

Modicon TM7

High-Performance and Safe IP67 Distributed I/O System

CANopen interface blocks

Applications	
Compatibility	Local and remote I/O
	Distributed I/O

CANopen bus interface with digital I/O
- Modicon M258 logic controller - Modicon LMC058 motion controller - Modicon M258 logic controller - Modicon LMC058 motion controller - Modicon LMC078 motion controller - Modicon M262 logic/motion controller - PacDrive LMC Eco/Pro/Pro2 motion controllers



Degree of protection		
Housing type		
Modularity (number of channels)	Max. number of digital channels	
	Digital inputs	
	Digital outputs	
Digital inputs	Voltage/Current	
	Type	
	IEC 61131-2 conformity	
Digital outputs	Voltage	
	Type	
	Current per output	
	Current per interface block	
Sensor/actuator power supply	Voltage	
	Max. current	
	Protection against	
Connection	CANopen bus	Bus input connector
		Bus output connector
	TM7 expansion bus	Bus input connector
		Bus output connector
	Digital I/O channels	Sensor connector
		Actuator connector
	Interface block power supply	Input connector
		Output connector
Diagnostics	By interface block	
	By channel	
	By communication	On CANopen bus
		On TM7 bus
CANopen interface block		
Page		

IP67	IP67
Plastic	Plastic
8 channels configurable as inputs or outputs	16 channels configurable as inputs or outputs
0...8 according to software configuration	0...16 according to software configuration
0...8 according to software configuration	0...16 according to software configuration
24 V $\overline{\text{---}}$ /4.4 mA	24 V $\overline{\text{---}}$ /4.4 mA
Sink (1)	Sink (1)
Type 1	Type 1
24 V $\overline{\text{---}}$	24 V $\overline{\text{---}}$
Transistor/Source (2)	Transistor/Source (2)
0.5 A max.	0.5 A max.
4 A max.	4 A max.
24 V $\overline{\text{---}}$	24 V $\overline{\text{---}}$
500 mA for all channels	500 mA for all channels
Overloads, short-circuits, and reverse polarity	Overloads, short-circuits, and reverse polarity
A-coded 5-way male M12	A-coded 5-way male M12
–	A-coded 5-way female M12
–	–
B-coded 4-way female M12	B-coded 4-way female M12
3-way female M8, 1 channel per connector	3-way female M8, 1 channel per connector
3-way female M8, 1 channel per connector	3-way female M8, 1 channel per connector
4-way male M8	4-way male M8
4-way female M8	4-way female M8
Yes	Yes
Yes	Yes
Yes	Yes
Yes	Yes
TM7NCOM08B	TM7NCOM16B
23	
(1) Sink inputs: positive logic	
(2) Source outputs: positive logic	

IP67
Plastic
16 channels configurable as inputs or outputs
0...16 according to software configuration
0...16 according to software configuration
24 V $\overline{\text{---}}$ /4.4 mA
Sink (1)
Type 1
24 V $\overline{\text{---}}$
Transistor/Source (2)
0.5 A max.
4 A max.
24 V $\overline{\text{---}}$
500 mA for all channels
Overloads, short-circuits, and reverse polarity
A-coded 5-way male M12
A-coded 5-way female M12
–
B-coded 4-way female M12
A-coded 5-way female M12, 2 channels per connector
A-coded 5-way female M12, 2 channels per connector
4-way male M8
4-way female M8
Yes
Yes
Yes
Yes
TM7NCOM16A
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Presentation



The Modicon TM7 CANopen interface blocks enable sensors and actuators distributed over machines to be connected via the CANopen fieldbus. These interface blocks communicate on the bus. They have one part for connecting sensors and actuators using M8 or M12 connectors and one part for connections to the CANopen fieldbus.

IP67 protection means that these blocks can be used within processes or machines in harsh environments (where there is a risk of splashing water, oil, or dust, etc.).

They have the following characteristics:

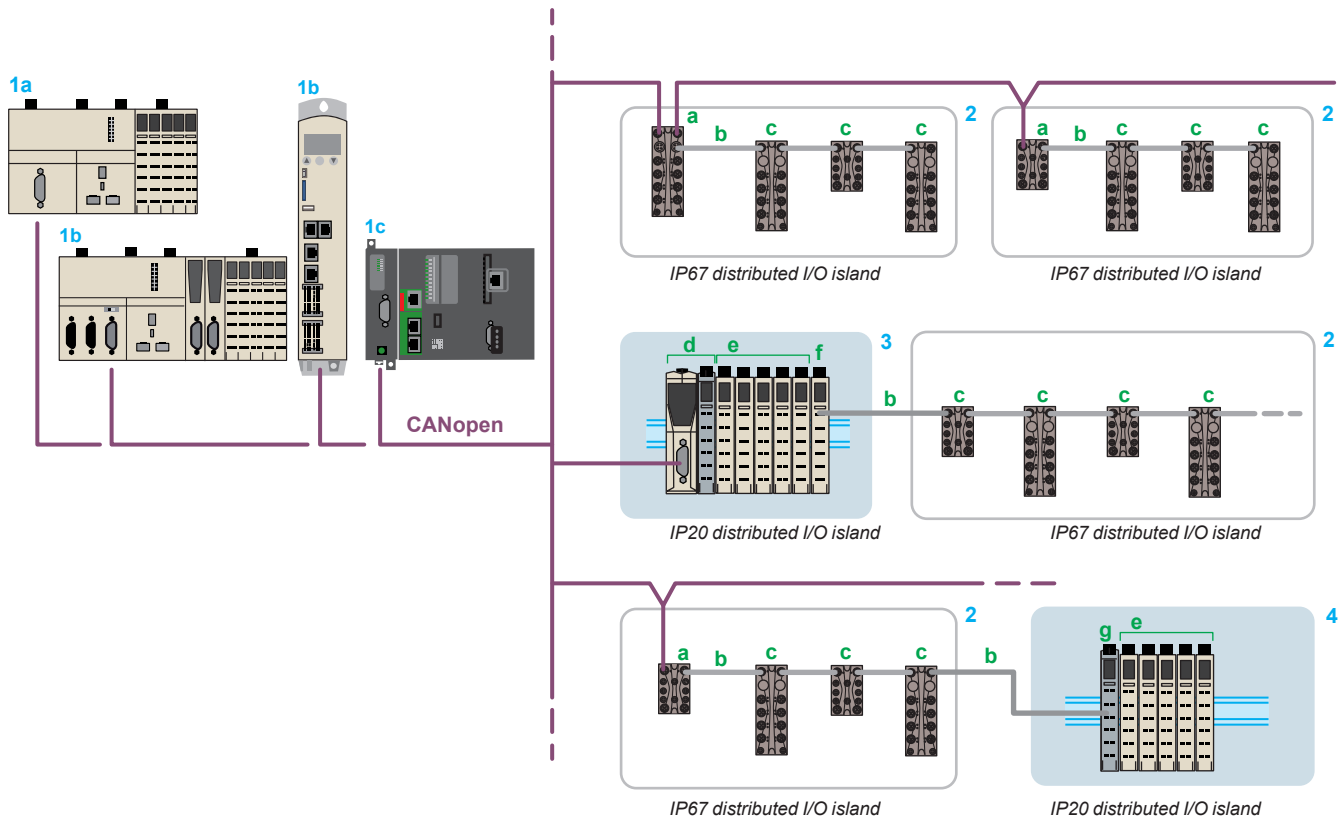
- Ingress protection
- Ruggedness and compactness
- Rapid wiring, economical use

The offer comprises:

- A CANopen interface block with 8 configurable I/O for connection via M8 connector
- Two Modicon TM7 CANopen interface blocks with 16 configurable I/O

The following components complete the offer:

- digital I/O expansion blocks
- analog input expansion blocks
- power distribution block
- connection accessories



1 a Modicon M258 logic controller b Modicon LMC058 or Modicon LMC078 motion controller c TMSCO1 communication module on Modicon M262 logic/motion controller: CANopen bus masters

2 TM7 CANopen interface block (slave) with digital I/O (a) + TM7 bus expansion cable (b) + TM7 digital/analog blocks (c) (1)

3 TM5 CANopen interface module (slave) (d) + TM5 modules (e) (2) + TM5SBET7 transmitter module (f) (2)

4 TM5SBER2 receiver module (g) (2) + TM5 modules (e) (2)

(1) Modicon TM7 digital/analog blocks, [see page 18](#)

(2) Modicon TM5: please refer to catalog ref. [DIA3ED2131204EN](#)

Diagnostic functions

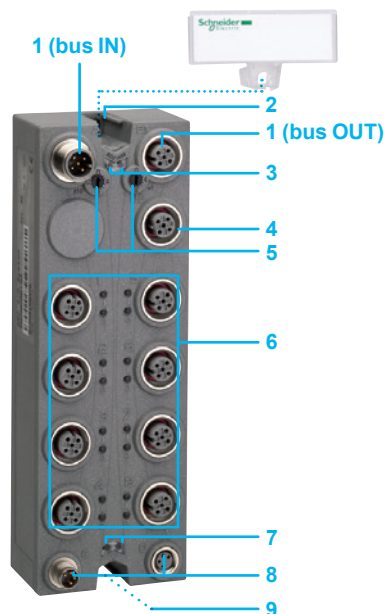
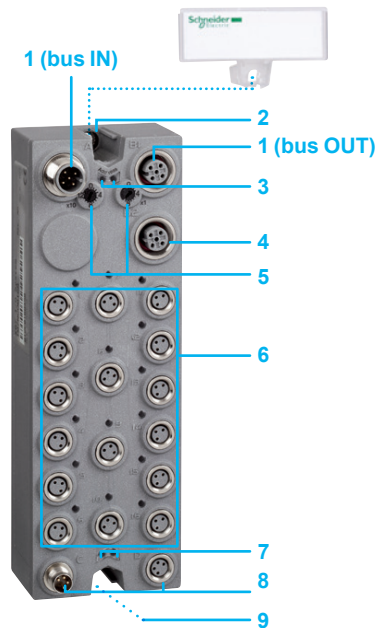
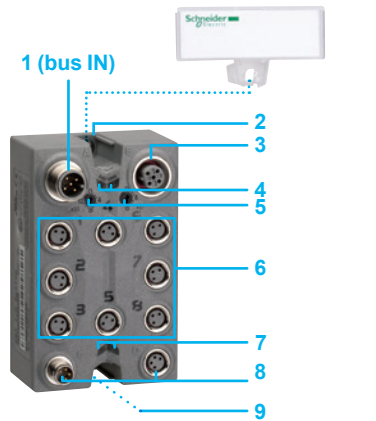
The diagnostics for monitoring detected faults are indicated by LEDs on the Modicon TM7 CANopen interface blocks and inform the control system (Modicon M258 logic controller or Modicon LMC058 motion controller) via the TM7 bus.

Each Modicon TM7 interface block has LEDs for:

- displaying the status of the TM7 bus, channels, and power supply
- quick, precise location of a detected fault

Diagnostics are performed at the following levels:

- Channel diagnostics:
 - State of inputs
 - State of outputs
- Communication bus diagnostics:
 - On CAN bus (CANopen interface block)
 - On TM7 expansion bus (CANopen interface block and I/O expansion blocks)



Description

Modicon TM7 CANopen interface blocks

Modicon TM7 **8-channel** CANopen interface blocks have the following on the front panel:

- 1 A male M12 connector (bus IN) for connecting the CANopen bus
- 2 A slot for the interface block label (1)
- 3 A female M12 connector for connecting the TM7 expansion bus
- 4 Two bus diagnostic LEDs
- 5 Thumbwheels for addressing on CANopen bus
- 6 Eight female M8 connectors for connecting sensors and actuators with eight channel status LEDs
- 7 Two LEDs indicating the status of the 24 V $\square$ sensor and actuator power supplies
- 8 Two M8 connectors for connecting the 24 V $\square$ sensor and actuator power supplies (male for PWR IN, female for PWR OUT)
- 9 Mounting using two $\varnothing$ 4 screws (not supplied) and connection of the functional ground when block is mounted on a metal support

Modicon TM7 **16-channel** CANopen interface blocks have the following on the front panel:

- 1 A male M12 connector (bus IN) and a female M12 connector (bus OUT) for connecting the CANopen bus
- 2 A slot for the interface block label (1)
- 3 Two bus diagnostic LEDs
- 4 A female M12 connector for connecting the TM7 expansion bus
- 5 Thumbwheels for addressing on CANopen bus
- 6 Eight M12 connectors (2 channels per connector) or sixteen M8 connectors for connecting sensors and actuators with channel status LEDs
- 7 Two LEDs indicating the status of the 24 V $\square$ sensor and actuator power supplies
- 8 Two M8 connectors for connecting the 24 V $\square$ sensor and actuator power supplies (male for PWR IN, female for PWR OUT)
- 9 Mounting using two $\varnothing$ 4 screws (not supplied) and connection of the functional ground when block is mounted on a metal support

(1) Label-holder supplied with IP67 block

Modicon TM7

High-Performance and Safe IP67 Distributed I/O System

CANopen interface blocks



TM7NCOM08B

Modicon TM7 CANopen interface blocks with digital I/O						
Max. no. of channels	Number/type of inputs	Number/type of outputs	Sensor and actuator connection	Communication bus	Reference	Weight kg/lb
8 I/O	8, sink (1)	8, transistor/source (2)	8 female M8 connectors	CANopen, TM7 bus	TM7NCOM08B	0.195/ 0.430

16 I/O	16, sink (1)	16, transistor/source (2)	16 female M8 connectors	CANopen, TM7 bus	TM7NCOM16B	0.320/ 0.705
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TM7NCOM16B



TM7NCOM16A

16, sink (1)	16, transistor/source (2)	8 female M12 connectors	CANopen, TM7 bus	TM7NCOM16A	0.320/ 0.705
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(1) Sink inputs: positive logic
(2) Source outputs: positive logic

Architecture and connection cables

[See page 26](#)

Separate parts

[See page 29](#)

Configuration software

- EcoStruxure Machine Expert software: please refer to catalog ref. [DIA3ED2180701EN](#)
- Performance distributed I/O configuration software: please visit our website www.schneider-electric.com