Product data sheet

Specifications



Expansion module, Modicon M172/ M172/M173, optimized and performance, 28 IO

TM172E28R

Product availability: Stock - Normally stocked in distribution facility

Main

Range of Product	Modicon M171/M172
Product or Component Type	Additional I/O module
Product Specific Application	HVAC control
Total inputs/outputs	28
Discrete input number	2 4
Discrete output number	3 relay outputs SPST with same common 2 relay outputs SPST with same common
Discrete output current	3 A relay SPST
Analogue input number	10 configurable by pair
Analogue output number	2 programmable

Complementary

Number of port	1 CAN port - screw terminal block
Input/output number	2 analog output 6 digital input 10 analog input 10 digital output
Discrete input logic	2 positive logic (sink) up to 2 kHz 4 positive logic (sink)
Discrete input voltage	24 V AC/DC
Discrete input current	2.5 mA AC/DC
Input impedance	20 kOhm
Analogue input type	NTC NK103 Beta 3977 temperature probe - 40...137 °C 0.1 °C 10 kOhm at 25 °C) NTC 103AT-2 Beta 3435 temperature probe - 50...110 °C 0.1 °C 10 kOhm at 25 °C) current 0...20 mA 1 digit < 150 Ohm current 4...20 mA 1 digit < 150 Ohm voltage 0...10 V 1 digit > 10 kOhm voltage 0...5 V 1 digit > 20 kOhm absolute or ratiometric) impedance 0...1500 hOhm 1 hOhm 10 kOhm impedance 0...300 daOhm 1 daOhm 2 kOhm direct input 1 digit Dry contact) PTC - 55...150 °C 0.1 °C 2 kOhm Pt 1000 temperature probe - 200...850 °C 0.1 °C 2 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

Price is “List Price” and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Measurement accuracy	NTC NK103 - 40...+110 °C +/- 1 °C NTC NK103 110...137 °C +/- 1.9 °C NTC 103AT-2 - 50…110 °C +/- 1 °C PTC - 55...+135 °C +/- 1.1 °C PTC - 150…135 °C +/- 3.1 °C Pt 1000 - 200...-100 °C +/- 5 °C Pt 1000 - 100...-50 °C +/- 3 °C Pt 1000 - 50...+200 °C +/- 1.5 °C Pt 1000 200...600 °C +/- 15 °C Pt 1000 600...850 °C +/- 30 °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...700 hOhm +/- 10 hOhm HOhm 700 hOhm...1200 hOhm +/- 25 hOhm HOhm 1200 hOhm...1500 hOhm +/- 60 hOhm DaOhm 0...300 daOhm +/- 2.5 daOhm
Sensor power supply	5 V DC 50 mA 24 V DC 125 mA
[Us] rated supply voltage	24 V +/- 10 % AC 20...38 V DC
Power consumption in W	24 VA 24 V AC 15 W 24 V DC
Realtime clock	Without clock
Display type	Without Display
Overvoltage category	II
Mounting Support	DIN rail Panel mounting with accessory
Width	2.8 in (72 mm)
Height	4.3 in (110 mm)
Depth	2.3 in (59 mm)
Net Weight	0.42 lb(US) (0.19 kg)

Environment

Directives	2014/35/EU - low voltage directive 2014/30/EU - electromagnetic compatibility
Standards	IEC 61000-4-4 EN 60068-2-27 CSA E60730-2-9 IEC 61000-4-11 CAN/CSA-E60730-1 UL 60730-2-9 EN 60730-2-9 EN 60730-1 IEC 61000-4-5 IEC 61000-4-3 EN 60068-2-6 Fc IEC 61000-4-2 UL94 (material V0)
Product Certifications	cURus EAC CE RCM CSA
Ambient air temperature for operation	-4…149 °F (-20…65 °C) 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

Ordering and shipping details

Category	US1PC1222537
Discount Schedule	PC12
GTIN	3606481267627
Returnability	Yes
Country of origin	IT

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	5.315 in (13.500 cm)
Package 1 Width	3.543 in (9.000 cm)
Package 1 Length	5.000 in (12.700 cm)
Package weight(Lbs)	9.101 oz (258.000 g)
Unit Type of Package 2	S02
Number of Units in Package 2	8
Package 2 Height	5.906 in (15.000 cm)
Package 2 Width	11.811 in (30.000 cm)
Package 2 Length	15.748 in (40.000 cm)
Package 2 Weight	4.683 lb(US) (2.124 kg)
Unit Type of Package 3	P06
Number of Units in Package 3	128
Package 3 Height	29.528 in (75.000 cm)
Package 3 Width	23.622 in (60.000 cm)
Package 3 Length	31.496 in (80.000 cm)
Package 3 Weight	100.310 lb(US) (45.500 kg)

Contractual warranty

Warranty (in months)	18

Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

Environmental Data explained >

How we assess product sustainability >

Environmental footprint

Total lifecycle Carbon footprint	**660 kg CO2 eq.**
Carbon footprint of the manufacturing phase [A1 to A3]	**37 kg CO2 eq.**
Carbon footprint of the distribution phase [A4]	**0.2 kg CO2 eq.**
Carbon footprint of the installation phase [A5]	**0 kg CO2 eq.**
Carbon footprint of the use phase [B2, B3, B4, B6]	**622 kg CO2 eq.**
Carbon footprint of the end-of-life phase [C1 to C4]	**1 kg CO2 eq.**
Environmental Disclosure	Product Environmental Profile

Use Better

Materials and Substances

Packaging made with recycled cardboard	**Yes**
Packaging without single use plastic	**No**
SCIP Number	**C981d9d1-5c5e-4fce-a187-e9df4380d5df**
EU RoHS Directive	Compliant By Exemption
REACh Regulation	Reference contains Substances of Very High Concern above the threshold
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 www.P65Warnings.ca.gov**

Use Longer

Lifetime extension

Upgradeability	**Yes**

Use Again

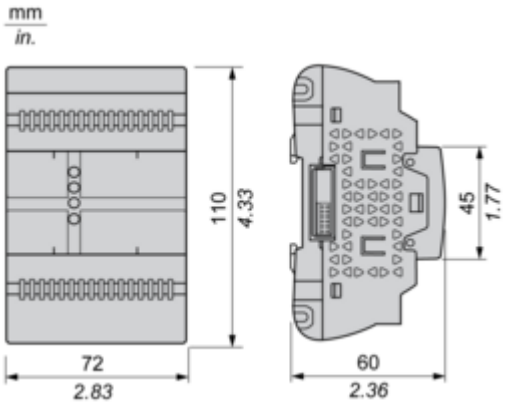
Repack and remanufacture

Recyclability potential, in %	**0**
Circularity Profile	End of Life Information
Removable battery	**Yes**
Take-back	**No**
WEEE Label	**The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.**

Dimensions Drawings

Dimensions Drawings

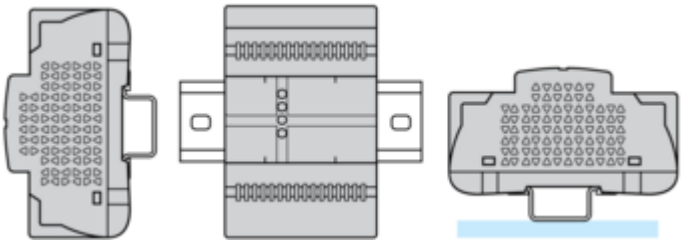
Dimensions



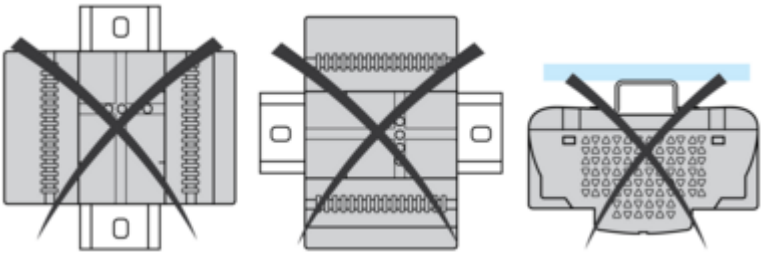
Mounting and Clearance

Mounting Positions

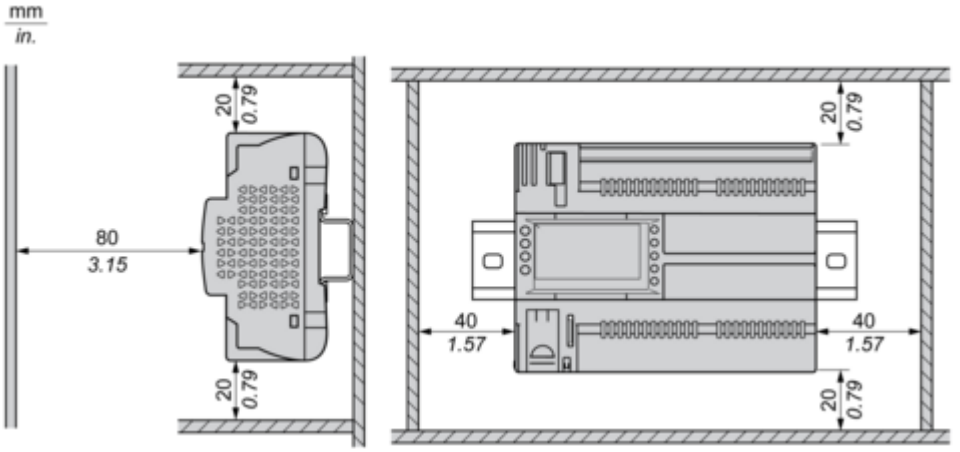
Correct Mounting Position



Incorrect Mounting Position

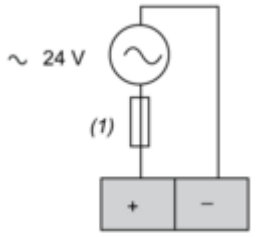
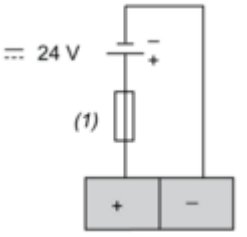


Clearance

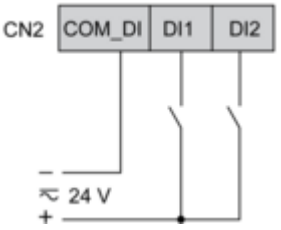


Connections and Schema

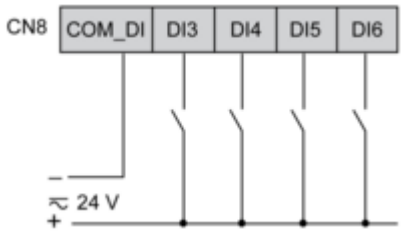
Power Supply

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

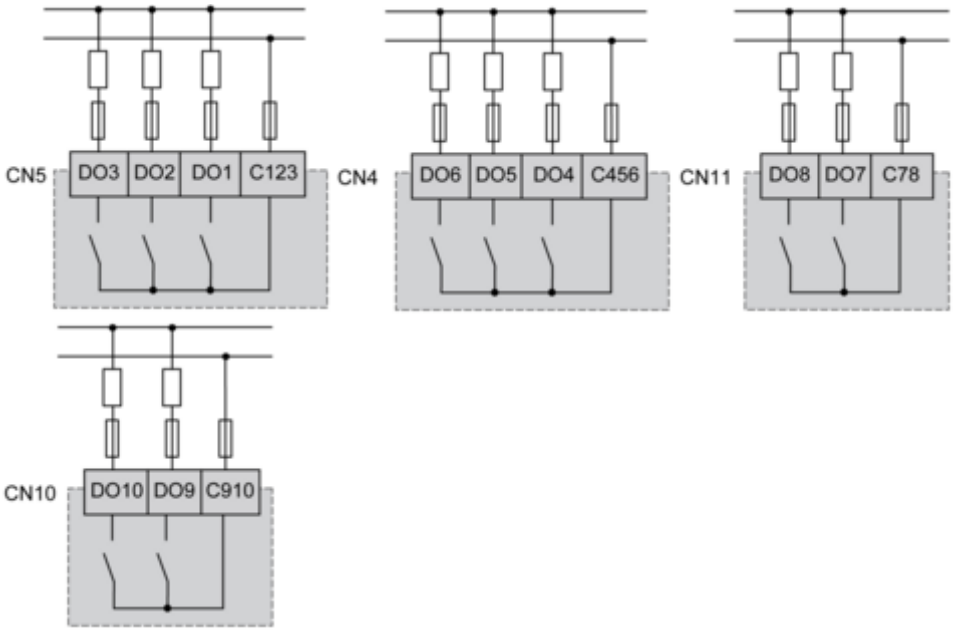
CN2 Fast Digital Inputs



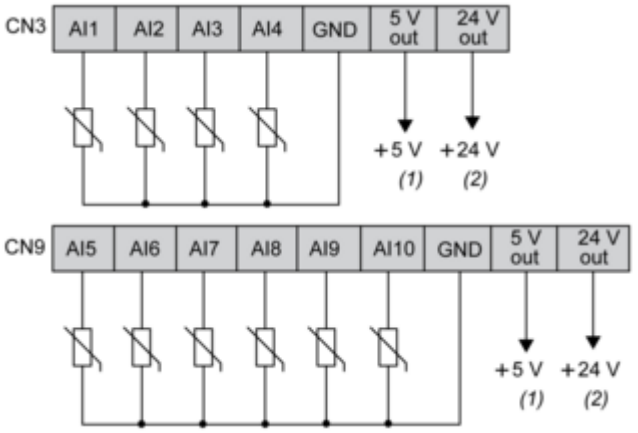
CN8 Digital Inputs



CN5, CN4, CN11, CN10 High Voltage Relay SPST Digital Output

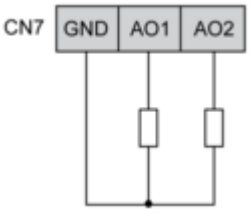


CN3, CN9 Analog Inputs



(1) (CN3 + CN9) Max. current : 50 mA.
(2) (CN3 + CN9) Max. current : 125 mA.

CN7 Analog Outputs



AO1, AO2 can be used also as PWM generator, up to 2kHz.

CN1 CAN Expansion Bus Port

