



### 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 3 for relay outputs SPST with same common 2 for relay outputs SPST with same common 2 for solid state, isolated SPST with independent common
Discrete output current	3 A for relay SPDT 3 A for relay SPST 0.5 A for solid state, isolated
Analogue input number	12 configurable by pair
Analogue output number	4 voltage, range: 0...10 V 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 1 USB type A - USB type A female 1 USB type mini B - USB device port Mini-B 2 RS485 - screw terminal block (Modbus serial link or BACnet MS/TP) 1 Ethernet - RJ45 (Modbus TCP and BACnet IP with webserver)
Input/Output number	12 analog input(s) 6 analog output(s) 12 digital input(s) 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	20 kOhm

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

Analogue input type	impedance 0...1500 hOhm - resolution: 1 hOhm at 10 kOhm impedance 0...300 daOhm - resolution: 1 daOhm at 2 kOhm NTC 103AT-2 Beta 3435 temperature probe - 50...110 °C - resolution: 0.1 °C at 10 kOhm voltage 0...10 V - resolution: 1 digit at > 10 kOhm NTC NK103 Beta 3977 temperature probe - 40...137 °C - resolution: 0.1 °C at 10 kOhm (extended) current 0...20 mA/4...20 mA - resolution: 1 digit at < 150 Ohm PTC temperature probe - 55...150 °C - resolution: 0.1 °C at 2 kOhm voltage 0...5 V - resolution: 1 digit at > 20 kOhm (absolute or ratiometric) Pt 1000 temperature probe - 200...850 °C - resolution: 0.1 °C at 2 kOhm direct input at > 10 kOhm
Measurement accuracy	NTC NK103 Beta 3977 -40...+110 °C +/- 1 °C NTC NK103 Beta 3977 110...137 °C +/- 1.9 °C NTC 103AT-2 Beta 3435 - 50...110 °C +/- 1 °C PTC -55...155 °C +/- 1.1 °C Pt 1000 -200...-100 °C +/- 10 °C Pt 1000 -100...-50 °C +/- 2.5 °C Pt 1000 -50...100 °C +/- 1.5 °C Pt 1000 100...400 °C +/- 2.4 °C Pt 1000 400...850 °C +/- 10 °C 0...20 mA 0...4 mA +/- 2 % of full scale +/- 1 digit 0...20 mA 4...20 mA +/- 1 % of full scale +/- 1 digit 4...20 mA +/- 1 % of full scale +/- 1 digit 0...10 V +/- 1 % of full scale +/- 1 digit 0...5 V +/- 1 % of full scale +/- 1 digit HOhm 0...1500 hOhm +/- 8.5 hOhm DaOhm 0...300 daOhm +/- 2.5 daOhm
Sensor power supply	5 V DC at 50 mA supplied by the controller 24 V DC at 150 mA supplied by the controller
[Us] rated supply voltage	24 V +/- 10 % AC 20...38 V DC
Power consumption in W	14 W at 24 V AC/DC
Realtime clock	Built-in clock, clock drift <= 30 s/month at -20...65 °C
Display type	Backlit LCD - 128 x 64 pixels
Overvoltage category	II
Local signalling	1 LED (red)programmable: 1 LED (yellow)programmable: 1 LED (green)programmable: 1 LED (green)power:
Mounting support	Panel mounting with accessory DIN rail
Width	144 mm
Height	110 mm
Depth	60.5 mm
Product weight	0.385 kg

## Environment

Directives	1907/2006/EC - REACH directive 2014/30/EU - electromagnetic compatibility 2014/35/EU - low voltage directive 2011/65/EU - RoHS directive
Standards	CAN/CSA-E60730-1 CSA E60730-2-9 EN 60068-2-27 EN 60068-2-6 Fc EN 60730-1 EN 60730-2-9 UL 60730-1 UL 60730-2-9 IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-11
Product certifications	EAC CE CURus

	CSA RCM
Ambient air temperature for operation	-20...65 °C conforming to UL 60730-1 -20...55 °C horizontal
Ambient air temperature for storage	-30...70 °C
Relative humidity	5...95 % non-condensing
IP degree of protection	IP20
Pollution degree	2

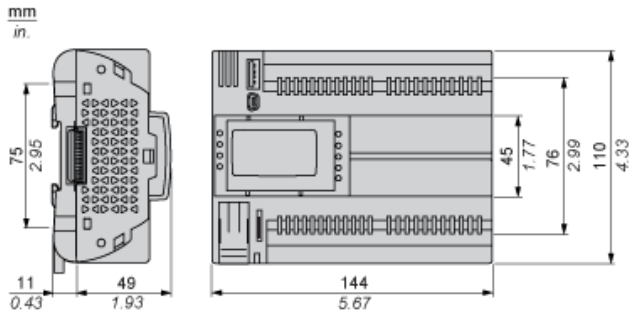
### Offer Sustainability

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	<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

### Contractual warranty

Warranty	18 months
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Dimensions

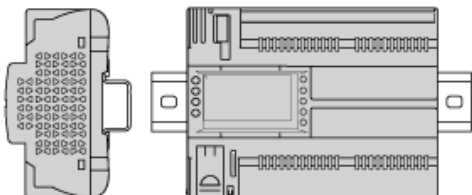


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## Mounting Positions

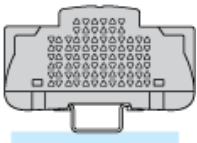
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### Correct Mounting Position

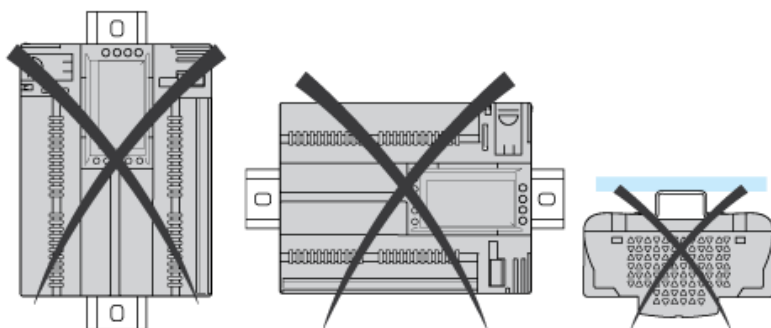


### Acceptable Mounting Position

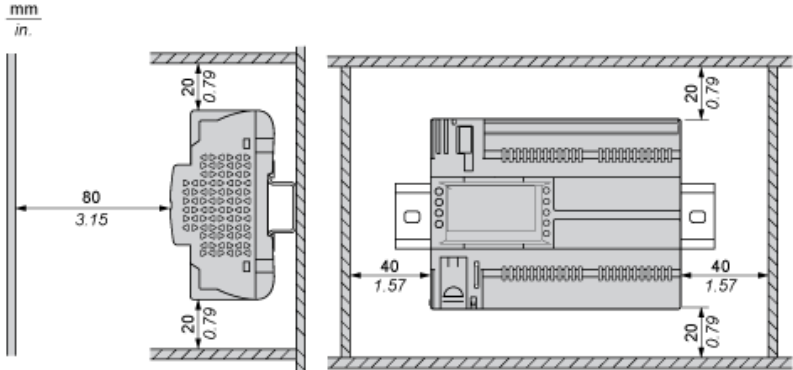
Controller can be mounted horizontally upward with a temperature derating (maximum ambient temperature: 60 °C (140 °F)).



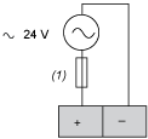
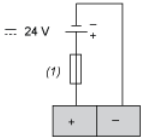
### Incorrect Mounting Position



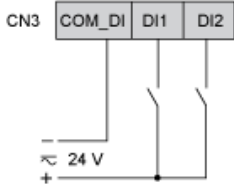
Clearance



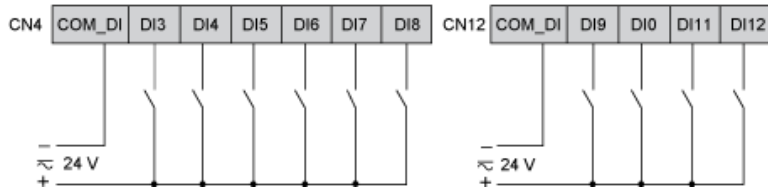
Power Supply

24 Vac	24 Vdc
	

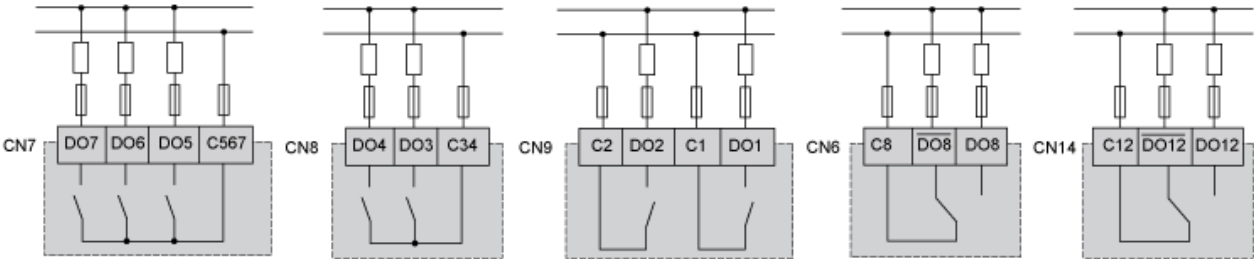
CN3 Fast Digital Inputs



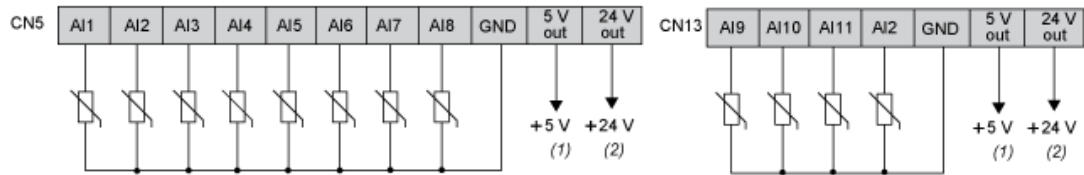
## CN4, CN12 Digital Inputs



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

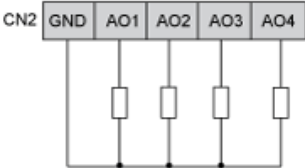


## CN5, CN13 Analog Inputs

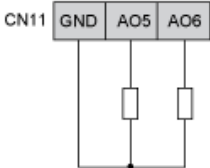


- (1) (CN5 + CN13) Max. current : 50 mA.
- (2) (CN5 + CN13) Max. current : 150 mA.

CN2, CN11 Analog Outputs



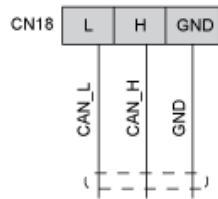
AO3, AO4 can be used also as PWM generator, up to 2kHz.



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CN18 CAN Expansion Bus Port

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CN19, CN1 CAN Expansion Bus Port

