Product datasheet

Specifications



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

TM172E28R

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 for relay outputs SPST with same common 2 for relay outputs SPST with same common
Discrete output current	3 A for 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(s) 6 digital input(s) 10 analog input(s) 10 digital output(s)
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 - resolution: 0.1 °C at 10 kOhm (at 25 °C) NTC 103AT-2 Beta 3435 temperature probe - 50...110 °C - resolution: 0.1 °C at 10 kOhm (at 25 °C) current 0...20 mA - resolution: 1 digit at < 150 Ohm current 4...20 mA - resolution: 1 digit at < 150 Ohm voltage 0...10 V - resolution: 1 digit at > 10 kOhm voltage 0...5 V - resolution: 1 digit at > 20 kOhm (absolute or ratiometric) impedance 0...1500 hOhm - resolution: 1 hOhm at 10 kOhm impedance 0...300 daOhm - resolution: 1 daOhm at 2 kOhm direct input - resolution: 1 digit (Dry contact) PTC - 55...150 °C - resolution: 0.1 °C at 2 kOhm Pt 1000 temperature probe - 200...850 °C - resolution: 0.1 °C at 2 kOhm

Excluding VAT, FCA Jabal Ali & are subject to change – check with your local distributor.

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

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 at 50 mA 24 V DC at 125 mA
[Us] rated supply voltage	24 V +/- 10 % AC 20...38 V DC
Power consumption in W	24 VA at 24 V AC 15 W at 24 V DC
Realtime clock	Without clock
Display type	Without display
Overvoltage category	II
Mounting support	DIN rail Panel mounting with accessory
Width	72 mm
Height	110 mm
Depth	59 mm
Net weight	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	-20…65 °C conforming to UL 60730-1
Ambient air temperature for storage	-30…70 °C
Relative humidity	5…95 % non-condensing
IP degree of protection	IP20

Pollution degree	2

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	12.700 cm
Package 1 Weight	258.000 g
Unit Type of Package 2	S02
Number of Units in Package 2	8
Package 2 Height	15.000 cm
Package 2 Width	30.000 cm
Package 2 Length	40.000 cm
Package 2 Weight	2.124 kg
Unit Type of Package 3	P06
Number of Units in Package 3	128
Package 3 Height	75.000 cm
Package 3 Width	60.000 cm
Package 3 Length	80.000 cm
Package 3 Weight	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**

Use Longer

Lifetime extension

Repair	**No**
Updatability	**Yes**

Use Again

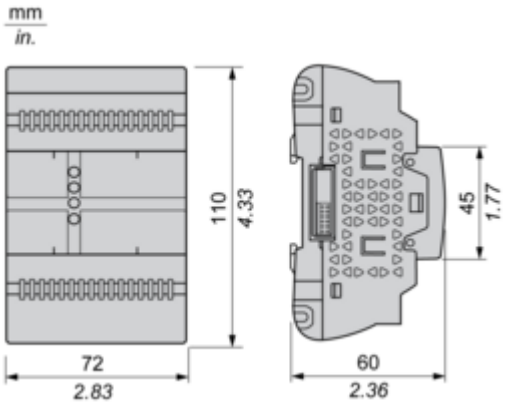
Repack and remanufacture

Recyclability potential, in %	**0**
End of life manual availability	**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

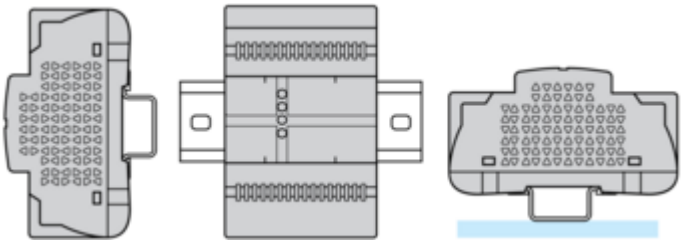
Dimensions



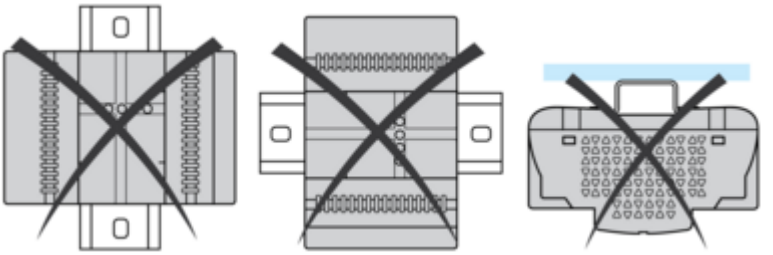
Mounting and Clearance

Mounting Positions

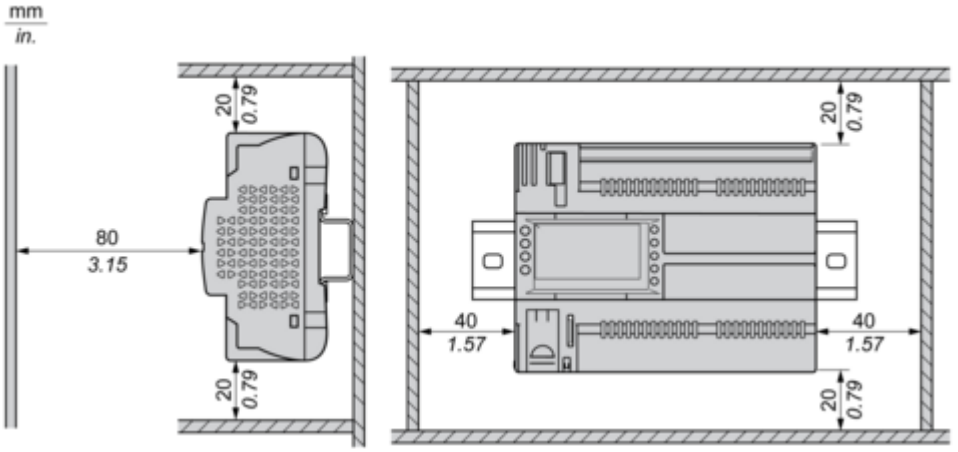
Correct Mounting Position



Incorrect Mounting Position

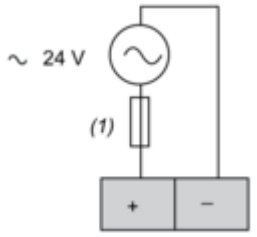
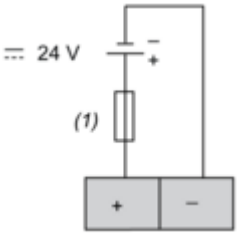


Clearance

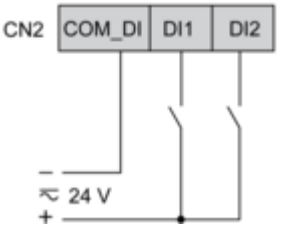


Connections and Schema

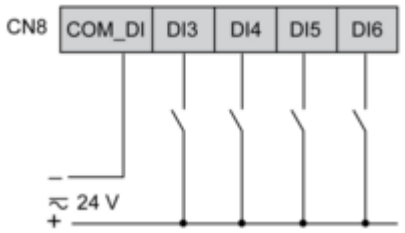
Power Supply

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

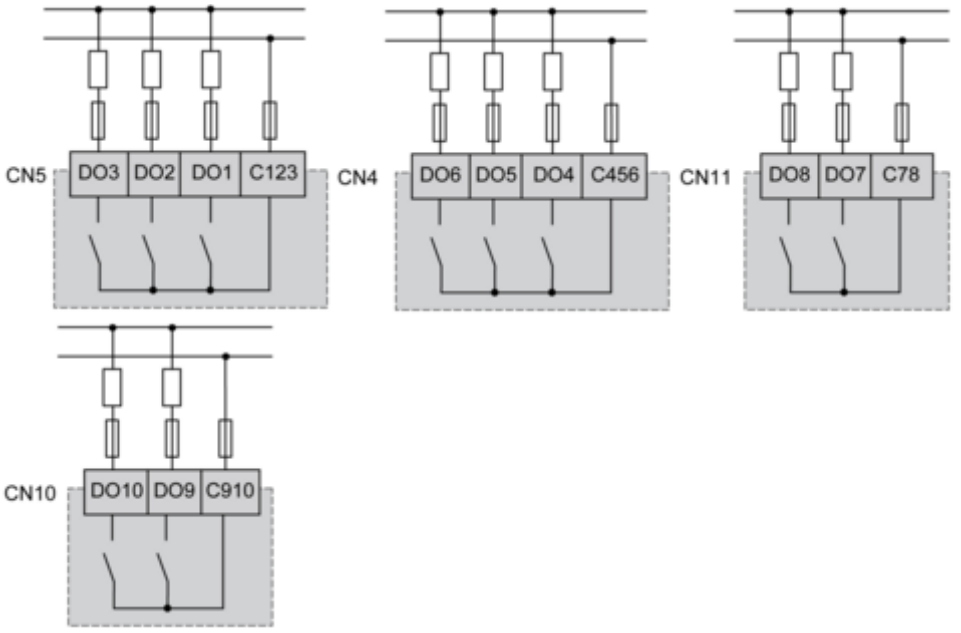
CN2 Fast Digital Inputs



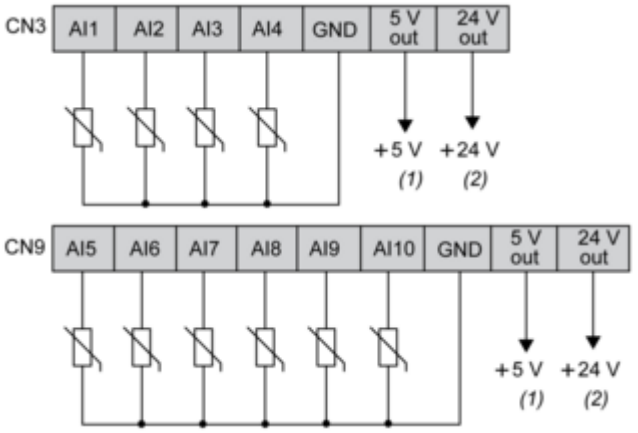
CN8 Digital Inputs



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

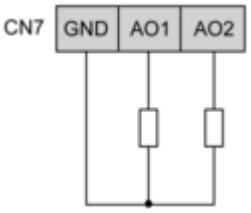


CN3, CN9 Analog Inputs



(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

