# **Product datasheet**

Specification





# Controller, Modicon M171/M172/M173, performance, blind, 28 IO, Ethernet, Modbus

TM172PBG28R

#### Main

Range of product	Modicon M171/M172	
product or component type	Programmable controllers	
Product specific application	HVAC and pumping solution	
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 relay outputs SPST with independent common	
Discrete output current	1 A for relay SPDT	
	3 A for relay SPST	
Analogue input number	8 configurable by pair	
Analogue output number	2 voltage, range: 010 V	
	2 voltage/current, range: 420 mA or 010 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	10 kOhm
Analogue input type	impedance 01500 hOhm impedance 0300 daOhm NTC temperature probe - 50110 °C - resolution: 0.1 °C (extended) voltage 010 V NTC temperature probe - 40150 °C - resolution: 0.1 °C current 020 mA/420 mA PTC temperature probe - 55150 °C - resolution: 0.1 °C voltage 05 V (absolute or ratiometric) Pt 1000 temperature probe - 200850 °C - resolution: 0.1 °C
Sensor power supply	5 V DC at 50 mA supplied by the controller 24 V DC at 150 mA supplied by the controller

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[Us] rated supply voltage	24 V +/- 10 % AC 2038 V DC
Power consumption in W	15 W at 24 V AC/DC
Realtime clock	Built-in clock at -2060 °C
Display type	Without display
Overvoltage category	II
Local signalling	1 LED (red) for programmable 1 LED (yellow) for programmable 1 LED (green) for programmable 1 LED (green) for power
mounting support	DIN rail Panel mounting with accessory
Width	144 mm
Height	110 mm
Depth	60.5 mm
net weight	0.3 kg

# **Environment**

Directives	96/199/EEC physical agents (noise) directive
Directives	86/188/EEC - physical agents (noise) directive 2006/95/EC - low voltage directive
	2000/95/EC - low voltage directive
Standards	IEC 61000-4-5
	IEC 61000-4-3
	IEC 61000-4-2
	EN 60068-2-27
	EN 60730-1
	EN 60068-2-6 Fc
	UL 60730-1
	UL 60730-2-9
	IEC 61000-4-4
	CAN/CSA-E60730-1
	IEC 61000-4-11
	IEC 61000-4-6
	CSA E60730-2-9
	EN 60730-2-9
	UL94 (material V0)
Product certifications	CSA
	EAC
	RCM
	CE
	cURus
Ambient air temperature for	-2060 °C conforming to UL 60730-1
operation	-2065 °C with derating conforming to UL 60730-1
Ambient air temperature for storage	-3070 °C
Relative humidity	595 % non-condensing
IP degree of protection	IP20
Pollution degree	2
Operating altitude	02000 m

# **Packing Units**

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	13.200 cm
Package 1 Width	9.000 cm

Package 1 Length	18.500 cm
Package 1 Weight	372.000 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	2.450 kg

# Sustainability Green Premium

**Green Premium**<sup>TM</sup> **label** is Schneider Electric's commitment to delivering products with best-inclass 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.

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Guide to assess a product's sustainability >





Transparency RoHS/REACh

#### Resource performance



# 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

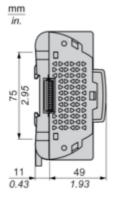
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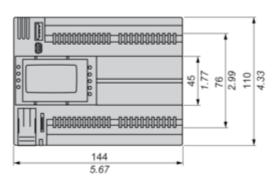
# **Product datasheet**

# TM172PBG28R

# **Dimensions Drawings**

#### **Dimensions**

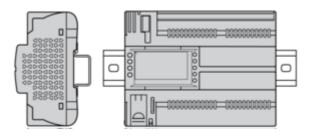




Mounting and Clearance

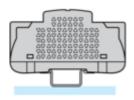
#### **Mounting Positions**

#### **Correct Mounting Position**

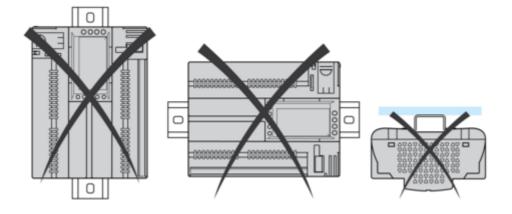


#### **Acceptable Mounting Position**

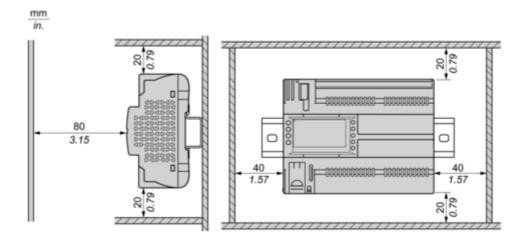
Controller can be mounted horizontally upward with a temperature derating (maximum ambient temperature: 60  $^{\circ}$ C (140  $^{\circ}$ F)).



#### **Incorrect Mounting Position**



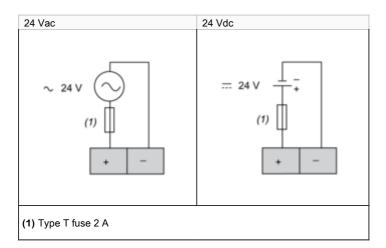
#### Clearance



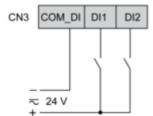
# TM172PBG28R

# Connections and Schema

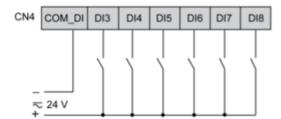
# Power Supply



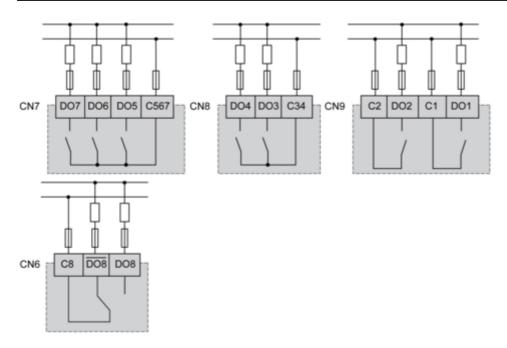
# **CN3 Fast Digital Inputs**



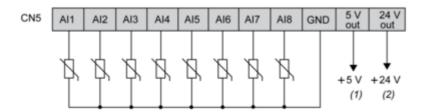
# **CN4 Digital Inputs**



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

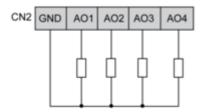


#### **CN5 Analog Inputs**



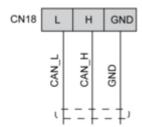
(1) Max. current : 50 mA.(2) Max. current : 150 mA.

#### **CN2 Analog Outputs**



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

# **CN18 CAN Expansion Bus Port**



# CN19, CN1 CAN Expansion Bus Port

