

# Product data sheet

Specifications



## Modicon M172 Performance Display 28 I/Os, Eth, Solid State Relay

TM172PDG28SI

### 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 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 SSR 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	8 configurable by pair
Analogue output number	2 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	8 digital input(s) 8 analog input(s) 4 analog output(s) 8 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
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

<b>Measurement accuracy</b>	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
<b>Sensor power supply</b>	5 V DC at 50 mA supplied by the controller 24 V DC at 150 mA supplied by the controller
<b>[Us] rated supply voltage</b>	24 V +/- 10 % AC 20...38 V DC
<b>Power consumption in W</b>	12 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 1 LED (yellow) for programmable 1 LED (green) for programmable 1 LED (green) for power
<b>Mounting support</b>	DIN rail Panel mounting with accessory
<b>Width</b>	144 mm
<b>Height</b>	110 mm
<b>Depth</b>	60.5 mm
<b>Net weight</b>	0.3 kg
<b>Environment</b>	
<b>Directives</b>	2014/30/EU - electromagnetic compatibility 2014/35/EU - low voltage directive
<b>Standards</b>	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
<b>Product certifications</b>	EAC CE cURus CSA RCM
<b>Ambient air temperature for operation</b>	-20...65 °C conforming to UL 60730-1 -20...55 °C horizontal conforming to UL 60730-1
<b>Ambient air temperature for storage</b>	-30...70 °C
<b>Relative humidity</b>	5...95 % non-condensing
<b>IP degree of protection</b>	IP20
<b>Pollution degree</b>	2
<b>Operating altitude</b>	0...2000 m

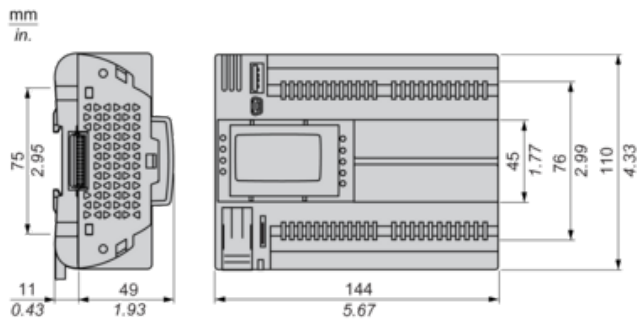
## Packing Units

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	422.000 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	2.829 kg

## Offer Sustainability

Sustainable offer status	Green Premium product
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
China RoHS Regulation	<a href="#">China RoHS declaration</a>
RoHS exemption information	Yes
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
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>
Upgradeability	Upgradeable through digital modules and upgraded components

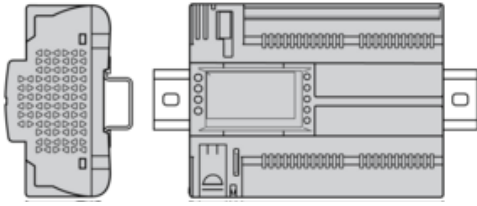
Dimensions



**Mounting Positions**

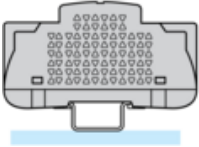
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**Correct Mounting Position**

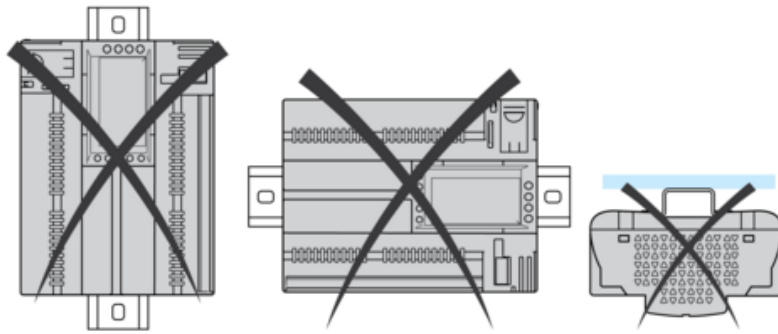


**Acceptable Mounting Position**

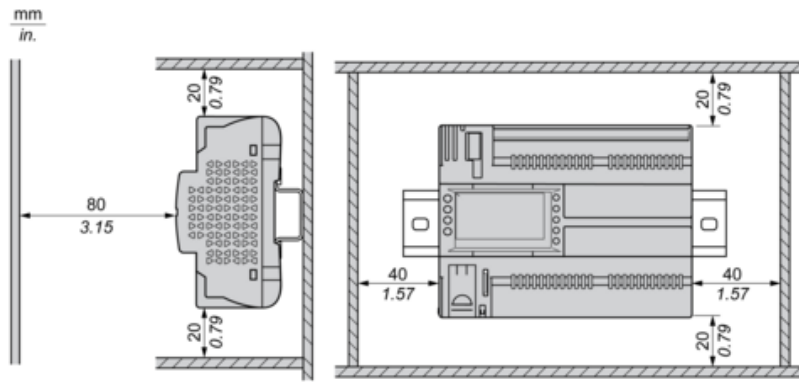
Controller can be mounted horizontally upward with a temperature derating (maximum ambient temperature: 60 °C (140 °F)).



**Incorrect Mounting Position**





Clearance



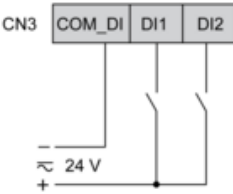
**Power Supply**

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24 Vac	24 Vdc
	
<b>(1) Type T fuse 2 A</b>	

**CN3 Fast Digital Inputs**

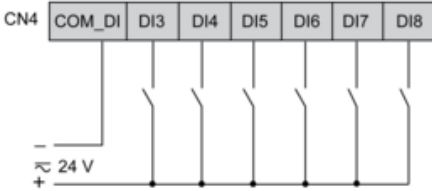
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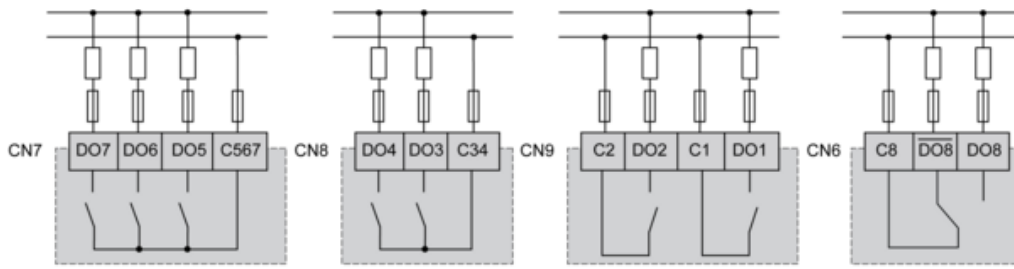
CN4 Digital Inputs

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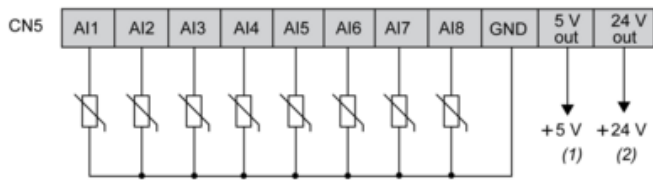
## CN7, CN8, CN9, CN6 High Voltage Relay SPST Digital Output

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CN5 Analog Inputs

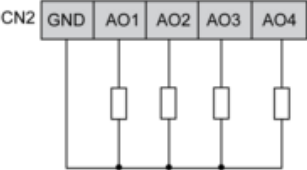
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- (1) Max. current : 50 mA.
- (2) Max. current : 150 mA.

**CN2 Analog Outputs**

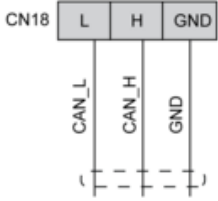
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AO3, AO4 can be used also as PWM generator, up to 2kHz.

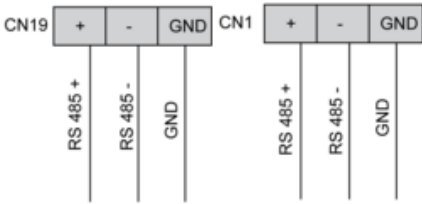
**CN18 CAN Expansion Bus Port**

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**CN19, CN1 CAN Expansion Bus Port**

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**Recommended replacement(s)**