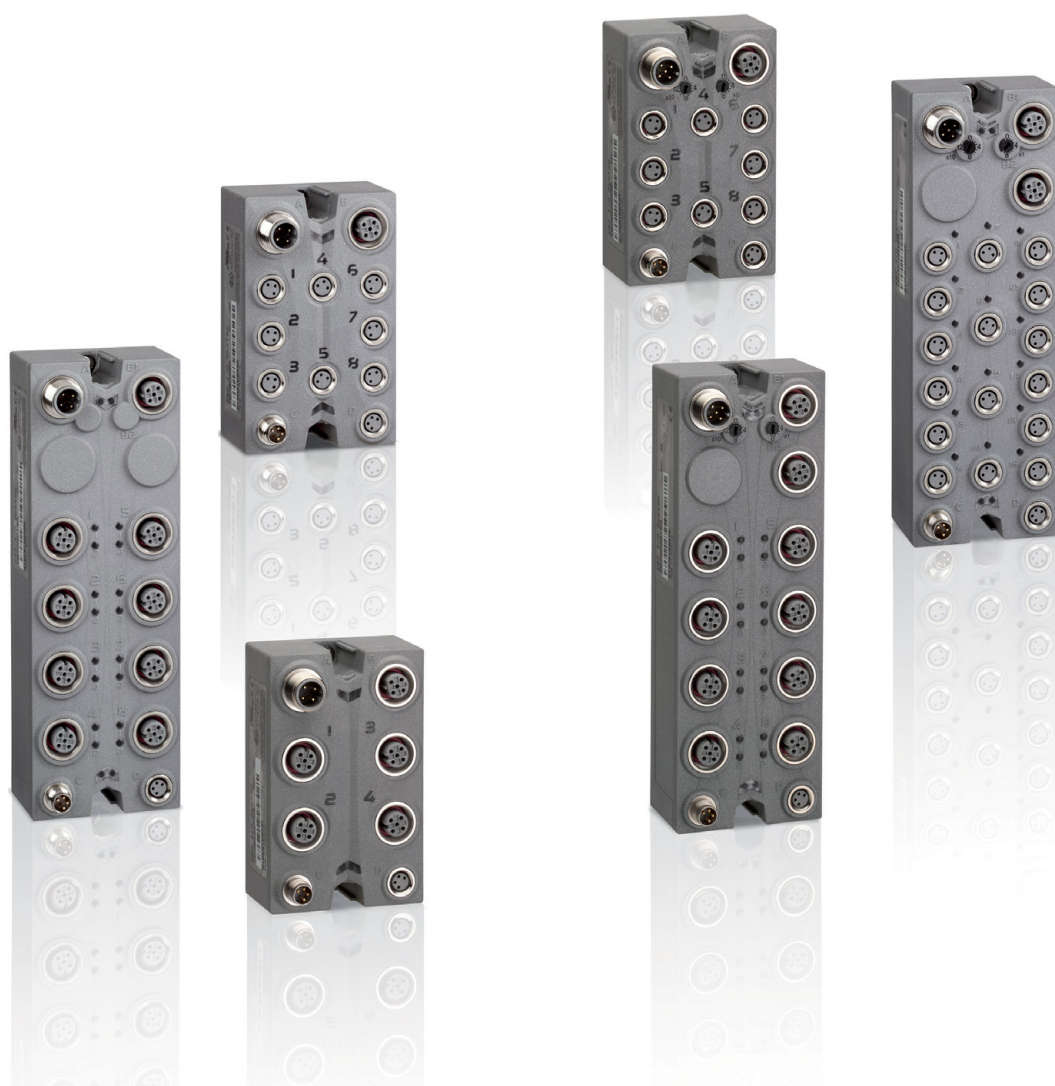


# Modicon TM7

## IP 67 modular I/O system

Catalogue

2014



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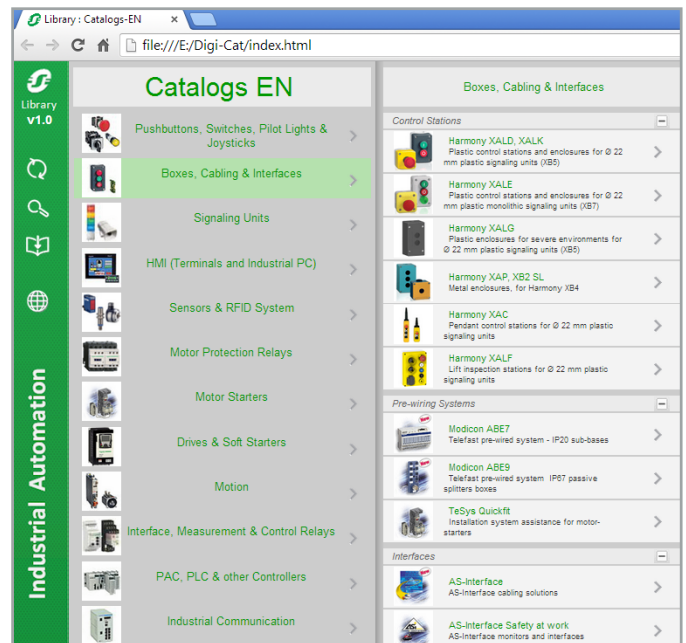
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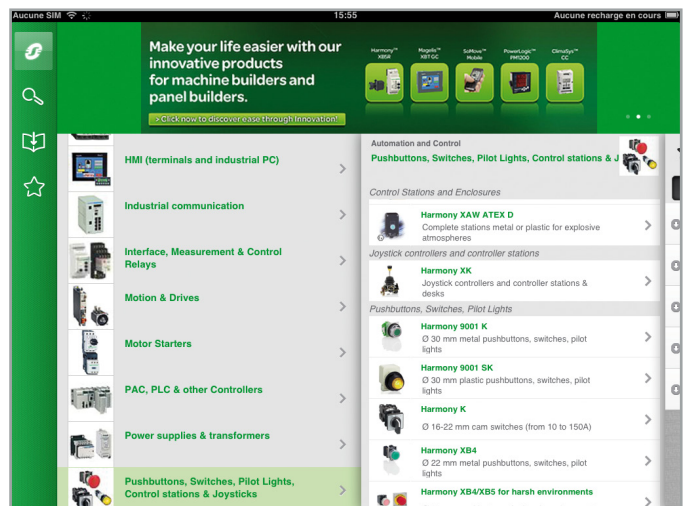
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# Modicon TM7 - IP 67 modular I/O system

I/O blocks IP 67

for Modicon M258 logic controller, Modicon LMC058 and LMC078 motion controllers

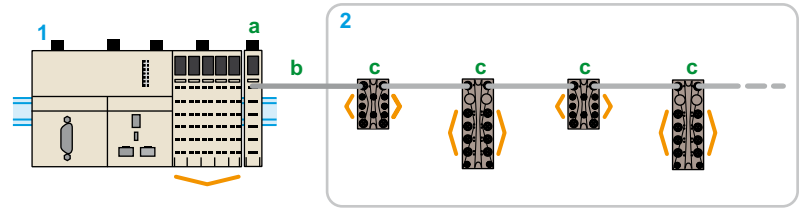
## Presentation

To enhance its "Flexible machine Control" concept, Schneider Electric offers Modicon TM7 IP 67 blocks for mounting outside electrical cabinets, directly on the installation.

The IP 67 protection of these blocks enables them to be used within processes or machines in harsh environments (splashing water, oil, dust, etc.).

They have the following characteristics:

- Dust and damp proof
- Robust and compact
- Rapid wiring, economical to use



IP 67 distributed I/O island

Inputs/outputs

- 1 Modicon M258 logic controller, Modicon LMC058 and LMC078 motion controllers: CANopen bus masters + transmitter module TM5SBET7 (a) (1).
- 2 IP 67 distributed I/O islands. Composition: TM7 expansion bus cable (b) + TM7 digital/analog I/O expansion blocks (c).

## Modicon TM7 block offer

Modicon TM7 IP 67 blocks are available in various compositions and for different functions.

### Digital blocks

The offer comprises:

- Three input blocks
- Three configurable I/O blocks
- One output block

### Analog blocks

The offer comprises:

- Two expansion blocks with 4 inputs for connecting 4 sensors
- Two expansion blocks with 4 outputs for connecting 4 actuators
- Two mixed expansion blocks with 2 inputs and 2 outputs
- Two expansion blocks with 4 resistive temperature probe or thermocouple temperature measurement channels

### Power distribution block

A power distribution block is available as an option to supply I/O expansion blocks on the TM7 expansion bus.

This power distribution block is necessary to avoid voltage drops in the following situations:

- With a TM7NCOM08B CANopen interface block followed by 4 (2) TM7 I/O expansion blocks
- With a TM5SBET7 transmitter module (1) followed by 6 (2) TM7 I/O expansion blocks (mounted vertically)
- With a TM7NCOM16A/16B CANopen interface block followed by 18 (2) TM7 I/O expansion blocks

Note: These limits must be weighted according to the cable lengths.

Consult the SPIG (System Planning and Installation Guide) for the Modicon TM7 IP 67 block offer on [www.schneider-electric.com](http://www.schneider-electric.com)

### Connection accessories

A range of cables and connectors is available for connecting the:

- CAN bus
- TM7 expansion bus
- I/O
- 24 V  $\bar{\bar{}}$  power supplies on TM7 expansion blocks

### CANopen interface blocks with digital I/O (see page 12)

The interface I/O block offer comprises IP 67 blocks that connect to a CANopen bus and have digital channels that can be configured as inputs or outputs, including:

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



Digital I/O expansion block



Analog I/O expansion block



Power distribution block

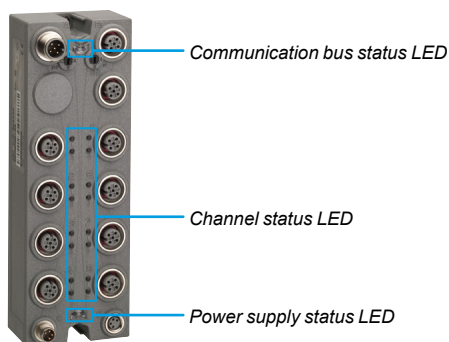
(1) Modicon TM5 transmitter (please refer to our website [www.schneider-electric.com](http://www.schneider-electric.com)).

(2) Minimum number.

# Modicon TM7 - IP 67 modular I/O system

I/O blocks IP 67

for Modicon M258 logic controller, Modicon LMC058 and LMC078 motion controllers



## Diagnostic functions

The diagnostic monitoring of faults is indicated by LEDs on CANopen interface I/O blocks, expansion blocks and power distribution blocks and informs the control system (M258 logic controller, or M340 or Premium automation platforms) via the TM7 bus.

Each Modicon TM7 block has LEDs

- To display the status of the TM7 bus, the channel and the power supply
- For quick, precise location of a fault

There are several levels of diagnostics:

- Diagnostics per channel:
  - State of inputs
  - State of outputs
- Diagnostics per expansion block:
  - Sensor/actuator power supply present
  - Undervoltage fault on the I/O power supply
  - Analog input diagnostics
  - Short-circuit or overload on one or more digital outputs
- Communication bus diagnostics:
  - On CAN bus (CANopen interface I/O block)
  - On TM7 expansion bus (CANopen interface I/O block and I/O expansion blocks)
- Diagnostics of the power supply via the TM7 bus (expansion block only)

## Specifications

<b>Conformity with standards</b>	IEC 61131-2
<b>Product certifications</b>	CE, cURus, GOST-R and c-Tick, ATEX (II 3g EEx nA II T5, IP 67, Ta = 0...60°C)
<b>Temperature</b>	Operation: -10...+60°C (14...140°F) Storage: -25...+85°C (-13...185°F)
<b>Relative humidity</b>	5...95% (without condensation)
<b>Degree of pollution</b> conforming to IEC 60664	2
<b>Degree of protection</b> conforming to IEC 61131-2	IP 67
<b>Altitude</b>	Operation: 0...2000 m (0...6560 ft.) (1) Storage: 0...3000 m (0...9842 ft.)
<b>Vibration resistance</b> DIN rail mounted conforming to IEC 60721-3-5 Class 5M3	7.5 mm (0.295 in.) 2...8 Hz fixed amplitude 20 m/s <sup>2</sup> (2 gn) 8...200 Hz fixed acceleration 40 m/s <sup>2</sup> (4 gn) 200...500 Hz fixed acceleration
<b>Shock resistance</b> conforming to IEC 60721-3-5 Class 5M3	300 m/s <sup>2</sup> (30 gn) for 11 ms, 1/2 sine wave, type 1 shock
<b>Connectors</b>	Type: M8 and/or M12 Number of operations: 50 min.

## Electromagnetic compatibility

<b>Electrostatic discharges</b> conforming to IEC/EN 61000-4-2	± 8 kV, criterion B (air discharge) ± 4 kV, criterion B (direct discharge)
<b>Electromagnetic fields</b> conforming to IEC/EN 61000-4-3	10 V/m, amplitude modulation 80% at 1 kHz (80 MHz...2 GHz) 1 V/m (2...2.7 GHz)
<b>Fast transients</b> conforming to IEC/EN 61000-4-4	Supply: 2 kV, criterion B I/O: 1 kV, criterion B Shielded cable: 1 kV, criterion B Repetition frequency: 5 and 100 kHz
<b>Immunity to overvoltages, 24 V <math>\overline{\text{---}}</math> circuit</b> conforming to IEC/EN 61000-4-5	Supply: □ 1 kV (12 Ω), criterion B in common mode □ 0.5 kV (2 Ω), criterion B in differential mode Unshielded links: □ 1 kV (42 Ω), criterion B in common mode □ 0.5 kV (42 Ω), criterion B in differential mode Shielded links: □ 1 kV (12 Ω), criterion B in common mode □ 0.5 kV (2 Ω), criterion B in differential mode
<b>Induced magnetic fields</b> conforming to IEC/EN 61000-4-6	Line supply, I/O signal connections > 10 m (32.8 ft.) Functional earth connection: 10 Vrms, criterion A, amplitude modulation 80% at 1 kHz (150...80 MHz)
<b>Conducted emissions</b> conforming to EN 55011 (IEC/CISPR11)	150...500 kHz, peak 79 dB μV 500 kHz...30 MHz, peak 73 dB μV
<b>Radiated emissions</b> conforming to EN 55011 (IEC/CISPR11)	30...230 MHz, 10 m (32.8 ft) at 40 dB (μV/m) 230 MHz...1 GHz, 10 m (32.8 ft) at 47 dB (μV/m)

(1) Temperature reduction of 0.5°C (32.9°F) for every additional 100 m (328 ft.) altitude above 2000 m (6560 ft.). Refer to the instruction sheet for each product, downloadable from [www.schneider-electric.com](http://www.schneider-electric.com)

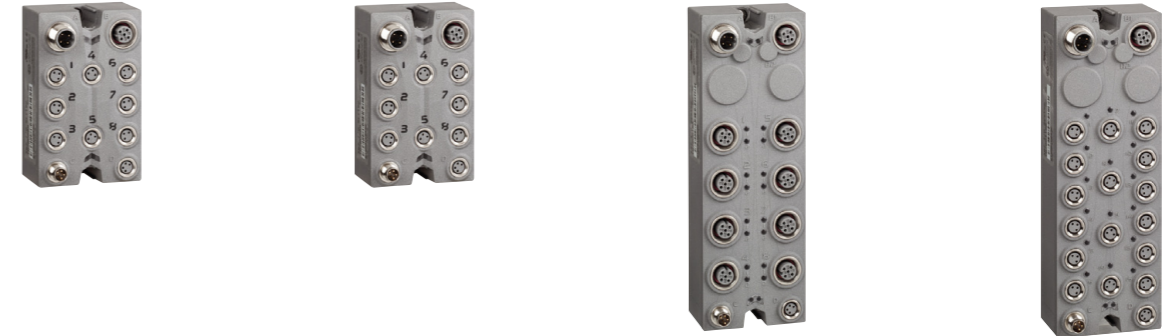


# Modicon TM7 - IP 67 modular I/O system

Digital I/O blocks IP 67  
for Modicon M258 logic controller, Modicon LMC058  
and LMC078 motion controllers

## Applications

## Digital I/O expansion blocks



<b>Degree of protection</b>		IP 67	IP 67	IP 67	
<b>Type of housing</b>		Plastic	Plastic	Plastic	
<b>Modularity (number of channels)</b>	Max. number of digital channels	8	16	16	
	Digital inputs	8	16	16	
	Digital outputs	–	–	–	
<b>Digital inputs</b>	Voltage/current	24 V $\overline{\text{---}}$ /7 mA	24 V $\overline{\text{---}}$ /7 mA	24 V $\overline{\text{---}}$ /7 mA	
	Type	Sink (1)	Sink (1)	Sink (1)	
	IEC 61131-2 conformity	Type 1	Type 1	Type 1	
<b>Digital outputs</b>	Voltage	–	–	–	
	Type	–	–	–	
	Current per output	–	–	–	
	Current per expansion block	–	–	–	
<b>Sensor/actuator power supply</b>	Voltage	24 $\rightarrow$ $\overline{\text{---}}$	24 V $\overline{\text{---}}$	24 V $\overline{\text{---}}$	
	Max. current	500 mA for all channels	500 mA for all channels	500 mA for all channels	
	Protection against	Overloads, short-circuits and reverse polarity	Overloads, short-circuits and reverse polarity	Overloads, short-circuits and reverse polarity	
<b>Connection</b>	TM7 expansion bus	Bus input connector	B-coded 4-way male M12	B-coded 4-way male M12	B-coded 4-way male M12
		Bus output connector	B-coded 4-way female M12	B-coded 4-way female M12	B-coded 4-way female M12
	Digital I/O channels	Sensor connector	3-way female M8, 1 channel per connector	3-way female M8, 1 channel per connector	A-coded 5-way female M12, 2 channels per connector
		Actuator connector	–	–	–
	Expansion block power supply	Input connector	4-way male M8	4-way male M8	4-way male M8
		Output connector	4-way female M8	4-way female M8	4-way female M8
<b>Diagnostics</b>	By expansion block	Yes	Yes	Yes	
	By channel	Yes	Yes	Yes	
	By communication on TM7 bus	Yes	Yes	Yes	
<b>Type of expansion block</b>		<b>TM7BDI8B</b>	<b>TM7BDI16B</b>	<b>TM7BDI16A</b>	

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(1) Sink inputs: positive logic  
(2) Source outputs: positive logic

<b>Degree of protection</b>		IP 67	IP 67	IP 67	IP 67	
<b>Type of housing</b>		Plastic	Plastic	Plastic	Plastic	
<b>Modularity (number of channels)</b>	Max. number of digital channels	8	8	16	16	
	Digital inputs	–	0...8 software-configurable	0...16 software-configurable	0...16 software-configurable	
	Digital outputs	8	0...8 software-configurable	0...16 software-configurable	0...16 software-configurable	
<b>Digital inputs</b>	Voltage/current	–	24 V $\overline{\text{---}}$ /4.4 mA	24 V $\overline{\text{---}}$ /4.4 mA	24 V $\overline{\text{---}}$ /4.4 A max.	
	Type	–	Sink (1)	Sink (1)	Sink (1)	
	IEC 61131-2 conformity	–	Type 1	Type 1	Type 1	
<b>Digital outputs</b>	Voltage	24 V $\overline{\text{---}}$	24 V $\overline{\text{---}}$	24 V $\overline{\text{---}}$	24 V $\overline{\text{---}}$	
	Type	Transistor/Source (2)	Transistor/Source (2)	Transistor/Source (2)	Transistor/Source (2)	
	Current per output	2 A max.	0.5 A max.	0.5 A max.	0.5 A max.	
	Current per expansion block	8 A max.	4 A max.	8 A max.	8 A max.	
<b>Sensor/actuator power supply</b>	Voltage	24 V $\overline{\text{---}}$	24 V $\overline{\text{---}}$	24 V $\overline{\text{---}}$	24 V $\overline{\text{---}}$	
	Max. current	500 mA for all channels	500 mA for all channels	500 mA for all channels	500 mA for all channels	
	Protection against	Overloads, short-circuits and reverse polarity	Overloads, short-circuits and reverse polarity	Overloads, short-circuits and reverse polarity	Overloads, short-circuits and reverse polarity	
<b>Connection</b>	TM7 expansion bus	Bus input connector	B-coded 4-way male M12	B-coded 4-way male M12	B-coded 4-way male M12	
		Bus output connector	B-coded 4-way female M12	B-coded 4-way female M12	B-coded 4-way female M12	
	Digital I/O channels	Sensor connector	–	3-way female M8, 1 channel per connector	A-coded 5-way female M12, 2 channels per connector	3-way female M8, 1 channel per connector
		Actuator connector	–	–	–	–
	Expansion block power supply	Input connector	3-way female M8, 1 channel per connector	3-way female M8, 1 channel per connector	5-way female M12, 2 channels per connector	3-way female M8, 1 channel per connector
		Output connector	4-way male M8	4-way male M8	4-way male M8	4-way male M8
<b>Diagnostics</b>	By expansion block	Yes	Yes	Yes	Yes	
	By channel	Yes	Yes	Yes	Yes	
	By communication on TM7 bus	Yes	Yes	Yes	Yes	
<b>Type of expansion block</b>		<b>TM7BDO8TAB</b>	<b>TM7BDM8B</b>	<b>TM7BDM16A</b>	<b>TM7BDM16B</b>	

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# Modicon TM7 - IP 67 modular I/O system

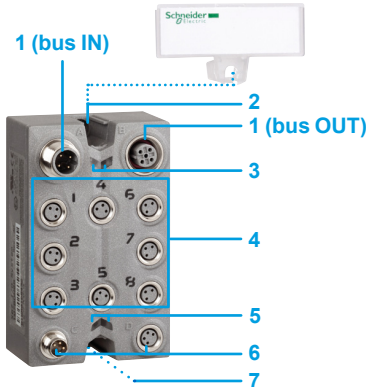
Digital I/O blocks IP 67  
for Modicon M258 logic controller, Modicon LMC058  
and LMC078 motion controllers

## Description

### Digital I/O expansion blocks

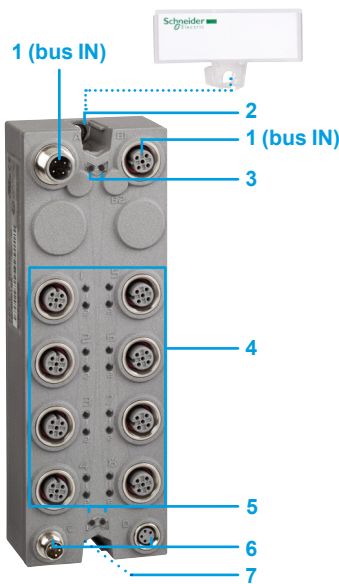
**8-channel** digital I/O expansion blocks have the following on the front panel:

- 1 A male M12 connector (bus IN) and a female M12 connector (bus OUT) for connecting the TM7 expansion bus
- 2 A slot for the expansion block label (1)
- 3 Two bus diagnostic LEDs
- 4 Eight female M8 connectors for connecting sensors and actuators with LEDs for indicating channel status
- 5 Two LEDs indicating the status of the sensor and actuator 24 V  $\overline{\text{---}}$  power supplies
- 6 Two M8 connectors for connecting the 24 V  $\overline{\text{---}}$  sensor and actuator power supplies: male for PWR IN, female for PWR OUT
- 7 Fixing using two  $\varnothing$  4 screws (not supplied) and connection of the functional earth when fixing the block on a metal support

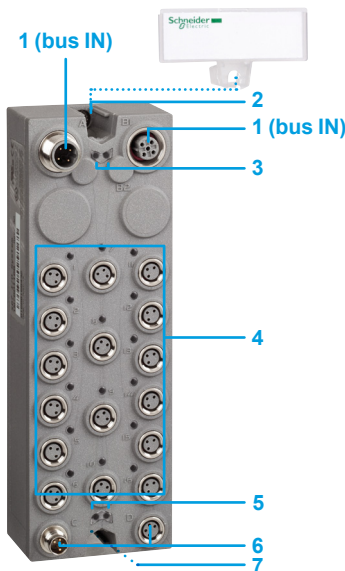


**16-channel** digital I/O expansion blocks have the following on the front panel:

- 1 A male M12 connector (bus IN) and a female M12 connector (bus OUT) for connecting the TM7 expansion bus
- 2 A slot for the expansion block label (1)
- 3 Two bus diagnostic LEDs
- 4 Eight M12 connectors (2 channels per connector) or sixteen M8 connectors for connecting sensors and actuators with LEDs for indicating channel status
- 5 Two LEDs indicating the status of the sensor and actuator 24 V  $\overline{\text{---}}$  power supplies
- 6 Two M8 connectors for connecting the 24 V  $\overline{\text{---}}$  sensor and actuator power supplies: male for PWR IN, female for PWR OUT
- 7 Fixing using two  $\varnothing$  4 screws (not supplied) and connection of the functional earth when fixing the block on a metal support



(1) Label-holder supplied with IP 67 block.



# Modicon TM7 - IP 67 modular I/O system

## Digital I/O blocks IP 67

for Modicon M258 logic controller, Modicon LMC058 and LMC078 motion controllers



TM7BDI8B,  
TM7BDO8TAB,  
TM7BDM8B



TM7BDM16B,  
TM7BDI16B



TM7BDI16A,  
TM7BDM16A

Digital I/O expansion blocks						
Max. no. of channels	Number, type of inputs (1)	Number, type of outputs (2)	Sensor and actuator connection	Communication bus	Reference	Weight kg/lb
8 input	8, sink (3)	–	8 x female M8 connectors	TM7 bus	<b>TM7BDI8B</b>	0.180/ 0.397
16 input	16, sink (3)	–	16 x female M8 connectors	TM7 bus	<b>TM7BDM16B</b>	0.320/ 0.705
	16, sink (3)	–	8 x female M12 connectors	TM7 bus	<b>TM7BDI16A</b>	0.320/ 0.705
8 output	–	8, transistor/ source (4), 2 A max.	8 x female M8 connectors	TM7 bus	<b>TM7BDO8TAB</b>	0.185/ 0.408
8 configurable I/O	0...8, sink (3)	0...8, transistor/ source (4), 0.5 A max.	8 x female M8 connectors	TM7 bus	<b>TM7BDM8B</b>	0.190/ 0.419
16 configurable I/O	0...16, sink (3)	0...16, transistor/ source (4), 0.5 A max.	8 x female M12 connectors	TM7 bus	<b>TM7BDM16A</b>	0.320/ 0.705
			16 x female M8 connectors	TM7 bus	<b>TM7BDM16B</b>	0.320/ 0.705

(1) 24 V  $\overline{\text{---}}$  IEC type 1

(2) 24 V  $\overline{\text{---}}$

(3) Sink inputs: positive logic

(4) Source outputs: positive logic

### Architecture, Connecting cables

See page 18

### Connection accessories

See page 20

### Separate parts

See page 21

### Configuration software

- SoMachine software, please refer to our website [www.schneider-electric.com](http://www.schneider-electric.com)
- Performance distributed I/O configuration software, please refer to our website [www.schneider-electric.com](http://www.schneider-electric.com)



# Modicon TM7 - IP 67 modular I/O system

Analog I/O blocks IP 67  
for Modicon M258 logic controller, Modicon LMC058  
and LMC078 motion controllers

## Applications

## Analog I/O expansion blocks



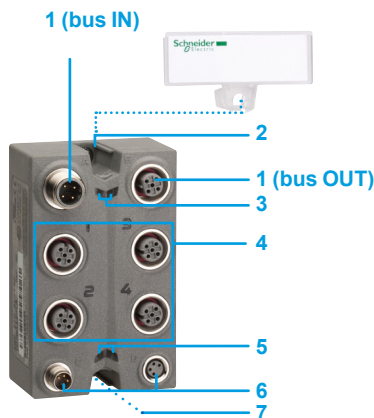
<b>Degree of protection</b>		IP 67	IP 67	IP 67	
<b>Type of housing</b>		Plastic	Plastic	Plastic	
<b>Modularity (number of channels)</b>	Max. number of analog channels	4	4	4	
	Analog inputs	4	4	–	
	Temperature inputs	–	–	4	
	Analog outputs	–	–	–	
<b>Inputs</b>	Type	Voltage - 10...+ 10 V ---	Current 0...20 mA	Pt 100 temperature probe, Pt 1000 temperature probe, KTY 10 silicon temperature probe, KTY 84 silicon temperature probe, Resistance 0...3276 Ohm	
	Resolution	11 bits + sign	12 bits	16 bits	
<b>Analog outputs</b>	Type	–	–	–	
	Resolution	–	–	–	
	Current per expansion block	–	–	–	
<b>Sensor/actuator power supply</b>	Voltage	24 V ---	24 V ---	–	
	Max. current	500 mA for all channels	500 mA for all channels	–	
	Protection against	Overloads, short-circuits and reverse polarity	Overloads, short-circuits and reverse polarity	–	
<b>Connection</b>	TM7 expansion bus	Bus input connector	4-way male M12 B-coded	4-way male M12 B-coded	4-way male M12 B-coded
		Bus output connector	4-way female M12 B-coded	4-way female M12 B-coded	4-way female M12 B-coded
	Analog I/O channels	Sensor connector	5-way female M12 A-coded	5-way female M12 A-coded	5-way female M12 A-coded
		Actuator connector	–	–	–
	Expansion block power supply	Input connector	4-way male M8	4-way male M8	4-way male M8
		Output connector	4-way female M8	4-way female M8	4-way female M8
<b>Diagnostics</b>	By expansion block	Yes	Yes	Yes	
	By channel	Yes	Yes	Yes	
	By communication on TM7 bus	Yes	Yes	Yes	
<b>Type of expansion block</b>		<b>TM7BAI4VLA</b>	<b>TM7BAI4CLA</b>	<b>TM7BAI4TLA</b>	
<b>Pages</b>		10			

IP 67	IP 67	IP 67	IP 67	IP 67
Plastic	Plastic	Plastic	Plastic	Plastic
4	4	4	4	4
–	–	–	2	2
4	–	–	–	–
–	4	4	2	2
J, K, S thermocouple Voltage 0...65536 µV	–	–	Voltage - 10...+ 10 V ---	Current 0...20 mA
16 bits	–	–	11 bits + sign	12 bits
–	Voltage - 10...+ 10 V ---	Current 0...20 mA	Voltage - 10...+ 10 V ---	Current 0...20 mA
–	11 bits + sign	12 bits	11 bits + sign	12 bits
–	–	–	–	–
–	24 V ---	24 V ---	24 V ---	24 V ---
–	500 mA for all channels	500 mA for all channels	500 mA for all channels	500 mA for all channels
–	Overloads, short-circuits and reverse polarity	Overloads, short-circuits and reverse polarity	Overloads, short-circuits and reverse polarity	Overloads, short-circuits and reverse polarity
4-way male M12 B-coded	4-way male M12 B-coded	4-way male M12 B-coded	4-way male M12 B-coded	4-way male M12 B-coded
4-way female M12 B-coded	4-way female M12 B-coded	4-way female M12 B-coded	4-way female M12 B-coded	4-way female M12 B-coded
A-coded 5-way female M12	–	–	A-coded 5-way female M12	A-coded 5-way female M12
–	A-coded 5-way female M12	A-coded 5-way female M12	A-coded 5-way female M12	A-coded 5-way female M12
4-way male M8	4-way male M8	4-way male M8	4-way male M8	4-way male M8
4-way female M8	4-way female M8	4-way female M8	4-way female M8	4-way female M8
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
<b>TM7BAI4PLA</b>	<b>TM7BAO4VLA</b>	<b>TM7BAO4CLA</b>	<b>TM7BAM4VLA</b>	<b>TM7BAM4CLA</b>
10				

# Modicon TM7 - IP 67 modular I/O system

## Analog I/O blocks IP 67

for Modicon M258 logic controller, Modicon LMC058 and LMC078 motion controllers



### Description

#### Analog I/O expansion blocks

Analog I/O expansion 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 TM7 expansion bus
- 2 A slot for the expansion block label (1)
- 3 Two bus diagnostic LEDs
- 4 Four female M12 connectors for connecting sensors and/or actuators with LEDs for indicating channel status
- 5 Two LEDs indicating the status of the sensor and actuator 24 V  $\bar{\text{---}}$  power supplies
- 6 Two M8 connectors for connecting the 24 V  $\bar{\text{---}}$  sensor and actuator power supplies: male for PWR IN, female for PWR OUT
- 7 Fixing using two  $\varnothing$  4 screws (not supplied) and connection of the functional earth when fixing the block on a metal support

(1) Label-holder supplied with IP 67 block.

### Analog I/O expansion blocks



TM7BAI4●LA,  
TM7BAO4●LA,  
TM7BAM4●LA

Max. no. of channels	Input range	Output range	Resolution	Sensor and actuator connection	Communication bus	Reference	Weight kg/lb
4 input	Voltage	–	11 bits + sign	4 female M12 connectors	TM7 bus	<b>TM7BAI4VLA</b>	0.200/ 0.441
	Current 0...20 mA	–	12 bits	4 female M12 connectors	TM7 bus	<b>TM7BAI4CLA</b>	0.200/ 0.441
	Pt 100, Pt 1000 temperature probe KTY 10, KTY 84 silicon temperature probe Resistance 0...3276 $\Omega$	–	16 bits	4 female M12 connectors	TM7 bus	<b>TM7BAI4TLA</b>	0.200/ 0.441
	J, K, S thermocouple Voltage 0...65536 $\mu$ V	–	16 bits	4 female M12 connectors	TM7 bus	<b>TM7BAI4PLA</b>	0.200/ 0.441
4 output	–	Voltage - 10...+ 10 V $\bar{\text{---}}$	11 bits + sign	4 female M12 connectors	TM7 bus	<b>TM7BAO4VLA</b>	0.200/ 0.441
	–	Current 0...20 mA	12 bits	4 female M12 connectors	TM7 bus	<b>TM7BAO4CLA</b>	0.200/ 0.441
2 input + 2 output	Voltage - 10...+ 10 V $\bar{\text{---}}$	Voltage - 10...+ 10 V $\bar{\text{---}}$	11 bits + sign	4 female M12 connectors	TM7 bus	<b>TM7BAM4VLA</b>	0.200/ 0.441
	Current 0...20 mA	Current 0...20 mA	12 bits	4 female M12 connectors	TM7 bus	<b>TM7BAM4CLA</b>	0.200/ 0.441

### Architecture, Connecting cables

See page 18

### Connection accessories

See page 20

### Separate parts

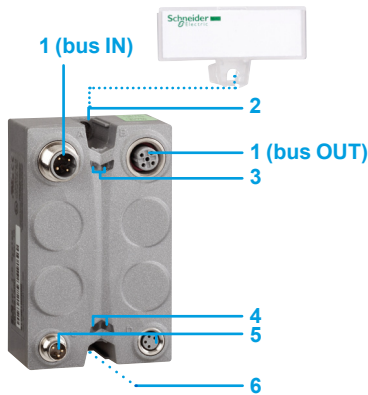
See page 21

### Configuration software

- SoMachine software, please refer to our website [www.schneider-electric.com](http://www.schneider-electric.com)
- Performance distributed I/O configuration software, please refer to our website [www.schneider-electric.com](http://www.schneider-electric.com)

# Modicon TM7 - IP 67 modular I/O system

Power distribution blocks IP 67  
for Modicon M258 logic controller, Modicon LMC058  
and LMC078 motion controllers



TM7SPS1A

## Description

### Power distribution block

The power distribution block has the following on the front panel:

- 1 A male M12 connector (bus IN) and a female M12 connector (bus OUT) for connecting the TM7 expansion bus
- 2 A slot for the power distribution block label (1)
- 3 Two TM7 bus diagnostic LEDs
- 4 Two LEDs indicating the status of the sensor and actuator 24 V  $\overline{\text{---}}$  power supplies
- 5 Two M8 connectors for connecting the 24 V  $\overline{\text{---}}$  sensor and actuator power supplies: male for PWR IN, female for PWR OUT
- 6 Fixing using two  $\varnothing 4$  screws (not supplied) and connection of the functional earth when fixing the block on a metal support

(1) Label-holder supplied with IP 67 block.

### Power distribution block

Function	Connection	Communication bus	Reference	Weight kg/ lb
24 V $\overline{\text{---}}$ /15 W power supply for I/O expansion blocks on the TM7 expansion bus	Supply: 2xM8 connectors, 1 male and 1 female TM7 bus: 2xM12 connectors, 1 male and 1 female	TM7 bus	TM7SPS1A	0.190/ 0.419

### Architecture, Connecting cables

See page 18

### Connection accessories

See page 20

### Separate parts

See page 21

### Configuration software

- SoMachine software, please refer to our website [www.schneider-electric.com](http://www.schneider-electric.com)
- Performance distributed I/O configuration software, please refer to our website [www.schneider-electric.com](http://www.schneider-electric.com)

# Modicon TM7 - IP 67 modular I/O system

CANopen interface blocks IP 67  
for Modicon M258 logic controller, Modicon LMC058  
and LMC078 motion controllers

## Presentation

To enhance its "Flexible machine Control" concept, a key component of MachineStruxure™, Schneider Electric offers Modicon TM7 IP 67 blocks for mounting outside electrical cabinets, directly on the installation. The IP 67 protection of these blocks enables them to be used within processes or machines in harsh environments (splashing water, oil, dust, etc.).

They have the following characteristics:

- Dust and damp proof
- Robust and compact
- Rapid wiring, economical to use

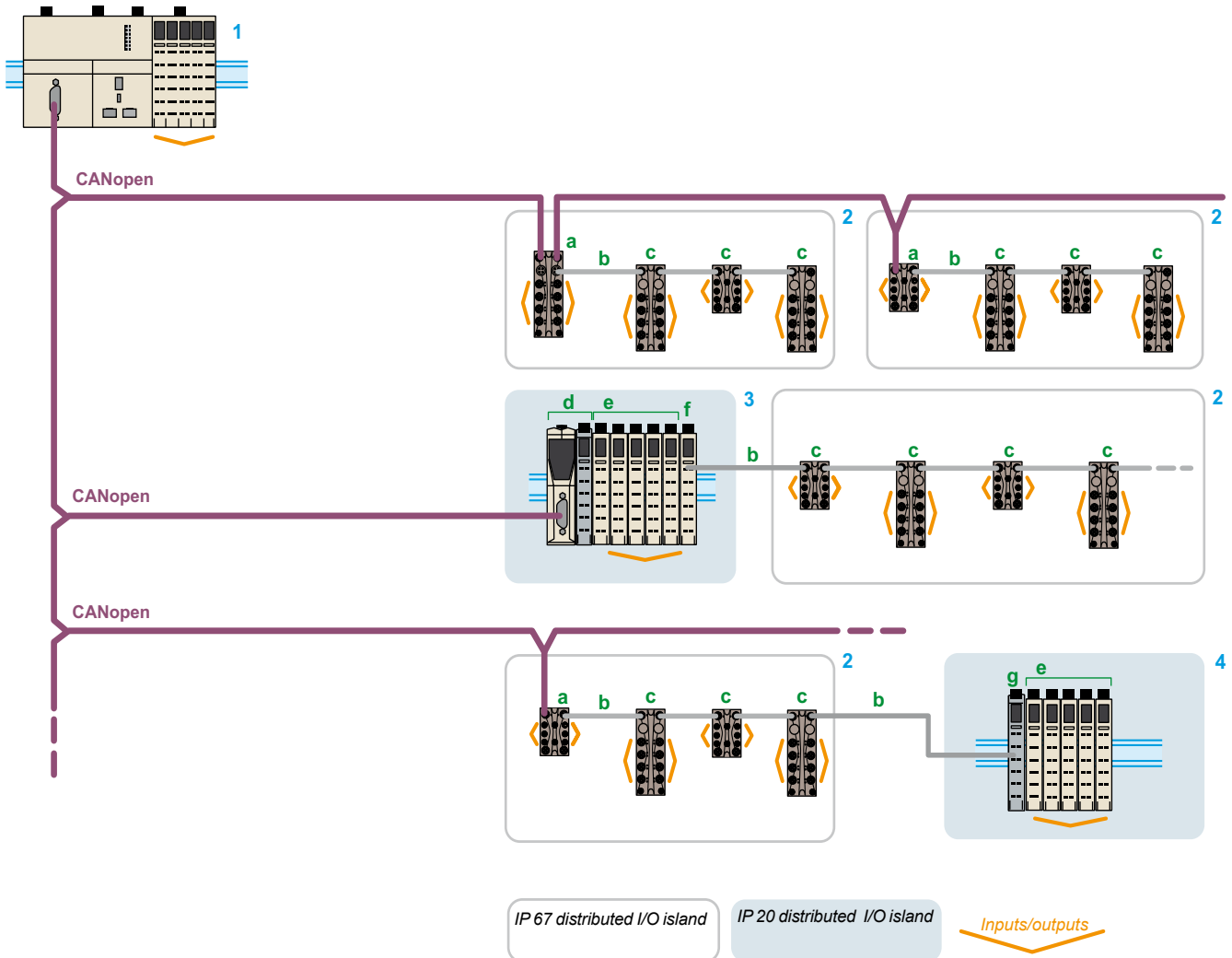
The CANopen interface blocks enable sensors and actuators distributed over machines to be connected via the CANopen fieldbus. These interface I/O blocks communicate on the bus. They have one part for connecting sensors and actuators using M8 or M12 connectors and one part for connection to the CANopen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

The interface I/O block offer comprises IP 67 blocks that connect to a CANopen bus and have digital channels that can be configured as inputs or outputs, including:

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

This offer is completed with :

- Digital I/O expansion blocks, see page 2
- Analog input expansion blocks, see page 2
- Power distribution block, see page 2
- Connection accessories, see page 20



- 1 Modicon M258 logic controller or Modicon LMC058 and LMC078 motion controllers: CANopen bus masters.
- 2 IP 67 distributed I/O islands. Composition: TM7 CANopen interface block (slave) with digital I/O (a) + TM7 expansion bus cable (b) + TM7 digital/analog blocks (c) (1).
- 3 IP 20 distributed I/O island. Composition: TM5 CANopen interface module (slave) (d) + TM5 compact (2) or TM5 modules (e) (2) + transmitter module TM5SBET7 (f) (2).
- 4 IP 20 distributed I/O island. Composition: receiver module TM5SBER2 (g) (2) + TM5 modules (e) (2).

(1) Modicon TM7 Digital or analog block, see page 2  
(2) Modicon TM5 offer, please consult our website [www.schneider-electric.com](http://www.schneider-electric.com)

# Modicon TM7 - IP 67 modular I/O system

CANopen interface blocks IP 67  
for Modicon M258 logic controller, Modicon LMC058  
and LMC078 motion controllers



CANopen interface block with digital I/O



Communication bus status LED  
Channel status LED  
Power supply status LED

## Diagnostic functions

The diagnostic monitoring of faults is indicated by LEDs on CANopen interface I/O blocks, expansion blocks and power distribution blocks and informs the control system (M258 logic controller or LMC058 and LMC078 motion controllers) via the TM7 bus.

Each Modicon TM7 block has LEDs

- To display the status of the TM7 bus, the channel and the power supply
- For quick, precise location of a fault

There are several levels of diagnostics:

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

## Specifications

<b>Conformity with standards</b>	IEC 61131-2
<b>Product certifications</b>	CE, cURus, GOST-R and c-Tick, ATEX (II 3g EEx nA II T5, IP 67, Ta = 0...60°C)
<b>Temperature</b>	Operation: -10...+60°C (14...140°F) Storage: -25...+85°C (-13...185°F)
<b>Relative humidity</b>	5...95% (without condensation)
<b>Degree of pollution</b> conforming to IEC 60664	2
<b>Degree of protection</b> conforming to IEC 61131-2	IP 67
<b>Altitude</b>	Operation: 0...2000 m (0...6560 ft) (1) Storage: 0...3000 m (0...9842 ft)
<b>Vibration resistance</b> DIN rail mounted conforming to IEC 60721-3-5 Class 5M3	7.5 mm (0.295 in.) 2...8 Hz fixed amplitude 20 m/s <sup>2</sup> (2 gn) 8...200 Hz fixed acceleration 40 m/s <sup>2</sup> (4 gn) 200...500 Hz fixed acceleration
<b>Shock resistance</b> conforming to IEC 60721-3-5 Class 5M3	300 m/s <sup>2</sup> (30 gn) for 11 ms, 1/2 sine wave, type 1 shock
<b>Connectors</b>	Type: M8 and/or M12 Number of operations: 50 min.

## Electromagnetic compatibility

<b>Electrostatic discharges</b> conforming to IEC/EN 61000-4-2	± 8 kV, criterion B (air discharge) ± 4 kV, criterion B (direct discharge)
<b>Electromagnetic fields</b> conforming to IEC/EN 61000-4-3	10 V/m, amplitude modulation 80% at 1 kHz (80 MHz...2 GHz) 1 V/m (2...2.7 GHz)
<b>Fast transients</b> conforming to IEC/EN 61000-4-4	Supply: 2 kV, criterion B I/O: 1 kV, criterion B Shielded cable: 1 kV, criterion B Repetition frequency: 5 and 100 kHz
<b>Immunity to overvoltages, 24 V <math>\overline{\text{---}}</math> circuit</b> conforming to IEC/EN 61000-4-5	Supply: □ 1 kV (12 Ω), criterion B in common mode □ 0.5 kV (2 Ω), criterion B in differential mode Unshielded links: □ 1 kV (42 Ω), criterion B in common mode □ 0.5 kV (42 Ω), criterion B in differential mode Shielded links: □ 1 kV (12 Ω), criterion B in common mode □ 0.5 kV (2 Ω), criterion B in differential mode
<b>Induced magnetic fields</b> conforming to IEC/EN 61000-4-6	Line supply, I/O signal connections > 10 m (32.8 ft) Functional earth connection: 10 Vrms, criterion A, amplitude modulation 80% at 1 kHz (150...80 MHz)
<b>Conducted emissions</b> conforming to EN 55011 (IEC/CISPR11)	150...500 kHz, peak 79 dB μV 500 kHz...30 MHz, peak 73 dB μV
<b>Radiated emissions</b> conforming to EN 55011 (IEC/CISPR11)	30...230 MHz, 10 m (32.8 ft) at 40 dB (μV/m) 230 MHz...1 GHz, 10 m (32.8 ft) at 47 dB (μV/m)

(1) Temperature reduction of 0.5°C (32.9°F) for every additional 100 m (328 ft) altitude above 2000 m (6560 ft). Refer to the instruction sheet for each product, downloadable from [www.schneider-electric.com](http://www.schneider-electric.com)



# Modicon TM7 - IP 67 modular I/O system

CANopen interface blocks IP 67  
for Modicon M258 logic controller, Modicon LMC058  
and LMC078 motion controllers

**Applications**

**CANOpen bus interface with digital I/O**



**Degree of protection**

IP 67	IP 67
-------	-------

**Type of housing**

Plastic	Plastic
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**Modularity (number of channels)**

Max. number of digital channels	8 channels configurable as inputs or outputs	16 channels configurable as inputs or outputs
Digital inputs	0...8 according to software configuration	0...16 according to software configuration
Digital outputs	0...8 according to software configuration	0...16 according to software configuration

**Digital inputs**

Voltage/current	$\sqrt{2}U_L \rightarrow \dots/4.4 \text{ mA}$	$\sqrt{2}U_L \rightarrow \dots/4.4 \text{ mA}$
Type	Sink (1)	Sink (1)
IEC 61131-2 conformity	Type 1	Type 1

**Digital outputs**

Voltage	$\sqrt{2}U_L \rightarrow \dots$	$\sqrt{2}U_L \rightarrow \dots$
Type	Transistor/Source (2)	Transistor/Source (2)
Current per output	0.5 A max.	0.5 A max.
Current per interface I/O block	4 A max.	4 A max.

**Sensor/actuator power supply**

Voltage	$\sqrt{2}U_L \rightarrow \dots$	$\sqrt{2}U_L \rightarrow \dots$
Max. current	500 mA for all channels	500 mA for all channels
Protection against	Overloads, short-circuits and reverse polarity	Overloads, short-circuits and reverse polarity

**Connection**

CANopen bus	Bus input connector	A-coded 5-way male M12	A-coded 5-way male M12
	Bus output connector	-	A-coded 5-way female M12
TM7 expansion bus	Bus input connector	-	-
	Bus output connector	B-coded 4-way female M12	B-coded 4-way female M12
Digital I/O channels	Sensor connector	3-way female M8, 1 channel per connector	3-way female M8, 1 channel per connector
	Actuator connector	3-way female M8, 1 channel per connector	3-way female M8, 1 channel per connector
Interface I/O block power supply	Input connector	4-way male M8	4-way male M8
	Output connector	4-way female M8	4-way female M8

**Diagnostics**

By interface I/O block	Yes	Yes
By channel	Yes	Yes
By communication	On CANopen bus	Yes
	On TM7 bus	Yes

**Type of CANopen interface I/O block**

TM7NCOM08B	TM7NCOM16B
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**Pages**

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(1) Sink inputs: positive logic  
(2) Source outputs: positive logic

**Degree of protection**

IP 67
-------

**Type of housing**

Plastic
---------

**Modularity (number of channels)**

16 channels configurable as inputs or outputs
0...16 according to software configuration
0...16 according to software configuration

**Digital inputs**

Voltage/current	$\sqrt{2}U_L \rightarrow \dots/4.4 \text{ mA}$
Type	Sink (1)
Type 1	Type 1

**Digital outputs**

Voltage	$\sqrt{2}U_L \rightarrow \dots$
Type	Transistor/Source (2)
Current per output	0.5 A max.
Current per interface I/O block	4 A max.

**Sensor/actuator power supply**

Voltage	$\sqrt{2}U_L \rightarrow \dots$
Max. current	500 mA for all channels
Protection against	Overloads, short-circuits and reverse polarity

**Connection**

CANopen bus	Bus input connector	A-coded 5-way male M12
	Bus output connector	A-coded 5-way female M12
TM7 expansion bus	Bus input connector	-
	Bus output connector	B-coded 4-way female M12
Digital I/O channels	Sensor connector	A-coded 5-way female M12, 2 channels per connector
	Actuator connector	A-coded 5-way female M12, 2 channels per connector
Interface I/O block power supply	Input connector	4-way male M8
	Output connector	4-way female M8

**Diagnostics**

By interface I/O block	Yes
By channel	Yes
By communication	Yes
On TM7 bus	Yes

**Type of CANopen interface I/O block**

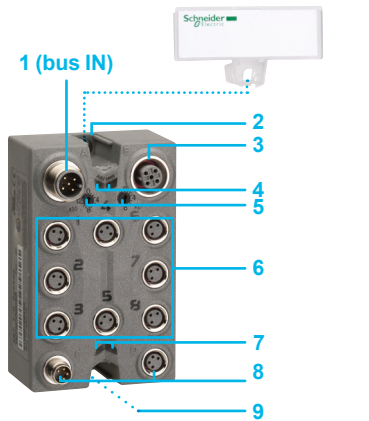
TM7NCOM16A
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**Pages**

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# Modicon TM7 - IP 67 modular I/O system

CANopen interface blocks IP 67 for Modicon M258 logic controller, Modicon LMC058 and LMC078 motion controllers

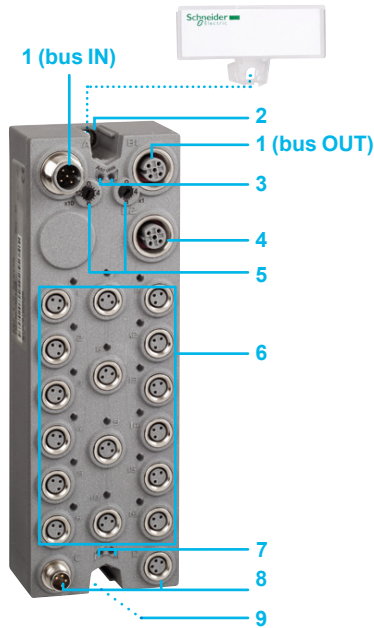


## Description

### CANopen interface I/O blocks

CANopen **8-channel** interface I/O blocks have the following on the front panel:

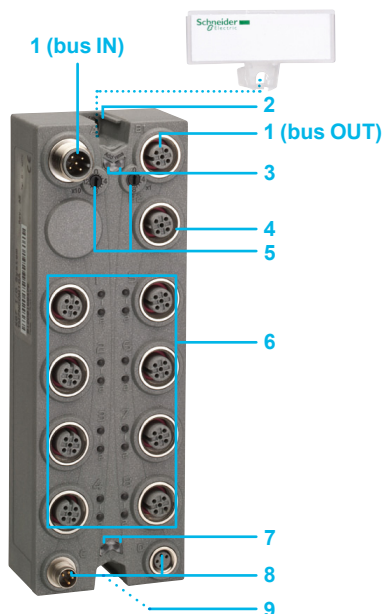
- 1 A male M12 connector (bus IN) for connecting the CANopen bus
- 2 A slot for the interface I/O block label (1)
- 3 A female M12 connector for connecting the TM7 expansion bus
- 4 Two bus diagnostic LEDs
- 5 CANopen address settings rotary switches
- 6 Eight female M8 connectors for connecting sensors and actuators with eight LEDs for indicating channel status
- 7 Two LEDs indicating the status of the sensor and actuator 24 V  $\overline{\text{DC}}$  power supplies
- 8 Two M8 connectors for connecting the 24 V  $\overline{\text{DC}}$  sensor and actuator power supplies: male for PWR IN, female for PWR OUT
- 9 Fixing using two  $\varnothing$  4 screws (not supplied) and connection of the functional earth when fixing the block on a metal support



CANopen **16-channel** interface I/O 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 I/O block label (1)
- 3 Two bus diagnostic LEDs
- 4 A female M12 connector for connecting the TM7 expansion bus
- 5 CANopen address settings rotary switches
- 6 Eight M12 connectors (2 channels per connector) or sixteen M8 connectors for connecting sensors and actuators with LEDs for indicating channel status
- 7 Two LEDs indicating the status of the sensor and actuator 24 V  $\overline{\text{DC}}$  power supplies
- 8 Two M8 connectors for connecting the 24 V  $\overline{\text{DC}}$  sensor and actuator power supplies: male for PWR IN, female for PWR OUT
- 9 Fixing using two  $\varnothing$  4 screws (not supplied) and connection of the functional earth when fixing the block on a metal support

(1) Label-holder supplied with IP 67 block



# Modicon TM7 - IP 67 modular I/O system

CANopen interface blocks IP 67  
for Modicon M258 logic controller, Modicon LMC058  
and LMC078 motion controllers



TM7NCOM08B



TM7NCOM16B



TM7NCOM16A

## Modicon TM7 CANopen interface blocks with digital I/O

Max. no. of channels	Number, type of inputs	Number, type of outputs	Sensor/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	<b>TM7NCOM08B</b>	0.195/ 0.430
16 I/O	16, sink (1)	16, transistor/source (2)	16 female M8 connectors	CANopen, TM7 bus	<b>TM7NCOM16B</b>	0.320/ 0.705
	16, sink (1)	16, transistor/source (2)	8 female M12 connectors	CANopen, TM7 bus	<b>TM7NCOM16A</b>	0.320/ 0.705

(1) Sink inputs: positive logic

(2) Source outputs: positive logic

### Architecture, connecting cables

See page 18

### Modicon TM7 I/O expansion blocks

See page 2

### Connection accessories

See page 20

### Separate parts

See page 21

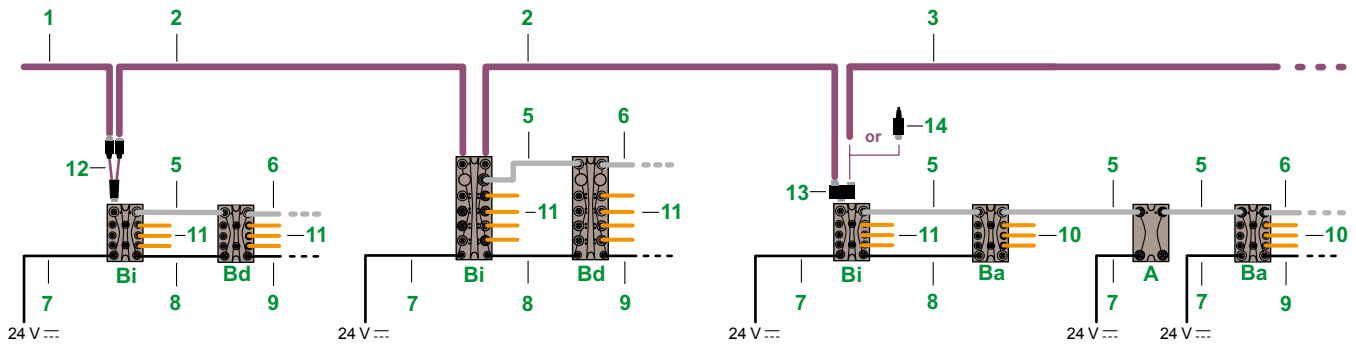
### Configuration software

- SoMachine software, please consult our site [www.schneider-electric.com](http://www.schneider-electric.com)
- Performance distributed I/O configuration software, please consult our site [www.schneider-electric.com](http://www.schneider-electric.com)

# Modicon TM7 - IP 67 modular I/O system

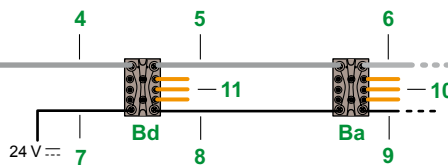
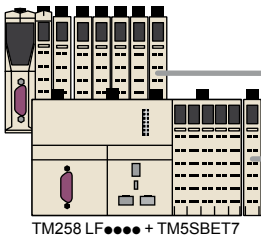
CANopen interface blocks IP 67  
for Modicon M258 logic controller, Modicon LMC058  
and LMC078 motion controllers

## CANopen architecture



## TM7 bus architecture

TM5 NCO1 + TM5 SBET7

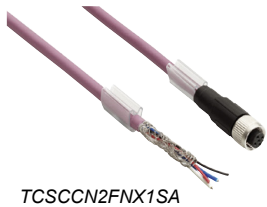


- A** Power distribution block
- Ba** Analog I/O expansion block
- Bd** Digital I/O expansion block
- Bi** CANopen interface I/O block

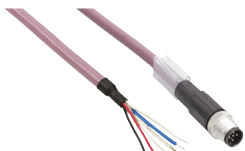
## References

### Cables for connection to the CANopen bus

Designation	Description	Item no.	Length m/ft	Reference	Weight kg/lb
CANopen bus connection cables (bus IN)	Equipped with one A-coded 5-way angled female M12 connector and 1 flying lead	1	1/3.28	TCSCCN2FNX1SA	0.089/0.196
			3/9.843	TCSCCN2FNX3SA	0.195/0.430
			10/32.81	TCSCCN2FNX10SA	0.563/1.241
	Equipped with one A-coded 5-way straight female M12 connector and 1 flying lead	1	1/3.28	TCSCCN1FNX1SA	0.089/0.196
			3/9.843	TCSCCN1FNX3SA	0.195/0.430
			10/32.81	TCSCCN1FNX10SA	0.563/1.241
CANopen bus daisy chain cables	Equipped with two A-coded 5-way angled M12 connectors, 1 male and 1 female, at each end	2	0.3/0.98	TCSCCN2M2F03	0.090/0.198
			1/3.28	TCSCCN2M2F1	0.127/0.280
			2/6.56	TCSCCN2M2F2	0.179/0.395
			5/16.40	TCSCCN2M2F5	0.337/0.743
			10/32.81	TCSCCN2M2F10	0.600/1.323
			15/49.21	TCSCCN2M2F15	0.863/1.903
	Equipped with two A-coded 5-way straight M12 connectors, 1 male and 1 female, at each end	2	0.3/0.98	TCSCCN1M1F03	0.090/0.198
			1/3.28	TCSCCN1M1F1	0.127/0.280
			2/6.56	TCSCCN1M1F2	0.179/0.395
			5/16.40	TCSCCN1M1F5	0.337/0.743
			10/32.81	TCSCCN1M1F10	0.600/1.323
			15/49.21	TCSCCN1M1F15	0.863/1.903
CANopen bus connection cables (bus OUT)	Equipped with one A-coded 5-way angled male M12 connector and 1 flying lead	3	1/3.28	TCSCCN2MNX1SA	0.089/0.196
			3/9.843	TCSCCN2MNX3SA	0.195/0.430
			10/32.81	TCSCCN2MNX10SA	0.563/1.241
	Equipped with one A-coded 5-way straight male M12 connector and 1 flying lead	3	1/3.28	TCSCCN1MNX1SA	0.089/0.196
			3/9.843	TCSCCN1MNX3SA	0.195/0.430
			10/32.81	TCSCCN1MNX10SA	0.563/1.241
	25/82.02	TCSCCN1MNX25SA	1.352/2.981		



TCSCCN2FNX1SA



TCSCCN1MNX1SA

### TM7 expansion bus cables

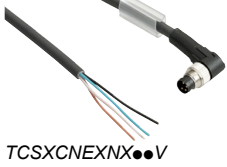
TM7 expansion bus cables (bus IN)	Equipped with one B-coded 4-way angled female M12 connector and 1 flying lead	4	1/3.28	TCSXCN2FNX1E	0.089/0.196
			3/9.843	TCSXCN2FNX3E	0.195/0.430
			10/32.81	TCSXCN2FNX10E	0.563/1.241
			25/82.02	TCSXCN2FNX25E	1.352/2.981
		Equipped with one B-coded 4-way straight female M12 connector and 1 flying lead	4	1/3.28	TCSXCN1FNX1E
	3/9.843		TCSXCN1FNX3E	0.195/0.430	
	10/32.81		TCSXCN1FNX10E	0.563/1.241	
	25/82.02		TCSXCN1FNX25E	1.352/2.981	

# Modicon TM7 - IP 67 modular I/O system

CANopen interface blocks IP 67 for Modicon M258 logic controller, Modicon LMC058 and LMC078 motion controllers

## Connection accessories (continued)

Designation	Description	Item no.	Length m/ft	Reference	Weight kg/lb			
<b>TM7 expansion bus cables (continued)</b>								
<b>TM7 bus daisy chain cables</b>	Equipped with two B-coded 4-way angled M12 connectors, 1 male and 1 female, at each end	5	0.3/0.98	TCSXCN2M2F03E	0.090/0.198			
			1/3.28	TCSXCN2M2F1E	0.127/0.280			
			2/6.56	TCSXCN2M2F2E	0.179/0.395			
			5/16.40	TCSXCN2M2F5E	0.337/0.743			
			10/32.81	TCSXCN2M2F10E	0.600/1.323			
			15/49.21	TCSXCN2M2F15E	0.863/1.903			
	Equipped with two B-coded 4-way straight M12 connectors, 1 male and 1 female, at each end	5	0.3/0.98	TCSXCN1M1F03E	0.090/0.198			
			1/3.28	TCSXCN1M1F1E	0.127/0.280			
			2/6.56	TCSXCN1M1F2E	0.179/0.395			
			5/16.40	TCSXCN1M1F5E	0.337/0.743			
			10/32.81	TCSXCN1M1F10E	0.600/1.323			
			15/49.21	TCSXCN1M1F15E	0.863/1.903			
<b>TM7 expansion bus cables (bus OUT)</b>	Equipped with one B-coded 4-way angled male M12 connector and 1 flying lead	6	1/3.28	TCSXCN2MNX1E	0.089/0.196			
			3/9.843	TCSXCN2MNX3E	0.195/0.430			
			10/32.81	TCSXCN2MNX10E	0.563/1.241			
			25/82.02	TCSXCN2MNX25E	1.352/2.981			
						1/3.28	TCSXCN1MNX1E	0.089/0.196
	Equipped with one B-coded 4-way straight male M12 connector and 1 flying lead	6	3/9.843	TCSXCN1MNX3E	0.195/0.430			
			10/32.81	TCSXCN1MNX10E	0.563/1.241			
			25/82.02	TCSXCN1MNX25E	1.352/2.981			
			<b>Power distribution cables</b>					
			<b>Power IN power distribution cables</b>	Equipped with one 4-way angled female M8 connector and 1 flying lead	7	1/3.28	TCSXCNEFNX1V	0.041/0.090
3/9.843	TCSXCNEFNX3V	0.105/0.231						
10/32.81	TCSXCNEFNX10V	0.329/0.725						
25/82.02	TCSXCNEFNX25V	0.809/1.784						
						1/3.28	TCSXCNDFNX1V	0.041/0.090
	Equipped with one 4-way straight female M8 connector and 1 flying lead	7	3/9.843	TCSXCNDFNX3V	0.105/0.231			
			10/32.81	TCSXCNDFNX10V	0.329/0.725			
			25/82.02	TCSXCNDFNX25V	0.809/1.784			
			<b>Power daisy chain cables</b>					
			<b>Power IN power distribution cables</b>	Equipped with two 4-way angled M8 connectors, 1 male and 1 female, at each end	8	0.3/0.98	TCSXCNEMEF03V	0.028/0.062
1/3.28	TCSXCNEMEF1V	0.050/0.110						
2/6.56	TCSXCNEMEF2V	0.082/0.181						
5/16.40	TCSXCNEMEF5V	0.178/0.392						
10/32.81	TCSXCNEMEF10V	0.338/0.745						
			15/49.21	TCSXCNEMEF15V	0.498/1.098			
	Equipped with two 4-way straight M8 connectors, 1 male and 1 female, at each end	8	0.3/0.98	TCSXCNDMDF03V	0.105/0.231			
			1/3.28	TCSXCNDMDF1V	0.329/0.725			
			2/6.56	TCSXCNDMDF2V	0.809/1.784			
			5/16.40	TCSXCNDMDF5V	0.105/0.231			
			10/32.81	TCSXCNDMDF10V	0.329/0.725			
			15/49.21	TCSXCNDMDF15V	0.809/1.784			
<b>Power OUT power distribution cables</b>	Equipped with one 4-way angled male M8 connector and 1 flying lead	9	1/3.28	TCSXCNEXXN1V	0.041/0.090			
			3/9.843	TCSXCNEXXN3V	0.105/0.231			
			10/32.81	TCSXCNEXXN10V	0.329/0.725			
			25/82.02	TCSXCNEXXN25V	0.809/1.784			
						1/3.28	TCSXCNDMNX1V	0.041/0.090
	Equipped with one 4-way straight male M8 connector and 1 flying lead	9	3/9.843	TCSXCNDMNX3V	0.105/0.231			
			10/32.81	TCSXCNDMNX10V	0.329/0.725			
			25/82.02	TCSXCNDMNX25V	0.809/1.784			
			<b>Cables for connecting analog sensors and actuators</b>					
			<b>Cables for connecting sensors and actuators</b>	Equipped with one A-coded 5-way angled male M12 connector and 1 flying lead	10	2/6.56	TCSXCN2M2SA	0.143/0.315
5/16.40	TCSXCN2M5SA	0.258/0.569						
15/49.21	TCSXCN2M15SA	0.546/1.204						
2/6.56	TCSXCN1M2SA	0.143/0.315						
5/16.40	TCSXCN1M5SA	0.258/0.569						
			15/49.21	TCSXCN1M15SA	0.546/1.204			
<b>Cables for connecting digital sensors and actuators</b>								
Please consult our "Detection for OsiSense automation solutions" catalogue								
<b>Accessories</b>								
See next page		12						
		13						
		14						





# Modicon TM7 - IP 67 modular I/O system

CANopen interface blocks IP 67  
for Modicon M258 logic controller, Modicon LMC058  
and LMC078 motion controllers



TM7ACYCJ



TM7ACYC



TM7ACTHA

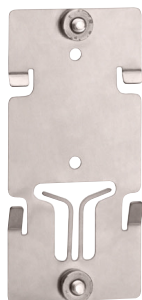
## Accessories

Description	Composition	Item no.	Reference	Weight kg/lb
<b>CAN bus Y cable</b>	Equipped with 2x5-way M12 connectors, 1 male and 1 female, and at the other end: 1x5-way male M12 connector	12	<b>TM7ACYCJ</b>	0.031/0.068
<b>CAN Y connector</b>	For connecting 2xM12 connectors, 1 male and 1 female, to male M12 connector on the expansion block	13	<b>TM7ACYC</b>	0.100/0.220
<b>Line terminator (for end of bus)</b>	Equipped with 1x5-way male M12 connector	14	<b>TM7ACTLA</b>	0.023/0.051
<b>Connector with temperature probe for measurement by thermocouple (1)</b>	Equipped with 1x5-way male M12 connector	–	<b>TM7ACTHA</b>	0.100/0.220

(1) For use with the **TM7BAI4PLA** expansion block for measurement with compensation of the temperature of the connector.

# Modicon TM7 - IP 67 modular I/O system

CANopen interface blocks IP 67  
for Modicon M258 logic controller, Modicon LMC058  
and LMC078 motion controllers



TM7ACMP

## Separate parts

Description	Composition	Unit reference	Weight kg/lb
Sealing plugs (1)	For M8 connector for Modicon TM7 IP 67 blocks <b>Lot of 50</b>	<b>TM7ACCB</b>	0.100/0.220
	For M12 connector for Modicon TM7 IP 67 blocks <b>Lot of 50</b>	<b>TM7ACCA</b>	0.100/0.220
Mounting plate on symmetrical DIN rail	For Modicon TM7 IP 67 blocks	<b>TM7ACMP</b>	0.020/0.044
	For Modicon TM7 IP 67 blocks <b>Lot of 10</b>	<b>TM7ACMP10</b>	0.200/0.441
Set of two screwdrivers	For tightening the rings on M8 and M12 connectors to the correct torque	<b>TM7ACTW</b>	0.198/0.437

(1) The use of sealing plugs ensures that unused connectors on Modicon TM7 IP 67 blocks have IP 67 protection.

T	
TCSCCN1FNX1SA	18
TCSCCN1FNX3SA	18
TCSCCN1FNX10SA	18
TCSCCN1FNX25SA	18
TCSCCN1M1F1	18
TCSCCN1M1F2	18
TCSCCN1M1F03	18
TCSCCN1M1F5	18
TCSCCN1M1F10	18
TCSCCN1M1F15	18
TCSCCN1MNX1SA	18
TCSCCN1MNX3SA	18
TCSCCN1MNX10SA	18
TCSCCN1MNX25SA	18
TCSCCN2FNX1SA	18
TCSCCN2FNX3SA	18
TCSCCN2FNX10SA	18
TCSCCN2FNX25SA	18
TCSCCN2M2F1	18
TCSCCN2M2F2	18
TCSCCN2M2F03	18
TCSCCN2M2F5	18
TCSCCN2M2F10	18
TCSCCN2M2F15	18
TCSCCN2MNX1SA	18
TCSCCN2MNX3SA	18
TCSCCN2MNX10SA	18
TCSCCN2MNX25SA	18
TCSXCN1FNX1E	18
TCSXCN1FNX3E	18
TCSXCN1FNX10E	18
TCSXCN1FNX25E	18
TCSXCN1M1F1E	19
TCSXCN1M1F2E	19
TCSXCN1M1F03E	19
TCSXCN1M1F5E	19
TCSXCN1M1F10E	19
TCSXCN1M1F15E	19
TCSXCN1M2SA	19
TCSXCN1M5SA	19
TCSXCN1M15SA	19
TCSXCN1MNX1E	19
TCSXCN1MNX3E	19
TCSXCN1MNX10E	19
TCSXCN1MNX25E	19
TCSXCN2FNX1E	18
TCSXCN2FNX3E	18
TCSXCN2FNX10E	18
TCSXCN2FNX25E	18
TCSXCN2M2F1E	19
TCSXCN2M2F2E	19
TCSXCN2M2F03E	19
TCSXCN2M2F5E	19
TCSXCN2M2F10E	19
TCSXCN2M2F15E	19
TCSXCN2M2SA	19
TCSXCN2M5SA	19
TCSXCN2M15SA	19
TCSXCN2MNX1E	19
TCSXCN2MNX3E	19
TCSXCN2MNX10E	19
TCSXCN2MNX25E	19
TCSXCNDFNX1V	19
TCSXCNDFNX3V	19
TCSXCNDFNX10V	19
TCSXCNDFNX25V	19
TCSXCNDMDF1V	19
TCSXCNDMDF2V	19
TCSXCNDMDF03V	19
TCSXCNDMDF5V	19
TCSXCNDMDF10V	19
TCSXCNDMDF15V	19
TCSXCNDMNX1V	19
TCSXCNDMNX3V	19
TCSXCNDMNX10V	19
TCSXCNDMNX25V	19
TCSXCNEFNX1V	19
TCSXCNEFNX3V	19
TCSXCNEFNX10V	19
TCSXCNEFNX25V	19
TCSXCNEMEF1V	19
TCSXCNEMEF2V	19
TCSXCNEMEF03V	19
TCSXCNEMEF5V	19
TCSXCNEMEF10V	19
TCSXCNEMEF15V	19
TCSXCNEXX1V	19
TCSXCNEXX3V	19
TCSXCNEXX10V	19
TCSXCNEXX25V	19
TM7ACCA	21
TM7ACCB	21
TM7ACMP	21
TM7ACMP10	21
TM7ACTHA	20
TM7ACTLA	20
TM7ACTW	21
TM7ACYC	20
TM7ACYCJ	20
TM7BAI4CLA	10
TM7BAI4PLA	10
TM7BAI4TLA	10
TM7BAI4VLA	10
TM7BAM4CLA	10
TM7BAM4VLA	10
TM7BAO4CLA	10
TM7BAO4VLA	10
TM7BDI8B	7
TM7BDI16A	7
TM7BDI16B	7
TM7BDM8B	7
TM7BDM16A	7
TM7BDM16B	7
TM7BDO8TAB	7
TM7NCOM08B	17
TM7NCOM16A	17
TM7NCOM16B	17
TM7SPS1A	11

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