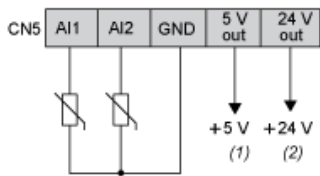
CN3 Fast Digital Inputs



CN9, CN6 High Voltage Relay SPST Digital Output

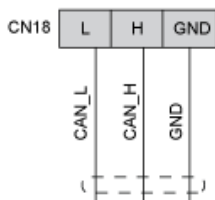


CN5 Analog Inputs



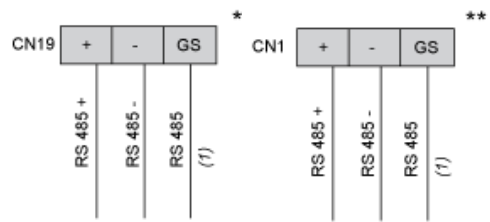
- (1) Max. current : 50 mA.
- (2) Max. current : 100 mA.

CN18 CAN Expansion Bus Port



## CN19, CN1 RS485 Bus Port

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(1) Signal reference

\* RS485-1 Modbus SL

\*\* RS485-2 Modbus SL or BACnet MS/TP