# TM5SAI4L

analog input module - 4I - +/-10 V/0..20 mA/4..20 mA - 12 bits





#### Main

| Range of product          | Modicon TM5  |
|---------------------------|--|
| Product or component type | Analog input module  |
| Analogue input number     | 4  |
| Analogue input type       | Current 020 mA/420 mA, differential Voltage +/- 10 V, differential |
| Analogue input resolution | 12 bits + sign +/- 10 V<br>12 bits 020 mA/420 mA                   |

### Complementary

| Range compatibility       | Modicon LMC058<br>Modicon M258   |    |  |
|---------------------------|--|----|--|
| Product compatibility     | Motion controller<br>Logic controller  |    |  |
| Measurement resolution    | 2.441 mV, +/- 10 V<br>4.883 µA, 020 mA/420 mA  |    |  |
| Colour                    | White  |    |  |
| Input impedance           | >= 20 mOhm voltage   |    |  |
| Load impedance ohmic      | <= 400 Ohm (current)   |    |  |
| Sampling duration         | 1 ms, analogue input type: all inputs with filtering 400 μs, analogue input type: all inputs without filtering |    |  |
| Measurement error         | < 0.08 % of full scale, 020 mA/420 mA at 25 °C < 0.08 % of full scale, +/- 10 V, +/- 10 V at 25 °C             |    |  |
| Temperature coefficient   | +/- 0.009 %FS/°C, analogue input type: current +/- 0.006 %FS/°C, analogue input type: voltage                  |    |  |
| Non-linearity             | < 0.025 %FS, analogue input type: voltage<br>< 0.05 %FS, analogue input type: current                          |    |  |
| Type of cable             | Shielded cable   |    |  |
| Isolation                 | No insulation between channels 500 Vrms AC insulation between channel and bus                                  |    |  |
| Supply                    | Internal   |    |  |
| [Us] rated supply voltage | 24 V DC -1520 %  |    |  |
| Common mode rejection     | > 70 dB  |    |  |
| Local signalling          | 1 LED green for power supply 1 LED red for power supply 4 LEDs green for input status                          |    |  |
| Current consumption       | 2 mA 5 V DC bus<br>46 mA 24 V DC input/output  |    |  |
| Power dissipation in W    | <= 1.11 W  |    |  |
| Marking                   | CE   | CE |  |
| Product weight            | 0.025 kg   |    |  |

### **Environment**

| standards              | CSA C22.2 No 142<br>IEC 61131-2<br>UL 508<br>CSA C22.2 No 213 | IEC 61131-2<br>UL 508 |  |
|------------------------|---|-----------------------|--|
| product certifications | CSA<br>C-Tick   |                       |  |

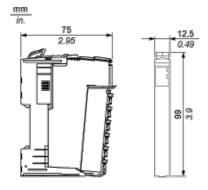
|                                       | CULus<br>GOST-R   |  |  |
|---------------------------------------|---|--|--|
| ambient air temperature for operation | 050 °C (vertical installation) 055 °C without derating factor (horizontal installation) 060 °C with derating factor (horizontal installation) |  |  |
| ambient air temperature for storage   | -2570 °C  |  |  |
| relative humidity                     | 595 % without condensation  |  |  |
| IP degree of protection               | IP20 conforming to IEC 61131-2  |  |  |
| pollution degree                      | 2 conforming to IEC 60664   |  |  |
| operating altitude                    | 02000 m   |  |  |
| storage altitude                      | 03000 m   |  |  |
| vibration resistance                  | 1 gn (f= 8.4150 Hz) DIN rail<br>3.5 mm (f= 58.4 Hz) DIN rail  |  |  |
| shock resistance                      | 15 gn for 11 ms   |  |  |
| 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  | 1 V/m 22.7 GHz conforming to EN/IEC 61000-4-3<br>10 V/m 802000 MHz conforming to EN/IEC 61000-4-3   |  |  |
| resistance to fast transients         | 1 kV I/O conforming to EN/IEC 61000-4-4 1 kV shielded cable conforming to EN/IEC 61000-4-4 2 kV power lines conforming to EN/IEC 61000-4-4    |  |  |
| surge withstand                       | 0.5 kV differential mode conforming to EN/IEC 61000-4-5 1 kV common mode conforming to EN/IEC 61000-4-5                                       |  |  |
| electromagnetic compatibility         | EN/IEC 61000-4-6  |  |  |
| disturbance radiated/conducted        | CISPR 11  |  |  |
|                                       |   |  |  |

# Offer Sustainability

| Sustainable offer status                                | Green Premium product   |
|---|---|
| RoHS (date code: YYWW)                                  | Compliant - since 1039 - Schneider Electric declaration of conformity |
| REACh Reference not containing SVHC above the threshold |   |
| Product environmental profile                           | Available   |
| Product end of life instructions                        | Available   |

### **TM5 Slice**

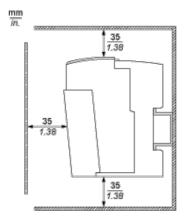
#### **Dimensions**

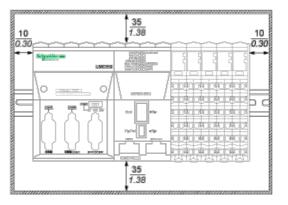


# TM5 System

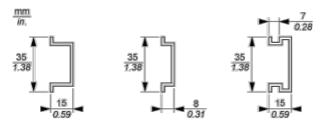
**Spacing Requirements** 







#### Mounting on a DIN Rail



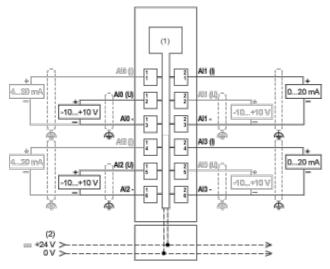
# **TM5 System Wiring Recommendations**

#### Wire Sizes to Use with the Removable Spring Terminal Blocks

| mr | 0.35 |         | =       | #D=     | <b>8D</b> -      |
|----|------|---------|---------|---------|------------------|
|    | mm²  | 0,082,5 | 0,252,5 | 0,251,5 | 2 x 0,252 x 0,75 |
|    | AWG  | 2814    | 24 14   | 2416    | 2 x 242 x 18     |

# Electronic Module 4AI ±10V/0-20mA/4-20mA 12 Bits

### **Wiring Diagram**



- (1) Internal electronics
- (2) 24 Vdc I/O power segment integrated into the bus bases
- (I) Current
- (U) Voltage