

# Product datasheet

Specifications



analog input module, Modicon  
TM3, 4 temperature inputs, screw,  
24V DC

TM3TI4

## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range Of Product          | Modicon TM3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Product Or Component Type | Analog input module                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Range Compatibility       | Modicon M221<br>Modicon M241<br>Modicon M251<br>Modicon M262                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Analogue Input Number     | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Analogue Input Type       | current 4...20 mA<br>current 0...20 mA<br>voltage 0...10 V<br>voltage - 10...10 V<br>thermocouple - 200...1000 °C with thermocouple J<br>thermocouple - 200...1300 °C with thermocouple K<br>thermocouple 0...1760 °C with thermocouple R<br>thermocouple 0...1760 °C with thermocouple S<br>thermocouple 0...1820 °C with thermocouple B<br>thermocouple - 200...400 °C with thermocouple T<br>thermocouple - 200...1300 °C with thermocouple N<br>thermocouple - 200...800 °C with thermocouple E<br>thermocouple 0...2315 °C with thermocouple C<br>Ni 100/Ni 1000 temperature probe - 60...180 °C<br>Pt 100 temperature probe - 200...850 °C<br>Pt 1000 temperature probe - 200...600 °C |

## Complementary

|                                 |                                                                                                                                                                                                                                                                                |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analogue Input Resolution       | 16 bits<br>15 bits + sign                                                                                                                                                                                                                                                      |
| Permissible Continuous Overload | 13 V, analogue input type: voltage<br>40 mA, analogue input type: current                                                                                                                                                                                                      |
| Input Impedance                 | <= 50 Ohm current<br>>= 1 MOhm voltage<br>>= 1 MOhm thermocouple<br>>= 1 MOhm temperature probe                                                                                                                                                                                |
| Lsb Value                       | 2.44 mV 0...10 Vvoltage<br>4.88 mV - 10...10 Vvoltage<br>4.88 µA 0...20 mAcurrent<br>3.91 µA 4...20 mAcurrent<br>0.1 °Ctemperature probe<br>0.1 °Cthermocouple                                                                                                                 |
| Conversion Time                 | 100 ms + 100 ms per channel + 1 controller cycle time for analogue input thermocouple<br>100 ms + 100 ms per channel + 1 controller cycle time for analogue input temperature probe<br>10 ms + 10 ms per channel + 1 controller cycle time for analogue input voltage/ current |
| Sampling Duration               | 10 ms, analogue input type: voltage/current<br>100 ms, analogue input type: voltage/current<br>100 ms, analogue input type: thermocouple<br>100 ms, analogue input type: temperature probe                                                                                     |

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

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Absolute Accuracy Error   | +/- 0.2 % of full scale at 25 °C for analogue input voltage/current<br>+/- 0.2 % of full scale at 25 °C for Pt 100/Pt 1000, Ni 100/ Ni 1000 temperature probe<br>+/- 0.2 % of full scale at 25 °C for thermocouple C 0...2315 °C<br>+/- 6 °C at 25 °C for thermocouple R, S 0...200 °C<br>+/- 0.2 % of full scale at 25 °C for thermocouple R, S 200...1760 °C<br>+/- 0.2 % of full scale at 25 °C for thermocouple B 300...1820 °C<br>+/- 0.4 % of full scale at 25 °C for thermocouple K - 200...0 °C<br>+/- 0.2 % of full scale at 25 °C for thermocouple K 0...1300 °C<br>+/- 0.4 % of full scale at 25 °C for thermocouple J - 200...0 °C<br>+/- 0.2 % of full scale at 25 °C for thermocouple J 0...1000 °C<br>+/- 0.4 % of full scale at 25 °C for thermocouple E - 200...0 °C<br>+/- 0.2 % of full scale at 25 °C for thermocouple E 0...800 °C<br>+/- 0.4 % of full scale at 25 °C for thermocouple T - 200...0 °C<br>+/- 0.2 % of full scale at 25 °C for thermocouple T 0...400 °C<br>+/- 0.4 % of full scale at 25 °C for thermocouple N - 200...0 °C<br>+/- 0.2 % of full scale at 25 °C for thermocouple N 0...1300 °C |
| Temperature Drift         | +/- 0.01 %FS/°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Repeat Accuracy           | +/-0.5 %FS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Non-Linearity             | +/- 0.2 %FS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Cross Talk                | <= 1 LSB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| [Us] Rated Supply Voltage | 24 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Supply Voltage Limits     | 20.4...28.8 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Type Of Cable             | Twisted shielded pairs cable <30 m for input circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Current Consumption       | 45 mA at 5 V DC via bus connector<br>50 mA at 5 V DC via bus connector<br>35 mA at 24 V DC via external supply<br>40 mA at 24 V DC via external supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Local Signalling          | 1 LED (green) for PWR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Electrical Connection     | 10 x 1.5 mm² removable screw terminal block with pitch 3.81 mm adjustment for inputs and supply<br>10 x 1.5 mm² removable screw terminal block with pitch 3.81 mm adjustment for inputs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Insulation                | Between input and supply at 1500 V AC<br>Between input and internal logic at 500 V AC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Marking                   | CE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Surge Withstand           | 1 kV power supply common mode conforming to IEC 61000-4-5<br>0.5 kV power supply differential mode conforming to IEC 61000-4-5<br>1 kV input common mode conforming to IEC 61000-4-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Mounting Support          | Top hat type TH35-15 rail conforming to IEC 60715<br>Top hat type TH35-7.5 rail conforming to IEC 60715<br>plate or panel with fixing kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Height                    | 90 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Depth                     | 70 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Width                     | 23.6 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Net Weight                | 0.11 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Environment

|                                       |                                                                                        |
|---------------------------------------|----------------------------------------------------------------------------------------|
| Standards                             | IEC 61131-2                                                                            |
| Product Certifications                | CE<br>UKCA<br>RCM<br>EAC<br>cULus<br>cULus HazLoc                                      |
| Resistance To Electrostatic Discharge | 8 kV in air conforming to IEC 61000-4-2<br>4 kV on contact conforming to IEC 61000-4-2 |

|                                       |                                                                                                                                                                                                                  |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Resistance To Electromagnetic Fields  | 10 V/m 80 MHz...1 GHz conforming to IEC 61000-4-3<br>3 V/m 1.4 GHz...2 GHz conforming to IEC 61000-4-3<br>1 V/m 2 GHz...3 GHz conforming to IEC 61000-4-3                                                        |
| Resistance To Magnetic Fields         | 30 A/m conforming to IEC 61000-4-8                                                                                                                                                                               |
| Resistance To Fast Transients         | 1 kV (I/O) conforming to IEC 61000-4-4                                                                                                                                                                           |
| Resistance To Conducted Disturbances  | 10 V 0.15...80 MHz conforming to IEC 61000-4-6<br>3 V spot frequency (2, 3, 4, 6.2, 8.2, 12.6, 16.5, 18.8, 22, 25 MHz) conforming to Marine specification (LR, ABS, DNV, GL)                                     |
| Electromagnetic Emission              | Radiated emissions - test level: 40 dBµV/m QP class A ( 10 m) at 30...230 MHz conforming to IEC 55011<br>Radiated emissions - test level: 47 dBµV/m QP class A ( 10 m) at 230...1000 MHz conforming to IEC 55011 |
| Immunity To Microbreaks               | 10 ms                                                                                                                                                                                                            |
| Ambient Air Temperature For Operation | -10...55 °C horizontal installation<br>-10...35 °C vertical installation                                                                                                                                         |
| Ambient Air Temperature For Storage   | -25...70 °C                                                                                                                                                                                                      |
| Relative Humidity                     | 10...95 %, without condensation (in operation)<br>10...95 %, without condensation (in storage)                                                                                                                   |
| Ip Degree Of Protection               | IP20                                                                                                                                                                                                             |
| Pollution Degree                      | 2                                                                                                                                                                                                                |
| Operating Altitude                    | 0...2000 m                                                                                                                                                                                                       |
| Storage Altitude                      | 0...3000 m                                                                                                                                                                                                       |
| Vibration Resistance                  | 3.5 mm at 5...8.4 Hz on DIN rail<br>3 gn at 8.4...150 Hz on DIN rail                                                                                                                                             |
| Shock Resistance                      | 15 gn for 11 ms                                                                                                                                                                                                  |

## Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type Of Package 1       | PCE       |
| Number Of Units In Package 1 | 1         |
| Package 1 Height             | 7.500 cm  |
| Package 1 Width              | 10.500 cm |
| Package 1 Length             | 12.500 cm |
| Package 1 Weight             | 215.000 g |
| Unit Type Of Package 2       | S02       |
| Number Of Units In Package 2 | 9         |
| Package 2 Height             | 15.000 cm |
| Package 2 Width              | 30.000 cm |
| Package 2 Length             | 40.000 cm |
| Package 2 Weight             | 2.330 kg  |

Sustainability



**Green Premium™ label** is Schneider Electric’s commitment to delivering products with best-in-class 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.

[Learn more about Green Premium >](#)

[Guide to assess a product’s sustainability >](#)



Transparency   RoHS/REACH

## Well-being performance

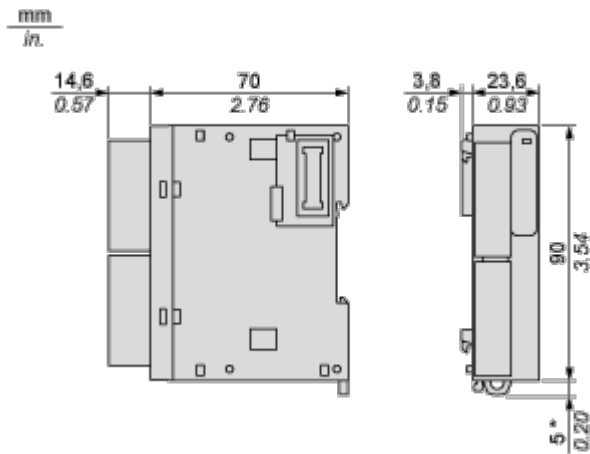
|                              |     |
|------------------------------|-----|
| ✓ Toxic Heavy Metal Free     |     |
| ✓ Mercury Free               |     |
| ✓ Rohs Exemption Information | Yes |
| ✓ Pvc Free                   |     |

## Certifications & Standards

|                          |                                                                                                                             |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Reach Regulation         | <a href="#">REACH Declaration</a>                                                                                           |
| Eu Rohs Directive        | Pro-active compliance (Product out of EU RoHS legal scope)<br><a href="#">EU RoHS Declaration</a>                           |
| China Rohs Regulation    | <a href="#">China RoHS declaration</a>                                                                                      |
| Environmental Disclosure | <a href="#">Product Environmental Profile</a>                                                                               |
| Weee                     | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| Circularity Profile      | <a href="#">End of Life Information</a>                                                                                     |

Dimensions Drawings

Dimensions

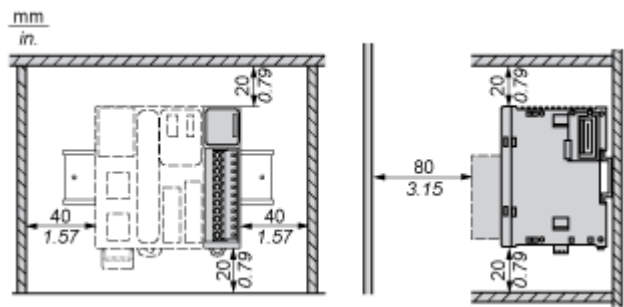


(\*) 8.5 mm/0.33 in when the clamp is pulled out.

Mounting and Clearance

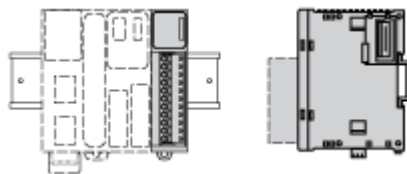
Spacing Requirements

---

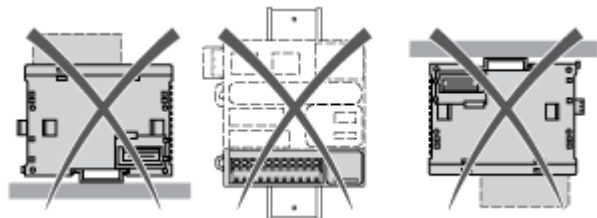


Mounting on a Rail

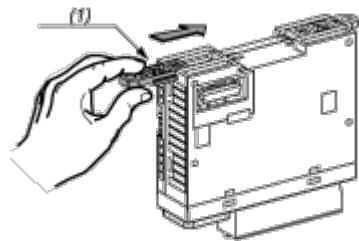
---



Incorrect Mounting

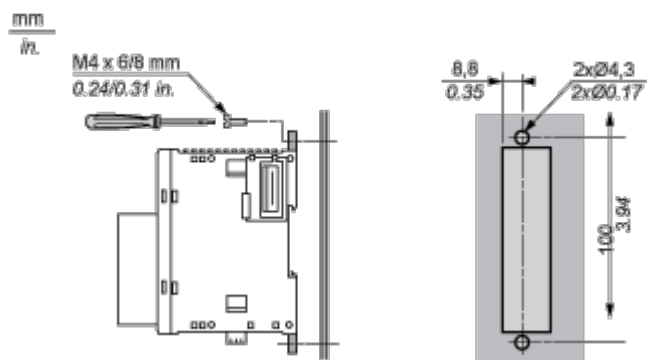


Mounting on a Panel Surface



- (1) Install a mounting strip

Mounting Hole Layout

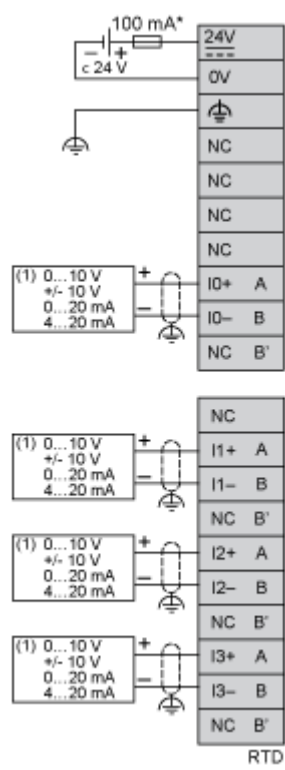




Connections and Schema

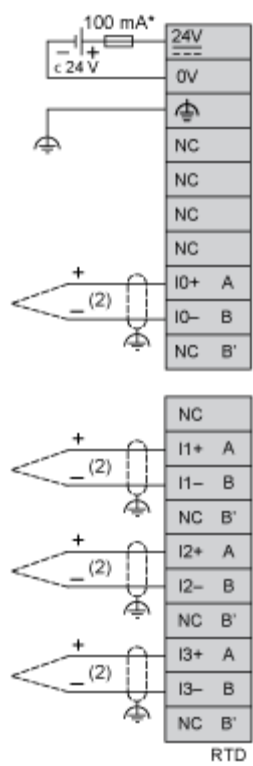
Analogue Input Module

Wiring Diagram (Current/Voltage type)



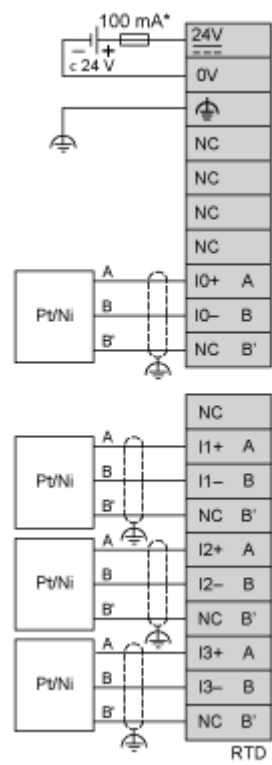
- (\*) Type T fuse
- (1) Current/Voltage analog output device

Wiring Diagram (Thermocouple input type)



- (\*) Type T fuse
- (2) Thermocouple

Wiring Diagram (Temperature probe input type)



- (\*) Type T fuse

