Modicon M258 Logic controller

Catalog

March 2016

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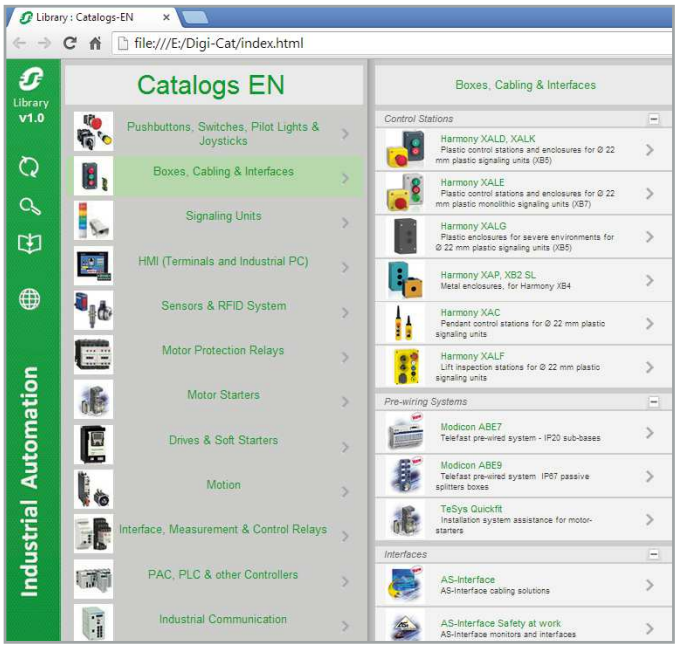

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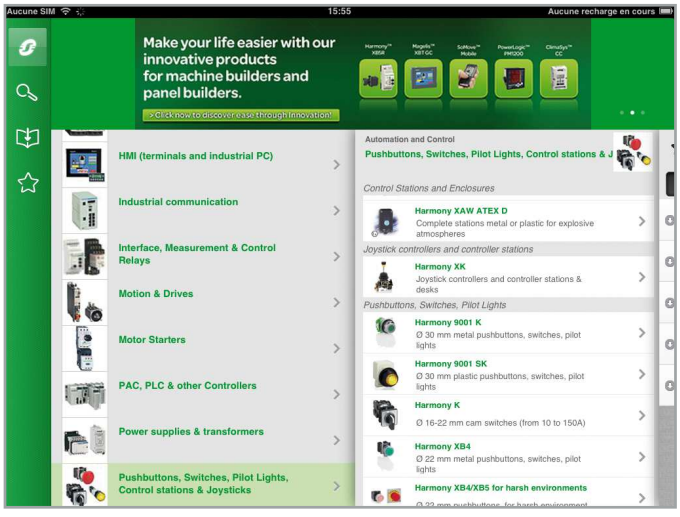

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Modicon M258 logic controller

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Modicon M258 logic controller

Applications		**General machine control:** □ Packaging □ Conveying □ Hoisting □ ...				
		42 digital I/O	**42 digital I/O**	**42 digital I/O + 4 analog inputs**	**42 digital I/O + 4 analog inputs**	**42 digital I/O**	**66 digital I/O + 4 analog inputs**
							
User memory	RAM	64 MB (program + data)		64 MB (program + data)			
	Flash	128 Mbytes		128 Mbytes			
Typical Boolean instruction time		22 ns		22 ns			
User program size		128 program K instructions		128 program K instructions			
Power supply		24 V ⎓		24 V ⎓			
Channel connection		With removable spring terminal blocks (supplied)		With removable spring terminal blocks (supplied)			
Inputs	Digital	26 x 24 V ⎓ inputs including 8 counter inputs (100 kHz)		26 x 24 V ⎓ inputs including 8 counter inputs (100 kHz)			38 x 24 V ⎓ inputs including 8 counter inputs (100 kHz)
	Analog	–		4 inputs + 10 V/- 10 V, 4-20 mA/0-20 mA, 12-bit resolution		–	4 inputs + 10 V/- 10 V, 4-20 mA/0-20 mA, 12-bit resolution
Digital outputs	Transistor	16 outputs (0.5 A) including 4 reflex outputs		16 outputs (0.5 A) including 4 reflex outputs		4 reflex outputs (0.5 A)	28 outputs (0.5 A) including 4 reflex outputs
	Relay	–		–		12	–
Built-in communication ports	USB-B mini-port	Programming port for SoMachine software		Programming port for SoMachine software			
	USB-A port	Connection of a USB memory stick for transferring programs, data files, firmware updates		Connection of a USB memory stick for transferring programs, data files, firmware updates			
	RJ45 port (MBS)	RS232 serial link, RS485 serial link (supplies 250 mA, 5 V for HMI power supply) Protocols: Master/Slave Modbus ASCII/RTU, ASCII (character string)		RS232 serial link, RS485 serial link (supplies 250 mA, 5 V for HMI power supply) Protocols: Master/Slave Modbus ASCII/RTU, ASCII (character string)			
	SUB-D connector (male 9-way) (CAN0)	–	Master CANopen bus (63 slaves)	–	Master CANopen bus (63 slaves)		
	RJ45 port (Ethernet)	Ethernet TCP IP, Web Server, FTP, Ethernet Modbus TCP		Ethernet TCP IP Modbus slave, Web Server, FTP			
Optional communication ports		–		2 PCI slots available on controller for optional communication modules TM5 PC●●● *(1)*: □ Modbus or ASCII serial link □ connection to Profibus DP bus (slave)			
Software programming		With SoMachine software : please consult our catalog **"SoMachine configuration software"**		With SoMachine software : please consult our catalog **"SoMachine configuration software"**			
Logic controller type		**TM258LD42DT**	**TM258LF42DT**	**TM258LD42DT4L**	**TM258LF42DT4L**	**TM258LF42DR**	**TM258LF66DT4L**
Page		10		10			

(1) To be ordered separately, see page 12.

Modicon M258 logic controller

Modicon M258 logic controller

The Modicon M258 logic controller is a compact, high-performance and fully expandable PLC. It forms a part of Flexible Machine Control approach, a key component of MachineStruxure™, which brings flexibility and gives an optimised control solution.
This PLC is designed for machine manufacturers (OEMs) focusing on applications such as packaging, hoisting, conveying and storage, textiles and woodworking, hoisting, etc. It offers high-performance solutions for speed control, counting, axis control and communication functions.

Performance

The Modicon M258 logic controller has a Dual-Core processor:
■ Core 1 is dedicated exclusively to managing program tasks and offers the maximum resources for real-time execution of the application code.
■ Core 2 is dedicated to executing communication tasks, which then have no further impact on the application execution performance.
With an execution speed of **22 ns** for a Boolean instruction i.e. more than **45,000 Boolean instructions** per ms, the capacity to manage up to **2400 I/O**, a **64 MByte** RAM memory that can store data and programs as well as a **128 MByte** Flash memory for application and data backup.
In developing the Modicon M258 logic controller, the cost aspect was taken into account, the CPUs are equipped as standard with:
■ 42 or 66 digital I/O
■ Embedded serial link and Ethernet port
■ 4 analog inputs (TM258●●●●4L references)

Development and technology

The Modicon M258 logic controller has been developed to minimize the costs of assembly, cabling, commissioning and maintenance.
To this end:
■ the modules have removable terminals.
■ the electrical connections are made on spring terminals, speeding up the wiring process and also avoiding the need for periodic retightening. In addition, each terminal has a test point for a voltage sensing device.
■ The embedded serial link and Ethernet port on the Modicon M258 logic controller have an RJ45 connection at 45° for quick visible connection of your communication channels.
■ The modularity of the various bases and expansion modules has been optimized in order to reduce significantly the number of references to be ordered and assembled, while realizing a minimum investment in your configuration is necessary, thanks to a capacity of 2 to 42 channels per expansion module.
■ Mechanical assembly of the various parts has been designed to save time during assembly.

Software configuration

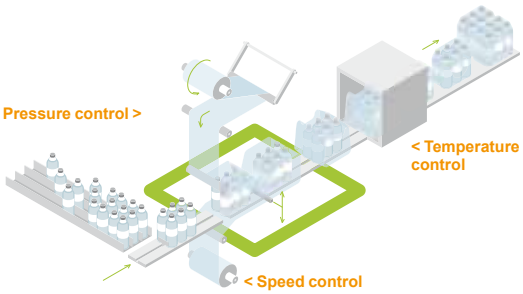
SoMachine software platform

Configuration and programming of M258 controllers and equipment in Schneider Electric's “Flexible Machine Control” concept are both designed to cut costs and optimize machine performance.
Schneider Electric’s **SoMachine** software platform can be used to program M258 controllers using:
■ IEC 61131-3 programming languages: Instruction List (IL), Ladder Diagram (LD), Function Block Diagram (FBD), Sequential Function Chart/Grafcet (SFC) and Structured Text (ST)
■ CFC (Continuous Function Chart) language.
PLCopen function blocks are used for managing motion control and axis control on your machines.
Please consult our catalog **"SoMachine configuration software"**.

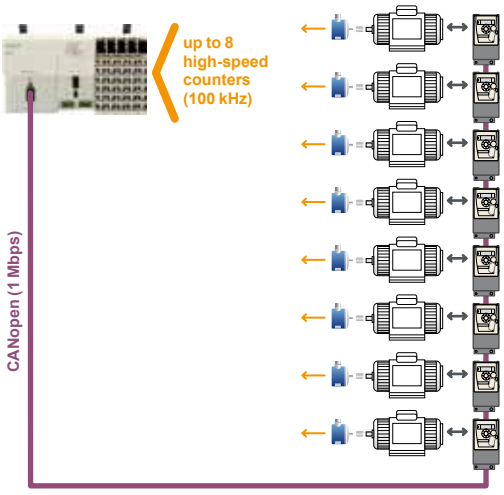
Integration in the Schneider Electric product offer

Combined with other products dedicated to machine manufacturers in the Schneider Electric offer, such as Altivar variable speed drives, Lexium servo drives, Magelis HMI terminals, TeSys motor starters and contactors, the Modicon M258 logic controller is a must-have element in machine architectures.

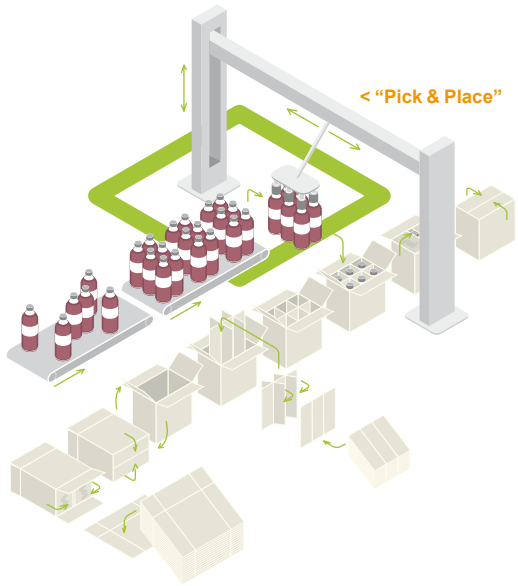
Modicon M258 logic controller



Analog functions



High-speed counter function (one-phase or two-phase)



Position control function

Functions

Analog functions

For machines that require functions to process data issued by analog sensors/ actuators (voltage or current), temperature sensors or PID control sensors, a complete range of expansion modules as well as advanced programming functions are included in the Modicon M258 logic controller offer.
In order to minimize the number of product references of your machines, optimize assembly time and cut costs, M258 logic controllers with the reference **TM258L●●●●4L** include as standard 4 voltage or current analog inputs with 12-bit resolution.
The different expansion modules are available in 2, 4, 6 or 8-channel versions and with either 12 or 16-bit resolution.
The powerful performance of the M258 logic controller enables up to 200 analog I/O and/or temperature modules to be connected, thus extending the limits of machine requirements.

High-speed counter function (HSC)

In order to meet requirements for machine productivity, the Modicon M258 logic controller has 8 embedded high-speed counters with a counting frequency of 100 kHz for each channel as well as 4 reflex outputs. The availability of these embedded counters and also the presence of the Master CANopen link in **TM258LF●●●●** controllers makes it quick and easy to create low-cost, high-performance multi-axis functions that suit the machines' limitations.
With the availability of "PLCopen" function blocks specific to the motion control functions in the SoMachine software, you can be sure that developing your applications will be quick and reliable.
Moreover, a complete range of high-speed counter modules is available so you can adapt your configuration to your machine's specific requirements.

Position control function

Several options are offered in terms of position control:
□ Either cre ating a sequence in Lexium 32 servo drives, with communication with the M258 logic controller achieved by the use of digital I/O
□ Or creating an application in the M258 logic controller and controlling Lexium 32 servo drives and/or SD3●● steppers via the integrated Master CANopen link available on **TM258LF●●●** bases.

Communication functions

Ethernet

M258 logic controller references have an embedded RJ45 Ethernet port (10/100 Mbps, MDI/MDIX) with Ethernet TCP Modbus, Ethernet IP Device, SoMachine on Ethernet, UDP, TCP and SNMP protocols.
In addition, the M258 logic controllers have an embedded Web Server and FTP Server.
As well as the default address based on the MAC address, it is possible to assign a controller IP address via a DHCP server or via a BOOTP server.
Please consult our catalog **"Ethernet for machines".**

CANopen

Depending on the reference, M258 logic controllers have an embedded CANopen master.
The link can be configured between 125 Kbps and 1 Mbps and supports up to 63 slaves.
Architectures based on CANopen can be used to distribute I/O modules as close to the sensors and actuators as possible, thus reducing wiring costs and times, and to communicate with different devices such as variable speed drives, servo drives, etc.
The CANopen configurator is integrated in the SoMachine software and can also be used to import standard description files in EDS format.
Please consult our catalog **"CANopen for machines".**

Modbus serial link

M258 logic controllers have as standard a serial link that can be configured as either RS232/RS485 and incorporates two used protocols on the market:
□ Master or Slave Modbus ASCII/RTU
□ Character string (ASCII)

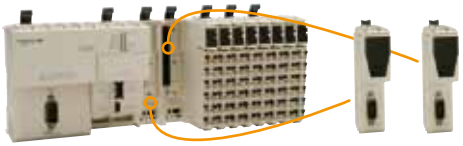
Profibus DP (Decentralized Peripherals)

The Modicon **TM258LD42DT4L**, **TM258LF42DT4L**, **TM258LF42DR** and **TM258LF66DT4L** logic controllers equipped with the **TM5PCDPS** communication module can be connected to Profibus bus: for controlling decentralized sensors, actuators or PLCs via a central master controller

Modicon M258 logic controller

TM258LD42DT logic controller

TM258LF42DT logic controller



TM258LD42DT4L logic controller

TM5PC●● communication modules

Modicon TM5 compact blocks

Modicon TM5 digital modules

Modicon TM5 digital/Analog modules

Modicon TM5 analog modules

Modicon TM5 Expert modules

Modicon TM5 Common Distribution modules

Modicon TM5 Power Distribution modules

Modicon TM5 transmitter module

Modicon TM5 receiver module

Offer presentation

Range

The M258 logic controller range is divided into two controller sizes:
□ TM258LD42DT and TM258LF42DT are 177 mm *(6.96 in.)* wide.
□ TM258LD42DT4L, TM258LF42DT4L, TM258LF42DR, and TM258LF66DT4L are at least 237.5 mm *(9.35 in.)* wide as they have two free PCI slots for optional Modicon TM5 communication modules (Modbus or ASCII serial link, and connection to Profibus DP bus), see pages 12 to 15.
The M258 logic controller range is completed by Modicon TM5 expansion module offer:
□ Compact blocks
□ Digital modules
□ Digital/Analog module
□ Analog modules
□ Expert modules
□ Common Distribution modules
□ Power Distribution modules
□ Transmitter and receiver modules
Please consult our catalog **"Modicon TM5 expansion modules".**

Functions

The main component in a system is the controller: 6 M258 logic controller models are offered to cover different control requirements (pressure, temperature, counting, speed, position control, motion, etc.).
M258 logic controllers and I/O modules are programmed with the SoMachine software.

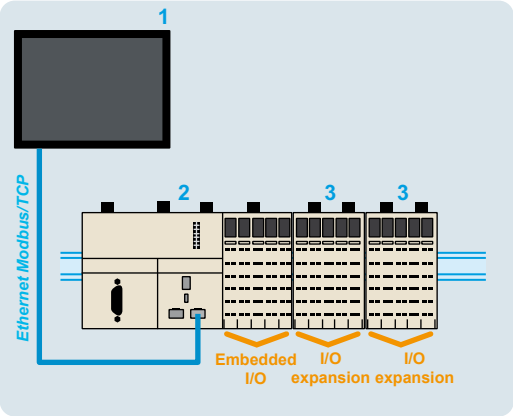
Reference	Embedded functions
TM258LD42DT, TM258LD42DT4L	■ 42 digital I/O including 8 high-speed counters (100 kHz) ■ Depending on the reference, 4 voltage/current analog inputs can be added
TM258LF42DT, TM258LF42DT4L, TM258LF42DR, TM258LF66DT4L	■ 42 or 66 digital I/O including 8 high-speed counters (100 kHz) ■ Depending on the reference, 4 voltage/current analog inputs can be added ■ Up to 16 independent axes ■ CANopen master

M258 controllers have two groups of high-speed I/O with, for each group:
□ Four sink type high-speed inputs (up to 100 KHz), 2 standard inputs and 2 source type high-speed outputs (up to 100 KHz) dedicated to HSC or PWM functions
□ A high-speed input which can be used as an "Encoder capture input"
□ Two commons for the inputs
□ One common for the outputs
□ A power supply (24 V ⎓) consisting of 3 units:
- One for the CPU
- One for the high-speed I/O modules
- One for other modules (internal I/O Bus)

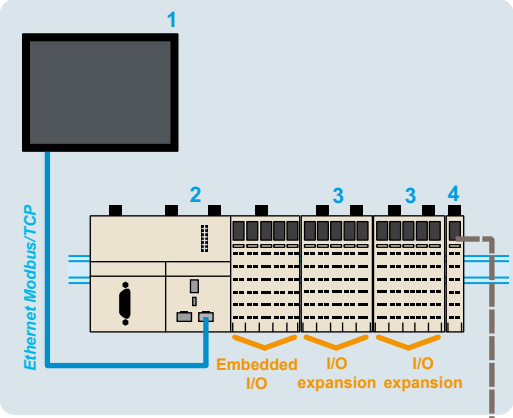
Conformity to standards

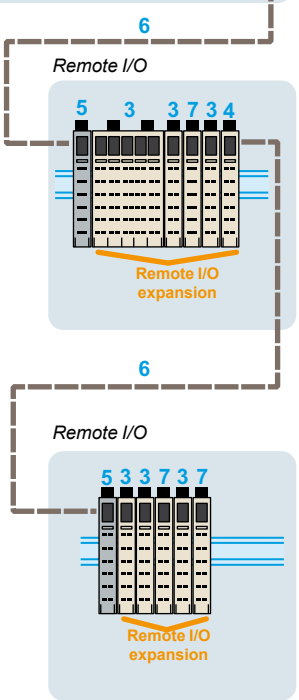
Type		Performance
Surge immunity 24 VDC circuit	EN/IEC 61000-4-5	1 kV in common mode
		0.5 kV in differential mode
Surge immunity 230 VAC circuit	EN/IEC 61000-4-5	2 kV in common mode
		1 kV in differential mode
Induced electromagnetic field	EN/IEC 61000-4-6	10 Veff (0.15...80 MHz)
Conducted emission	EN 55011 (IEC/CISPR11)	150...500 kHz, quasi peak 79 dBµV
		500 kHz...30 MHz, quasi peak 73 dBµV
Radiated emission	EN 55011 (IEC/CISPR11)	30...230 MHz, 10 m @ 40 dBµV/m
		230 MHz...1 GHz, 10 m @ 47 dBµV/m

Modicon M258 logic controller



Local I/O





Assembly and mounting

The components of this system have been designed for simple interlocking mechanical assembly.
An 8-way expansion bus connection (2 for the power supply, 2 for the bus and 4 for the data) is used to distribute data and the power supply when assembling the components: the M258 controller with compact blocks and modules (digital, digital/analog, analog, Expert, common distribution, power distribution, expansion bus).
The elements which make up the system are mounted and dismounted on a symmetrical rail using the locking levers located on top of each device.
Wiring and maintenance of devices is simplified since they are fitted with removable spring terminals. The spring terminals are undone by pressing a locking tab.
The system is integrated into communication networks: the connectors (RJ45, USB, mini-USB and SUB-D type depending on the model) are accessible, as they are located on the controller front panels.

Local or remote architecture

Local I/O

A PLC configuration can be local or remote. It consists of an M258 controller with its embedded input and output channels, used in conjunction with compact blocks and/or modules which are used to increase the number of channels and/or "Application-specific" functions.
■ Compact blocks represent a way of adding a large number of I/O with a single reference. This possibility reduces both the cost per channel, and also assembly times. These compact blocks are available in 4 references offering a high level of flexibility in configurations.
■ I/O modules (a combination of a bus base, an electronic module and a terminal block) complete this configuration and, being modular with between 2 and 12 channels, make it possible to adjust the number of channels to exactly that required. Addition of digital or analog modules, temperature or high-speed modules increases the processing capabilities of applications.

Configuration of local I/O

1 XBTGT supervision graphic touch screen terminal
2 M258 controller
3 Compact blocks or I/O modules

Remote I/O

Because of its backplane bus management, the TM5 system can be used to control I/O remotely.
The same modules can be used in either a local and/or remote configuration, linked together with expansion bus cables.
The total maximum distance between 2 remote islands is 100 m *(328.0 in.)* and the maximum number of islands is 25, i.e. a total distance of up to 2500 m *(8202.09 in.)*.
This function gives a high level of flexibility, while retaining **synchronization of data acquisition**, since the expansion modules are on the same backplane bus.

Configuration of remote I/O

1 XBTGT supervision graphic touch screen terminal
2 M258 controller
3 Compact blocks or I/O modules
4 Transmitter modules
5 Receiver modules
6 TM5 expansion bus cables
7 Common distribution modules

Characteristics of M258 logic controllers

Certifications	CE, CSA, C-Tick , CULus, GOST-R
Standards	CSA C22.2 No 142, IEC 61131-2, UL 508, CSA C22.2 No 213
Ambient operating temperature	-10….+ 60 °C *(+14...+ 140 °F)* horizontal installation -10...+ 50 °C *(+14..+ 122 °F)* vertical installation
Storage temperature	- 25...+ 70 °C *(- 13...+ 158 °F)*
Relative humidity	5...95 % (non-condensing)
Operating altitude	□ 0...2,000 m *(0...6,562 ft.)*: complete specification for temperature and insulation □ 2,000…4,000 m *(6,562…13,123 ft.)*: temperature derating: + 1°C/400 m *(+ 1.8°F/1,312 ft.)*, insulation losses: 150 V ⎓/1,000 m *(150 V ⎓/3,280 ft.)*
Storage altitude	0...3000 m *(0...9842 ft.)*
Resistance to fast transients	□ 2 kV power lines conforming to EN/IEC 61000-4-4 □ 1 kV shielded cable conforming to EN/IEC 61000-4-4 □ 1 kV I/O conforming to EN/IEC 61000-4-4
Power supply	24 V ⎓
	Voltage limit (including ripple): 19,2...28,8 V ⎓
	Max. consumption: ⩽ 18.11 W

Communication

M258 logic controllers have the following built-in communication ports:

References	Communication ports	Use
TM258LD42DT, TM258LD42DT4L	RJ45 Configurable as RS232 or RS485	ASCII or RTU exchange with Modbus communication protocol
	1 x RJ45 (MDI/MDIX port)	□ FTP server □ Web server □ Modbus TCP server □ Modbus TCP client □ Manager SoMachine □ SNMP □ Ethernet IP device □ Modbus device
	1 x USB-A	Connection of a USB memory stick for transferring (uploading/downloading) programs, data and/or firmware
	1 x mini-USB	Programming port (480 Mbps)
	2 PCI slots for communication modules = 2 x 9-way male SUB-D	Addition of optional communication modules for a serial link and a connection on the bus Profibus DP *(1)*
TM258LF42DT, TM258LF42DT4L, TM258LF42DR, TM258LF66DT4L	1 x RJ45 Configurable as RS232 or RS485	ASCII or RTU exchange with Modbus communication protocol
	1 x RJ45 (MDI/MDIX port)	□ FTP server □ Web server □ Modbus TCP server □ Modbus TCP client □ Manager SoMachine □ SNMP □ Ethernet IP device □ Modbus device
	1 x USB-A	Connection of a USB memory stick for transferring (uploading/downloading) programs, data and/or firmware
	1 x mini-USB	Programming port (480 Mbps)
	1 x 9-way male SUB-D	Master CANopen connection
	2 PCI slots for communication modules = 2 x 9-way male SUB-D	Addition of optional communication modules for a serial link and a connection on the bus Profibus DP *(2)*

Embedded Ethernet

M258 logic controllers have an embedded Ethernet link via a direct connection to their RJ45 port.

□ Speed: “10 BaseT” and “100 BaseTX” with auto-negotiation

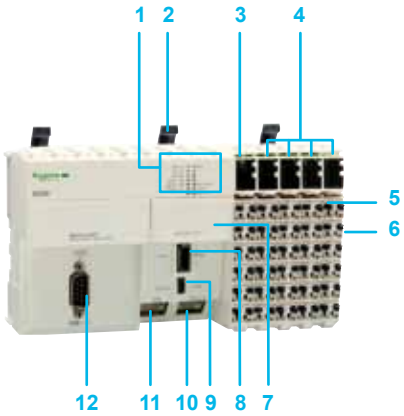
□ RJ45 port (MDI/MDIX): automatic adaptation to a straight or crossed cable

References	Protocols	Number of connections
TM258LD42DT, TM258LD42DT4L, TM258LF42DT, TM258LD42DT4L, TM258LF42DR, TM258LF66DT4L	Modbus server	8
	Modbus device	2
	SoMachine	3 *(3)*
	Ethernet IP device	16
	FTP server	4
	Web server	10

(1) Only on TM258LD42DT4L.

(2) Only on TM258LF42DT4L, TM258LF42DR and TM258LF66DT4L.

(3) The Oscilloscope function uses one connection.

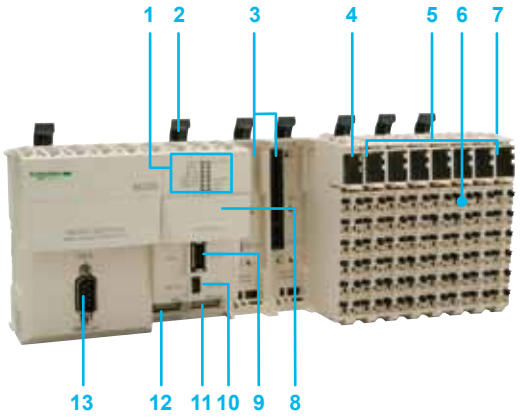


Description

The TM258LD42DT and TM258LF42DT logic controllers comprise:

1 A display block with:
- 4 controller status LEDs (RUN/MS, BATTERY, APP0 and APP1)
- 6 built-in communication port status LEDs (*Eth* LA, *Eth* ST, *Eth* NS, USB Host, MBS COM, CAN 0 STS)

2 Locking lever for mounting/dismounting on ⊥ symmetrical rail.
3 A 24 V ⎓ power supply module with removable terminal block and locking lever, display block and slot for a label.
4 I/O modules, each one with: a removable terminal block with locking lever, a display block showing the I/O states and a slot for a label-holder.
5 Removable terminal block with locking lever for locking/unlocking.
6 On the side, an expansion bus connection for the link with the next module.
7 A slot for the RTC (Real Time Clock) battery.
8 A USB-A connector (marked Host) for connection of a USB memory stick for transferring programs, data or firmware updates.
9 A USB-B mini-connector (marked Pgr Port) for connection to the programming PC
10 An RJ45 connector (marked Ethernet) for connection to the Ethernet network and/or connection to the Magelis XBT GT graphic terminal.
11 An RJ45 connector (marked MBS) for the RS232 or RS485 serial link.
12 A 9-way male SUB-D connector, marked CAN 0, for connection to the CANopen bus (TM258LF42DT only).



The TM258LD42DT4L/LF42DT4L/LF42DR/LF66DT4L logic controllers comprise:

1 A display block with:
- 4 controller status LEDs (RUN/MS, BATTERY, APP0 and APP1)
- 6 built-in communication port status LEDs (*Eth* LA, *Eth* ST, *Eth* NS, USB Host, MBS COM, CAN 0 STS)

2 Locking lever for mounting/dismounting on ⊥ symmetrical rail.
3 Two free PCI slots for the communication module.
4 A 24 V ⎓ power supply module with removable terminal block and locking lever, display block and slot for a label.
5 I/O modules, each one with: a removable terminal block with locking lever, a display block showing the I/O states and a slot for a label-holder.
6 Removable terminal block with locking lever for locking/unlocking.
7 On the side, an expansion bus connection for the link with the next module.
8 A slot for the RTC (Real Time Clock) battery.
9 A USB-A connector (marked Host) for connection of a USB memory stick for transferring programs, data or firmware updates.
10 A USB-B mini-connector (marked Pgr Port) for connection to the programming PC.
11 An RJ45 connector (marked Ethernet) for connection to the Ethernet network and/or connection to the Magelis XBT GT graphic terminal.
12 An RJ45 connector (marked MBS) for the RS232 or RS485 serial link.
13 A 9-way male SUB-D connector, marked CAN 0, for connection to the CANopen bus (TM258LF42DT4L, TM258LF42DR and TM258LF66DT4L only).

References

Logic controllers, 24 V ⎓ power supply *(1)*

Nbr. of I/O	Inputs	Outputs	Built-in communication ports	Reference	Weight kg/ *lb*
42 I/O	■ 26 x 24 V ⎓ digital inputs including 8 counter inputs (100 kHz)	■ 16 transistor digital outputs (0.5 A) including 4 reflex outputs	□ 1 RJ45 port: Ethernet □ 1 USB-A port: program transfer □ 1 USB-B mini-port: software programming □ 1 RJ45 port: RS232/RS485 serial link	**TM258LD42DT**	0.500/ *1.102*
			□ 1 RJ45 port: Ethernet □ 1 SUB-D port (9-way male): CANopen master □ 1 USB-A port: program transfer □ 1 USB-B mini-port: software programming □ 1 RJ45 port: RS232/RS485 serial link	**TM258LF42DT**	0.550/ *1.213*
42 + 4 I/O	■ 26 x 24 V ⎓ digital inputs including 8 counter inputs (100 kHz) ■ 4 analog inputs 10 V/- 10 V, 4-20 mA/0-20 mA, 12-bit resolution	■ 16 digital transistor outputs (0.5 A) including 4 reflex outputs	□ 1 RJ45 port: Ethernet □ 1 USB-A port: program transfer □ 1 USB-B mini-port: software programming □ 1 RJ45 port: RS232/RS485 serial link □ + 2 free PCI slots for optional communication module *(2)*: RS232/ RS485 serial link and Profibus DP bus	**TM258LD42DT4L**	0.770/ *1.698*
			□ 1 RJ45 port: Ethernet □ 1 SUB-D port (9-way male): CANopen master □ 1 USB-A port: program transfer □ 1 USB-B mini-port: software programming □ 1 RJ45 port: RS232/RS485 serial link □ + 2 free PCI slots for optional communication modules *(2)*: RS232/ RS485 serial link and Profibus DP bus	**TM258LF42DT4L**	0.770/ *1.698*
42 I/O	■ 26 x 24 V ⎓ digital inputs including 8 counter inputs (100 kHz)	■ 4 digital transistor (reflex) outputs (0.5 A) ■ 12 relay outputs	□ 1 RJ45 port: Ethernet □ 1 SUB-D port (9-way male): CANopen master □ 1 USB-A port: program transfer □ 1 USB-B mini-port: software programming □ 1 RJ45 port: RS232/RS485 serial link □ + 2 free PCI slots for optional communication modules *(2)*: RS232/ RS485 serial link and Profibus DP bus	**TM258LF42DR**	0.800/ *1.764*
66 + 4 I/O	■ 38 x 24 V ⎓ digital inputs including 8 counter inputs (100 kHz) ■ 4 analog inputs + 10 V/- 10 V, 4-20 mA/0-20 mA, 12-bit resolution	■ 28 digital transistor outputs (0.5 A) including 4 reflex outputs	□ 1 RJ45 port: Ethernet □ 1 SUB-D port (9-way male): CANopen master □ 1 USB-A port: program transfer □ 1 USB-B mini-port: software programming □ 1 RJ45 port: RS232/RS485 serial link □ + 2 free PCI slots for optional communication modules *(2)*: RS232/ RS485 serial link and Profibus DP bus	**TM258LF66DT4L**	0.800 *1.764*

(1) The Modicon M258 logic controllers require a power supply with a nominal voltage of 24 V ⎓ , Separated Extra Low Voltage (SELV-rated) according to IEC 61140.
The SELV-rating means that SELV isolation is provided between the electrical input and output of the power supply.
(2) To be ordered separately see page 12.

TM258LD42DT

TM258LF42DT

TM258LD42DT4L

TM258LF42DT4L

TM258LF42DR

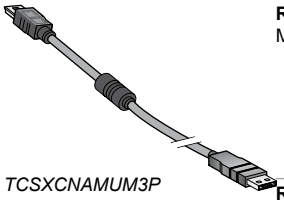
TM258LF66DT4L

TM5ACTLC100

TM5ACTCH100

TM5ACLITW1

TM5ACLT1



TCSXCNAMUM3P

References

Accessories

Type	Used for	Colour	Sold in lots of	Unit reference	Weight kg/ *lb*
Plain text cover holder (label-holder)	Marking the terminal blocks on the I/O channels	Transparent	100	**TM5ACTCH100**	0.002/ *0.004*
Plain text cover holder locking clip *(Order with plain text cover holder TM5ACTCH100)*	Locking plain text cover holder TM5ACTCH100	Transparent	100	**TM5ACTLC100**	0.001/ *0.002*
Precut legend strips of paper	Plain text cover holder TM5ACTCH100	White	100	**TM5ACTLS100**	0.001/ *0.002*
Coloured plastic identifiers	Labelling 16 connection channel terminals	White	1	**TM5ACLITW1**	0.015/ *0.033*
		Red	1	**TM5ACLITR1**	0.015/ *0.033*
		Blue	1	**TM5ACLITB1**	0.015/ *0.033*
Metal tool	Inserting/removing TM5ACLIT●1 identifiers	Black	1	**TM5ACLT1**	0.030/ *0.066*

Connection cables

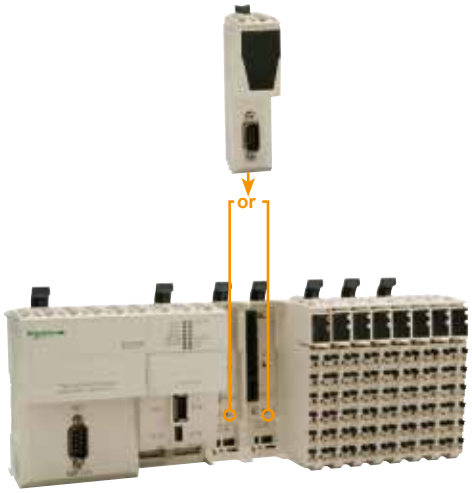
Description	Use from	to	Length m/*ft.*.	Reference	Weight kg *lb*
Software programming cable Baud rate: 480 Mbps max. Protocol: Modbus, HTTP, FTP, Codesys or virtual, non-isolated	PC USB port	USB mini-port on M258 controllers	3 / *9.84*	**TCSXCNAMUM3P**	0.065 / *0.143*
RS485 serial link cables Modbus protocol	SUB-D port (25-way) on Small Panel compact display units: XBTN4●●	RJ45 port on M258 controllers	1.8 / *5.90*	**XBTZ938**	0.230 / *0.507*
	RJ45 port on XBTGT graphic touch screen terminals	RJ45 port on M258 controllers	2.5 / *8.20*	**XBTZ9980**	0.230/ *0.507*
RS232 serial link cables Character mode	SUB-D port (9-way female) on DTE equipment *(1)*: printer, hand-held bar code reader, etc.	RJ45 port on M258 controllers	3 / *9.84*	**TCSMCN3M4F3C2**	0.150/ *0.331*
	SUB-D port (9-way female) on DCE equipment *(2)*: GSM modem	RJ45 port on M258 controllers	3 / *9.84*	**TCSMCN3M4M3S2**	0.150/ *0.331*

(1) DTE: Data Terminal Equipment.
(2) DCE: Data Communication Equipment.

Modicon M258 logic controller

Modicon TM5 communication modules

For Modbus serial link



TM5PCRS● communication module: for mounting the two free PCI slots in the Modicon M258 logic controller or Modicon LMC058 motion controller

Presentation

TM5PCRS● communication modules are designed for **TM258LD42DT4L**, **TM258LF42DT4L**, **TM258LF42DR**, **TM258LF66DT4L** logic controllers, **LMC058LF42** and **LMC058LF424** motion controllers and are installed in one of the two free PCI slots in.

TM5PCRS● communication modules can be used to configure one or two additional Modbus or ASCII serial links as RS232 or RS485.

Nota: the maximum number of communication modules is 2.

Modbus and Character mode serial links

Cabling system: Please consult our catalog "Modbus for machines".

Description

TM5PCRS● communication modules comprise:

1 A locking clip for mounting/dismounting on the controller
2 A channel and module diagnostics LED display block
3 A connector for linking to the controller
4 A SUB-D connector (male 9-way) for connection to the serial link

Serial link

LED	Colour	Status: on
Status	Green	Operation in progress
	Red	Controller starting
RXD	Yellow	Reception on interface: □ RS232 with TM258PCRS2 □ RS485 with TM258PCRS4
TXD	Yellow	Transmission on interface: □ RS232 with TM258PCRS2 □ RS485 with TM258PCRS4

Modicon M258 logic controller

Modicon TM5 communication modules

For Modbus serial link

TM5PCRS●

References

Description	Used for	Physical layer/ protocols	Built-in port	Reference	Weight kg/*lb*
Modbus serial link communication modules	Logic controllers: □ TM258LD42DT4L, □ TM258LF42DT4L, □ TM258LF42DR, □ TM258LF66DT4L Motion controllers: □ LMC058LF42, □ LMC058LF424	RS232/ Modbus/ASCII, SoMachine	SUB-D connector (male 9-way)	**TM5PCRS2**	0.064/ *0.14*
		RS485 / Modbus/ASCII, SoMachine	SUB-D connector (male 9-way)	**TM5PCRS4**	0.064/ *0.14*

Modicon M258 logic controller

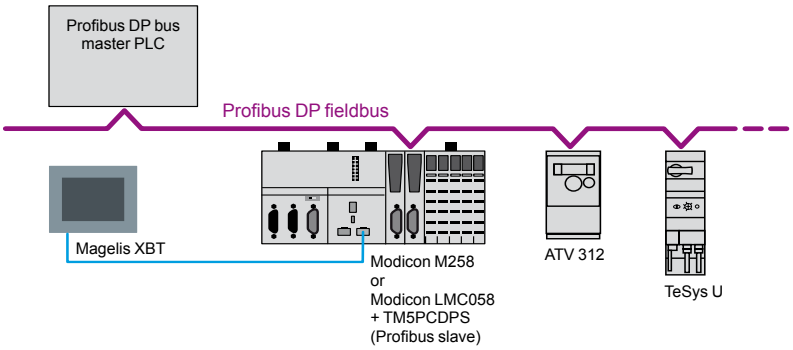
Modicon TM5 communication modules

For connection to the Profibus DP fieldbus

Presentation

Profibus DP (Decentralized Peripherals)

Profibus (Process Field Bus) is a fieldbus for controlling decentralized sensors, actuators or PLCs via a central master controller.



Connectable devices

The following Schneider Electric devices can be connected to this bus:
- Modicon TM258LD42DT4L, TM258LF42DT4L, TM258LF42DR and TM258LF66DT4L logic controllers equipped with the **TM5PCDPS** communication module
- Modicon LMC058LF42 and LMC058LF424 motion controllers equipped with the **TM5PCDPS** communication module
- TeSys U and TeSys T starter-controllers
- Momentum and Modicon STB distributed I/O
- Altivar 312/61/71 variable speed drives for asynchronous motors
- Lexium 05 and 15 servo drives for brushless motors
- Altistart ATS 48 soft start-soft stop units

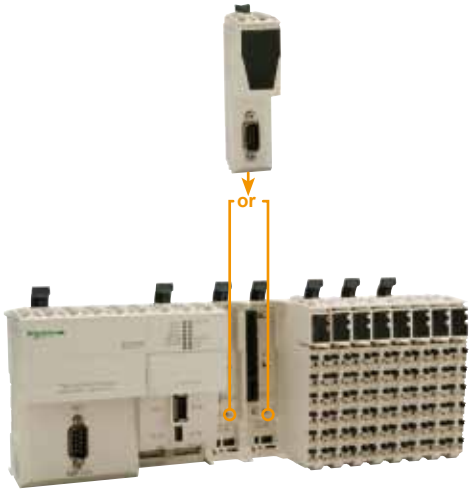
And any third-party device compatible with Profibus DP standard profiles.

Profibus communication module

The **TM5PCDPS** communication module is designed for **TM258LD42DT4L**, **TM258LF42DT4L**, **TM258LF42DR** and **TM258LF66DT4L** logic controllers and **LMC058LF424●** motion controllers and is installed in one of the two free PCI slots.

The **TM5PCDPS** communication module is used to configure the connection as a slave on the Profibus DP fieldbus.

***Note**: The maximum number of communication modules is two (see page 12) with a single **TM5PCDPS** Profibus DP slave communication module.*



TM5PCDPS communication module: For mounting on one of the two free PCI slots on a Modicon M258 controller or Modicon LMC058 motion controller

Description

The **TM5PCDPS** communication module features:
1. A locking clip for mounting/removing the module onto/from the logic controller or motion controller
2. A LED display block for the module channels and diagnostics
3. A connector for linking the logic controller or motion controller
4. A SUB-D connector (male 9-way) for connection to the Profibus fieldbus

Modicon M258 logic controller

Modicon TM5 communication modules

For connection to the Profibus DP fieldbus

TM5 PCDPS

References

Modicon TM5 communication module

Description	For use with	Profile	Built-in port	Reference	Weight kg/ lb
Communication module for Profibus DP (244 I/O data bits)	Logic controllers: □ TM258LD42DT4L □ TM258LF42DT4L □ TM258LF42DR □ TM258LF66DT4L Motion controllers: □ LMC058LF42 □ LMC058LF424	V1 slave	SUB-D connector (male 9-way)	**TM5PCDPS**	0.064/ *0.14*

Profibus DP fieldbus connection components

Description	Length m/*in.*	Reference	Weight kg
Profibus DP connection cables	100 / *328.08*	**TSXPBSCA100**	–
	400 / *1312.33*	**TSXPBSCA400**	–

490NAD911 03

Description	Type	Reference	Weight kg/ lb
Remote I/O on Profibus DP fieldbus	Modicon STB network interface module	**STBNDP2212**	0.140/ *0.308*
Connectors for remote I/O communication module	Line terminator	**490NAD91103**	–
	In-line connector	**490NAD91104**	–
	In-line connector and terminal port	**490NAD91105**	–

Modicon M258 Logic controller
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TCSXCNAMUM3P	11
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TM5ACLT1	11
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The Next Generation

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March 2016 - V3.1

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