Product datasheet

Specifications



Expansion module, Modicon M171/ M172/173, optimized and performance expansion 12 IO

TM172E12R

Main

Range of product	Modicon M171/M172
Product or component type	Additional I/O module
Product specific application	HVAC control
Total inputs/outputs	12
Discrete input number	2
Discrete output number	3 for relay outputs SPST with same common
Discrete output current	3 A for relay SPST
Analogue input number	4 configurable by pair

Complementary

Number of port	1 CAN port - screw terminal block
Input/output number	6 digital output(s) 4 analog input(s) 2 digital input(s)
Discrete input logic	Positive logic (sink) up to 2 kHz
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 Pt 100/Pt 1000 PTC - 55...150 °C - resolution: 0.1 °C at 2 kOhm direct input - resolution: 1 digit (Dry contact) Pt 1000 temperature probe - 200...850 °C - resolution: 0.1 °C at 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

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

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	20 VA at 24 V AC 10 W at 24 V DC
Realtime clock	Without clock
Display type	Without display
Overvoltage category	II
Mounting support	Panel mounting with accessory DIN rail
Width	72 mm
Height	110 mm
Depth	59 mm
Net weight	0.14 kg

Environment

Directives	2014/35/EU - low voltage directive 2014/30/EU - electromagnetic compatibility
Standards	IEC 61000-4-11 EN 60068-2-6 Fc IEC 61000-4-5 EN 60730-2-9 EN 60730-1 IEC 61000-4-2 UL 60730-2-9 IEC 61000-4-4 CSA E60730-2-9 CAN/CSA-E60730-1 IEC 61000-4-3 EN 60068-2-27 UL94 (material V0)
Product certifications	CE RCM cURus CSA EAC
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	208.000 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	1.941 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	**641 kg CO2 eq.**
Carbon footprint of the manufacturing phase [A1 to A3]	**18 kg CO2 eq.**
Carbon footprint of the distribution phase [A4]	**0.1 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]	**0.5 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	**4ce6e309-a5cb-4926-89e3-160391d9dfd4**
EU RoHS Directive	**Compliant By Exemption**
REACh Regulation	**Reference contains Substances of Very High Concern above the threshold**

Use Longer

Lifetime extension

Updatability	**Yes**

Use Again

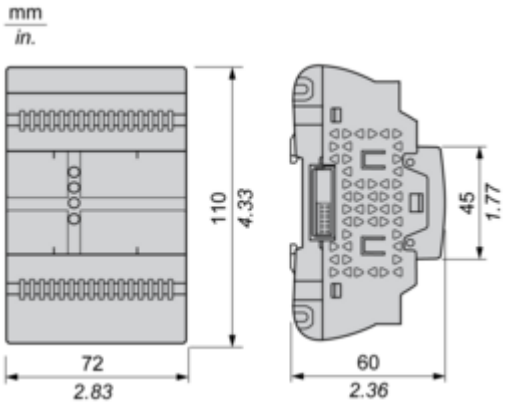
Repack and remanufacture

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

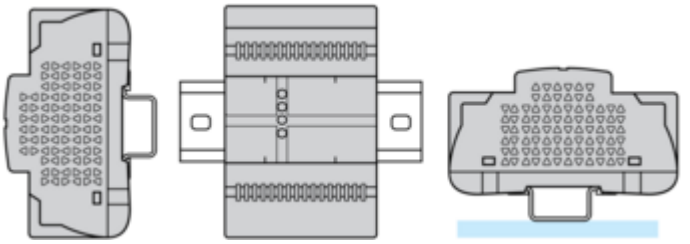
Dimensions



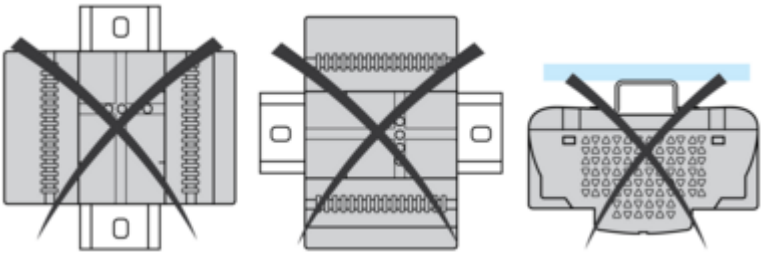
Mounting and Clearance

Mounting Positions

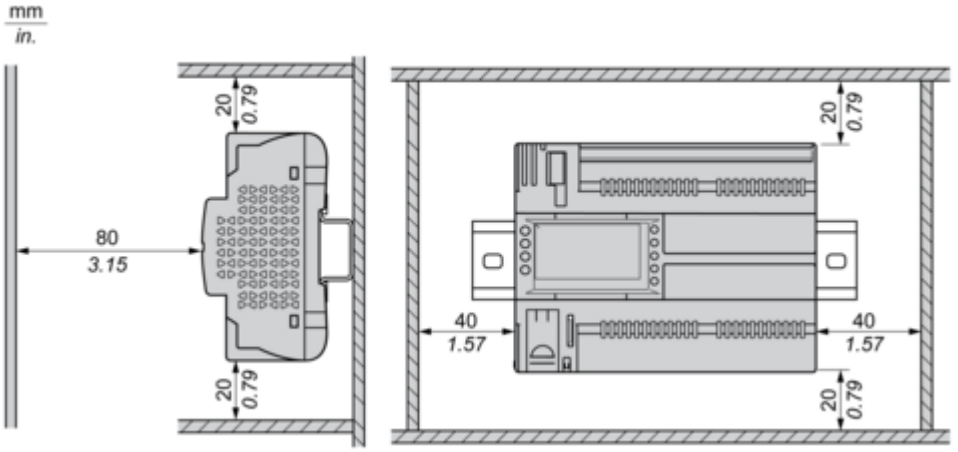
Correct Mounting Position



Incorrect Mounting Position

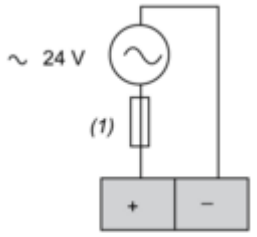
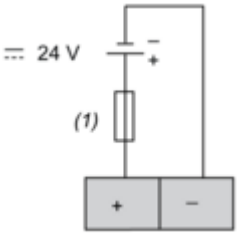


Clearance

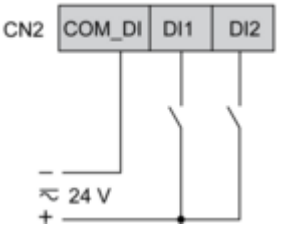


Connections and Schema

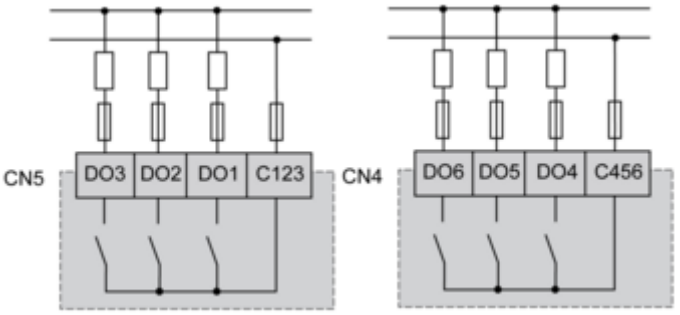
Power Supply

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

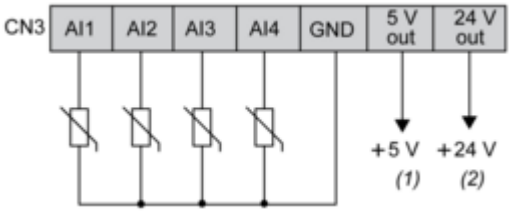
CN2 Fast Digital Inputs



CN5, CN4 High Voltage Relay SPST Digital Output



CN3 Analog Inputs



(1) Max. current : 50 mA.
(2) Max. current : 125 mA.

CN1 CAN Expansion Bus Port

