

Modicon TM5

High-Performance and Safe IP20 Modular I/O System

Interface modules for distributed I/O on network and buses

Applications		Data exchange between a control device and fieldbus I/O	
Bus or network		Ethernet network (EtherNet/IP protocol)	
Compatibility		■ Modicon M241 logic controllers ■ Modicon M251 logic controllers ■ Modicon M262 logic/motion controller ■ PacDrive LMC Eco/Pro/Pro2 motion controllers	
			
Bus or network type		Industrial LAN	
Structure	Physical interface	10BASE-T/100 BASE-TX (2 isolated RJ45 connectors)	
	Access method	CSMA-CD	
	Data rate	10/100 Mbps	
Medium		Double shielded twisted pair via Ethernet ConneXium cabling system	
Configuration with I/O expansion modules	Modicon TM5 modules, Modicon TM7 blocks	Digital I/O modules Analog I/O modules Common distribution modules (TM5 only)	
	Capacity for 1 TM5 interface module	64 TM5/TM7 modules max. including: - Digital I/O: 768 I/O max. - Analog I/O: 364 I/O max.	
	Maximum distances	- From the expansion bus (TM5 or TM7): 2,500 m (8,202 ft) - Between 2 TM5 module islands: 100 m (328 ft) - Between 2 TM7 blocks: 100 m (328 ft) - Between 1 TM5 module island and 1 TM7 block: 100 m (328 ft)	
Certifications		CE cULus cCSAus EAC RCM	
Supply voltage		24 V  power supply	
Interface module		TM5NEIP1	
To be ordered with	Bus base	TM5ACBN1	
	Power distribution electronic module	TM5SPS3	
	Terminal block	TM5ACTB12PS	
Kit		TM5NEIP1K	
Comprising an interface module, bus base, power distribution electronic module, and terminal block			
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Data exchange between a control device and fieldbus I/O		Data exchange between a control device and fieldbus I/O Integrated safety I/O	
CANopen bus		Sercos bus	
■ Modicon M258 logic controllers ■ LMC058 motion controller ■ LMC078 motion controller ■ Modicon M262 logic/motion controller ■ PacDrive LMC Eco/Pro/Pro2 motion controllers		■ LMC078 motion controller ■ Modicon M262 logic/motion controller ■ PacDrive LMC Eco/Pro/Pro2 motion controllers	
			
CAN fieldbus		Sercos bus	
ISO 11898 (9-way SUB-D connector)		RS 485 (2 parallel RJ45 connectors)	
CSMA-MA, multi-master		Master/slave	
10...1,000 Kbps depending on distance		1.2...38.4 kBaud	
Double shielded twisted pair		Double shielded twisted pair	
Digital I/O modules Analog I/O modules Common distribution modules (TM5 only)		Digital I/O modules Analog I/O modules Common distribution modules (TM5 only)	
		64 TM5/TM7 modules max. including: - Digital I/O: 768 I/O max. - Analog I/O: 364 I/O max.	
		- From the expansion bus (TM5 or TM7): 2,500 m (8,202 ft) - Between 2 TM5 module islands: 100 m (328 ft) - Between 2 TM7 blocks: 100 m (328 ft) - Between 1 TM5 module island and 1 TM7 block: 100 m (328 ft)	
CE cULus cCSAus EAC RCM DNV-GL LR c		CE cULus cCSAus EAC RCM	
24 V  power supply		24 V  power supply	
TM5NCO1		TM5NS31	
TM5ACBN1		TM5ACBN1	
TM5SPS3		TM5SPS3	
TM5ACTB12PS		TM5ACTB12PS	
TM5NCO1K		—	
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Modicon TM5

High-Performance and Safe IP20 Modular I/O System
Interface module for distributed I/O over Ethernet

Ethernet network



Industrial Ethernet is the term used to designate the industrial communication protocols that use standard Ethernet physical layers such as EtherNet/IP, TCP, and UDP.

It is possible to connect industrial products (industrial communication protocols), like controllers, variable speed drives, and robots, and products that use proprietary TCP/UDP-based protocols to an Industrial Ethernet network. It is also possible to use different Industrial Ethernet protocols simultaneously on the same network.

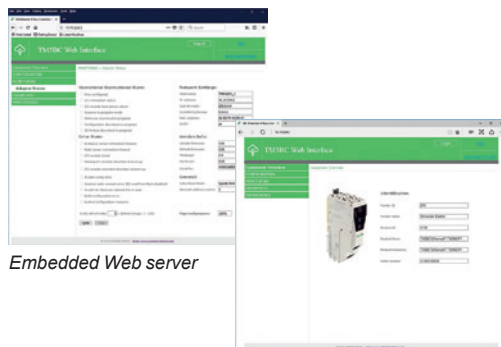
Distributed I/O over Ethernet

The TM5 interface module is designed for creating distributed I/O islands (IP20 and IP67) on the Ethernet network, managed by a master controller, and for exchanging data using the EtherNet/IP protocol between controllers and distributed I/O on the Ethernet network.

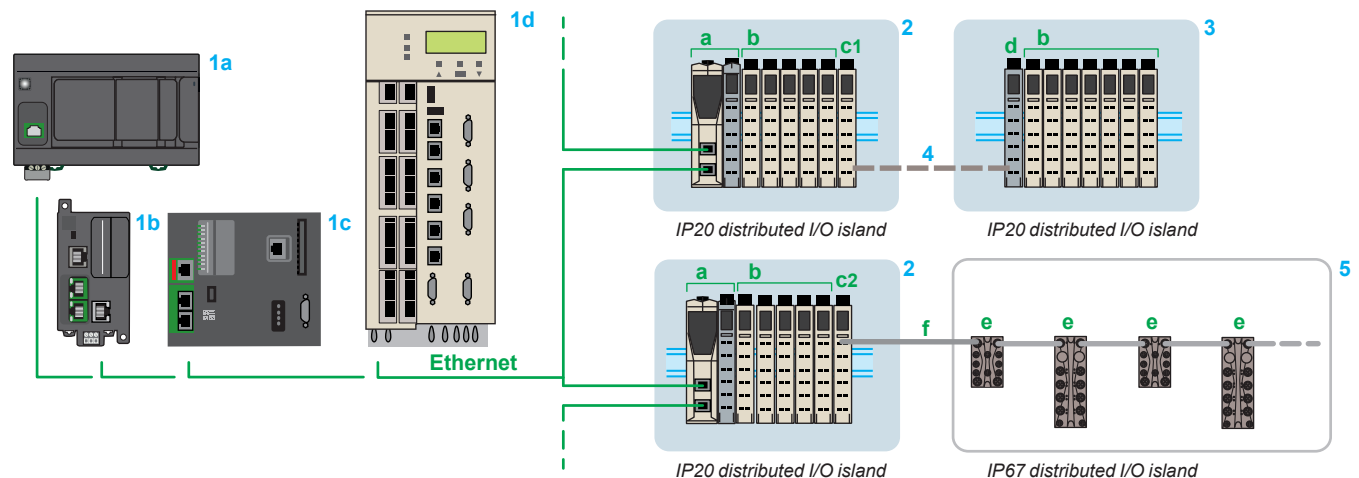
It is compatible with PacDrive LMC Eco/Pro/Pro2 motion controllers, Modicon M241/M251 logic controllers, and the Modicon M262 logic/motion controller.

Special features of the interface module

- Embedded Web server
- Embedded cybersecurity (Achilles L1) and user access rights management via a Web server
- Two Ethernet ports on the front of the module for communicating with the TM5 bus coupler (the second port can be connected to other devices in a daisy chain or ring topology)
- Ethernet Adapter half duplex/full duplex service, autonegotiation, and auto-MDI/MDIX supported
- 10/100 Mbps data exchange rate
- DHCP client



Embedded Web server

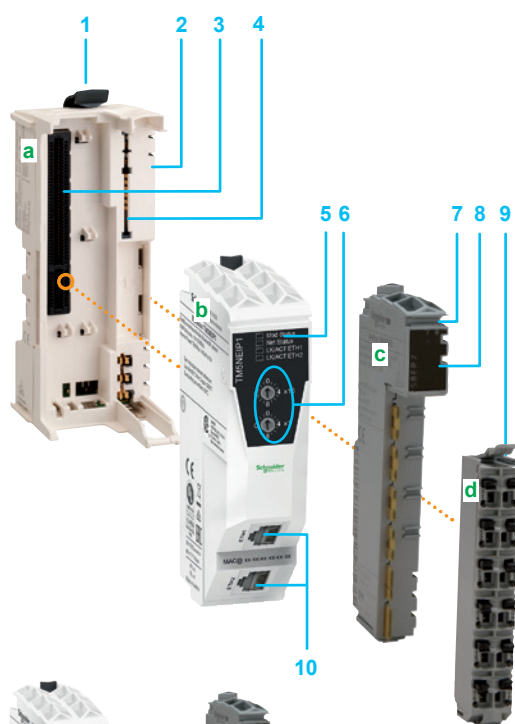


- 1 a Modicon M241 logic controller b Modicon M251 logic controller c Modicon M262 logic/motion controller d PacDrive LMC Eco/Pro/Pro2 motion controllers: Ethernet network masters
- 2 TM5 Ethernet interface module (slave) (a) + TM5 modules (b) + TM5SBET1 (c1)/TM5SBET7 (c2) transmitter modules
- 3 TM5SBER2 receiver module (d) + TM5 I/O modules (b)
- 4 TM5 expansion bus: TCSXCNX100 remote I/O connection cable
- 5 Modicon TM7 blocks (1) (digital or analog I/O) (e) + TM7TCSXCN bus expansion cable (f)

(1) Modicon TM7, please refer to catalog ref. [DIA3ED2140405EN](#)

Modicon TM5

High-Performance and Safe IP20 Modular I/O System
Interface module for distributed I/O over Ethernet



TM5NEIP1



TM5SPS3



TM5ACBN1



TM5ACTB12PS



TM5NEIP1K

Description

The Ethernet interface module comprises four parts to be ordered separately:

- a TM5ACBN1 bus base (a)
- a TM5NEIP1 network interface electronic module (b)
- a TM5SPS3 power distribution electronic module (c)
- a TM5ACTB12PS removable terminal block (d)

The Ethernet interface module can also be ordered as a complete kit comprising all these parts.

These modules can be mechanically assembled on the bus base before mounting on a symmetrical rail. They offer the following advantages:

- A removable terminal block
- Spring terminals that can be used for quick, tool-free connection of the power supply for the interface module and the I/O expansion modules (the quality of the spring terminals avoids the need for periodic retightening)

This assembly comprises:

- 1 A bus expansion connection on the side of the base to provide the link with the adjacent module
- 2 A mechanical clip for locking onto a symmetrical rail
- 3 A slot for the Ethernet interface module with terminals
- 4 A slot for the power distribution module with terminals
- 5 An LED display block for the interface module channels and diagnostics
- 6 Two rotary switches for address selection on the bus
- 7 A slot for the plain text cover holder (label holder)
- 8 An LED display block for the power distribution module channels and diagnostics
- 9 A removable spring terminal block with locking clip and slots for colored ID markers
- 10 Two RJ45 connectors for the Ethernet network connection (network connected/network disconnected)

References

Description	Characteristics	Reference	Weight kg/lb
Ethernet network interface module	With EtherNet/IP protocol	TM5NEIP1	0.050/ 0.110
Power distribution electronic module	Input power supply: 24 V $\pm$ for Ethernet network, the interface, and I/O expansion modules	TM5SPS3 (1)	0.025/ 0.055
Bus base	For TM5NEIP1 and TM5SPS3 electronic modules Supplied with 2 protective plates, TM5ACPL10 and TM5ACPR10	TM5ACBN1	0.020/ 0.044
Terminal block	12 spring terminals For TM5SPS3 power distribution electronic module	TM5ACTB12PS	0.016/ 0.035

Ethernet interface kit

Description	Composition	Reference	Weight kg/lb
Kit comprising:	TM5NEIP1	TM5NEIP1K	0.075/ 0.165
- an Ethernet interface module	+ TM5SPS3		
- a bus base	+ TM5ACBN1		
- a power distribution electronic module	+ TM5ACTB12PS		
- a terminal block			

Configuration software

EcoStruxure Machine Expert software, please refer to catalog ref. [DIA3ED2180701EN](#)

Accessories

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(1) Supplied with 2 protective plates, TM5ACPL10 and TM5ACPR10

CANopen bus



The CANopen fieldbus is specially designed to be integrated into control systems. It provides openness and interoperability for various devices (drives, motor starters, smart sensors, etc.).

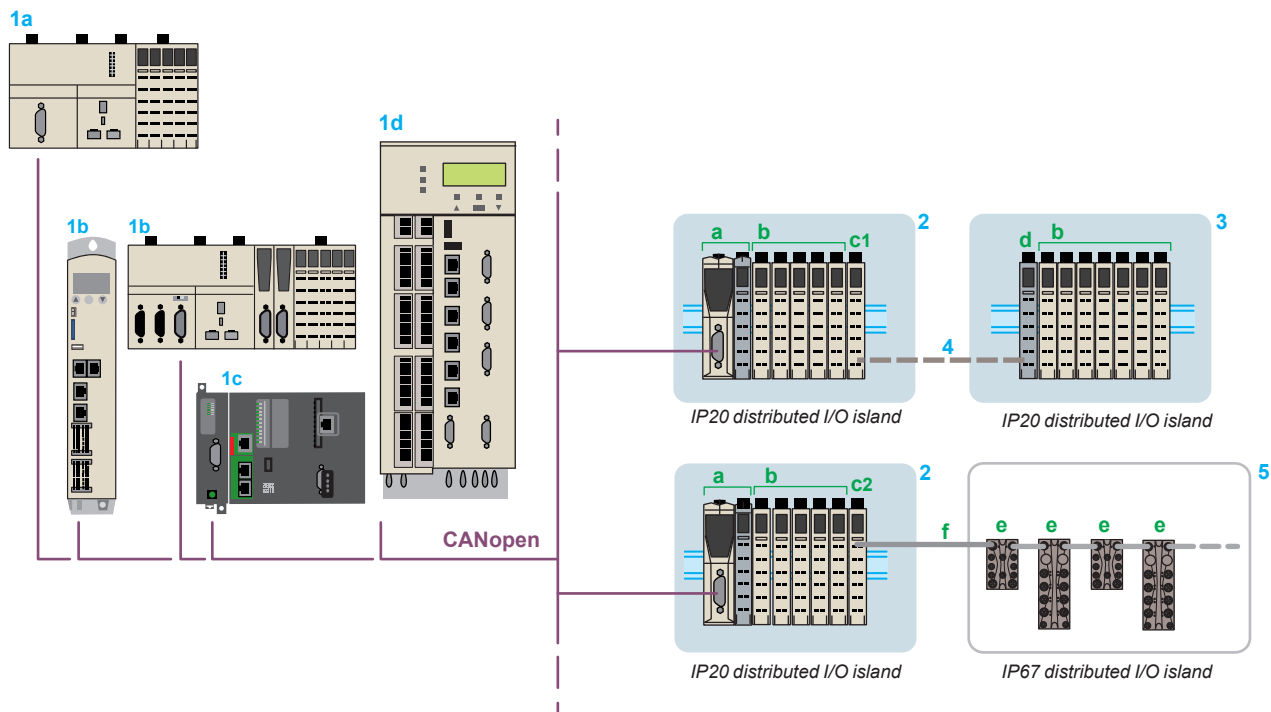
Having CANopen connectivity at several levels can help to reduce costs and optimize creation of the control system.

It offers the following advantages:

- Quicker wiring time
- More reliable load
- Flexibility when adding or removing devices, as well as easier installation

Distributed I/O on CANopen bus

The TM5 interface module is designed for creating distributed I/O islands (IP20 and IP67) on the CANopen bus. It is compatible with Modicon M258 logic controllers, Modicon LMC058 and Modicon LMC078 motion controllers, and the Modicon M262 logic/motion controller (equipped with its **TM5NCO1** communication module for CANopen bus).

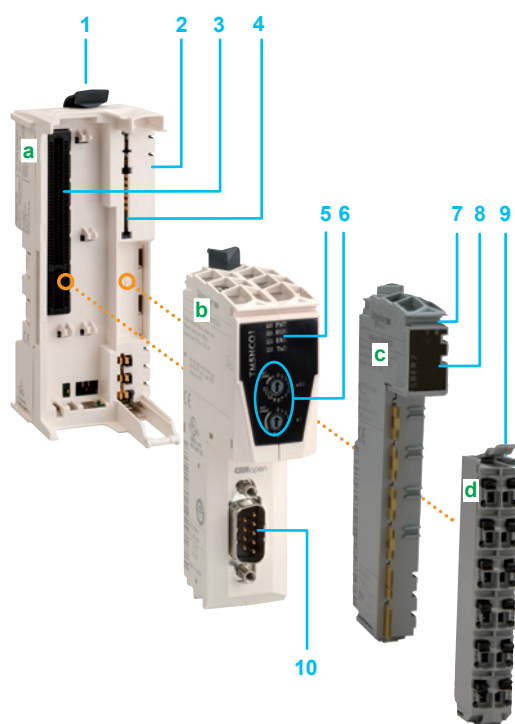


- 1 a M258 logic controller b Modicon LMC058 or Modicon LMC078 motion controller c **TM5NCO1** communication module and Modicon M262 logic/motion controller d PacDrive LMC Eco/Pro/Pro2 motion controllers: CANopen bus masters
- 2 TM5 CANopen interface module (slave) (a) + TM5 modules (b) + TM5SBET1 (c1)/TM5SBET7 (c2) transmitter modules
- 3 TM5SBER2 receiver module (d) + TM5 I/O modules (b)
- 4 TM5 expansion bus: TCSXCNNXN100 remote I/O connection cable
- 5 Modicon TM7 blocks (1) (digital or analog I/O) (e) + TM7TCSXC�E bus expansion cable (f)

(1) Modicon TM7, please refer to catalog ref. [DIA3ED2140405EN](#)

Modicon TM5

High-Performance and Safe IP20 Modular I/O System
Interface module for distributed I/O on CANopen bus



TM5NCO1



TM5SPS3



TM5ACBN1



TM5ACTB12PS



TM5NCO1K

Description

The TM5 CANopen interface module comprises four parts to be ordered separately:

- a TM5ACBN1 bus base (a)
- a TM5NCO1 CANopen electronic interface module (b)
- a TM5SPS3 power distribution electronic module (c)
- a TM5ACTB12PS removable terminal block (d)

The CANopen interface module can also be ordered as a complete kit comprising all these parts.

These modules can be mechanically assembled on the bus base before mounting on a symmetrical rail.

They offer the following advantages:

- Removable connector
- Spring terminals that can be used for quick, tool-free connection of the power supply for the interface module and the I/O expansion modules (the quality of the spring terminals avoids the need for periodic retightening)

This assembly comprises:

- 1 A mechanical clip for locking onto a symmetrical rail
- 2 A bus expansion connection on the side of the base to provide the link with the adjacent module
- 3 A slot for the CANopen interface module with connector
- 4 A slot for the power distribution module with connector
- 5 An LED display block for the interface module channels and diagnostics
- 6 Two rotary switches for address selection on the bus
- 7 A slot for the plain text cover holder (label holder)
- 8 An LED display block for the power distribution module channels and diagnostics
- 9 A removable spring terminal block with locking clip and slots for colored ID markers
- 10 A 9-way male SUB-D connector for the CANopen bus connection

References

Description	Characteristics	Reference	Weight kg/lb
CANopen bus interface module	With CANopen protocol	TM5NCO1	0.050/ 0.110
Power distribution electronic module	Input power supply: 24 V $\pm$ for CANopen bus, interface, and I/O expansion modules	TM5SPS3 (1)	0.025/ 0.055
Bus base	For TM5NCO1 and TM5SPS3 electronic modules Supplied with 2 protective plates, TM5ACPL10 and TM5ACPR10	TM5ACBN1	0.020/ 0.044
Terminal block	12 spring terminals For TM5SPS3 power distribution electronic module	TM5ACTB12PS	0.016/ 0.035

CANopen interface kit

Description	Composition	Reference	Weight kg/lb
Kit comprising:	TM5NCO1	TM5NCO1K	0.120/ 0.264
- a CANopen interface module	+ TM5SPS3		
- a bus base	+ TM5ACBN1		
- a power distribution electronic module	+ TM5ACTB12PS		
- a terminal block			

Configuration software

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

Accessories

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(1) Supplied with 2 protective plates, TM5ACPL10 and TM5ACPR10

Modicon TM5

High-Performance and Safe IP20 Modular I/O System
Interface module for distributed I/O on Sercos bus

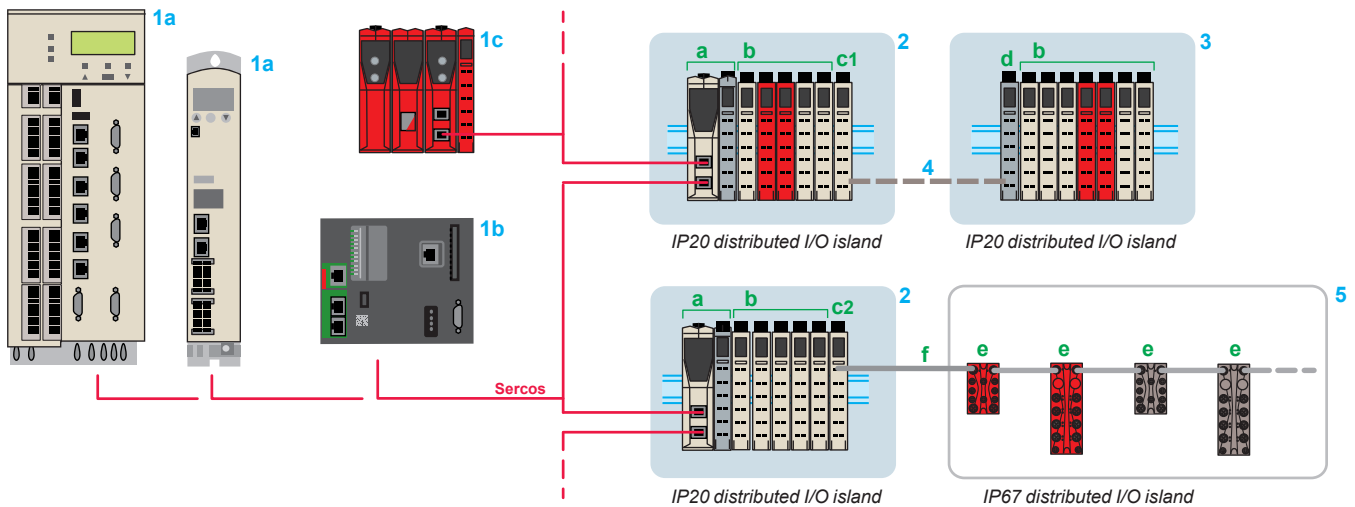
Sercos bus



Fully embedded real-time communication: The Sercos bus smooths the way for integrating safety-related control systems. It can have a line, tree, or ring topology. Sercos is a true standard; it does not rely upon a specific manufacturer.

Distributed I/O on Sercos bus

The TM5 interface module is a bus coupler, designed for creating distributed I/O islands (IP20 and IP67) on the Sercos bus. It is compatible with PacDrive LMC Eco/Pro/Pro2 motion controllers, and the Modicon M262 logic/motion controller.



- 1 a PacDrive LMC Eco/Pro/Pro2 motion controllers b Modicon M262 logic/motion controller: Sercos bus master
c Modicon TM5CSLC safety logic controller: Sercos bus slave
- 2 TM5 interface module (a) + TM5 compact block, I/O modules, safety I/O modules (b) + TM5SBET1 (c1)/TM5SBET7 (c2) transmitter modules
- 3 TM5SBER2 receiver module (d) + TM5 compact block or TM5 I/O modules (b)
- 4 TM5 expansion bus: TCSXCNNXNX100 remote I/O connection cable
- 5 Modicon TM7 blocks (1) (digital, analog, or safety I/O) (e) + TM7TCSXCN...E bus expansion cable (f)

(1) Modicon TM7, please refer to catalog ref. [DIA3ED2140405EN](#)

Modicon TM5

High-Performance and Safe IP20 Modular I/O System
Interface module for distributed I/O on Sercos bus

Description

The TM5 Sercos interface module comprises four parts to be ordered separately:

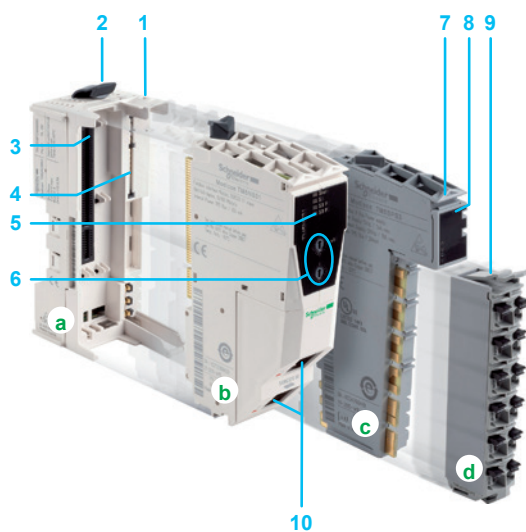
- a TM5ACBN1 bus base (a)
- a TM5NS31 interface electronic module (b)
- a TM5SPS3 power distribution electronic module (c)
- a TM5ACTB12PS removable terminal block (d)

These modules can be mechanically assembled on the bus base before mounting on a symmetrical rail. They offer the following advantages:

- A removable terminal block
- Spring terminals that can be used for quick, tool-free connection of the power supply for the interface module and the I/O expansion modules (the quality of the spring terminals avoids the need for periodic retightening)

This assembly comprises:

- 1 A bus expansion connection on the side of the base to provide the link with the adjacent module
- 2 A mechanical clip for locking onto a symmetrical rail
- 3 A slot for the Sercos interface module with terminals
- 4 A slot for the power distribution module with terminals
- 5 An LED display block for the interface module channels and diagnostics
- 6 Two rotary switches for address selection on the bus
- 7 A slot for the plain text cover holder (label holder)
- 8 An LED display block for the power distribution module channels and diagnostics
- 9 A removable spring terminal block with locking clip and slots for colored ID markers
- 10 Two RJ45 connectors for the Sercos bus connection (bus connected/bus disconnected)



TM5NS31



TM5SPS3



TM5ACBN1



TM5ACTB12PS

References

Description	Characteristics	Reference	Weight kg/lb
Sercos bus interface module	Communication module for Sercos III bus	TM5NS31	0.050/ 0.110
Power distribution electronic module	Input power supply: 24 V $\pm$ for Sercos bus, interface, and I/O expansion modules	TM5SPS3 (1)	0.025/ 0.055
Bus base	For TM5NS31 and TM5SPS3 electronic modules Supplied with 2 protective plates, TM5ACPL10 and TM5ACPR10	TM5ACBN1	0.020/ 0.044
Terminal block	12 spring terminals For TM5SPS3 power distribution electronic module	TM5ACTB12PS	0.016/ 0.035

Accessories

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Configuration software

EcoStruxure Machine Expert software, please refer to catalog ref. [DIA3ED2180701EN](#)

(1) Supplied with 2 protective plates, TM5ACPL10 and TM5ACPR10



TM5ACTCH100



TM5ACTLC100



TM5ACLPL10



TM5ACLPR10



TM5ACLITW1



TM5ACLT1



TM5ACADL100

References

Modicon TM5 accessories

Description	Use	Color	Sold in lots of	Unit reference	Weight kg/lb
Plain text cover holder (label-holder)	For labeling the I/O channels on the terminal blocks	Transparent	100	TM5ACTCH100	0.002/ 0.004
Plain text cover holder locking clip (to be ordered with plain text cover holder TM5ACTCH100)	For locking the plain text cover holder TM5ACTCH100	Transparent	100	TM5ACTLC100	0.001/ 0.002
Precut legend strips of paper (A4 format)	Plain text cover holder TM5ACTCH100	White	100	TM5ACTLS100	0.001/ 0.002
Colored plastic ID markers	For labeling the 16 channel connection terminals	White	1	TM5ACLITW1	0.015/ 0.033
		Red	1	TM5ACLITR1	0.015/ 0.033
		Blue	1	TM5ACLITB1	0.015/ 0.033
Metal tool	For inserting/removing TM5ACLT1 ID markers	Black	1	TM5ACLIT1	0.030/ 0.066
Retaining plates for bus bases	Held on the left side	White	10	TM5ACLPL10	0.004/ 0.009
	Held on the right side	White	10	TM5ACLPR10	0.004/ 0.009
Locking clips	Modules	Black	100	TM5ACADL100	0.001/ 0.002