# Product data sheet

## Characteristics

### Main

- **Range of product**: Modicon TM3
- **Product or component type**: Analog input module
- **Range compatibility**: Modicon M221
  - Modicon M241
  - Modicon M251
- **Analogue input number**: 2
- **Analogue input type**:
  - Current, analogue input range: 4...20 mA
  - Current, analogue input range: 0...20 mA
  - Voltage, analogue input range: 0...10 V
  - Voltage, analogue input range: -10...10 V

### Complementary

- **Analogue input resolution**: 15 bits + sign
  - 16 bits
- **Permissible continuous overload**:
  - 13 V voltage
  - 40 mA current
- **Input impedance**:
  - <= 50 Ohm current
  - >= 1 MOhm voltage
- **LSB value**:
  - 2.44 mV, analogue input: 0...10 V voltage
  - 4.88 mV, analogue input: -10...10 V voltage
  - 4.88 µA, analogue input: 0...20 mA current
  - 3.91 µA, analogue input: 4...20 mA current
- **Conversion time**: 1 ms + 1 ms per channel + 1 controller cycle time
- **Sampling duration**: <= 1 ms
- **Absolute accuracy error**: +/- 0.1 % of full scale at 25 °C
  - +/- 1 % of full scale
- **Temperature drift**: +/- 0.006 %/°C
- **Repeat accuracy**: +/- 0.5 %FS
- **Non-linearity**: +/- 0.01 %FS
- **Cross talk**: <= 1 LSB
- **[Us] rated supply voltage**: 24 V DC
- **Supply voltage limits**: 20.4...28.8 V

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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.
<table>
<thead>
<tr>
<th><strong>Type of cable</strong></th>
<th>Twisted shielded pairs cable 30 m for input circuit</th>
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</thead>
</table>
| **Current consumption** | 30 mA at 5 V DC (no load) via bus connector  
40 mA at 5 V DC (full load) via bus connector  
25 mA at 24 V DC via external supply |
| **Local signalling** | 1 LED green for PWR |
| **Electrical connection** | 11 x 2.5 mm² removable screw terminal block with pitch 5.08 mm adjustment for inputs and supply |
| **Insulation** | 500 V AC between input and internal logic  
1500 V AC between input and supply |
| **Marking** | CE |
| **Surge withstand** | 1 kV for power supply with common mode protection conforming to EN/IEC 61000-4-5  
0.5 kV for power supply with differential mode protection conforming to EN/IEC 61000-4-5  
1 kV for input with common mode protection conforming to EN/IEC 61000-4-5 |
| **Mounting support** | Top hat type TH35-15 rail conforming to IEC 60715  
Top hat type TH35-7.5 rail conforming to IEC 60715  
Plate or panel with fixing kit |
| **Height** | 90 mm |
| **Depth** | 70 mm |
| **Width** | 23.6 mm |
| **Product weight** | 0.115 kg |

**Environment**

| **Standards** | EN/IEC 61131-2  
EN/IEC 61010-2-201 |
| **Resistance to electrostatic discharge** | 4 kV on contact conforming to EN/IEC 61000-4-2  
8 kV in air conforming to EN/IEC 61000-4-2 |
| **Resistance to electromagnetic fields** | 10 V/m at 80 MHz...1 GHz conforming to EN/IEC 61000-4-3  
3 V/m at 1.4 GHz...2 GHz conforming to EN/IEC 61000-4-3  
1 V/m at 2 GHz...3 GHz conforming to EN/IEC 61000-4-3 |
| **Resistance to magnetic fields** | 30 A/m conforming to EN/IEC 61000-4-8 |
| **Resistance to fast transients** | 1 kV I/O conforming to EN/IEC 61000-4-4 |
| **Resistance to conducted disturbances** | 10 V at 0.15...80 MHz conforming to EN/IEC 61000-4-6  
3 V at 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 EN/IEC 55011  
Radiated emissions, test level: 47 dBµV/m QP class A (10 m at 230...1000 MHz) conforming to EN/IEC 55011 |
| **Immunity to microbreaks** | 10 ms |
| **Ambient air temperature for operation** | -10...+55 °C (horizontal installation)  
-10...+35 °C (vertical installation) |
| **Ambient air temperature for storage** | -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...2000 m |
| **Storage altitude** | 0...3000 m |
| **Vibration resistance** | 3.5 mm at 5...8.4 Hz with DIN rail mounting support  
3 gn at 8.4...150 Hz with DIN rail mounting support |
| **Shock resistance** | 15 gn during 11 ms |

**Offer Sustainability**

| **Sustainable offer status** | Green Premium product |
| **RoHS (date code: YYWW)** | Compliant - since 1415 - Schneider Electric declaration of conformity |
| **REACH** | Reference not containing SVHC above the threshold  
Reference not containing SVHC above the threshold |
<p>| <strong>Product environmental profile</strong> | Available |</p>
<table>
<thead>
<tr>
<th>Product end of life instructions</th>
<th>Available</th>
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</thead>
<tbody>
<tr>
<td><strong>End of Life Information</strong></td>
<td></td>
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Dimensions

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

[Diagram showing 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 T fuse
(1) Current/Voltage analog output device