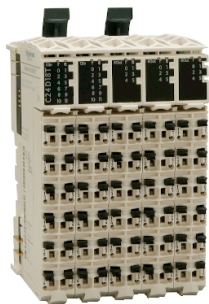


# Product data sheet

Specifications



## Compact I/O expansion block, Modicon TM5, 24 I/O, 12 DI, 6 DO transistor, 4 AI, 2 AO

TM5C12D6T6L

⚠ Discontinued on: Jun 20, 2023

⚠ Discontinued

### Main

Range Of Product	Modicon TM5
Product Or Component Type	Compact I/O expansion block

### Complementary

Enclosure Material	Plastic
Colour	White
Input/Output Number	24
For Enclosure Nominal Dimensions	16 I + 8 O
Number Of Modules	Digital input: 2 module(s) x 6 Digital output: 1 module(s) x 6 Analog input: 1 module(s) x 4 Analog output: 1 module(s) x 2
Discrete Input Number	12
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	3.75 mA
Input Impedance	6.4 kOhm
Analogue Input Number	4
Analogue Input Type	Voltage/current
Analogue Input Range	0...20 mA +/- 10 V 4...20 mA
Analogue Input Resolution	12 bits + sign for voltage 12 bits for current
Discrete Output Number	6
Discrete Output Type	Transistor
Wiring Mode	2-wire for discrete output 2-wire for discrete input
Output Voltage	24 V DC
Output Voltage Limits	20.4...28.8 V DC
Discrete Output Logic	Source

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

Discrete Output Current	0.5 A per output
Analogue Output Number	2
Analogue Output Type	Voltage/current
Analogue Output Range	0...20 mA +/- 10 V
Analogue Output Resolution	12 bits + sign voltage 12 bits current
Peak Output Current	3 A
Voltage State 0 Guaranteed	<= 5 V
Voltage State 1 Guaranteed	>= 15 V
Input Filtering	<= 100 ms hardware <= 25 ms configurable by software
Response Time	<= 300 µs from state 0 to state 1 for output <= 300 µs from state 1 to state 0 for output
Maximum Leakage Current	5 µA (when switched off) for output
Isolation	No insulation between channels 500 Vrms AC insulation between channel and bus
Maximum Voltage Drop	<0.3 V at 500 mA for output
Current Consumption	69 mA at 5 V DC bus 290 mA at 24 V DC
Max Current	3000 mA loads on I/O power segment
Maximum Power Dissipation In W	7.3 W
Local Signalling	5 LEDs (green) for power supply 5 LEDs (red) for power supply 8 LEDs (yellow) for output status 16 LEDs (green) for input status
Electrical Connection	Removable spring terminal block
Marking	CE
Surge Withstand	0.5 kV differential mode 24 V DC conforming to EN/IEC 61000-4-5 1 kV common mode 24 V DC conforming to EN/IEC 61000-4-5
Electromagnetic Compatibility	EN/IEC 61000-4-6
Disturbance Radiated/Conducted	CISPR 11

## Environment

Standards	CSA C22.2 No 213 IEC 61131-2 UL 508 CSA C22.2 No 142
Product Certifications	C-Tick CSA GOST-R cULus
Ambient Air Temperature For Operation	-10...50 °C (vertical installation) -10...60 °C (horizontal installation)
Ambient Air Temperature For Storage	-40...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 EN/IEC 61000-4-2 8 kV in air conforming to EN/IEC 61000-4-2
Resistance To Electromagnetic Fields	1 V/m 2...2.7 GHz conforming to EN/IEC 61000-4-3 10 V/m 80...2000 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
Mounting Support	DIN rail
Net Weight	0.25 kg

## Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1
Package 1 Height	7.0 cm
Package 1 Width	9.0 cm
Package 1 Length	11.0 cm
Package 1 Weight	286.0 g
Unit Type Of Package 2	S03
Number Of Units In Package 2	36
Package 2 Height	30.0 cm
Package 2 Width	30.0 cm
Package 2 Length	40.0 cm
Package 2 Weight	10.296 kg

## Contractual warranty

Warranty	18 months
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## 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

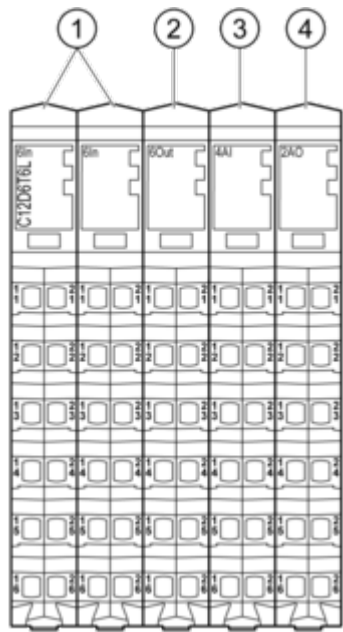
✓ Pvc Free

## Certifications & Standards

Reach Regulation	<a href="#">REACH Declaration</a>
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
China Rohs Regulation	<a href="#">China RoHS declaration</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
Circularity Profile	<a href="#">End of Life Information</a>
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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

Presentation

TM5 Compact I/O Module

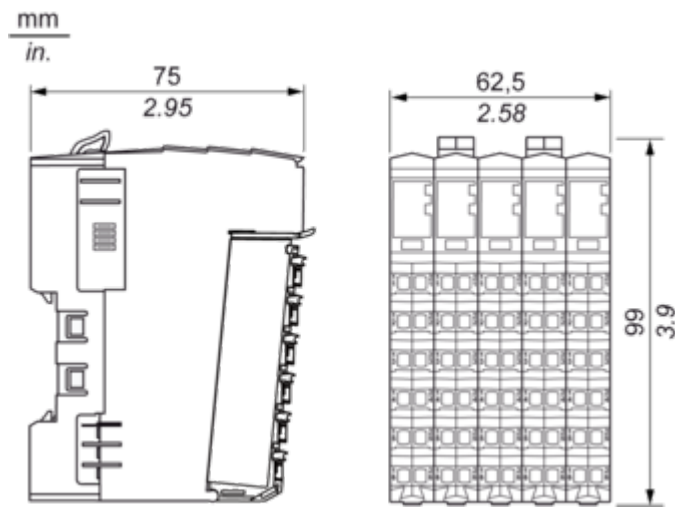


N°	Designation
1	Input electronic module / 6 digital inputs
2	Output electronic module / 6 digital outputs
3	Analog Input electronic module / 4 analog inputs
4	Analog Output electronic module / 2 analog outputs

Dimensions Drawings

Compact I/O Module

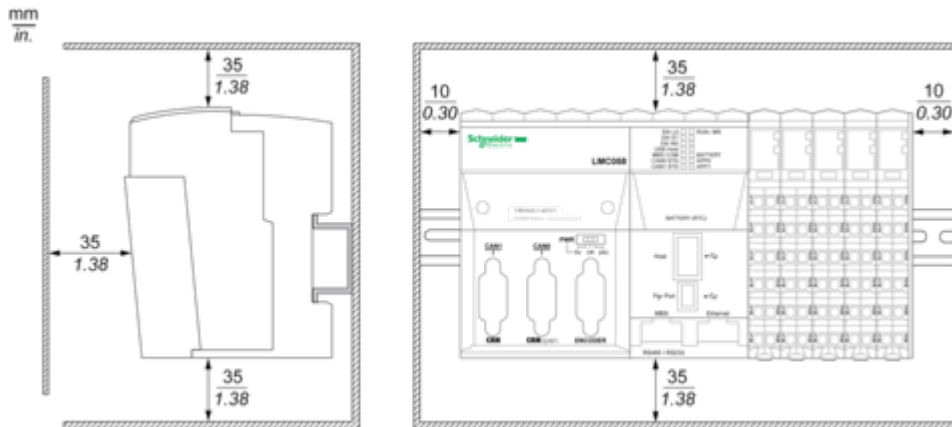
Dimensions



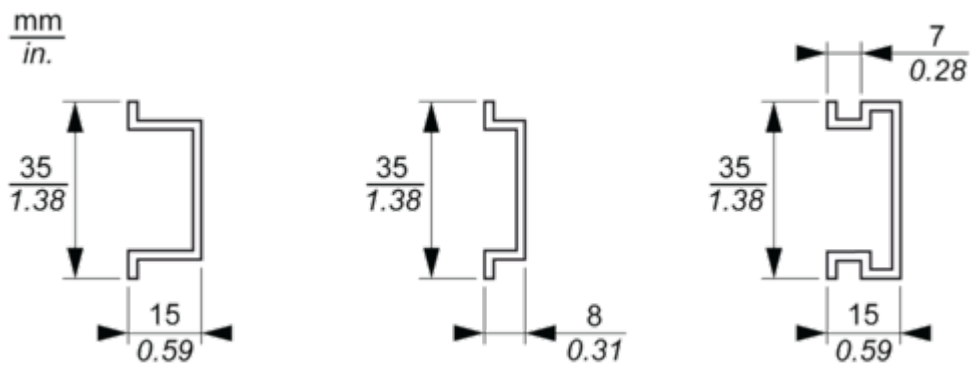
## Mounting and Clearance

## TM5 System

## Spacing Requirements



## Mounting on a DIN Rail



Connections and Schema

TM5 System Wiring Recommendations

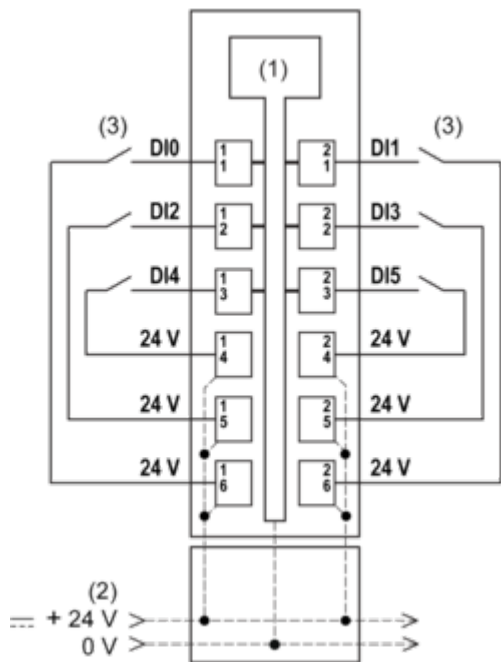
Wire Sizes to Use with the Removable Spring Terminal Blocks

<div><div>mm</div><div>in.</div></div> <div><div>9</div><div>0.35</div></div> <div></div>				
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



Digital Input 6In

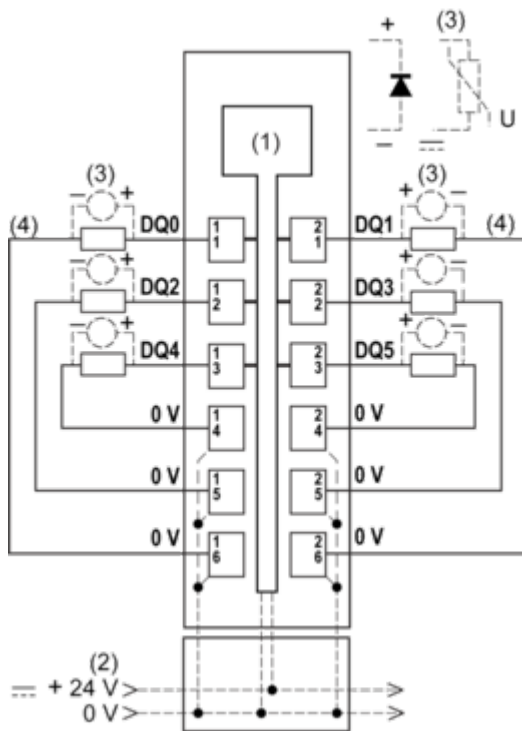
Wiring Diagram



- 1 Internal electronics
- 2 24 Vdc I/O power segment integrated into the bus bases
- 3 2-wire sensor

### Digital Output 6Out

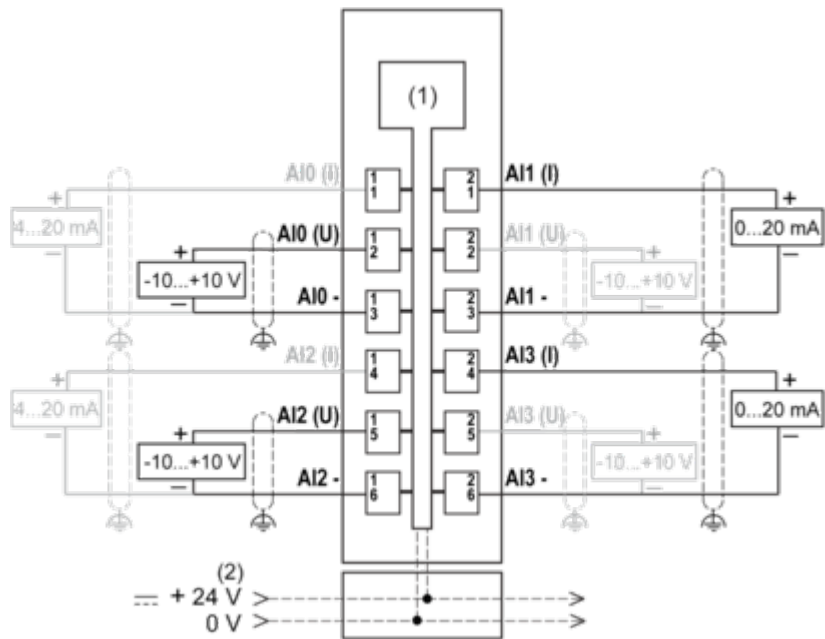
## Wiring Diagram



- 1 Internal electronics
- 2 24 Vdc I/O power segment integrated into the bus bases
- 3 Inductive load protection
- 4 2-wire load

Analog Input 4AI ±10 V / 0-20 mA / 4-20 mA

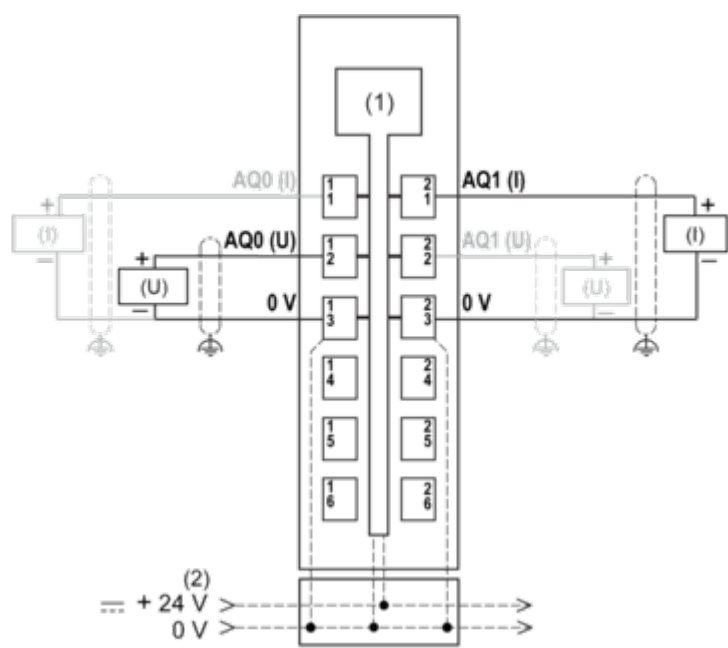
Wiring Diagram



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

Analog Output 2AO  $\pm 10\text{ V}$  /  $0\text{--}20\text{ mA}$

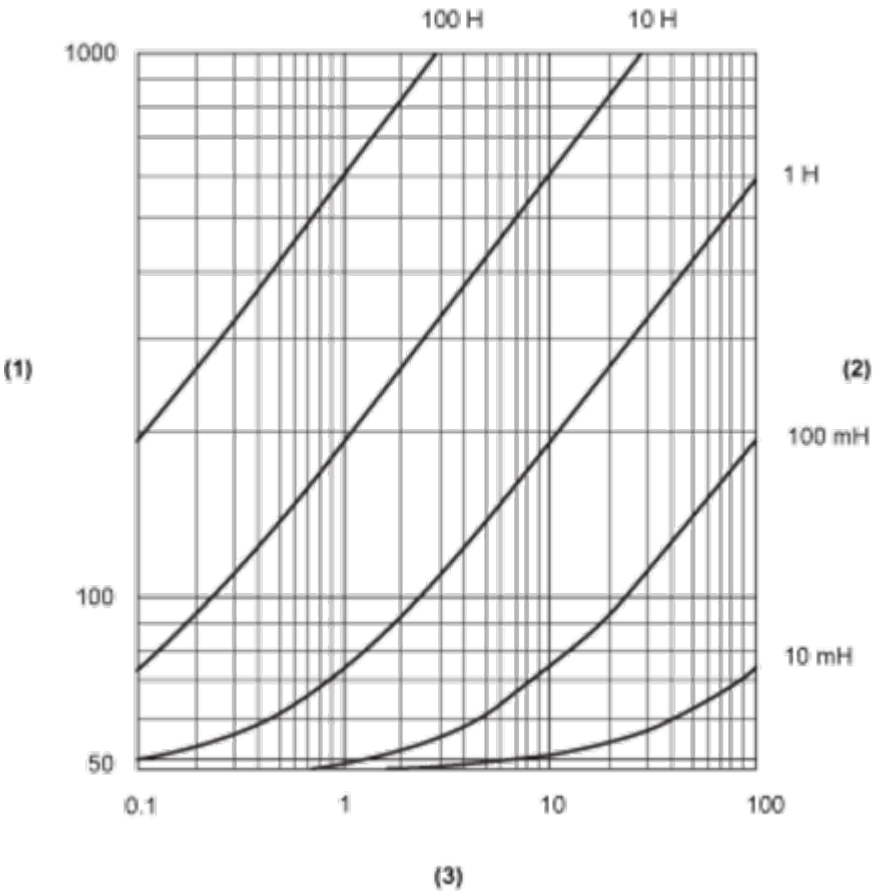
Wiring Diagram



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

Performance Curves

Switching Inductive Load Characteristics



- (1) Load resistance in  $\Omega$
- (2) Load inductance in H
- (3) Max. operating cycles / second