

TM3TI4DG

Analog input module, Modicon TM3, 4 temperature differential inputs (spring) 24 VDC



Main

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|---------------------------|---|
| Range of Product | Modicon TM3 |
| Product or Component Type | Analog input module |
| Range Compatibility | Modicon M221 Modicon M241 Modicon M251 Modicon M262 |
| Analogue input number | 4 |
| Analogue input type | Thermocouple - 200...1000 °C thermocouple J Thermocouple - 200...1300 °C thermocouple K Thermocouple 0...1760 °C thermocouple R Thermocouple 0...1760 °C thermocouple S Thermocouple 0...1820 °C thermocouple B Thermocouple - 200...400 °C thermocouple T Thermocouple - 200...1300 °C thermocouple N Thermocouple - 200...800 °C thermocouple E Thermocouple 0...2315 °C thermocouple C |

Complementary

| | |
|---------------------------------|---|
| Analogue input resolution | 16 bits 15 bits + sign |
| Permissible continuous overload | 13 V voltage 40 mA current |
| Input impedance | >= 1 MOhm thermocouple |
| LSB value | 0.1 °C thermocouple |
| Conversion time | 100 ms + 100 ms per channel + 1 controller cycle time thermocouple |
| Sampling duration | 100 ms thermocouple |
| Absolute accuracy error | +/- 0.2 % of full scale 77 °F (25 °C) thermocouple C 0...2315 °C +/- 6 °C 77 °F (25 °C) thermocouple R, S 0...200 °C +/- 0.2 % of full scale 77 °F (25 °C) thermocouple R, S 200...1760 °C +/- 0.2 % of full scale 77 °F (25 °C) thermocouple B 300...1820 °C +/- 0.4 % of full scale 77 °F (25 °C) thermocouple K - 200...0 °C +/- 0.2 % of full scale 77 °F (25 °C) thermocouple K 0...1300 °C +/- 0.4 % of full scale 77 °F (25 °C) thermocouple J - 200...0 °C +/- 0.2 % of full scale 77 °F (25 °C) thermocouple J 0...1000 °C +/- 0.4 % of full scale 77 °F (25 °C) thermocouple E - 200...0 °C +/- 0.2 % of full scale 77 °F (25 °C) thermocouple E 0...800 °C +/- 0.4 % of full scale 77 °F (25 °C) thermocouple T - 200...0 °C +/- 0.2 % of full scale 77 °F (25 °C) thermocouple T 0...400 °C +/- 0.4 % of full scale 77 °F (25 °C) thermocouple N - 200...0 °C +/- 0.2 % of full scale 77 °F (25 °C) 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 50 mA 5 V DC via bus connector 35 mA 24 V DC via external supply 40 mA 24 V DC via external supply |
| Local signalling | For PWR 1 LED (green) |
| Electrical connection | 10 x 1.5 mm ² removable spring terminal block pitch 3.81 mm for inputs and supply 10 x 1.5 mm ² removable spring terminal block pitch 3.81 mm for inputs |

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|------------------|---|
| Insulation | Between input and supply 1500 V AC Between input and internal logic 500 V AC |
| Marking | CE |
| Surge withstand | 1 kV power supply common mode EN/IEC 61000-4-5 0.5 kV power supply differential mode EN/IEC 61000-4-5 1 kV input common mode EN/IEC 61000-4-5 |
| Mounting support | Top hat type TH35-15 rail IEC 60715 Top hat type TH35-7.5 rail IEC 60715 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) |
| Net Weight | 0.24 lb(US) (0.11 kg) |

Environment

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|---------------------------------------|--|
| Standards | EN/IEC 61131-2 EN/IEC 61010-2-201 |
| Resistance to electrostatic discharge | 8 kV in air EN/IEC 61000-4-2 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 2.74 V/M (3 V/m) 1.4 GHz...2 GHz EN/IEC 61000-4-3 0.91 V/m (1 V/m) 2 GHz...3 GHz EN/IEC 61000-4-3 |
| 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 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 dB μ V/m QP class A 10 m)30...230 MHz EN/IEC 55011 Radiated emissions 47 dB μ V/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 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) 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 3 gn 8.4...150 Hz DIN rail |
| Shock resistance | 15 gn 11 ms |

Ordering and shipping details

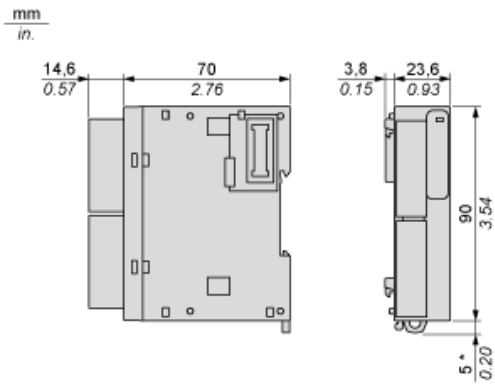
| | |
|-------------------|------------------------------|
| Category | 22533-M2XX PLC & ACCESSORIES |
| Discount Schedule | MSX |
| GTIN | 3606481298393 |
| Returnability | Yes |
| Country of origin | JP |

Packing Units

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|------------------------------|----------------------|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Height | 3.10 in (7.87 cm) |
| Package 1 Width | 4.20 in (10.67 cm) |
| Package 1 Length | 5.00 in (12.7 cm) |
| Package 1 Weight | 0.44 lb(US) (0.2 kg) |
| 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) |

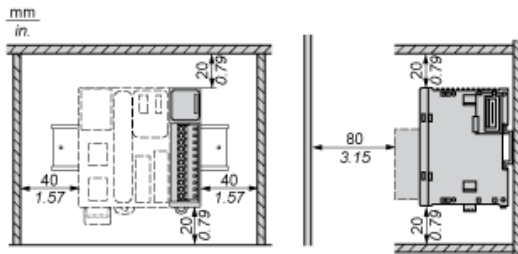
| | |
|------------------|----------------------|
| Package 2 Length | 15.75 in (40 cm) |
| Package 2 Weight | 3.97 lb(US) (1.8 kg) |

Dimensions



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

Spacing Requirements



Mounting on a Rail



Incorrect Mounting

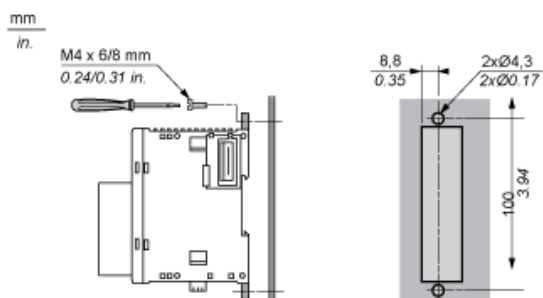


Mounting on a Panel Surface



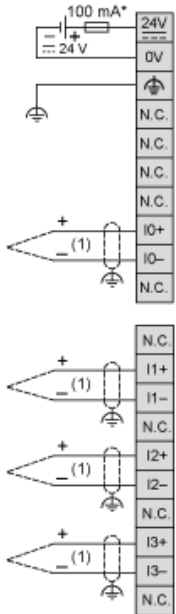
- (1) Install a mounting strip

Mounting Hole Layout



Wiring Diagram

Analogue Input Module



- * Type T fuse
- (1) Electrically isolated or non isolated thermocouple