



## 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 thermocouple J<br>Thermocouple - 200...1300 °C thermocouple K<br>Thermocouple 0...1760 °C thermocouple R<br>Thermocouple 0...1760 °C thermocouple S<br>Thermocouple 0...1820 °C thermocouple B<br>Thermocouple - 200...400 °C thermocouple T<br>Thermocouple - 200...1300 °C thermocouple N<br>Thermocouple - 200...800 °C thermocouple E<br>Thermocouple 0...2315 °C thermocouple 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 voltage<br>40 mA 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 V voltage<br>4.88 mV - 10...10 V voltage<br>4.88 µA 0...20 mA current<br>3.91 µA 4...20 mA current<br>0.1 °C temperature probe<br>0.1 °C thermocouple                                                 |
| Conversion time                 | 100 ms + 100 ms per channel + 1 controller cycle time thermocouple<br>100 ms + 100 ms per channel + 1 controller cycle time temperature probe<br>10 ms + 10 ms per channel + 1 controller cycle time voltage/current |
| Sampling duration               | 10 Ms voltage/current<br>100 Ms voltage/current<br>100 Ms thermocouple<br>100 ms temperature probe                                                                                                                   |

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Absolute accuracy error   | +/- 0.2 % of full scale at 77 °F (25 °C) for analogue input voltage/current<br>+/- 0.2 % of full scale at 77 °F (25 °C) for Pt 100/Pt 1000, Ni 100/ Ni 1000 temperature probe<br>+/- 0.2 % of full scale at 77 °F (25 °C) for thermocouple C 0...2315 °C<br>+/- 6 °C at 77 °F (25 °C) for thermocouple R, S 0...200 °C<br>+/- 0.2 % of full scale at 77 °F (25 °C) for thermocouple R, S 200...1760 °C<br>+/- 0.2 % of full scale at 77 °F (25 °C) for thermocouple B 300...1820 °C<br>+/- 0.4 % of full scale at 77 °F (25 °C) for thermocouple K - 200...0 °C<br>+/- 0.2 % of full scale at 77 °F (25 °C) for thermocouple K 0...1300 °C<br>+/- 0.4 % of full scale at 77 °F (25 °C) for thermocouple J - 200...0 °C<br>+/- 0.2 % of full scale at 77 °F (25 °C) for thermocouple J 0...1000 °C<br>+/- 0.4 % of full scale at 77 °F (25 °C) for thermocouple E - 200...0 °C<br>+/- 0.2 % of full scale at 77 °F (25 °C) for thermocouple E 0...800 °C<br>+/- 0.4 % of full scale at 77 °F (25 °C) for thermocouple T - 200...0 °C<br>+/- 0.2 % of full scale at 77 °F (25 °C) for thermocouple T 0...400 °C<br>+/- 0.4 % of full scale at 77 °F (25 °C) for thermocouple N - 200...0 °C<br>+/- 0.2 % of full scale at 77 °F (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 <98.43 ft (30 m) input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Current consumption       | 45 mA 5 V DC via bus connector<br>50 mA 5 V DC via bus connector<br>35 mA 24 V DC via external supply<br>40 mA 24 V DC via external supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Local signalling          | For PWR 1 LED (green)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Electrical connection     | 10 x 1.5 mm <sup>2</sup> removable screw terminal block pitch 3.81 mm for inputs and supply<br>10 x 1.5 mm <sup>2</sup> removable screw terminal block pitch 3.81 mm for inputs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Insulation                | Between input and supply 1500 V AC<br>Between input and internal logic 500 V AC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Marking                   | CE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Surge withstand           | 1 kV power supply common mode EN/IEC 61000-4-5<br>0.5 kV power supply differential mode EN/IEC 61000-4-5<br>1 kV input common mode EN/IEC 61000-4-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Mounting support          | Top hat type TH35-15 rail IEC 60715<br>Top hat type TH35-7.5 rail IEC 60715<br>Plate or panel with fixing kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Height                    | 3.54 in (90 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Depth                     | 2.76 in (70 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Width                     | 0.93 in (23.6 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Product Weight            | 0.22 lb(US) (0.1 kg)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Environment

|                                       |                                                                                                                                                           |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                             | EN/IEC 61131-2<br>EN/IEC 61010-2-201                                                                                                                      |
| Product Certifications                | CE<br>UKCA<br>RCM<br>EAC<br>cULus                                                                                                                         |
| Resistance to electrostatic discharge | 8 kV in air EN/IEC 61000-4-2<br>4 kV on contact EN/IEC 61000-4-2                                                                                          |
| Resistance to electromagnetic fields  | 9.14 V/m (10 V/m) 80 MHz...1 GHz EN/IEC 61000-4-3<br>2.74 V/m (3 V/m) 1.4 GHz...2 GHz EN/IEC 61000-4-3<br>0.91 V/m (1 V/m) 2 GHz...3 GHz EN/IEC 61000-4-3 |
| Resistance to magnetic fields         | 98.43 A/m (30 A/m) EN/IEC 61000-4-8                                                                                                                       |
| Resistance to fast transients         | 1 kV EN/IEC 61000-4-4 I/O)                                                                                                                                |
| Resistance to conducted disturbances  | 10 V 0.15...80 MHz EN/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) Marine specification (LR, ABS, DNV, GL)       |
| Electromagnetic emission              | Radiated emissions 40 dBµV/m QP class A 10 m)30...230 MHz EN/IEC 55011<br>Radiated emissions 47 dBµV/m QP class A 10 m)230...1000 MHz EN/IEC 55011        |
| Immunity to microbreaks               | 10 ms                                                                                                                                                     |

|                                       |                                                                                                     |
|---------------------------------------|-----------------------------------------------------------------------------------------------------|
| Ambient Air Temperature for Operation | 14...131 °F (-10...55 °C) horizontal installation<br>14...95 °F (-10...35 °C) vertical installation |
| Ambient Air Temperature for Storage   | -13...158 °F (-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...6561.68 ft (0...2000 m)                                                                         |
| Storage altitude                      | 0.00...9842.52 ft (0...3000 m)                                                                      |
| Vibration resistance                  | 3.5 mm 5...8.4 Hz DIN rail<br>3 gn 8.4...150 Hz DIN rail                                            |
| Shock resistance                      | 15 gn 11 ms                                                                                         |

## Ordering and shipping details

|                   |                              |
|-------------------|------------------------------|
| Category          | 22533-M2XX PLC & ACCESSORIES |
| Discount Schedule | MSX                          |
| GTIN              | 3606480649011                |
| Returnability     | Yes                          |
| Country of origin | JP                           |

## Packing Units

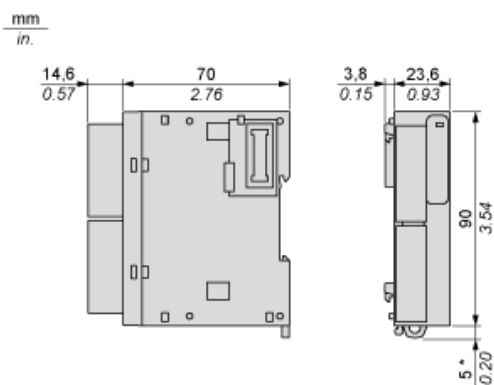
|                              |                            |
|------------------------------|----------------------------|
| Unit Type of Package 1       | PCE                        |
| Number of Units in Package 1 | 1                          |
| Package 1 Height             | 2.95 in (7.5 cm)           |
| Package 1 Width              | 4.92 in (12.5 cm)          |
| Package 1 Length             | 4.13 in (10.5 cm)          |
| Package 1 Weight             | 7.09 oz (201.0 g)          |
| Unit Type of Package 2       | S02                        |
| Number of Units in Package 2 | 9                          |
| Package 2 Height             | 5.91 in (15 cm)            |
| Package 2 Width              | 11.81 in (30 cm)           |
| Package 2 Length             | 15.75 in (40 cm)           |
| Package 2 Weight             | 5.01 lb(US) (2.273 kg)     |
| Unit Type of Package 3       | P12                        |
| Number of Units in Package 3 | 432                        |
| Package 3 Height             | 31.50 in (80 cm)           |
| Package 3 Width              | 41.34 in (105 cm)          |
| Package 3 Length             | 49.21 in (125 cm)          |
| Package 3 Weight             | 246.55 lb(US) (111.832 kg) |

## Offer Sustainability

|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                                                                                                                                                                                       |
| 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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                           |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>                                                                                                                                                                                              |
| Toxic heavy metal free     | Yes                                                                                                                                                                                                                                                                                         |
| Mercury free               | Yes                                                                                                                                                                                                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>                                                                                                                                                                                                                                                      |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                                                                                                                                                                                         |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                                                                                                                                                                                               |
| Circularity Profile        | <a href="#">End Of Life Information</a>                                                                                                                                                                                                                                                     |

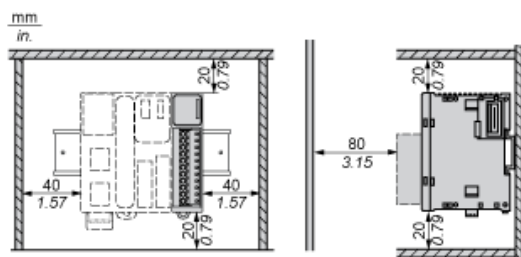
|          |                                                                                                                              |
|----------|------------------------------------------------------------------------------------------------------------------------------|
| WEEE     | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins. |
| PVC free | Yes                                                                                                                          |

## Dimensions

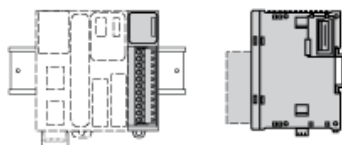


(\*) 8.5 mm/0.33 in when the clamp is pulled out.

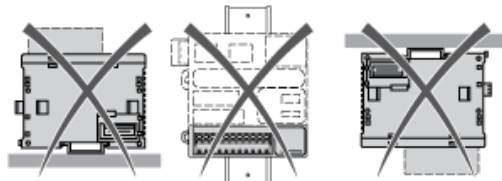
## Spacing Requirements



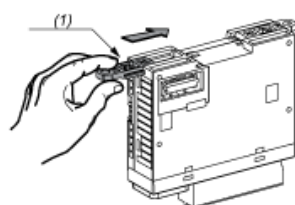
## Mounting on a Rail



## Incorrect Mounting

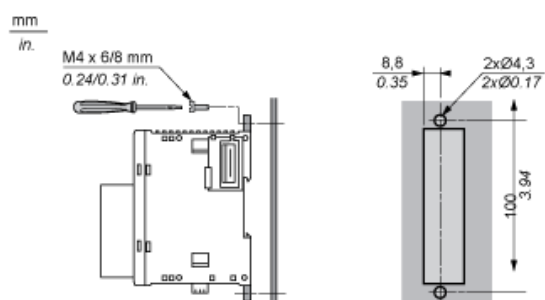


## Mounting on a Panel Surface



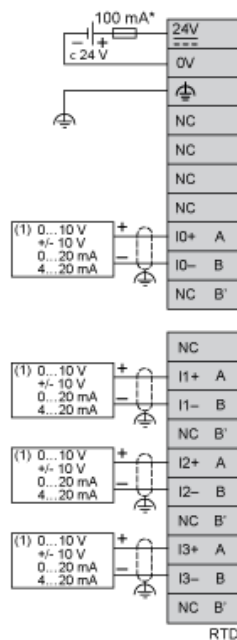
- (1) Install a mounting strip

## Mounting Hole Layout



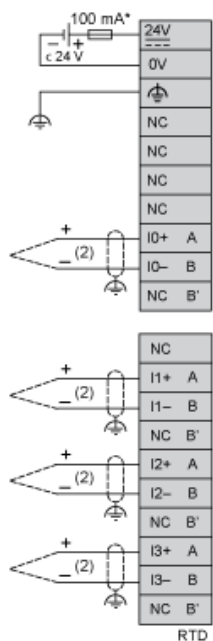
## Analogue Input Module

### Wiring Diagram (Current/Voltage type)



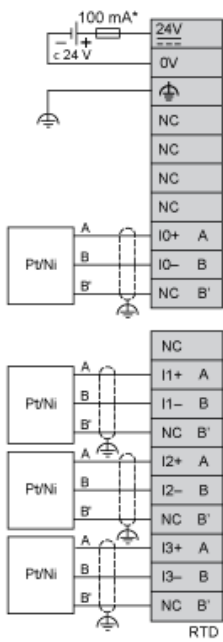
- (\*) Type T fuse
- (1) Current/Voltage analog output device

### Wiring Diagram (Thermocouple input type)



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

Wiring Diagram (Temperature probe input type)



(\*) Type T fuse