

# Product datasheet

Specifications



## Controller, Modicon M171/M172/ M173, optimized display, 22 IO, 2 RS485, solid state relay

TM173ODM22S

### Main

|                              |                                                                                                       |
|------------------------------|-------------------------------------------------------------------------------------------------------|
| Range of product             | Modicon M171/M172/M173                                                                                |
| Product or component type    | Programmable controllers                                                                              |
| Product specific application | HVAC and pumping solution                                                                             |
| Variant                      | Programmable                                                                                          |
| Total inputs/outputs         | 22                                                                                                    |
| Discrete input number        | 6                                                                                                     |
| Discrete output number       | 3 for relay outputs SPST with same common<br>2 for solid state, isolated SPST with independent common |
| Discrete output current      | 3 A for relay SPST<br>0.5 A for solid state, isolated                                                 |
| Analogue input number        | 6 configurable by pair<br>1 configurable                                                              |
| Analogue output number       | 1 voltage/current, range: 0...10 V or 4...20 mA<br>3 voltage, range: 0...10 V or PWM (10Hz...2 kHz)   |

### Complementary

|                        |                                                                                                                                                                                                                                                                                                                                                                |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of port         | 1 CAN port - screw terminal block<br>1 USB type C<br>2 RS485 - screw terminal block (Modbus serial link)<br>1 display port - TTL connector<br>1 communication module port                                                                                                                                                                                      |
| Input/output number    | 6 digital input(s)<br>5 digital output(s)<br>7 analog input(s)<br>4 analog output(s)                                                                                                                                                                                                                                                                           |
| Discrete input logic   | Sink or source (positive/negative)                                                                                                                                                                                                                                                                                                                             |
| Contacts usage         | Volt-free contacts                                                                                                                                                                                                                                                                                                                                             |
| Discrete input voltage | 24 V AC/DC                                                                                                                                                                                                                                                                                                                                                     |
| Discrete input current | 2.5 mA                                                                                                                                                                                                                                                                                                                                                         |
| Input impedance        | 20 kOhm                                                                                                                                                                                                                                                                                                                                                        |
| Analogue input type    | NTC 103AT-2 Beta 3435 temperature probe - 50...100 °C - resolution: 0.1 °C at 10 kOhm<br>Pt 1000 temperature probe - 50...400 °C - resolution: 0.1 °C at 2 kOhm<br>voltage 0...10 V - resolution: 0.001 V at > 10 kOhm<br>voltage 0...5 V - resolution: 0.001 V at 110 kOhm<br>current 4...20 mA - resolution: 13 bits at 100 Ohm<br>direct input at > 10 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 Beta 3977 - 40...+110 °C +/- 1 °C<br>NTC NK103 Beta 3977 110...137 °C +/- 1.9 °C<br>NTC 103AT-2 Beta 3435 - 50...110 °C +/- 1 °C<br>PTC - 55...155 °C +/- 1.1 °C<br>Pt 1000 - 100...-50 °C +/- 5 °C<br>Pt 1000 - 50...100 °C +/- 1 °C<br>Pt 1000 100...400 °C +/- 5 °C<br>0...20 mA 0...4 mA +/- 2 % of full scale +/- 1 digit<br>0...20 mA 4...20 mA +/- 1 % of full scale +/- 1 digit<br>4...20 mA +/- 1 % of full scale +/- 1 digit<br>0...10 V +/- 1 % of full scale +/- 1 digit<br>0...5 V +/- 1 % of full scale +/- 1 digit<br>HOhm 0...1500 hOhm +/- 8.5 hOhm<br>DaOhm 0...300 daOhm +/- 2.5 daOhm |
| Sensor power supply       | 5 V DC at 50 mA supplied by the controller<br>24 V DC at 125 mA supplied by the controller                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| [Us] rated supply voltage | 24 V +/- 10 % AC<br>20...38 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Power consumption in W    | 10 W at 24 V AC/DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Realtime clock            | Built-in clock, clock drift <= 30 s/month at -20...65 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Display type              | LED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Memory type               | 1 MB flash<br>380 kB RAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Overvoltage category      | II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Local signalling          | 1 LED (green) for USB pendrive download status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Mounting support          | Panel mounting with accessory<br>DIN rail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Width                     | 72 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Height                    | 110 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Depth                     | 60 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Net weight                | 0.178 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Environment

|                                       |                                                                                                                                                                                                                                                                 |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Directives                            | 2014/30/EU - electromagnetic compatibility<br>2014/35/EU - low voltage directive                                                                                                                                                                                |
| Standards                             | CAN/CSA-E60730-1<br>CSA E60730-2-9<br>EN 60068-2-27<br>EN 60068-2-6 Fc<br>EN 60730-1<br>EN 60730-2-9<br>UL 60730-1<br>UL 60730-2-9<br>IEC 61000-4-2<br>IEC 61000-4-3<br>IEC 61000-4-4<br>IEC 61000-4-5<br>IEC 61000-4-6<br>IEC 61000-4-11<br>UL94 (material V0) |
| Product certifications                | EAC (pending)<br>CE<br>cURus<br>CSA<br>RCM (pending)                                                                                                                                                                                                            |
| Ambient air temperature for operation | -20...65 °C conforming to UL 60730-1<br>conforming to EN 60730-1<br>conforming to EN 60730-2-9                                                                                                                                                                  |
| Ambient air temperature for storage   | -30...70 °C                                                                                                                                                                                                                                                     |

|                         |                                 |
|-------------------------|---------------------------------|
| Relative humidity       | 5...95 % non-condensing         |
| IP degree of protection | IP20 conforming to EN/IEC 60730 |
| Pollution degree        | 2                               |
| Operating altitude      | 0...2000 m                      |

## Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Height             | 7.000 cm  |
| Package 1 Width              | 9.000 cm  |
| Package 1 Length             | 13.500 cm |
| Package 1 Weight             | 273.000 g |
| Unit Type of Package 2       | S02       |
| Number of Units in Package 2 | 15        |
| Package 2 Height             | 15.000 cm |
| Package 2 Width              | 30.000 cm |
| Package 2 Length             | 40.000 cm |
| Package 2 Weight             | 4.390 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                       | 262 kg CO2 eq.                                |
| Carbon footprint of the manufacturing phase [A1 to A3] | 23 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]     | 238 kg CO2 eq.                                |
| Carbon footprint of the end-of-life phase [C1 to C4]   | 0.7 kg CO2 eq.                                |
| Environmental Disclosure                               | <a href="#">Product Environmental Profile</a> |

## Use Better



### Materials and Substances

|                                        |                                      |
|----------------------------------------|--------------------------------------|
| Packaging made with recycled cardboard | Yes                                  |
| Packaging without single use plastic   | No                                   |
| SCIP Number                            | Bf389323-b120-425e-a905-c5f4cc201508 |

## Use Longer



### Lifetime extension

|              |     |
|--------------|-----|
| Repair       | No  |
| Updatability | Yes |

## Use Again

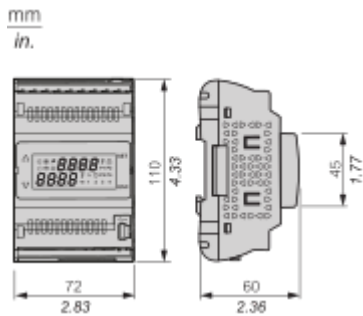


### Repack and remanufacture

|                                 |                                                                                                                                                                                                                 |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recyclability potential, in %   | 0                                                                                                                                                                                                               |
| End of life manual availability | <a href="#">End of Life Information</a>                                                                                                                                                                         |
| 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

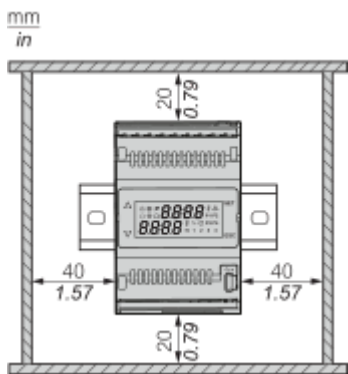
Dimensions



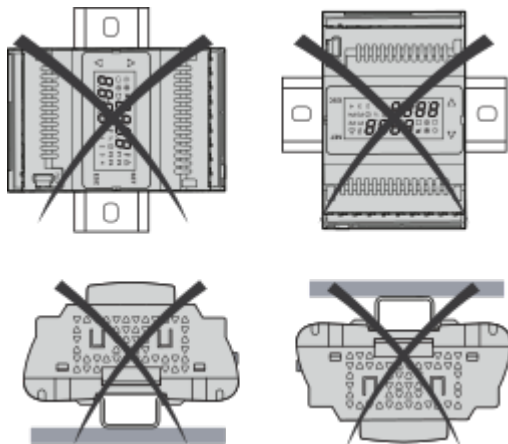
Mounting and Clearance

Mounting

Clearance



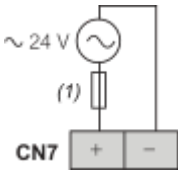
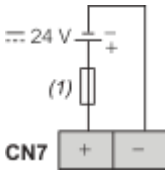
Misplacement



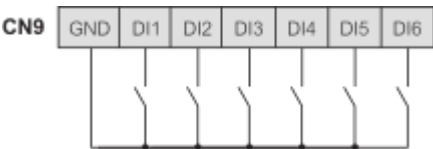
Connections and Schema

Wiring

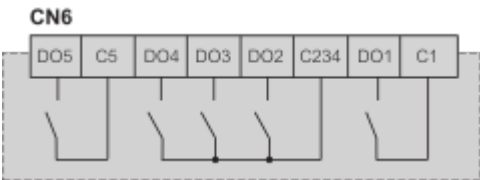
Power supply

| 24 Vac                                                                            | 24 Vdc                                                                            |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |
| (1)Type T fuse 1.25 A                                                             |                                                                                   |

Digital input

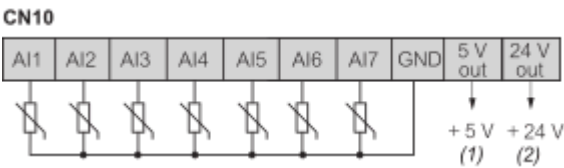


Digital output



DO1, DO5: SSR 0.5 A 240 Vac  
DO2, DO3, DO4: relay SPST 3 A 250 Vac

Analog inputs

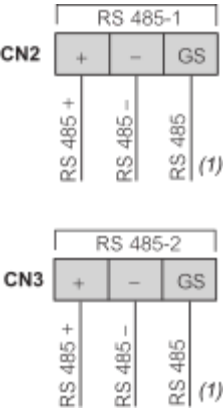


(1) Max. current : 50 mA.  
(2) Max. current : 125 mA.

Analog Output



CN2, CN3 RS 485 port



(1) Signal Reference

Image of product / Alternate images

Alternative

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