

# Product datasheet

Specifications



## analog input module - 2I - +/-10 V/ 0..20 mA/4..20 mA - 12 bits

TM5SAI2L

EAN Code: 3595864074719

### Main

|                           |   |
|---------------------------|---|
| range of product          | Modicon TM5   |
| product or component type | Analog input module   |
| Analogue input number     | 2   |
| Analogue input type       | voltage +/- 10 V differential<br>current 0...20 mA/4...20 mA differential |
| Analogue input resolution | 12 bits + sign +/- 10 V<br>12 bits 0...20 mA/4...20 mA                    |

### Complementary

|                                |   |
|--------------------------------|---|
| Range compatibility            | Modicon M258<br>Modicon LMC058  |
| Product compatibility          | Logic controller<br>Motion controller   |
| Measurement resolution         | 2.441 mV, +/- 10 V<br>4.883 µA, 0...20 mA/4...20 mA   |
| Colour                         | White   |
| Input impedance                | >= 20 mOhm voltage  |
| Load impedance ohmic           | <= 300 Ohm (current)  |
| Sampling duration              | 1 ms, analogue input type: all inputs with filtering<br>300 µs, analogue input type: all inputs without filtering |
| Measurement error              | < 0.08 % of full scale +/- 10 V +/- 10 V at 25 °C<br>< 0.08 % of full scale 0...20 mA/4...20 mA at 25 °C          |
| Temperature coefficient        | +/- 0.009 %FS/°C, analogue input type: current<br>+/- 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<br>500 Vrms AC insulation between channel and bus                                  |
| Supply                         | Internal  |
| [Us] rated supply voltage      | 24 V DC -15...20 %  |
| Common mode rejection          | > 70 dB   |
| Local signalling               | 1 LED green for power supply<br>1 LED red for power supply<br>2 LEDs green for input status                       |
| Current consumption            | 2 mA at 5 V DC bus<br>33 mA at 24 V DC input/output   |
| Maximum power dissipation in W | 0.81 W  |

|            |          |
|------------|----------|
| marking    | CE       |
| net weight | 0.025 kg |

## Environment

|                                       |   |
|---------------------------------------|---|
| Standards                             | IEC 61131-2<br>CSA C22.2 No 213<br>UL 508<br>CSA C22.2 No 142   |
| product certifications                | CSA<br>C-Tick<br>cULus<br>GOST-R  |
| Ambient air temperature for operation | 0...55 °C without derating (horizontal installation)<br>0...60 °C with derating factor (horizontal installation)<br>0...50 °C (vertical installation) |
| ambient air temperature for storage   | -25...70 °C   |
| Relative humidity                     | 5...95 % without condensation   |
| IP degree of protection               | IP20 conforming to IEC 61131-2  |
| Pollution degree                      | 2 conforming to IEC 60664   |
| Operating altitude                    | 0...2000 m  |
| Storage altitude                      | 0...3000 m  |
| Vibration resistance                  | 1 gn at 8.4...150 Hz on DIN rail<br>3.5 mm at 5...8.4 Hz on DIN rail  |
| Shock resistance                      | 15 gn for 11 ms   |
| Resistance to electrostatic discharge | 4 kV on contact conforming to IEC 61000-4-2<br>8 kV in air conforming to IEC 61000-4-2  |
| Resistance to electromagnetic fields  | 1 V/m 2...2.7 GHz conforming to IEC 61000-4-3<br>10 V/m 80...2000 MHz conforming to IEC 61000-4-3   |
| Resistance to fast transients         | 1 kV (I/O) conforming to IEC 61000-4-4<br>1 kV (shielded cable) conforming to IEC 61000-4-4<br>2 kV (power lines) conforming to IEC 61000-4-4         |
| Surge withstand                       | 0.5 kV differential mode conforming to IEC 61000-4-5<br>1 kV common mode conforming to IEC 61000-4-5  |
| Electromagnetic compatibility         | EN/IEC 61000-4-6  |
| Disturbance radiated/conducted        | CISPR 11  |

## Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Height             | 2.000 cm  |
| Package 1 Width              | 6.000 cm  |
| Package 1 Length             | 10.500 cm |
| Package 1 Weight             | 39.000 g  |
| Unit Type of Package 2       | S02       |
| Number of Units in Package 2 | 97        |
| Package 2 Height             | 15.000 cm |
| Package 2 Width              | 30.000 cm |
| Package 2 Length             | 40.000 cm |

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Package 2 Weight 4.188 kg

## Contractual warranty

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Warranty 18 months

## 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

✓ Reach Free Of Svhc

✓ Toxic Heavy Metal Free

✓ Mercury Free

✓ Rohs Exemption Information Yes

✓ Pvc Free

## Certifications & Standards

**Reach Regulation** [REACH Declaration](#)

**Eu Rohs Directive** Pro-active compliance (Product out of EU RoHS legal scope)  
[EU RoHS Declaration](#)

**China Rohs Regulation** [China RoHS declaration](#)

**Environmental Disclosure** [Product Environmental Profile](#)

**Weee** The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

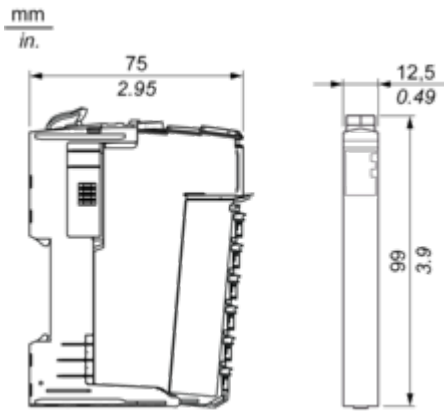
**Circularity Profile** [End of Life Information](#)

Dimensions Drawings

TM5 Slice

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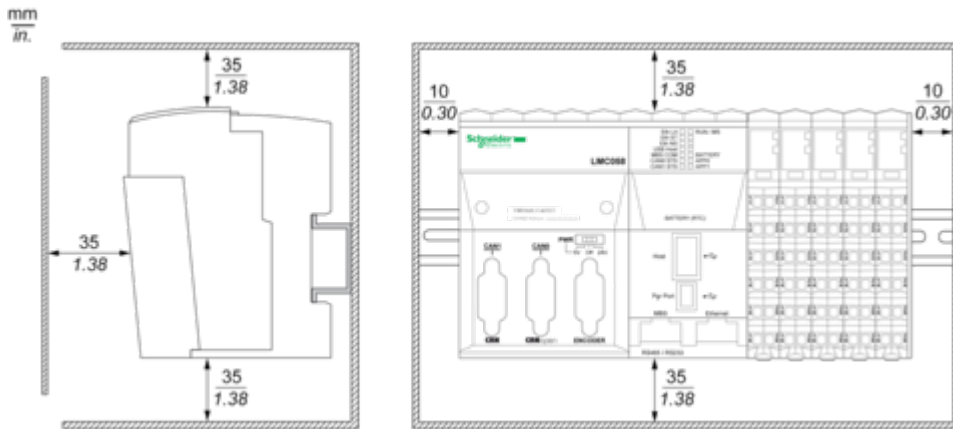
Dimensions



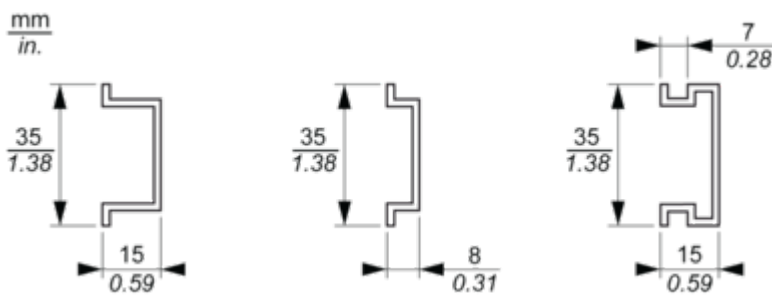
Mounting and Clearance

TM5 System

Spacing Requirements



Mounting on a DIN Rail

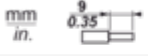






Connections and Schema

**TM5 System Wiring Recommendations**

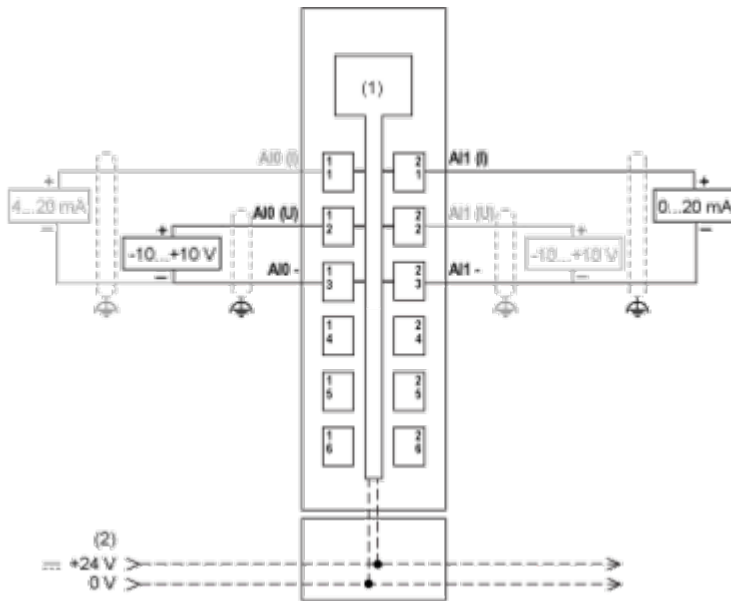
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**Wire Sizes to Use with the Removable Spring Terminal Blocks**

| <br>mm<br>in. |  |  |  |  |
|--|---|---|---|---|
| mm <sup>2</sup>  | 0,08...2,5  | 0,25...2,5  | 0,25...1,5  | 2 x 0,25...2 x 0,75   |
| AWG  | 28...14   | 24...14   | 24...16   | 2 x 24...2 x 18   |

Electronic Module 2AI  $\pm 10V/0-20mA/4-20mA$  12 Bits

Wiring Diagram



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