

High-Performance and Safe IP67 distributed I/O System





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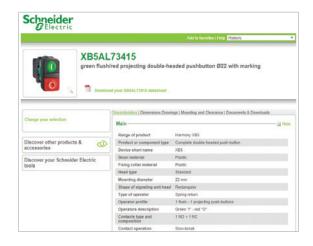


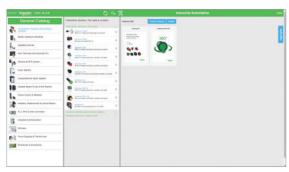
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General content

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To be competitive in today's digital era, machine builders must be innovative. Smart machines, those that are better connected, more flexible, more efficient, and safe, are enabling machine builders to innovate in ways never before possible.

EcoStruxure, Schneider Electric's open, IoT-enabled architecture and platform, offers powerful solutions for the digital era. As part of this, EcoStruxure Machine brings powerful opportunities for machine builders and OEMs, empowering them to offer smart machines and compete in the new, digital era.

EcoStruxure Machine brings together key technologies for product connectivity and edge control on premises, and cloud technologies to provide analytics and digital services.

EcoStruxure Machine helps you bring more innovation and added value to your customers throughout the entire machine life cycle.

Innovation at Every Level for Machines is full systems across three layers:

Connected products

Our connected products for measuring, actuating, device level monitoring, and control adhere to open standards to provide unmatched integration opportunities and flexibility

- Edge Control

We are IIoT-ready with a proven set of tested and validated reference architectures that enable the design of end-to-end open, connected, and interoperable systems based on industry standards. Ethernet and OPC UA facilitates IT/OT convergence meaning machine builders reap benefits from web interfaces and cloud.

Apps, Analytics & Services

Seamless integration of machines to the IT layer allows the collection and aggregation of data ready for analysis – for machine builders and end users alike this means increased uptime and the ability to find information faster for more efficient operations and maintenance.

These levels are completely integrated from shop floor to top floor. And we have cloud offers and end-to-end cybersecurity wrapped around.

EcoStruxure Machine makes it easier for OEMs/ machine builders to offer their customers smarter machines. The advent of smart machines is driven by the changing needs of end users:

- Evolving workforce
- Reducing costs
- Dynamic markets
- Shorter life cycles
- Prioritizing safety and cybersecurity

EcoStruxure Machine provides one solution for the whole machine life cycle:

- With Smart Design & Engineering the time to market is reduced by up to 30% using our automated engineering and the simulation capabilities
- During Commissioning & Operation of the machine, resources such as energy, material and loss can be improved, and with seamless integration to the IT world efficiency can be improved by up to 40%
- Smart Maintenance & Services reduces the time for corrective actions up to 50%





^{*}The Schneider Electric industrial software business and AVEVA have merged to trade as AVEVA Group plc, a UK listed company. The Schneider Electric and Life is On trademarks are owned by Schneider Electric and are being licensed to AVEVA by Schneider Electric.

High-Performance and Safe IP67 Distributed I/O System

Controllers for industrial machines

Applications	Туре	Logic controller			Logic/Motion controller	Motion controller
	Specification	For hardwired architectures	For performance-demanding applications	For modular and distributed architectures	IIoT ready for performance machines	For automating machines/lines with 0 - 130 servo or robot axes
		Property of the state of the st	The state of the s			Marie Control of the
Performance		0.2 μs/inst	22 ns/inst	22 ns/inst	35 ns/inst	0.52 ns/inst
Memory		640 KB RAM, 2 MB Flash	64 MB RAM, 128 MB Flash	64 MB RAM, 128 MB Flash	256 MB RAM, 256 MB Flash	128 KB to 256 KB NV RAM 512 MB DDR2 to 1 GB DDR3L
Supply voltage		24 V or 100240 V ∼	24 V $=$ or 100240 V \sim	24 V	24 V	24 V
Communication fieldbus and networks	Embedded	■ EtherNet/IP ■ RS 232/RS 485 serial link ■ USB mini-B programming port	 Ethernet CANopen (master) and SAE J1939 2 serial links USB mini-B programming port 	 ■ EtherNet/IP ■ CANopen (master) and SAE J1939 ■ Serial link ■ USB mini-B programming port 	 EtherNet/IP Sercos III Modbus TCP Serial link USB mini-B programming port 	 EtherNet/IP Sercos III CANopen Profibus Profinet EtherCAT
	Optional	■ 1 Serial Line	■ Ethernet ■ Profibus DP	■ Ethernet ■ Profibus DP	■ Ethernet ■ CANopen	■ CANopen■ Profibus DP■ RT-Ethernet
Embedded I/O	Input types	Up to 40 logic inputs Up 2 analog inputs	Up to 24 logic inputs	-	4 fast digital inputs	Up to 20 digital inputs Up to 16 touch probe inputs Up to 4 interrupt inputs Up to 2 analog inputs
	Output types	Up to 16 relay outputs Up to 16 tansistor outputs	Up to 16 tansistor outputs	-	4 fast digital outputs	Up to 16 digital outputs Up to 2 analog outputs
Synchronized axes	s	-	-	-	Up to 16 synchronized axes	Up to 130 synchronized axes
Configuration soft	ware	EcoStruxure Machine Expert-Basic (1)	EcoStruxure Machine Expert V1.1 (2)	EcoStruxure Machine Expert V1.1 (2)	EcoStruxure Machine Expert V1.1	EcoStruxure Machine Expert V1.1 (2)
Compatible expandatalog)	sion I/O module ranges (consult the					
	Local I/O	Modicon TM3 (<u>DIA3ED2140109EN)</u>	• Modicon TM3 (<u>DIA3ED2140109EN</u>)	 Modicon TM3 (<u>DIA3ED2140109EN</u>) 	 Modicon TM3 (<u>DIA3ED2140109EN</u>) 	-
	Remote I/O	Modicon TM3 (<u>DIA3ED2140109EN</u>)	Modicon TM3 (<u>DIA3ED2140109EN</u>)	• Modicon TM3 (<u>DIA3ED2140109EN</u>)	Modicon TM3 (DIA3ED2140109EN)	-
	Distributed I/O on Ethernet	Modicon TM3 (<u>DIA3ED2140109EN)</u>	 Modicon TM3 (<u>DIA3ED2140109EN</u>) Modicon TM5 (<u>DIA3ED2131204EN</u>) 	 Modicon TM3 (DIA3ED2140109EN) Modicon TM5 (DIA3ED2131204EN) 	 Modicon TM3 (<u>DIA3ED2140109EN</u>) Modicon TM5 (<u>DIA3ED2131204EN</u>) 	Modicon TM5 (<u>DIA3ED2131204EN</u>)
	Distributed I/O on CANopen	-	-	-	 Modicon TM5 (<u>DIA3ED2131204EN</u>) Modicon TM7 (<u>DIA3ED2140405EN</u>) 	 Modicon TM5 (DIA3ED2131204EN) Modicon TM7 (DIA3ED2140405EN)
	Distributed I/O on Sercos	-	-	-	Modicon TM5 (<u>DIA3ED2131204EN</u>)	Modicon TM5 (DIA3ED2131204EN)
	Safety I/O	△ Modicon TM3 (DIA3ED2140109EN)	△ Modicon TM3 (DIA3ED2140109EN)	△ Modicon TM3 (DIA3ED2140109EN)	△ Modicon TM3 (DIA3ED2140109EN) △ Modicon TM5 (DIA3ED2131204EN) △ Modicon TM7 (DIA3ED2140405EN)	△ Modicon TM5 (DIA3ED2131204EN) △ Modicon TM7 (DIA3ED2140405EN)
Controller range		Modicon M221/M221 Book	Modicon M241	Modicon M251	Modicon M262	LMC Eco, LMC Pro2
More details in cat	alog	<u>DIA3ED2140106EN</u>	<u>DIA3ED2140107EN</u>	<u>DIA3ED2140108EN</u>	<u>DIA3ED2180503EN</u>	<u>DIA7ED2160303EN</u>

⁽¹⁾ Formerly named SoMachine Basic.
(2) Formerly named SoMachine, EcoStruxure Machine Expert merges both former software ranges, SoMachine and SoMachine Motion.





High-Performance and Safe IP67 Distributed I/O System Machine Automation

Machine Automation





EcoStruxure Machine Advisor



EcoStruxure Machine Expert - Basic

For basic and compact

machines

Expert - Safety **EcoStruxure Machine** Expert

For modular and

distributed machines

For Logic and Motion IIoT-ready performance machines

For Motion-centric machines, robots,







Embedded



Modicon M221

Modicon M241 Modicon M251

Modicon M262 Motion Logic

PacDrive LMC Eco/Pro



Controllers









Machine control

The scalability and consistency of I/O ranges allow you to select the right offer depending on your needs

Embedded Safety provides holistic solutions to Modicon M262 and PacDrive LMC controllers, increasing overall safety demand in Machine Automation

All these devices are managed within a single software, EcoStruxure Machine Expert, a powerful and collaborative engineering environment

- > From basic to motion- and robot-centric machines with the PacDrive 3 offer, Modicon controllers and solutions bring a consistent and scalable response to achieving flexibility, performance, productivity, and digitization.
- > Modicon TM3 Optimized I/O system for more compact and modular machines
- > Modicon TM5 for more performance-demanding machines, with Modicon TM7 for harsh environments; Both Performance I/O ranges (Modicon TM5 and TM7) allow safety functions to be implemented using the Modicon TM5CSLC safety logic controller
- > Preventa XPS Universal safety modules cover a wide range of safety functions, suitable for small applications with 4-5 safety functions, with diagnostic information provided to controllers via a single wire connection
- > Modicon TM3 safety functional modules are suitable for small applications covering E-Stop functions and diagnostics via TM3 bus
- > Preventa XPSMCM modular safety controllers are suitable for medium size applications with up to 20 safety functions and diagnostics via Modbus TCP, EtherNet/IP, EtherCAT, or Profinet
- EcoStruxure Machine Expert Safety optional addon for programming safety logic controllers
- EcoStruxure Machine Expert Basic software for programming Modicon M221 logic controllers: an intuitive standalone environment accessible to basic skilled technicians
- > EcoStruxure Machine Advisor is a cloud-based services platform designed for machine builders to track machines in operation worldwide, monitor performance data, and resolve exceptional events, while reducing support costs by up to 50%

High-Performance and Safe IP67 Distributed I/O System Machine Automation

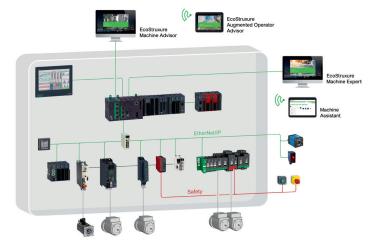
Machine Automation

Comprehensive Schneider offers for machine builders

Lexium servo drives, motors, and robotics are designed to control applications ranging from a single independent axis up to high-performance synchronized multi-axis machines requiring high-speed and precise positioning and movements



- > The Lexium offer is designed for a broad range of motion-centric machines in applications such as <u>Packaging</u>, <u>Material Handling</u>, <u>Material Working</u>, <u>Food and Beverage</u>, <u>and Electronics</u>
- Schneider Electric has developed Tested Validated & Documented Architectures (TVDA) applicable for generic machine control applications as well as for dedicated segment applications such as Packaging, Material Working, Material Handling, Hoisting, Pumping, or generic <u>Machine Control applications</u>



Choose Schneider Electric to help secure your investment and benefit from worldwide services at every step of your project



- > From planning and inception to modernization, we help ensure optimal technical and business performance. Our field service engineers combine 30+ years of manufacturer-level experience with the latest technology to bring innovation to every level of our offer, and every step of your project.
- Our machine control dedicated services empower you to maximize your business infrastructure and face increasingly stringent demands on productivity, safety, equipment availability, and performance optimization.

High-Performance and Safe IP67 Distributed I/O System

Presentation of the range

Modicon TM7 range

The Modicon TM7 offer has been developed to create flexible, scalable I/O configurations for automation solutions based on Modicon and PacDrive controllers:

- Modicon M258 logic controllers
- Modicon LMC058 and LMC078 motion controllers
- PacDrive LMC Eco/Pro/Pro2 motion controllers
- Modicon M262 logic/motion controllers

The IP67 protection of these blocks enables them to be used within processes or machines in harsh environments (where there is a risk of splashing water, oil, dust, etc.) and offers the following advantages:

- ingress protection
- ruggedness and compactness
- rapid wiring, economical use

This I/O system is compatible with EcoStruxure Machine Expert software.

Digital blocks

The offer comprises input blocks, configurable I/O blocks, and an output block.

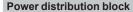
See page 10



The offer comprises:

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

See page 14



A power distribution block is available as an option to power 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 TM5SBET7 transmitter module (1) followed by 6 (2) TM7 I/O expansion blocks (mounted vertically)
- With a TM7NCOM08B CANopen interface block followed by 4 (2) TM7 I/O expansion blocks
- With a TM7NCOM16A/16B CANopen interface block followed by 18 (2) TM7 I/O expansion blocks

See page 19

Note: These limits must be weighted according to the cable lengths. Please refer to the SPIG (System Planning and Installation Guide) for the Modicon TM7 IP 67 block offer on our website

Safety blocks

The offer also comprises safety I/O blocks. These blocks complement the Modicon TM5 safety offer (1) on the Sercos bus.

See page 19

CANopen interface blocks with digital I/O

The CANopen interface block offer comprises IP67 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

See page 20

Connection accessories

A range of cables and connectors is available for connecting the CAN bus, TM7 expansion bus, I/O, and the 24 V --- power supplies on TM7 expansion blocks. See page 26

- (1) Please refer to catalog ref. DIA3ED2131204EN
- (2) Minimum number.





Analog I/O expansion block



Power distribution block





Safety I/O blocks





CANopen interface blocks with digital I/O





High-Performance and Safe IP67 Distributed I/O System

Modicon TM7 expansion system

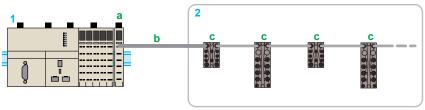
Diagnostic functions

Modicon TM7 expansion system

EcoStruxure Machine Expert software is used to configure the remote I/O and distributed I/O islands.

Remote I/O configuration

The TM5SBET7 bus expansion module (transmitter module) (1) is used to create remote I/O islands.

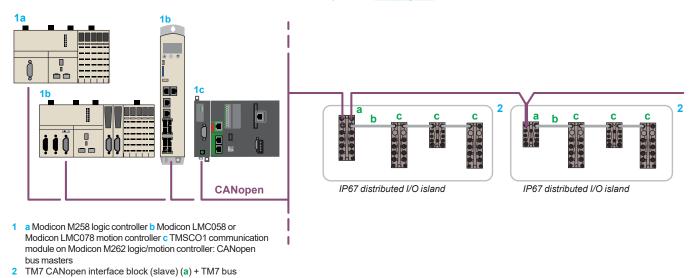


IP67 remote I/O island

- 1 M258 logic controller/LMC058 motion controller + TM5SBET7 transmitter module (a) (1)
- 2 IP67 distributed I/O island: TM7 bus expansion cable (b) + TM7 digital/analog expansion blocks (c)

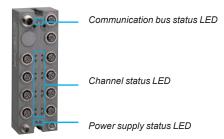
Distributed I/O configuration

Modicon TM7 CANopen interface blocks are used to create distributed I/O islands on the CANopen bus. See page 22



expansion cable (b) + TM7 digital/analog blocks (c) (1) Modicon TM5 transmitter module: please refer to catalog ref. DIA3ED2131204EN

Diagnostic functions



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

Each Modicon TM7 block has LEDs for:

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

There are several levels of diagnostics:

- Channel diagnostics: state of inputs and outputs
- Expansion block diagnostics:
 - Presence of sensor/actuator power supply
 - Undervoltage fault detected 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 block)
 - On TM7 expansion bus (CANopen interface block and I/O expansion blocks)
- Power supply diagnostics via the TM7 bus (expansion block only)

High-Performance and Safe IP67 Distributed I/O System Digital I/O blocks

Applications Compatibility Remote I/O Distributed I/O

With TM5SBET7 bus expansion module (transmitter module):

- Modicon M258 logic controller Modicon LMC058 motion controller
- With TM7NCOM●●● CANopen interface block:
 Modicon M258 logic controller
 Modicon LMC058 motion controller
- Modicon LMC078 motion controller
- Modicon M262 logic/motion controller
 With Modicon TM5 network interface modules over Ethernet, Sercos and CANopen





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IP	67			



IP67

Degree of protecti	on		IP67
Housing type			Plastic
Modularity	Max. number of d	ligital channels	8
(number of channels)	Digital inputs		8
Chamiers)	Digital outputs		-
Digital inputs	Voltage/Current		24 V ===/7 mA
	Туре		Sink (1)
	IEC 61131-2 conf	ormity	Type 1
Digital outputs	Voltage		-
	Туре		-
	Current per outpu	ıt	-
	Current per expan	nsion block	-
Sensor/actuator	Voltage		24 V
power supply	Max. current		500 mA for all channels
	Protection agains	st	Overloads, short-circuits, reverse polarity
Connection	TM7 expansion	Bus input connector	B-coded 4-way male M12
	bus	Bus output connector	B-coded 4-way female M
	Digital I/O channels	Sensor connector	3-way female M8, 1 channel per connector
		Actuator connector	-
	Expansion block power supply	Input connector	4-way male M8
		Output connector	4-way female M8
Diagnostics	By expansion blo	ck	Yes
	By channel		Yes
	By communicatio	n on TM7 bus	Yes
Expansion block			TM7BDI8B
Page			13
(1) Sink inputs: posit	tive logic		(2) Source outputs: positive

	TM7BDI8B	TM7BDI16B	TM7BDI16A
	Yes	Yes	Yes
	Yes	Yes	Yes
	Yes	Yes	Yes
ector	4-way female M8	4-way female M8	4-way female M8
tor	4-way male M8	4-way male M8	4-way male M8
nector	-	-	-
ector	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
nnector	B-coded 4-way female M12	B-coded 4-way female M12	B-coded 4-way female M12
nector	B-coded 4-way male M12	B-coded 4-way male M12	B-coded 4-way male M12
	Overloads, short-circuits, and reverse polarity	Overloads, short-circuits, and reverse polarity	Overloads, short-circuits, and reverse polarity
	500 mA for all channels	500 mA for all channels	500 mA for all channels
	24 V	24 V	24 V
	-	_	-
	-	-	-
	-	-	-
	-	-	-
	Type 1	Type 1	Type 1
	Sink (1)	Sink (1)	Sink (1)
	24 V/7 mA	24 V/7 mA	24 V/7 mA
	-	-	-
	8	16	16
	8	16	16
	Plastic	Plastic	Plastic

Plastic	Plastic	Plastic
8	16	16
8	16	16
-	-	-
24 V/7 mA	24 V ===/7 mA	24 V ===/7 mA
Sink (1)	Sink (1)	Sink (1)
Type 1	Type 1	Type 1
_	-	_
-	-	-
_	-	-
-	-	-
24 V	24 V	24 V
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
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
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
-	-	-
4-way male M8	4-way male M8	4-way male M8
4-way female M8	4-way female M8	4-way female M8
Yes	Yes	Yes
Yes	Yes	Yes
Yes	Yes	Yes
TM7BDI8B	TM7BDI16B	TM7BDI16A

TM7BDI8B	TM7BDI16B	ТМ7В

(2) Source outputs: positive logic









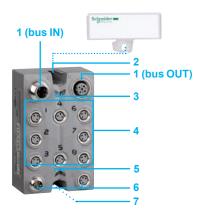
TM7BDO8TAB	ТМ7ВДМ8В	TM7BDM16A	TM7BDM16B
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
4-way female M8	4-way female M8	4-way female M8	4-way female M8
4-way male M8	4-way male M8	4-way male M8	4-way male M8
3-way female M8, 1 channel per connector	3-way female M8, 1 channel per connector	5-way female M12, 2 channels per connector	3-way female M8, 1 channel per connector
-	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
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 male M12	B-coded 4-way male M12	B-coded 4-way male M12	B-coded 4-way male M12
Overloads, short-circuits, and reverse polarity	Overloads, short-circuits, and reverse polarity	Overloads, short-circuits, and reverse polarity	Overloads, short-circuits, and revers polarity
500 mA for all channels	500 mA for all channels	500 mA for all channels	500 mA for all channels
24 V ===	24 V	24 V	24 V
8 A max.	4 A max.	8 A max.	8 A max.
2 A max.	0.5 A max.	0.5 A max.	0.5 A max.
Transistor/Source (2)	Transistor/Source (2)	Transistor/Source (2)	Transistor/Source (2)
24 V 	24 V	24 V	24 V
-	Type 1	Type 1	Type 1
_	Sink (1)	Sink (1)	Sink (1)
_	24 V ===/4.4 mA	24 V/4.4 mA	24 V ===/4.4 A max.
8	08 software-configurable	016 software-configurable	016 software-configurable
_	08 software-configurable	016 software-configurable	016 software-configurable
8	8	16	16
Plastic	Plastic	Plastic	Plastic
P67	IP67	IP67	IP67

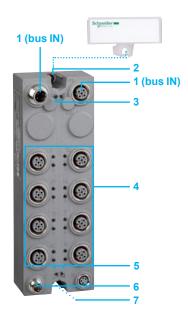
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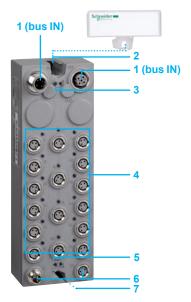




High-Performance and Safe IP67 Distributed I/O System Digital I/O blocks







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 channel status LEDs
- 5 Two LEDs indicating the status of the 24 V == sensor and actuator power supplies
- 6 Two M8 connectors for connecting the 24 V == sensor and actuator power supplies (male for PWR IN, female for PWR OUT)
- 7 Mounting using two Ø 4 screws (not supplied) and connection of the functional ground when block is mounted 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 channel status LEDs
- 5 Two LEDs indicating the status of the 24 V == sensor and actuator power supplies
- 6 Two M8 connectors for connecting the 24 V == sensor and actuator power supplies (male for PWR IN, female for PWR OUT)
- 7 Mounting using two Ø 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

High-Performance and Safe IP67 Distributed I/O System Digital I/O blocks



TM7BDI8B, TM7BD08TAB, TM7BDM8B



TM7BDM16B, TM7BDI16B



TM7BDI16A, TM7BDM16A

Max. no. of	expansion b		Sensor and	Communication	Reference	Woight
channels	Number/type of inputs (1)	Number/type of outputs (2)	actuator connection	bus	Reference	Weight kg/ <i>lb</i>
8, input	8, sink <i>(3)</i>	-	8 female M8 connectors	TM7 bus	TM7BDI8B	0.180/ 0.397
16, input	16, sink (3)	-	16 female M8 connectors	TM7 bus	TM7BDI16B	0.320/ 0.705
	16, sink (3)	-	8 female M12 connectors	TM7 bus	TM7BDI16A	0.320/ 0.705
8, output	-	8, transistor/ source (4), 2 A max.	8 female M8 connectors	TM7 bus	TM7BDO8TAB	0.185 <i>i</i> 0.408
8, I/O, configurable	08, sink <i>(3)</i>	08, transistor/ source (4), 0.5 A max.	8 female M8 connectors	TM7 bus	TM7BDM8B	0.190/ 0.419
16, I/O, configurable	016, sink (3)	016, transistor/ source (4), 0.5 A max.	8 female M12 connectors	TM7 bus	TM7BDM16A	0.320/ 0.705
			16 female M8 connectors	TM7 bus	TM7BDM16B	0.320/ 0.705

Architecture and connection cables

See page 26

Separate parts

See page 29

Configuration software

■ EcoStruxure Machine Expert software: please refer to catalog Ref. DIA3ED2180701EN

^{(1) 24} V :-- IEC type 1 (2) 24 V :--(3) Sink inputs: positive logic (4) Source outputs: positive logic

High-Performance and Safe IP67 Distributed I/O System Analog I/O blocks

Applications Compatibility

Local and remote I/O

Distributed I/O

Analog I/O expansion blocks

With TM5SBET7 bus expansion module (transmitter module):

Modicon M258 logic controller Modicon LMC058 motion controller

■ With TM7NCOM●●● CANopen interface block:
- Modicon M258 logic controller
- Modicon LMC058 motion controller

Modicon LMC078 motion controller

Modicon M262 logic/motion controller

With Modicon TM5 network interface modules over Ethernet, Sercos and CANopen

















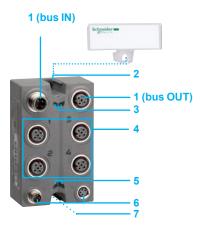
Degree of protect	tion	
Housing type		
Modularity (number of channels)	Max. number of an Analog inputs Temperature input Analog outputs	
Inputs	Туре	
	Resolution	
Analog outputs	Type Resolution Current per expan	sion block
Sensor/actuator power supply	Voltage Max. current Protection against	
Connection	TM7 expansion bus	Bus input connector
		Bus output connector
	Analog I/O channels	Sensor connector
		Actuator connector
	Expansion block power supply	Input connector
		Output connector
Diagnostics	By expansion bloc By channel	k
	By communication	on TM7 bus
Expansion block		

IP67	IP67	IP67
Plastic	Plastic	Plastic
4	4	4
4	4	-
-	-	4
-	-	-
Voltage -10+10 V	Current 020 mA	Pt 100 temperature probe, Pt 1000 temperature probe, KTY 10 silicon temperature probe, KTY 84 silicon temperature probe, Resistance 03,276 Ohm
11 bits + sign	12 bits	16 bits
_	-	-
-	-	-
-	-	-
24 V	24 V	-
500 mA for all channels	500 mA for all channels	-
Overloads, short-circuits, and reverse polarity	Overloads, short-circuits, and reverse polarity	-
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
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 female M8	4-way female M8	4-way female M8
Yes	Yes	Yes
Yes	Yes	Yes
Yes	Yes	Yes
TM7BAI4VLA	TM7BAI4CLA	TM7BAI4TLA

IP67	IP67	IP67	IP67	IP67
Plastic	Plastic	Plastic	Plastic	Plastic
4	4	4	4	4
-	_	_	2	2
4	-	-	-	_
-	4	4	2	2
J, K, S thermocouple Voltage 065,536 μV	-	-	Voltage -10+10 V	Current 020 mA
16 bits	-	-	11 bits + sign	12 bits
-	Voltage -10+10 V ===	Current 020 mA	Voltage -10+10 V	Current 020 mA
-	11 bits + sign	12 bits	11 bits + sign	12 bits
-	-	-	-	-
-	24 V	24 V	24 V	24 V
-	500 mA for all channels			
-	Overloads, short-circuits, and reverse polarity			
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 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
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
TM7BAI4PLA	TM7BAO4VLA	TM7BAO4CLA	TM7BAM4VLA	TM7BAM4CLA



High-Performance and Safe IP67 Distributed I/O System Analog I/O blocks



Description

Analog I/O expansion blocks

Analog I/O expansion blocks have the following on the front panel:

- A male M12 connector (bus IN) and a female M12 connector (bus OUT) for connecting the TM7 expansion bus
- A slot for the expansion block label (1)
- Two bus diagnostic LEDs
- Four female M12 connectors for connecting sensors and/or actuators with channel status LEDs
- Two LEDs indicating the status of the 24 V == sensor and actuator power supplies Two M8 connectors for connecting the 24 V == sensor and actuator power supplies (male for PWR IN, female for PWR OUT)
- 7 Mounting using two Ø 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

High-Performance and Safe IP67 Distributed I/O System Analog I/O blocks



	g I/O expansi						
Max. no. of channels	Input range	Output range	Resolution	Sensor and actuator connection	Communication bus	Reference	Weight kg/ <i>lb</i>
4 input	Voltage -10+10 V	-	11 bits + sign	4 female M12 connectors	TM7 bus	TM7BAI4VLA	0.200/ 0.441
	Current 020 mA	-	12 bits	4 female M12 connectors	TM7 bus	TM7BAI4CLA	0.200/ 0.441
	Pt 100, Pt 1000 temperature probe KTY 10, KTY 84 silicon temperature probe Resistance 03,276 Ω		16 bits	4 female M12 connectors	TM7 bus	TM7BAI4TLA	0.200/ 0.441
	J, K, S thermocouple Voltage 065,536 μV	-	16 bits	4 female M12 connectors	TM7 bus	TM7BAI4PLA	0.200/ 0.441
4 output	_	Voltage -10+10 V ==	11 bits + sign	4 female M12 connectors	TM7 bus	TM7BAO4VLA	0.200/ 0.441
	_	Current 020 mA	12 bits	4 female M12 connectors	TM7 bus	TM7BAO4CLA	0.200/ 0.441
2 input + 2 output	Voltage -10+10 V	Voltage -10+10 V	11 bits + sign	4 female M12 connectors	TM7 bus	TM7BAM4VLA	0.200/ 0.441
	Current 020 mA	Current 020 mA	12 bits	4 female M12 connectors	TM7 bus	TM7BAM4CLA	0.200/ 0.441

Architecture and connection cables

See page 26

Separate parts

See page 29

Configuration software

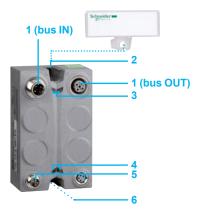
■ EcoStruxure Machine Expert software: please refer to catalog Ref. <u>DIA3ED2180701EN</u>

Description, references

Modicon TM7

High-Performance and Safe IP67 Distributed I/O System

Power distribution block



Description

Power distribution block

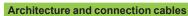
The power distribution blocks have the following on the front panel:

- A male M12 connector (bus IN) and a female M12 connector (bus OUT) for connecting the TM7 expansion bus
- A slot for the power distribution block label (1)
- Two TM7 bus diagnostic LEDs
- Two LEDs indicating the status of the 24 V == sensor and actuator power supplies
- 5 Two M8 connectors for connecting the 24 V == sensor and actuator power supplies (male for PWR IN, female for PWR OUT)
- 6 Mounting using two \varnothing 4 screws (not supplied) and connection of the functional ground when block is mounted on a metal support

Power distribution block comp	Power distribution block compatibility				
	TM7SPS1A				
Local and remote I/O	With TM5SBET7 bus expansion module (transmitter module): - Modicon M258 logic controller - Modicon LMC058 motion controller				
Distributed I/O	With TM7NCOM CANopen interface block: - Modicon M258 logic controller - Modicon LMC058 motion controller - Modicon LMC078 motion controller - Modicon M262 logic/motion controller				

(1) Label-holder supplied with power distribution block

References				
Function	Connection	Communication bus	Reference	Weight kg/lb
supply for I/O	Power supply: 2x M8 connectors, 1 male and 1 female TM7 bus: 2x M12 connectors, 1 male and 1 female	TM7 bus	TM7SPS1A	0.190/ <i>0.419</i>



See page 24 to 29

Separate parts

See page 29

Configuration software

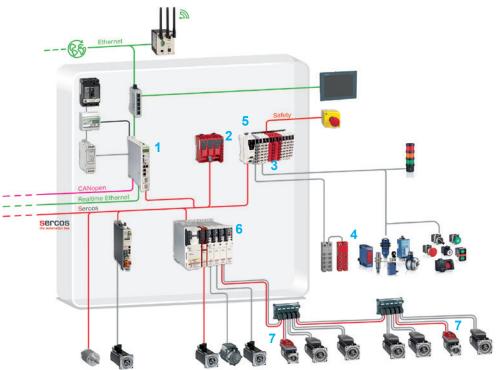
■ EcoStruxure Machine Expert software: please refer to catalog Ref. DIA3ED2180701EN



TM7SPS1A

High-Performance and Safe IP67 Distributed I/O System Safety I/O blocks

Presentation Safety I/O blocks





Modicon M262



DIA7ED2160305EN





- PacDrive LMC motion controller or Modicon M262 logic/motion controller (1)
- Modicon TM5CSLC safety logic controller, Sercos slave interface
- Modicon TM5 safety I/O modules
- Modicon TM7 safety I/O blocks Modicon TM5 Sercos interface modules
- Lexium 62 safety servo drives (2) or Lexium 62 ILM integrated servo drive with optional safety module (3)
- (1) Refer to catalog ref. <u>DIA3ED2180503EN</u>. (2) Refer to catalog ref. <u>DIA7ED2160305EN</u>.
- (3) Refer to catalog ref. DIA7ED2160306EN.

Safety I/O blocks compatibility			
TM7SDI8DFS, TM7SDM12DTFS			
Local and remote I/O	-		
Distributed I/O	With TM5 Sercos interface block - PacDrive LMC Eco/Pro/Pro2 motion controllers - Modicon M262 logic/motion controller		

Modicon TM7 safety I/O blocks are IP67 I/O dedicated to safety-related applications. Two versions are available:

- One with 8 safety digital (sink) inputs and 2 non-safety digital inputs
- One with 8 safety digital (sink) inputs and 4 safety digital outputs

Modicon TM7 safety I/O expansion blocks use a power bus and a data bus to operate:

- The TM7 power bus distributes power to supply the electronic components of the TM7 safety I/O blocks. It is powered by the Modicon TM5SBET7 transmitter module.
- The TM7 data bus transmits data between the Sercos bus interface and the TM7 expansion modules.

Designation	Description	Reference	Weight kg/ <i>lb</i>
P67 safety input block	8 safety digital inputs, 24 V DC, sink 2 digital inputs	TM7SDI8DFS	0.217 <i>,</i> 0.478
P67 safety I/O block	8 safety digital inputs, 24 VDC, sink 4 safety digital outputs, 24 VDC, transistor	TM7SDM12DTFS	0.320/ <i>0.705</i>



TM7SDI8DFS



TM7SDM12DTFS

High-Performance and Safe IP67 Distributed I/O System CANopen interface blocks

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 LMC078 motion controller
- Modicon M262 logic/motion controller PacDrive LMC Eco/Pro/Pro2 motion controllers





Degree of protect	tion		IP67	IP67
Housing type			Plastic	Plastic
Modularity (number of	Max. number of digi	tal channels	8 channels configurable as inputs or outputs	16 channels configurable as inputs or outputs
channels)	Digital inputs		08 according to software configuration	016 according to software configuration
	Digital outputs		08 according to software configuration	016 according to software configuration
Digital inputs	Voltage/Current		24 V/4.4 mA	24 V/4.4 mA
	Туре		Sink (1)	Sink (1)
	IEC 61131-2 confor	mity	Type 1	Type 1
Digital outputs	Voltage		24 V	24 V
	Туре		Transistor/Source (2)	Transistor/Source (2)
	Current per output		0.5 A max.	0.5 A max.
	Current per interfac	e block	4 A max.	4 A max.
Sensor/actuator	\		241/—	24 V
Sensor/actuator Voltage power supply Max. current Protection against			24 V	
			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 input connector	-	-
	bus	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 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 block		Yes	Yes
	By channel		Yes	Yes
	By communication	On CANopen bus	Yes	Yes
		On TM7 bus	Yes	Yes
			THENCOMOR	THENCOMED
CANopen interfac	ce block		TM7NCOM08B	TM7NCOM16B
Page			23	
. 0-			(1) Sink inputs: positive logic	



IP67

16 channels configurable as inputs or outputs

0...16 according to software configuration

0...16 according to software configuration

24 V ===/4.4 mA

Sink (1)

Type 1

24 V

Transistor/Source (2) 0.5 A max.

4 A max.

24 V

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

TM7NCOM16A



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



High-Performance and Safe IP67 Distributed I/O System CANopen interface blocks

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:

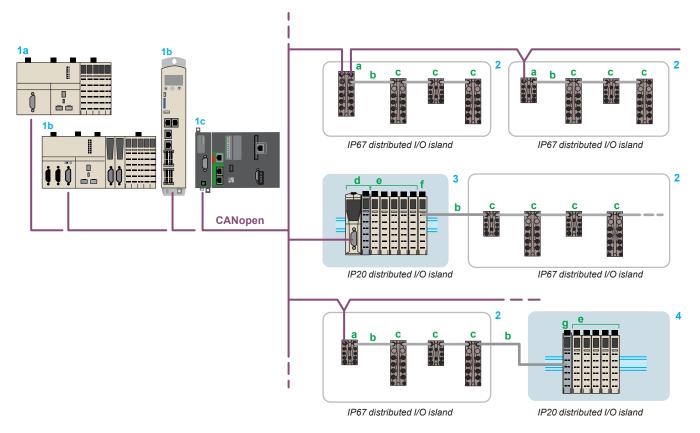
- Ingress protection
- Ruggedness and compactness
- Rapid wiring, economical use

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

High-Performance and Safe IP67 Distributed I/O System CANopen interface blocks

Diagnostic functions

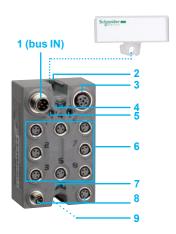
The diagnostics for monitoring detected faults are indicated by LEDs on the Modicon TM7 CANopen interface blocks and inform the control system (Modicon M258 logic controller or Modicon LMC058 motion controller) via the TM7 bus. Each Modicon TM7 interface block has LEDs for:

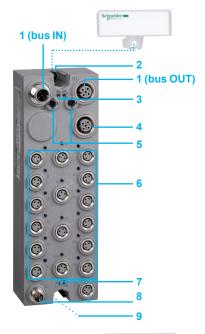
- displaying the status of the TM7 bus, channels, and power supply
- quick, precise location of a detected fault

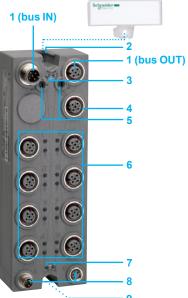
Diagnostics are performed at the following levels:

- 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)

High-Performance and Safe IP67 Distributed I/O System CANopen interface 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)
- 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 == sensor and actuator power supplies
- 8 Two M8 connectors for connecting the 24 V sensor and actuator power supplies (male for PWR IN, female for PWR OUT)
- 9 Mounting using two Ø 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 == sensor and actuator power supplies
- 8 Two M8 connectors for connecting the 24 V == sensor and actuator power supplies (male for PWR IN, female for PWR OUT)
- 9 Mounting using two Ø 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 CANopen interface blocks with digital I/O

High-Performance and Safe IP67 Distributed I/O System CANopen interface blocks



TM7NCOM08B

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

161/0	16, SINK (1)	16, transistor/	16 remaie	CANopen,	TW/NCOW16B	0.320/
		source (2)	M8 connectors	TM7 bus		0.705

16, sink <i>(1)</i>	16, transistor/	8 female	CANopen,	TM7NCOM16A	0.320/
	source (2)	M12 connectors	TM7 bus		0.705







- TM7NCOM16A
- (1) Sink inputs: positive logic
- (2) Source outputs: positive logic

Architecture and connection cables

See page 26

Separate parts

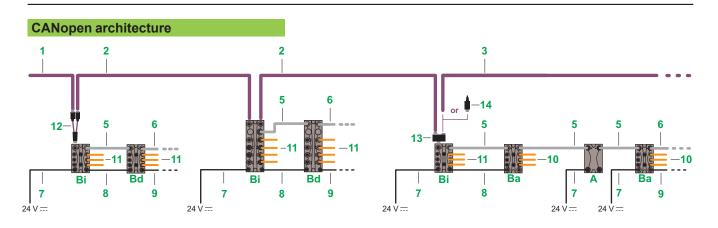
See page 29

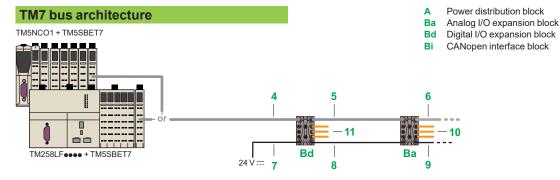
Configuration software

- EcoStruxure Machine Expert software: please refer to catalog ref. <u>DIA3ED2180701EN</u>
 Performance distributed I/O configuration software: please visit our website <u>www.schneider-electric.com</u>

High-Performance and Safe IP67 Distributed I/O System

Connection components: CANopen and TM7 bus architecture







Cables for connection to	the CANopen bus				
Designation	Description	Item	Length m/ft	Reference	Weight kg/ <i>lb</i>
CANopen bus connection	Equipped with 1 A-coded 5-way	1	1/3.28	TCSCCN2FNX1SA	0.089/0.196
cables (bus IN)	angled female M12 connector at		3/9.843	TCSCCN2FNX3SA	0.195/0.430
	one end and flying leads at the other		10/32.81	TCSCCN2FNX10SA	0.563/1.241
			25/82.02	TCSCCN2FNX25SA	1.352/2.981
	Equipped with 1 A-coded 5-way	1	1/3.28	TCSCCN1FNX1SA	0.089/0.196
	straight female M12 connector at		3/9.843	TCSCCN1FNX3SA	0.195/0.430
	one end and flying leads at the other		10/32.81	TCSCCN1FNX10SA	0.563/1.241
			25/82.02	TCSCCN1FNX25SA	1.352/2.981
CANopen bus daisy chain	Equipped with 2 A-coded 5-way	2	0.3/0.98	TCSCCN2M2F03	0.090/0.198
cables	angled M12 connectors,		1/3.28	TCSCCN2M2F1	0.127/0.280
	1 male and 1 female		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 2 A-coded 5-way	2	0.3/0.98	TCSCCN1M1F03	0.090/0.198
	straight M12 connectors, 1 male and 1 female		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	Equipped with 1 A-coded 5-way	3	1/3.28	TCSCCN2MNX1SA	0.089/0.196
cables (bus OUT)	angled male M12 connector at		3/9.843	TCSCCN2MNX3SA	0.195/0.430
	one end and flying leads at the other		10/32.81	TCSCCN2MNX10SA	0.563/1.241
			25/82.02	TCSCCN2MNX25SA	1.352/2.981
	Equipped with 1 A-coded 5-way	3	1/3.28	TCSCCN1MNX1SA	0.089/0.196
	straight male M12 connector at		3/9.843	TCSCCN1MNX3SA	0.195/0.430
	one end and flying leads at the other		10/32.81	TCSCCN1MNX10SA	0.563/1.241
			25/82.02	TCSCCN1MNX25SA	1.352/2.981
TM7 bus expansion cabl	es				
TM7 bus expansion cables	Equipped with 1 B-coded 4-way	4	1/3.28	TCSXCN2FNX1E	0.089/0.196
(bus IN)	angled female M12 connector at		3/9.843	TCSXCN2FNX3E	0.195/0.430
	one end and flying leads at the other		10/32.81	TCSXCN2FNX10E	0.563/1.241
			25/82.02	TCSXCN2FNX25E	1.352/2.981
	Equipped with 1 B-coded 4-way	4	1/3.28	TCSXCN1FNX1E	0.089/0.196
	straight female M12 connector at		3/9.843	TCSXCN1FNX3E	0.195/0.430

10/32.81 TCSXCN1FNX10E

25/82.02 TCSXCN1FNX25E

0.563/1.241

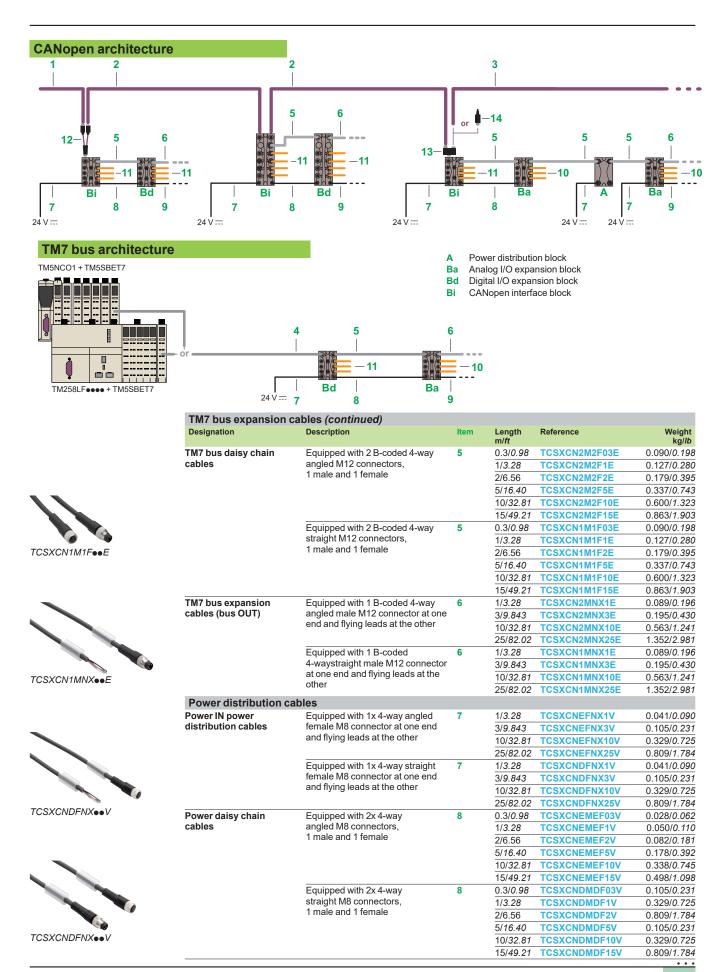
1.352/2.981

one end and flying leads at the other

TCSCCN1MNX••SA

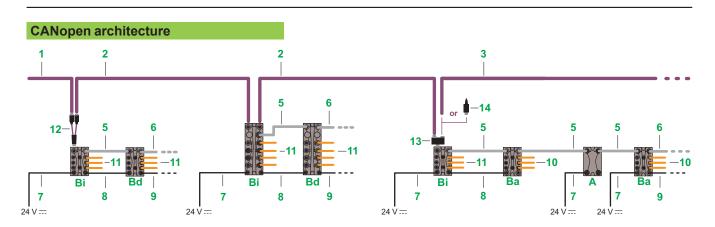
High-Performance and Safe IP67 Distributed I/O System

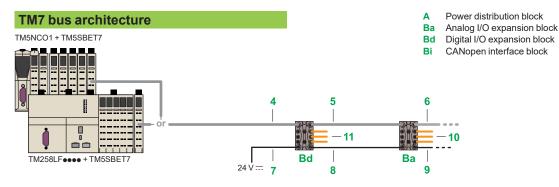
Connection components: CANopen and TM7 bus architecture



High-Performance and Safe IP67 Distributed I/O System

Connection components: CANopen and TM7 bus architecture









Power distribution ca	ables				
Designation	Description	Item	Length m/ft	Reference	Weight kg/ <i>lb</i>
Power OUT power	Equipped with 1x 4-way angled	9	1/3.28	TCSXCNEXNX1V	0.041/0.090
distribution cables	male M8 connector at one end		3/9.843	TCSXCNEXNX3V	0.105/0.231
	and flying leads at the other		10/32.81	TCSXCNEXNX10V	0.329/0.725
			25/82.02	TCSXCNEXNX25V	0.809/1.784
	Equipped with 1x 4-way straight	9	1/3.28	TCSXCNDMNX1V	0.041/0.090
	male M8 connector at one end and flying leads at the other		3/9.843	TCSXCNDMNX3V	0.105/0.231
			10/32.81	TCSXCNDMNX10V	0.329/0.725
			25/82.02	TCSXCNDMNX25V	0.809/1.784
Cables for connectin	g analog sensors and actuators				
Cables for connecting	Equipped with 1 A-coded 5-way	10	2/6.56	TCSXCN2M2SA	0.143/0.315
sensors and actuators	angled male M12 connector at one end and flying leads at the other		5/16.40	TCSXCN2M5SA	0.258/0.569
	end and nying leads at the other		15/49.21	TCSXCN2M15SA	0.546/1.204
	Equipped with one A-coded 5-way	10	2/6.56	TCSXCN1M2SA	0.143/0.315
	straight male M12 connector at one end and flying leads at the other		5/16.40	TCSXCN1M5SA	0.258/0.569
	end and hying leads at the other		15/49.21	TCSXCN1M15SA	0.546/1.204
Cables for connectin	g digital sensors and actuators				







Accessories				
Designation	Composition	Item	Reference	Weight kg/ <i>lb</i>
CAN bus Y cable	Equipped with 2x 5-way M12 connectors, 1 male and 1 female at one end and 1x 5-way male M12 connector at the other end	12	TM7ACYCJ	0.031/ <i>0.068</i>
CAN Y connector	For connecting 2x M12 connectors, 1 male and 1 female, to a male M12 connector on the expansion block	13	TM7ACYC	0.100/0.220
Line terminator (for end of bus)	Equipped with 1x 5-way male M12 connector	14	TM7ACTLA	0.023/0.051
Connector with temperature probe for measurement by thermocouple (1)	Equipped with 1x 5-way male M12 connector	-	ТМ7АСТНА	0.100/0.220

⁽¹⁾ For use with the TM7BAI4PLA expansion block for measuring the temperature of the connector with compensation

Please refer to the "Detection for OsiSense automation solutions" 11

catalog, ref. MKTED210041EN

High-Performance and Safe IP67 Distributed I/O System Separate parts



Separate parts)		
Description	Composition	Unit reference	Weight kg/ <i>lb</i>
Sealing plugs (1)	For M8 connector on Modicon TM7 blocks Pack of 50	ТМ7АССВ	0.100/0.220
	For M12 connector on Modicon TM7 blocks Pack of 50	TM7ACCA	0.100/0.220
Plate for mounting on symmetrical DIN rail ப	For Modicon TM7 blocks	ТМ7АСМР	0.020/0.044
	For Modicon TM7 blocks Pack of 10	TM7ACMP10	0.200/0.441
Screwdrivers	For tightening the rings on M8 and M12 connectors to the correct torque Pack of 2	TM7ACTW	0.198/0.437

⁽¹⁾ The use of sealing plugs ensures that unused connectors on Modicon TM7 IP67 blocks have IP67 protection.

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