Hardware control platform
Modicon M171/M172 logic controllers
M172 performance logic controllers

3

Presentation

The **M172 performance** logic controllers comprise 6 models that can be used to control from 28 up to 42 embedded I/Os (digital and analog).

■ Power supply: $\sim$ 24 V

■ 2 types of housing:
□ with built-in display
□ without display

Each performance controller type TM172P includes a connection (through the CAN expansion bus or through Modbus) for a remote display, available in the catalog.

■ 2 types of mounting:
□ 35 mm/*1.38 in.* ⌐ rail mounting: controllers to be mounted inside a cabinet
□ on panel with an accessory: each M172 performance controller can be mounted on a panel with the **TM172AP12PM** fixing accessory.

■ **M172 performance** logic controllers embed up to 4 communication ports:
□ 2 for Modbus SL (master/slave) (only 1 master) or 1 for BACnet MS/TP (B-AAC profile)
□ 1 for Modbus TCP and BACnet IP (B-AAC profile) (RJ45)
□ 1 for CAN expansion bus,
□ plus a communication module connector.

■ The **M172 performance** logic controllers are certified $C\!E$, cURus *(1)*, CSA *(2)*, EAC *(2)*.

Micro SD card

A slot for a micro SD memory card is available on the front face of each Modicon M172 performance controllers.
The micro SD card is used for:
□ Data-logging
□ Webserver storage

Description

M172 performance controllers logic controllers *(3)*

1 RJ45 connector for Modbus TCP and BACnet IP (B-AAC profile)
2 Connector for removable terminal block for digital outputs
3 Connector for removable terminal block for power supply ($\sim$ 24 V)
4 Connector for removable terminal block for analog inputs
5 Connector for removable terminal block for digital intputs
6 Connector for removable terminal block for fast digital input (high speed counter)
7 Connector for removable terminal block for analog outputs
8 Connector for removable terminal block for RS485-1 (Modbus SL or BACnet MS/TP)
9 Connector for removable terminal block for RS485-2 (Modbus SL or BACnet MS/TP)
10 Connector for removable terminal block for CAN expansion bus
11 Slot for micro SD card
12 Slot for battery (behind the front flap)
13 On TM172PDG●●●: Built-in display, 4 status LEDs and 5 command keys for setting controller parameters
    On TM172PBG●●●: 4 status LEDs and 5 command keys for setting controller parameters, behind a front panel
14 Connector for communication modules
15 USB mini-B port to link a PC
16 USB-A port for USB stick
17 Mounting clips for 35 mm/*1.38 in.* ⌐ rail mounting
18 2 Slots for the **TM172AP12PM** fixing accessory
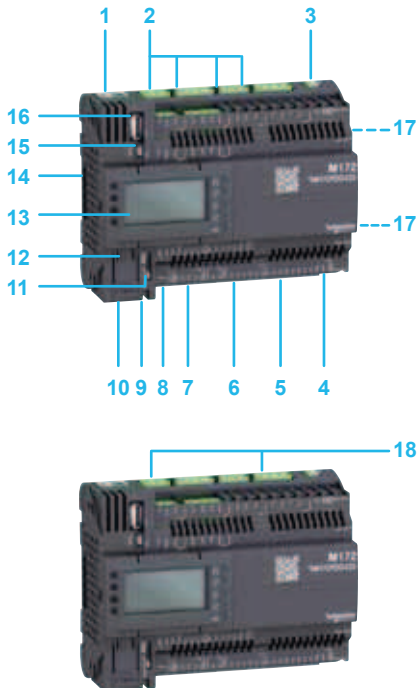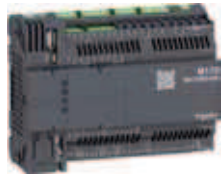
(1) November 2015
(2) Pending
(3) TM172ASCTB28 and TM172ASCTB42 removable terminal blocks to be ordered separately (see page 3/19).
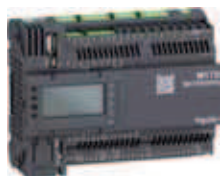
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Hardware control platform
Modicon M171/M172 logic controllers
M172 performance logic controllers

TM172PBG●●●

TM172PDG●●●

TM172ASCTB28

TM172ASCTB42
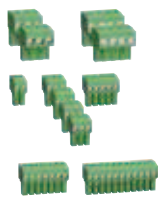

TM172AP12PM

TM171DGRP

M172 performance logic controllers

Power supply: ⏦ 24 V

35 mm/*1.38 in.* ⎍ rail mounting performance controllers, and Panel mounting with accessory

No. of I/Os	Number and type of channels		Display	Embedded communication port	Reference	Weight kg/*lb*
	Inputs (1)	Outputs				
28	**8 digital inputs:** □ 6 ∿ or ⎓ 24 V □ 2 high speed counters, dry contact **8 analog inputs, configurable by pair:** 8 NTC, or PT1000 (- 200 °C to + 850 °C/ *-328 to +1562 °F*), or PTC, or 0-20 mA , or 4-20 mA, or 0-5 V, or 0-10 V, or digital input	**8 digital outputs:** □ 1 SPDT Relay 1 A □ 3 SPST with the same common □ 2 SPST with the same common □ 2 SPST with independent common □ Optional 2 SSR with independent common for **TM172PDG28S** only **4 analog outputs:** □ 2x 0-10 V, or 4-20 mA, or PWM (2 kHz, ⎓ 24 V) □ 2x 0-10 V	Remote display (optional)	□ 2 removable connectors for Modbus SL (master/ slave) (only 1 master), or 1 for BACnet MS/TP (B-AAC profile) □ 1 RJ45 connector for Modbus TCP and BACnet IP (B-AAC profile) (RJ45) □ 1 removable connector for CAN expansion bus	**TM172PBG28R**	0.300/ *0.661*
			Built-in display 128 x 64 LCD with backlight	□ 2 removable connectors for Modbus SL (master/ slave) (only 1 master), or 1 for BACnet MS/TP (B-AAC profile) □ 1 RJ45 connector for Modbus TCP and BACnet IP (B-AAC profile) (RJ45) □ 1 removable connector for CAN expansion bus	**TM172PDG28R**	0.300/ *0.661*
					TM172PDG28S	0.300/ *0.661*
42	**12 digital inputs:** □ 10 ∿ or ⎓ 24 V □ 2 high speed counter, dry contact **12 analog inputs, configurable by pair:** □ 12 NTC, or PT1000 (-200° C to 850° C/ *-328 to +1562 °F*), or PTC, or 0-20 mA, or 4-20 mA, or 0-5 V, or 0-10 V, or digital input	**12 digital outputs:** □ 2 SPDT relay 1 A □ 3 SPST with the same common □ 3 SPST with the same common □ 2 SPST with the same common □ 2 SPST with independent common □ Optional 2 SSR with independent common for **TM172PDG42S** only **6 analog outputs:** □ 2x 0-10 V, or 4-20 mA, or PWM (2 kHz, ⎓ 24 V) □ 4x 0-10 V	Remote display (optional)	□ 2 removable connectors for Modbus SL master/slave (only 1 Master), or 1 for BACnet MS/TP (B-AAC profile) □ 1 RJ45 connector for Modbus TCP and BACnet IP (B-AAC profile) (RJ45) □ 1 removable connector for CAN expansion bus	**TM172PBG42R**	0.385/ *0.849*
			Built-in display 128 x 64 LCD with backlight	□ 2 removable connectors for Modbus SL master/slave (only 1 Master), or 1 for BACnet MS/TP (B-AAC profile) □ 1 RJ45 connector for Modbus TCP and BACnet IP (B-AAC profile) (RJ45) □ 1 removable connector for CAN expansion bus	**TM172PDG42R**	0.385/ *0.849*
					TM172PDG42S	0.385/ *0.849*

Accessories for M172 performance logic controllers
To be ordered separately

Designation	Use	Reference	Weight kg/*lb*
Screw terminal blocks	For TM172P●●●28● performance logic controllers	**TM172ASCTB28**	0.100/ *0.220*
	For TM172P●●●42● performance logic controllers	**TM172ASCTB42**	0.150/ *0.331*
Fixing accessory: 12 clips-on lock for panel mounting	For mounting M172 performance logic controllers on panel	**TM172AP12PM**	0.050/ *0.110*

Remote display, HMI

Type	Use	Description	Reference	Weight kg/*lb*
Remote display	For M172 performance logic controllers	128 x 64 LCD, with backlight	**TM171DGRP**	0.197/ *0.430*
HMI Magelis STU/STO	See page 6/14			

3

Hardware control platform
Modicon M171/M172 logic controllers
I/O expansion modules

3

Presentation

5 I/O expansion modules are available, 2 of which are dedicated to **M171** and **M172 performance** logic controllers, and 3 of which are for **M171 optimized** logic controllers (see compatibility table below).

■ They are used to increase the number of I/Os:
□ up to 44 on **M171 optimized** logic controllers
□ up to 351 on **M171 performance** logic controllers
□ up to 366 on **M172 performance** logic controllers

■ Expanded I/O types are digital and analog I/Os

■ They are connected:
□ Via the LAN expansion bus on **M171 optimized** logic controllers
□ Via the CAN expansion bus on **M171** and **M172 performance** logic controllers

Compatibility between logic controllers and I/O expansion modules		
Logic controller type	Reference	Compatible I/O expansion module (reference)
M171 optimized	TM171OBM14R TM171OD14R TM171ODM14R	TM171EO14R
	TM171OB22R TM171OBM22R TM171OD22R TM171ODM22R TM171ODM22S TM171OF22R TM171OFM22R	TM171EO15R TM171EO22R
M171 performance	TM171PBM27R TM171PDM27R TM171PDM27S TM171PFE03 TM171PFE03HR	TM171EP14R TM171EP27R
M172 performance	TM172PBG28R TM172PDG28R TM172PDG28S TM172PBG42R TM172PDG42R TM172PDG42S	

Description

35 mm/_1.38 in._ ⌐⌐ **rail mounting I/O expansion modules**

TM171EP27R expansion module *(1)*
1 Connector for removable terminal block for digital inputs
2 Connector for removable terminal block for analog inputs
3 Connector for removable terminal block for Modbus SL
4 Connector for removable terminal block for CAN expansion bus
5 4-position DIP switches for address selection
6 Connector for removable terminal block for power supply (∿ 24 V, ⎓ 48 V)
7 Connector for removable terminal block for fast digital input
8 Connector for removable terminal block for digital outputs
9 Connector for removable terminal block for analog outputs
10 Clip for 35 mm/_1.38 in._ ⌐⌐ rail mounting
11 6- and 10-position DIP switches for address selection
12 3 status LEDs

TM171EP14R expansion module *(1)*
1 4-position DIP switches
2 Connector for removable terminal block for CAN expansion bus
3 Removable terminal block for digital outputs
4 Behind the removable protective cover: Service port (TTL)
5 Connector for low voltage I/Os
6 Clip for 35 mm/_1.38 in._ ⌐⌐ rail mounting
7 Connector for removable terminal block for power supply (∿ 24 V

TM171EO●●R expansion modules *(1)*
1 Service port (TTL)
2 Wired connector for removable terminal block for Modbus SL
3 Connector for removable terminal block for digital outputs
4 Wired connector for removable terminal block for power supply (∿ 12-24 V or ⎓ 24 V),
5 Wired connector for low voltage I/Os
6 Clip for 35 mm/_1.38 in._ ⌐⌐ rail mounting
7 Wired connector for removable terminal block for analog outputs
8 Wired connector for removable terminal block for LAN expansion bus

(1) Removable terminal blocks to be ordered separately, except for TM171EO14R, see page 3/21.
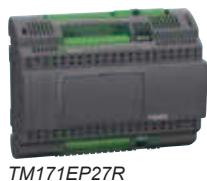
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Hardware control platform
Modicon M171/M172 logic controllers
I/O expansion modules

TM171EP14R

TM171EP27R

TM171EO14R

TM171EO15R

TM171EO22R

3

1   **2**

*Connection accessories (2)
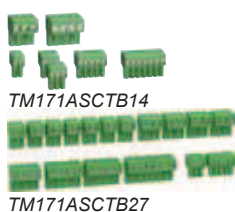for expansion modules:
TM171EO15R, M171EO22R*

TM171ASCTB14

TM171ASCTB27

I/O expansion modules for Modicon M171 and M172 performance logic controllers

35 mm/1.38 in. ⌐ rail mounting expansion modules

No. of I/Os	Number and type of channels		Compatibility with logic controller	Embedded communication connection	Reference	Weight kg/lb
	Inputs	**Outputs**				
14	**4 digital inputs:** ∿ 24 V or ⎓ 24V **4 analog inputs:** (configurable by pair) NTC, PT1000, PTC, 4-20 mA, 0-5 V, 0-10 V, or digital inputs	**4 digital outputs:** □ 1 SPDT (5 A, ∿ 230 V) with independent common □ 3 SPST (3 A, ∿ 230 V) with independent common **2 analog outputs:** 0-10 V	TM171P●●●● TM172P●●●●	□ 1 removable connector for CAN expansion bus	**TM171EP14R**	0.190/ *0.420*
27	**9 digital inputs (8 + 1):** □ 2 groups of 4 digital inputs, ∿ 24 V or ⎓ 48 V □ 1 fast digital input or high speed counter, volt-free **6 analog inputs:** □ 2 NTC or digital inputs □ 4 NTC, 4-20 mA, 0-10 V, or digital inputs	**7 digital outputs:** □ 2 SPDT (8 A, ∿ 230 V) with independent common □ 5 SPST (5 A, ∿ 230 V) with independent common **5 analog outputs:** □ 0-10 V, or 4-20 mA	TM171P●●●● TM172P●●●●	□ 1 removable connector for CAN expansion bus	**TM171EP27R**	0.385/ *0.850*

I/O expansion modules for Modicon M171 optimized logic controllers

35 mm/1.38 in. ⌐ rail mounting expansion modules

No. of I/Os	Number and type of channels		Compatibility with logic controller	Embedded communication connection	Reference	Weight kg/lb
	Inputs	**Outputs**				
14	**2 digital inputs:** 2 open collector or digital inputs (1) **5 configurable analog inputs:** □ 2 NTC, PT1000 or digital inputs □ 2 NTC, 0-20 mA, 4-20 mA, 0-10 V, 0-5 V, 0-1 V, or digital inputs □ 1 NTC, PT1000, 0-20 mA, 4-20 mA, 0-10 V, 0-5 V, 0-1 V, or digital inputs	**4 digital outputs:** □ 3 SPST (2 A, ∿ 230 V) with the same common □ 1 SPDT (2 A, ∿ 230 V) **5 analog outputs:** □ 2 open collector for 12 V PWM/PPM or digital inputs (1) □ 2x 0-10 V □ 1x 4-20 mA	TM171OBM14R TM171OD14R TM171ODM14R	□ 1 wired connector for LAN expansion bus	**TM171EO14R**	0.190/ *0.420*
15	**6 digital inputs:** volt-free **3 analog inputs:** NTC or digital inputs	**4 digital outputs:** □ 3x 2 A, ∿ 250 V □ 1 open collector **2 analog outputs:** open collector (PPM/PWM)	TM171OB22R TM171OBM22R TM171OD22R TM171ODM22R TM171ODM22S TM171OF22R TM171OFM22R	□ 1 wired connector for LAN expansion bus	**TM171EO15R**	0.190/ *0.420*
22	**6 digital inputs:** volt-free **5 analog inputs:** □ 3 NTC or digital inputs □ 2 NTC, 0-20 mA, 4-20 mA, 0-10 V, or digital inputs	**6 digital outputs:** □ 5x 2 A, ∿ 250 V □ 1 open collector **5 analog outputs:** □ 2 open collector (PPM/ PWM) □ 2x 0-10 V □ 1x 0-20 mA/4-20 mA	TM171OB22R TM171OBM22R TM171OD22R TM171ODM22R TM171ODM22S TM171OF22R TM171OFM22R	□ 1 wired connector for LAN expansion bus	**TM171EO22R**	0.190/ *0.420*

Accessories for I/O expansion modules

| Designation	Description	Cable length (m/ft.)	Unit reference	Weight kg/lb
Accessories – To be ordered separately				
analog output connector (0-10 V outputs) **Sold in lots of 5 (item 1)**	Cordset equipped with a 4-pin connector on one end	1/3.3	**TM171ACB4OAO1M**	0.075/ *0.170*
		2/6.6	**TM171ACB4OAO2M**	0.125/ *0.280*
Low voltage connector **Sold in lots of 5 (item 2)**	Screw terminal block and a cordset equipped with a 20-pin connector on one end	1/3.3	**TM171ACB4OI1M**	0.575/ *1.270*
		2/6.6	**TM171ACB4OI2M**	1.120/ *2.470*
Accessory – Supplied with each expansion module				
LAN expansion bus connector **Sold in lots of 5 (item 3)**	Cordset equipped with a 3-pin connector at each end	2/6.6	**TM171ACB4OLAN**	0.060/ *0.130*
Accessories – Supplied with TM171EP14R TM171EP27R				
Screw terminal blocks (inputs, outputs, and communication bus)	14 I/Os – For TM171EP14R	–	**TM171ASCTB14**	0.050/ *0.110*
	27 I/Os – For TM171EP27R	–	**TM171ASCTB27**	0.100/ *0.220*

(1) On the same channel: 2 digital inputs or 2 analog outputs (depending on the configuration).
(2) Minimum set for operating controllers.

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Hardware control platform
Modicon M171/M172 logic controllers
Communication modules for M171 performance and
M172 performance logic controllers

3
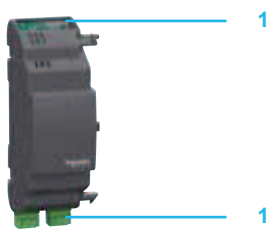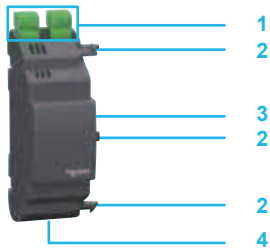
Presentation

The communication module offer is dedicated to the 35 mm/*1.38 in.* ⌐ rail mounting
version of **M171 performance** and **M172 performance** logic controllers *(1)*.
The 8 optional modules provide specific connections:

■ To fieldbuses, including:
  □ CAN bus
  □ Modbus TCP
  □ Profibus
  □ Modbus SL (RS 485)
  □ BACnet MS/TP (B-AAC profile)
  □ BACnet IP (B-AAC profile)
  □ RS 232 serial link
  □ LonWorks (FFT-10)
  □ Konnex (KNX) via Schneider Electric' spaceLYnk gateway, see page 5/5

■ To services, including:
  □ Ethernet
  □ WebVisu and remote download functions

■ They are mounted by simple interlocking on the left-hand side of an **M171
performance** or an **M172 performance** logic controller *(1)*.

■ Only one communication module can be added to a performance logic controller.
The communication module is powered by the controller.

■ Each communication module has its own type of connector, adapted to the bus
or communication network (see details in the reference table, page 3/23).

Description

35 mm/*1.38 in.* ⌐ rail mounting

TM171A●●●● I/O communication modules
1 Communication connector *(2)*
2 Locking device
3 Expansion connector to the performance controller type TM171P or TM172P *(1)*
4 Clip for 35 mm/*1.38 in.* ⌐ rail mounting

*(1) Compatibility between **M171** and **M172 performance** logic controllers and communication
modules, see table below:*

Compatibility between performance logic controllers and communication modules		
Logic controller		Compatible communication modules
Type	**Reference**	
M171 performance logic controller	**TM171PBM27R** **TM171PDM27R** **TM171PDM27S**	**TM171ACAN** **TM171AETH** **TM171APBUS** **TM171AMB** **TM171ARS485** **TM171ARS232** **TM171AETHRS485** **TM171ALON**
M172 performance logic controller	**TM172PBG28R** **TM172PDG28R** **TM172PDG28S** **TM172PBG42R** **TM172PDG42R** **TM172PDG42S**	**TM171ACAN** **TM171AMB** **TM171ARS485** **TM171ARS232** **TM171ALON**

(2) Communication connector type depends on communication modules, see detail next page.

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References

Hardware control platform
Modicon M171/M172 logic controllers
Communication modules for M171 performance and
M172 performance logic controllers

3

TM171ACAN

TM171AETH

TM171APBUS

TM171AMB

TM171ARS485

TM171ARS232

TM171AETHRS485

TM171ALON

Communication modules					
For M171 and M172 performance logic controllers (35 mm/*1.38 in.* ⌐ rail mounting version)					
Designation	**Compatibility with logic controller**	**Fieldbus, services access**	**Communication port**	**Reference** *(1)*	**Weight kg/*lb***
Communication modules	**M171 performance, M172 performance**	□ CAN	□ 2 screw terminal blocks *(1)*	**TM171ACAN**	0.077/ *0.170*
	M171 performance	□ Modbus TCP □ Ethernet □ BACnet IP (B-AAC profile) □ WebVisu and remote download functions	□ 1 RJ45	**TM171AETH**	0.077/ *0.170*
	M171 performance	□ Profibus	□ 1 SUB-D 9	**TM171APBUS**	0.077/ *0.170*
	M171 performance, M172 performance	□ Modbus SL (RS 485)	□ 2 screw terminal blocks *(1)*	**TM171AMB**	0.077/ *0.170*
	M171 performance, M172 performance	□ Modbus SL or BACnet MS/TP (B-AAC profile)	□ 2 screw terminal blocks *(1)*	**TM171ARS485**	0.077/ *0.170*
	M171 performance, M172 performance	□ RS 232 serial link □ Relay output	□ 1 SUB-D 9 for RS 232 □ 1 screw terminal block for relay output *(1)*	**TM171ARS232**	0.077/ *0.170*
	M171 performance	□ Modbus TCP and BACnet/IP □ Modbus SL or BACnet MS/TP (B-AAC profile) □ WebVisu and remote download functions □ Ethernet	□ 1 RJ45 for Ethernet □ 2 screw terminal blocks for RS 485 *(1)*	**TM171AETHRS485**	0.077/ *0.170*
	M171 performance, M172 performance	□ LonWorks (FFT-10)	□ 1 screw terminal block for LON bus	**TM171ALON**	0.077/ *0.170*

(1) Removable terminal blocks supplied with communication modules.

Hardware control platform
Modicon M171/M172 logic controllers
Electronic expansion valve drivers

Presentation

Electronic expansion valve drivers

The 3 types of electronic expansion valve drivers are used to control the electronic expansion valve so as to control superheat after the evaporator.

■ They are compatible with each performance or optimized logic controllers.

■ They operate independently on measurement accessories such as:
□ NTC or PT1000 probes
□ Pressure transducers

■ The 3 available electronic expansion valve drivers are compatible with competing valve brands such as those given in the table below:

Electronic expansion valve drivers Brand and type	Expansion valves Brand and type
Schneider Electric TM171VEVA2, TM171VEVD4, TM171VEVM4	**ELIWELL™** SXVB
	ALCO™ EX4, EX5, EX6, EX7, EX8 EXM246/EXL246
	DANFOSS™ ETS50, ETS100
	SPORLAN™ SER(I) G, J, K,B, C, D SER1.5 to 20, SEI 30,50, SEH
	SANHUA™ DPF(Q)/DPF(T01)

Description

35 mm/*1.38 in.* ⌐ rail mounting

TM171V●● electronic expansion valve drivers *(1)*
1 Output terminal block and power supply connector ($\backsim$ 24 V)
2 Protective cover
3 3 status LEDs
Behind the removable protective cover:
4 6-position DIP switches
5 Status LED (for operation with TM171AMFK programming stick)
6 LAN serial port for connecting TM171DLED remote display
7 Terminal block for analog/digital inputs
8 Clip for 35 mm/*1.38 in.* ⌐ rail mounting
9 TTL programming port

(1) TM171ASCTBVEV screw terminal block to be ordered separately.

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Hardware control platform
Modicon M171/M172 logic controllers
Electronic expansion valve drivers

TM171VEVA2

TM171VEVD4

TM171VEVM4

Electronic expansion valve drivers

Application	Number and type of channels		Reference	Weight kg/*lb*
	Inputs	**Outputs**		
Actuator, convert 0-10 V or 4-20 mA in opening position contact	**1 analog input:** □ 1x 4-20 mA, 0-5 V, or 0-10V	**1 digital output:** □ 1 open collector (100 mA, ⎓ 12 V)	**TM171VEVA2**	0.190/ *0.420*
Autonomous, wired to manage On/Off contact	**2 digital inputs:** □ 2 volt-free **4 analog inputs:** □ 2 NTC (-50…+110 °C, -40…+150 °C /-58…+203 °F, -40…+302 °F), PT1000, 4-20 mA, 0-5 V, or 0-10 V □ 2 NTC (-50…+110 °C, -40…+150 °C /-58…+203 °F, -40…+302 °F), or PT1000 *(1)*	**2 digital outputs:** □ 1 open collector (100 mA, ⎓ 12 V) □ 1 SPST NO relay contact, 5 A, ∿ 250 V	**TM171VEVD4**	0.190/ *0.420*
Autonomous, managed by Modbus (RS 485)	**2 digital inputs:** □ 2 volt-free **4 analog inputs:** □ 2 NTC (-50…+110 °C, -40…+150 °C/ -58…+203 °F, -40…+302 °F), PT1000, 4-20 mA, 0-5 V, or 0-10 V *(1)* □ 2 NTC (-50…+110 °C, -40…+150 °C/ -58…+203 °F, -40…+302 °F), or PT1000 *(1)*	**2 digital outputs:** □ 1 open collector (100 mA, ⎓ 12 V) □ 1 SPST NO relay contact, 5 A, ∿ 250 V	**TM171VEVM4**	0.190/ *0.420*

Accessories for Electronic expansion valve drivers
To be ordered separately

Designation	For connecting	Reference	Weight kg/*lb*
Screw terminal block for electronic expansion valve drivers	Power supply, sensor power supply, digital and analog I/O, Modbus link	**TM171ASCTBVEV**	0.050/ *0.110*

TM171ASCTBVEV

(1) 2 PT1000 (-50…+99.9 ° C / -58… + 211.82 °F)

References

Hardware control platform
Modicon M171/M172 logic controllers
Measurement accessories

3

TM1SH3●4

TM1SH284

TM1STNTCRN615●●

TM1STNTCSF440●●

TM1STNTCSN620●●

TM1STNTCTN620●●

TM1STNTCRN520●●

TM1STNTCWN65605●●

TM1STNTCWN75750●●

TM1STPTTSN620●●

TM1STPTTSN520●●

Measurement accessories					
Application	**Description**	**Sold in lots of**	**Cable length m/*ft.***	**Unit reference**	**Weight kg/*lb***
Humidity & temperature probe	□ IP 65 □ 4-20 mA □ Wall mounting □ Measuring ranges: 0…100%, - 40…60 °C / *-40…140 °F*	**–**	–	**TM1SH314**	0.176/ *0.390*
Humidity probe	□ IP 65 □ 4-20 mA □ Wall mounting □ Measuring ranges: 0…100%	**–**	–	**TM1SH304**	0.170/ *0.370*
Humidity probe (sensor equipped with a cable)	□ IP 54 □ 4-20 mA □ Measuring ranges: 15…90%	**–**	3/*9.84*	**TM1SH284**	0.138/ *0.300*
NTC probes (sensor equipped with a cable)	□ IP 67 □ Sensor 6x 15 mm / *0,591 in.* □ -50…+110 °C/*-122…+230 °F* □ Grey	**8**	1.5/*4.92*	**TM1STNTCRN61515**	0.104/ *0.230*
		5	3/*9.84*	**TM1STNTCRN61530**	0.125/ *0.280*
		4	5/*16.40*	**TM1STNTCRN61550**	0.164/ *0.360*
	□ FAST IP 67 □ 4x 40 mm / *1.57 in.* □ -50…+110 °C/*-122…+230 °F* □ Grey	**8**	1.5/*4.92*	**TM1STNTCSF44015**	0.144/ *0.320*
		5	3/*9.84*	**TM1STNTCSF44030**	0.175/ *0.390*
	□ IP 68 □ 6x 20 mm / *0,79 in.* □ -50…+110 °C/*-122…+230 °F* □ Grey	**8**	1.5/*4.92*	**TM1STNTCSN62015**	0.144/ *0.320*
		5	3/*9.84*	**TM1STNTCSN62030**	0.175/ *0.390*
		4	5/*16.40*	**TM1STNTCSN62050**	0.232/ *0.510*
	□ IP 68 □ 6x 20 mm / *0,79 in.* □ TPE □ with strap □ Grey	**8**	1.5/*4.92*	**TM1STNTCTN62015**	0.152/ *0.340*
		5	3/*9.84*	**TM1STNTCTN62030**	0.180/ *0.400*
	□ IP 68 □ 5x 20 mm / *0,79 in.* □ -50…+110 °C/*-122…+230 °F* □ Grey	**8**	1.5/*4.92*	**TM1STNTCRN52015**	0.144/ *0.320*
		5	3/*9.84*	**TM1STNTCRN52030**	0.180/ *0.400*
		4	5/*16.40*	**TM1STNTCRN52050**	0.228/ *0.500*
NTC probes for air wall mounting	□ Outdoor mounting	**–**	–	**TM1STNTCWN65605**	0.050/ *0.110*
	□ Indoor mounting	**–**	–	**TM1STNTCWN75750**	0.050/ *0.110*
PT1000 probes	□ IP 68 □ 6x 20 mm / *0,79 in.* □ -50…+110 °C/*-122…+230 °F* □ Green	**8**	1.5/*4.92*	**TM1STPTTSN62015**	0.144/ *0.320*
		5	3/*9.84*	**TM1STPTTSN62030**	0.175/ *0.390*
	□ IP 68 □ 5x 20 mm / *0,79 in.* □ -50…+110 °C/*-122…+230 °F* □ Green	**8**	1.5/*4.92*	**TM1STPTTSN52015**	0.136/ *0.300*
		5	3/*9.84*	**TM1STPTTSN52030**	0.175/ *0.390*
		4	5/*16.40*	**TM1STPTTSN52050**	0.232/ *0.510*

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