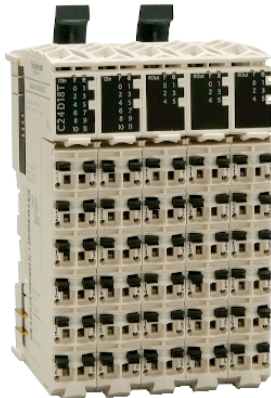


TM5C12D8T

compact I/O expansion block TM5 - 20 I/O - 12 DI - 8 DO transistor



Main

Range of product	Modicon TM5
Product or component type	Compact I/O expansion block

Complementary

Enclosure material	Plastic
Colour	White
Input/output number	20
Input/output number of splitter box	12 I + 8 O
Number of modules	3 modules with 4 digital input 2 modules with 4 digital output
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	0
Discrete output number	8
Discrete output type	Transistor
Wiring mode	3-wire discrete input 3-wire discrete output
Output voltage	24 V DC
Output voltage limits	20.4...28.8 V DC
Discrete output logic	Source
Discrete output current	0.5 A per output
Peak output current	<= 4 A
Voltage state 0 guaranteed	<= 5 V
Voltage state 1 guaranteed	>= 15 V
Input filtering	<= 25 ms configurable by software <= 100 ms hardware
Response time	<= 300 µs from state 0 to state 1 output <= 300 µs from state 1 to state 0 output
Leakage current	5 µA when switched off output
Isolation	No insulation between channels 500 Vrms AC insulation between channel and bus
Voltage drop	<= 0.3 V at 500 mA output
Current consumption	68 mA 5 V DC bus 80 mA 24 V DC input/output
Max current	1000 mA sensor supply 1500 mA actuator supply

The information provided in this documentation contains general descriptions and/or technical characteristics of the products contained herein. 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. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

	4000 mA loads on I/O power segment
Power dissipation in W	<= 2.36 W
Local signalling	5 LEDs green power supply 5 LEDs red power supply 12 LEDs green input status 8 LEDs yellow output status
Sensor power supply	24 V 500 mA for all channels overload, short-circuit and reverse polarity protection
Electrical connection	Removable spring terminal block
Marking	CE
Surge withstand	0.5 kV differential mode 24 V DC EN/IEC 61000-4-5 1 kV common mode 24 V DC EN/IEC 61000-4-5
Electromagnetic compatibility	EN/IEC 61000-4-6
Disturbance radiated/conducted	CISPR 11

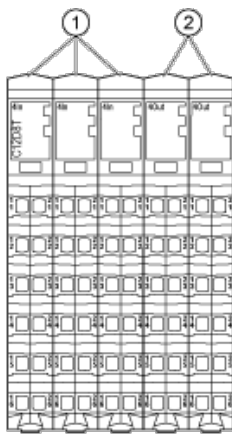
Environment

standards	CSA C22.2 No 142 IEC 61131-2 UL 508 CSA C22.2 No 213
product certifications	CSA C-Tick CULus GOST-R
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 IEC 61131-2
pollution degree	2 IEC 60664
operating altitude	0...2000 m
storage altitude	0...3000 m
vibration resistance	1 gn 8.4...150 Hz DIN rail 3.5 mm 5...8.4 Hz DIN rail
shock resistance	15 gn 11 ms
resistance to electrostatic discharge	8 kV in air EN/IEC 61000-4-2 4 kV on contact EN/IEC 61000-4-2
resistance to electromagnetic fields	1 V/m 2...2.7 GHz EN/IEC 61000-4-3 10 V/m 80...2000 MHz EN/IEC 61000-4-3
resistance to fast transients	1 kV I/O EN/IEC 61000-4-4 1 kV shielded cable EN/IEC 61000-4-4 2 kV power lines EN/IEC 61000-4-4
mounting support	DIN rail
product weight	0.24 kg

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

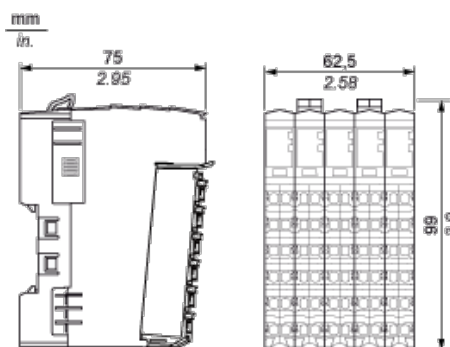
TM5 Compact I/O Module



N°	Designation
1	Input electronic module / 4 digital inputs
2	Output electronic module / 4 digital outputs

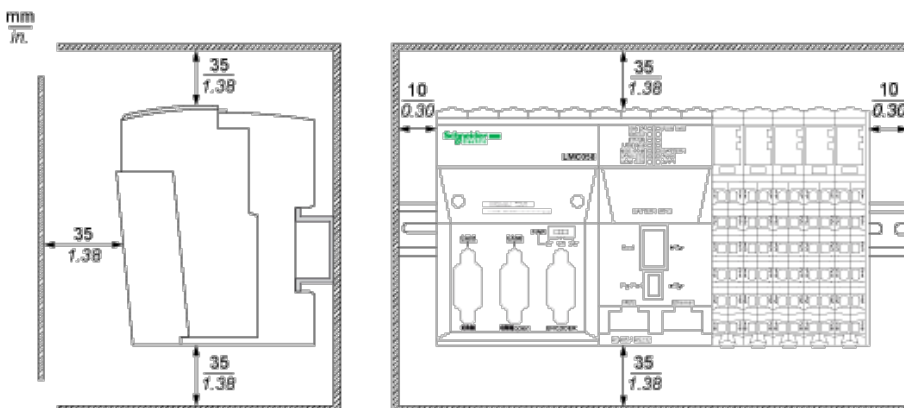
Compact I/O Module

Dimensions

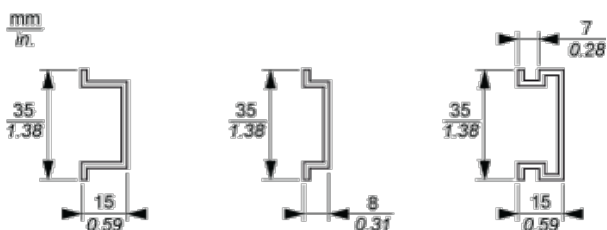


TM5 System

Spacing Requirements



Mounting on a DIN Rail



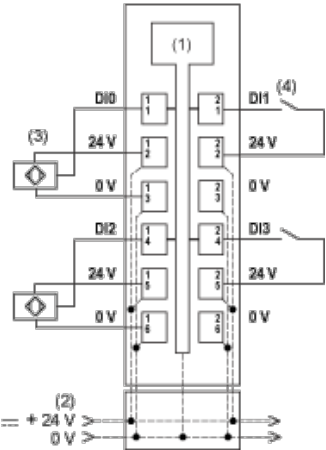
TM5 System Wiring Recommendations

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

Digital Input 4In

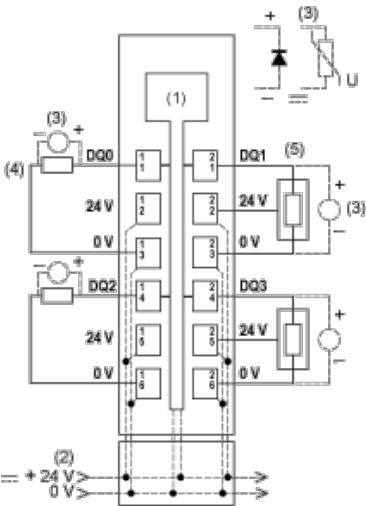
Wiring Diagram



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

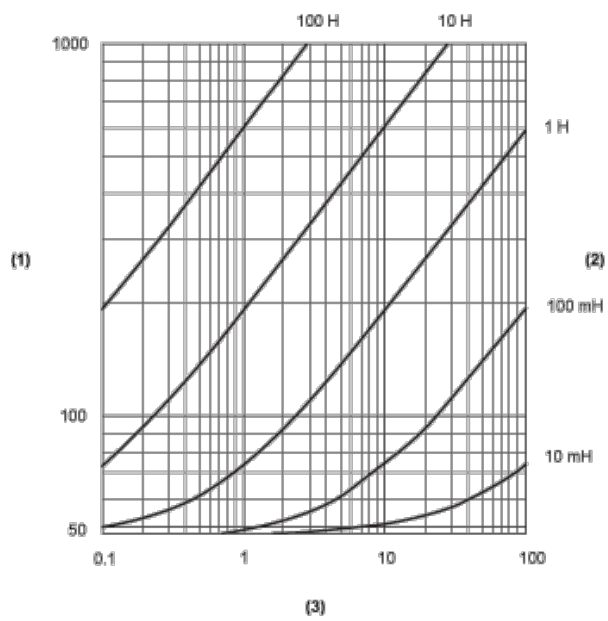
Digital Output 4Out

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
- 5 3-wire load

Switching Inductive Load Characteristics



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