

Product data sheet

Specifications



Mixed I/O module, Modicon TM5, module

TM5SMM6D2L

Main

Range of product	Modicon TM5
Range compatibility	Modicon LMC058 Modicon M258
Product or component type	Mixed I/O module
Product compatibility	Motion controller Logic controller

Complementary

Discrete input number	4
Discrete input voltage	24 V
Discrete input voltage type	DC
Input voltage limits	20.4...28.8 V
Discrete input logic	Sink
Discrete input current	3.3 mA
Voltage state 0 guaranteed	<= 5 V
Voltage state 1 guaranteed	>= 15 V
Input filtering	<= 2 μ s hardware 1 ms by default <= 25 ms configurable by software
Analogue input number	1
Analogue input type	Voltage, input range: +/- 10 V Current, input range: 0...20 mA/4...20 mA
Analogue input resolution	12 bits + sign for voltage 12 bits for current
Common mode rejection	70 dB DC for analog input 70 dB 50 Hz for analog input
Discrete output number	2
Discrete output type	Transistor
Output voltage	24 V DC
Output voltage limits	20.4...28.8 V
Discrete output logic	Source
Discrete output current	<= 0.5 A per output <= 1 A
Peak output current	14 A
Maximum leakage current	5 μ A (when switched off) for digital output

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

Switching frequency	100 Hz, resistive for digital output
Analogue output number	1
Analogue output type	Voltage: +/- 10 V Current: 0...20 mA
Conversion time	300 µs for analog output
Analogue output resolution	12 bits + sign, +/- 10 V 12 bits, 0...20 mA
Measurement resolution	2.441 mV, +/- 10 V, +/- 10 V 4.883 µA, 0...20 mA/4...20 mA, 0...20 mA
Colour	White
Response time	<= 250 µs from state 0 to state 1 for digital output <= 250 µs from state 1 to state 0 for digital output 1 ms for analog output
Input impedance	7.18 kOhm digital >= 1 MOhm analog, +/- 10 V
Minimum output impedance	1 kOhm +/- 10 V 0...55 °C 10 kOhm +/- 10 V 55...60 °C
Load impedance ohmic	<= 400 Ohm (output: 0...20 mA) at 0...55 °C <= 300 Ohm (output: 0...20 mA) at 55...60 °C <= 300 Ohm (input: 0...20 mA/4...20 mA)
Sampling duration	300 µs for analog input
Measurement error	< 0.08 % of full scale (input: +/- 10 V) at 25 °C < 0.08 % of full scale (input: 0...20 mA/4...20 mA) at 25 °C < 0.15 % of full scale (output: +/- 10 V) at 25 °C < 0.15 % of full scale (output: 0...20 mA) at 25 °C
Temperature coefficient	+/- 0.009 %FS/°C (input: 0...20 mA/4...20 mA) +/-0.006 %FS/°C (input: +/- 10 V) +/- 0.02 %FS/°C (output: 0...20 mA) +/- 0.02 %FS/°C (output: +/- 10 V)
Non-linearity	+/- 0.02 %FS (input: 0...20 mA/4...20 mA) +/- 0.02 %FS (input: +/- 10 V) +/- 0.1 %FS (output: 0...20 mA) +/- 0.1 %FS (output: +/- 10 V)
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 -15...20 %
Local signalling	1 LED (green) for power supply (ON) 1 LED (red) for power supply (OFF) 4 LEDs (green) for digital input status 2 LEDs (orange) for digital output status 1 LED (orange) 1 LED (green)
Wiring mode	1 wire for digital input/output
Current consumption	2 mA at 5 V DC bus 73 mA at 24 V DC inputs/outputs
Maximum power dissipation in W	1.75 W
Protection type	Against reverse polarity for digital output Against short-circuits for digital output Thermal overload protection for digital output Against short-circuits for analog output
Marking	CE
Product weight	0.025 kg

Environment

Standards	IEC 61131-2 CSA C22.2 No 142 UL 508 CSA C22.2 No 213
Product certifications	C-Tick CSA cULus GOST-R
Ambient air temperature for operation	0...55 °C without derating (horizontal installation) 55...60 °C with derating factor (horizontal installation) 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 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 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 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 1 kV (shielded cable) conforming to IEC 61000-4-4 2 kV (power lines) conforming to IEC 61000-4-4
Surge withstand	0.5 kV differential mode conforming to IEC 61000-4-5 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	43.000 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
Package 2 Weight	4.520 kg

Contractual warranty

Warranty

18 months

Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

Environmental footprint	
Environmental Disclosure	Product Environmental Profile

Use Better

Materials and Substances	
Packaging made with recycled cardboard	No
Packaging without single use plastic	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
REACH Regulation	REACH Declaration
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 www.P65Warnings.ca.gov
PVC free	Yes

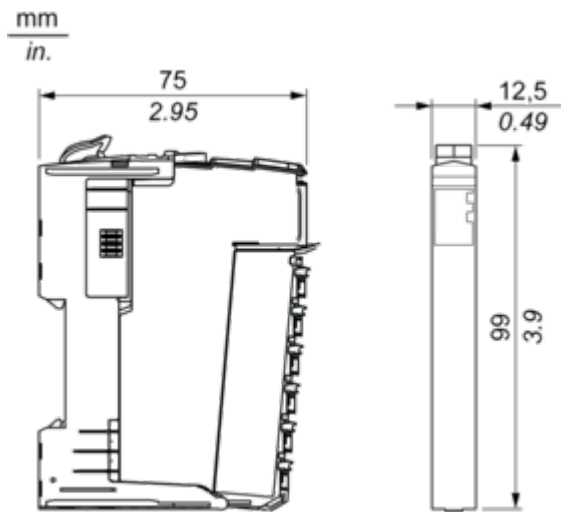
Use Again

Repack and remanufacture	
End of life manual availability	End of Life Information
Take-back	No
WEEE Label	 The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Dimensions Drawings

TM5 Slice

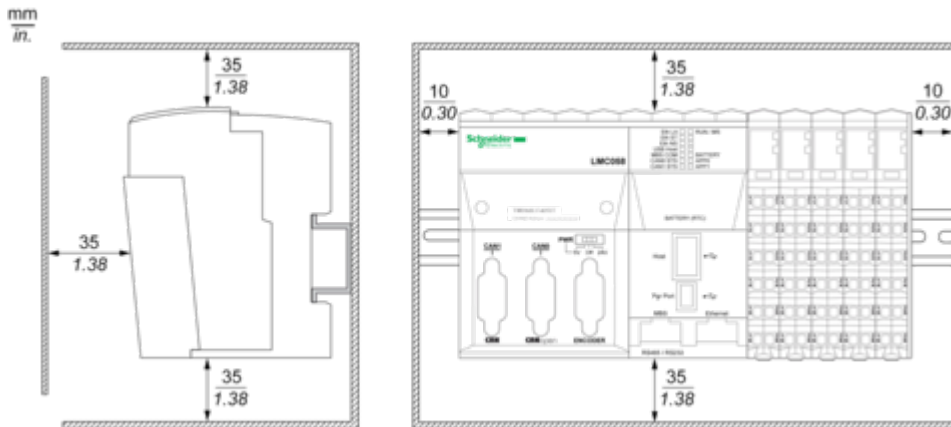
Dimensions



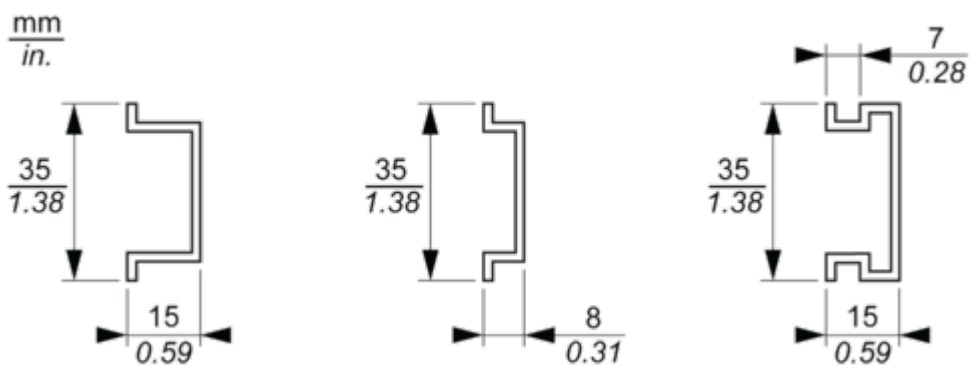
Mounting and Clearance

TM5 System

Spacing Requirements



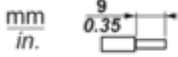
Mounting on a DIN Rail



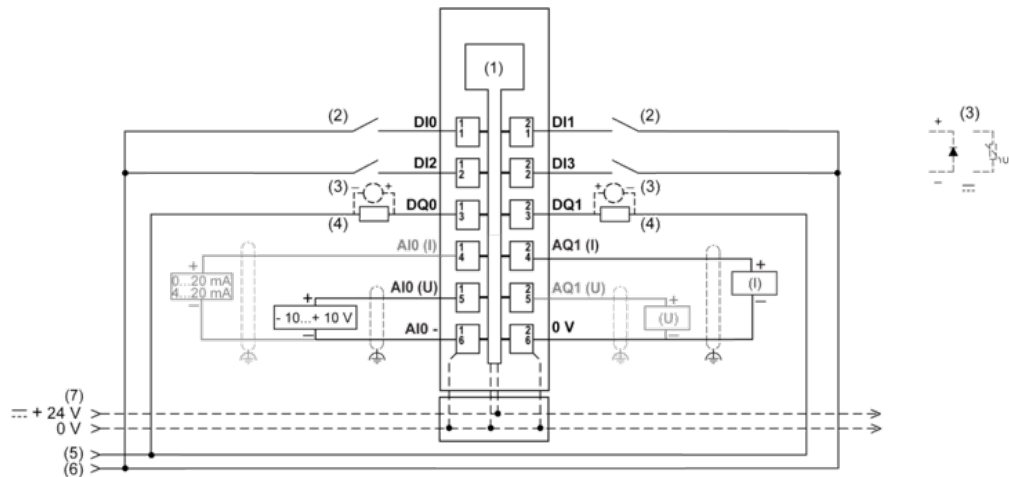
Connections and Schema

TM5 System Wiring Recommendations

Wire Sizes to Use with the Removable Spring Terminal Blocks

				
mm ²	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

Wiring Diagram



- 1 internal electronics
- 2 2-wire sensor
- 3 inductive load protection
- 4 2-wire load
- 5 0 Vdc I/O power segment by external connection
- 6 24 Vdc I/O power segment by external connection
- 7 24 Vdc I/O power segment integrated into the bus bases
- I current
- U voltage