Optimize your simple machines...

Modicon M218
Selection Guide

> Compact Solution for Simple Machines
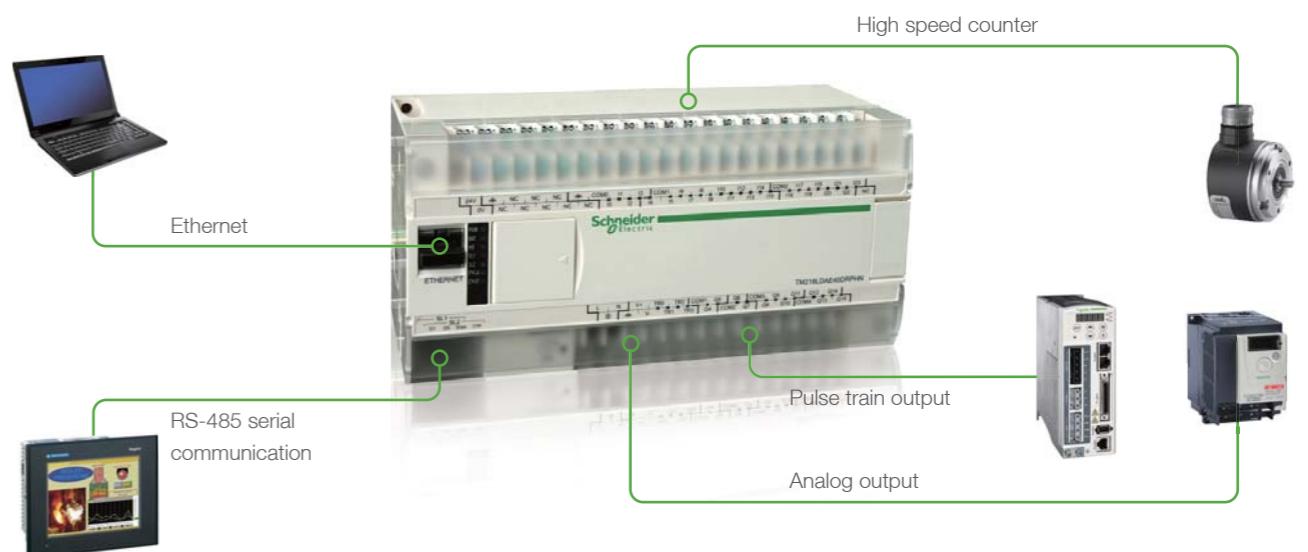
Optimized Logic Controller Modicon M218

With intelligent software platform, specialized functional blocks, powerful embedded functions and flexible system configration, Modicon M218 can definitely meet your control requirements in target industries including plastic machinery, textile machinery, packaging machinery and universal machinery.

Modicon M218 40 I/O Bases

Modicon M218 24 I/O Bases
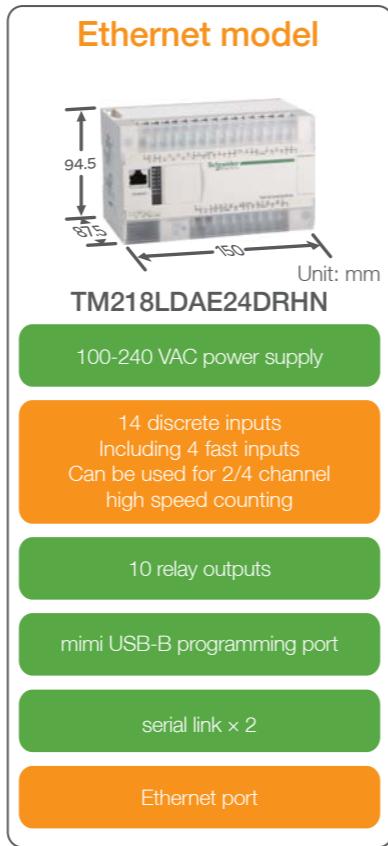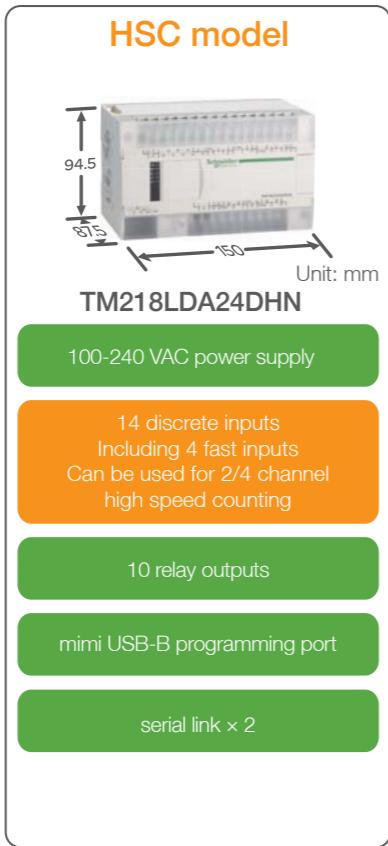
With "all-in-one" solution in a compact unit and its expandability, the Modicon M218 Logic Controller is developed specifically for machine builders (OEMs) to optimize their simple machines:

- 100-240V AC power supply
- Mini USB-B programming port for easy programming and debugging
- Two embedded RS-485 serial links for connection to Modbus device
- One run/stop switch is integrated on each controller to toggle its status
- Simple, obvious and safe wiring with removable terminal blocks and color screw
- Full integrated functionality
- Easy connectivity

High speed counter

Ethernet

RS-485 serial communication

Pulse train output

Analog output

Program capacity (I/O number)

Modicon M258

Modicon M238

Modicon M218

Simple machine control

Complicated machine control
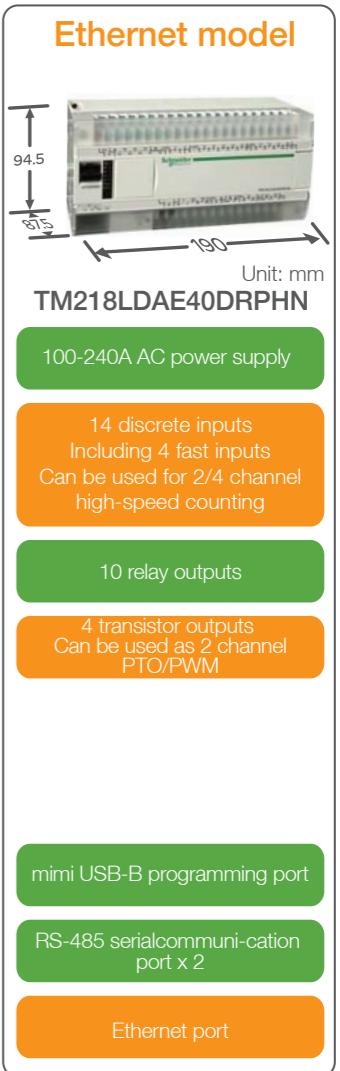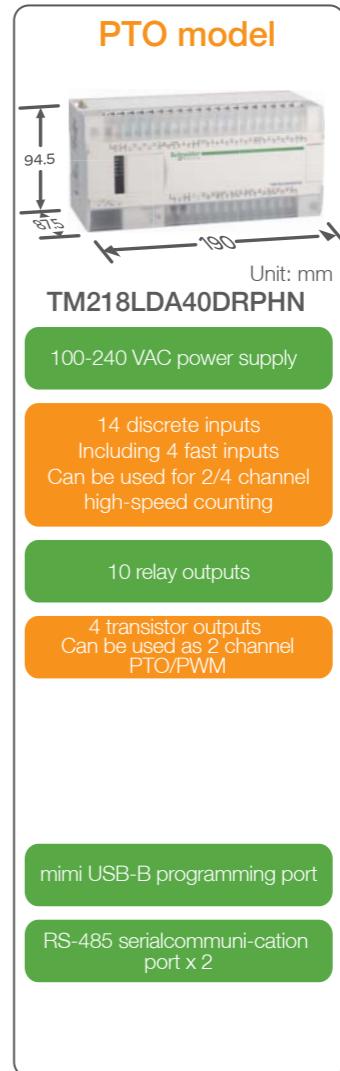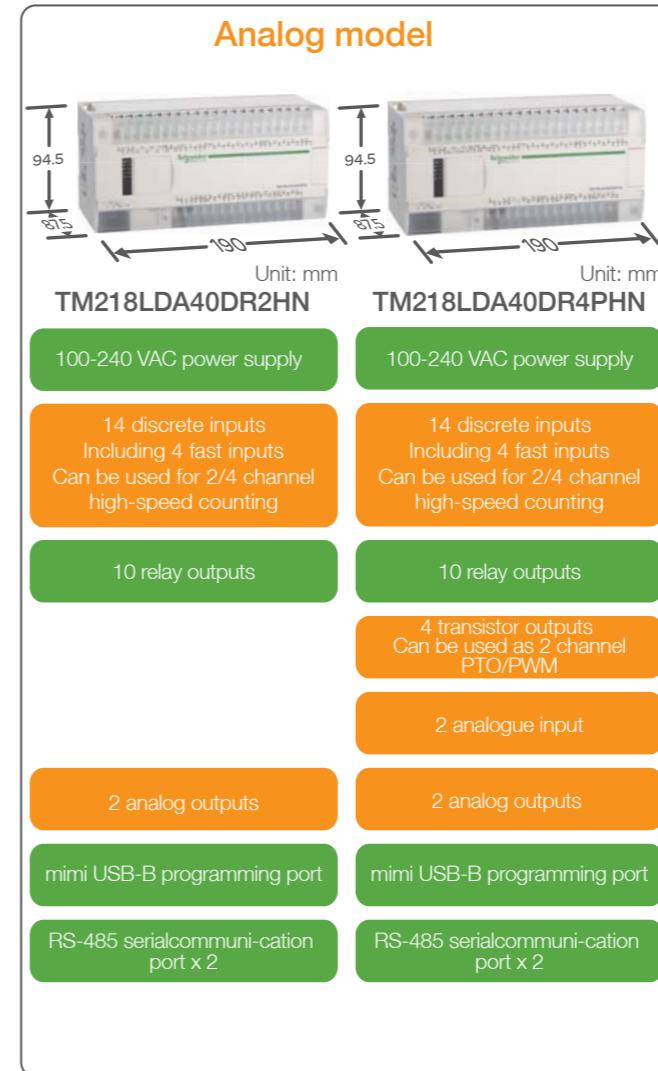
> Modicon M218 24 I/O Bases

Three 24 I/O PLC models are available. Embedded with 14 discrete inputs and 10 discrete relay outputs, they provide high-speed counting and Ethernet functions.

Basic model

94.5 / 87.5 / 150
Unit: mm

TM218LDA24DRN

- 100-240 VAC power supply
- 14 discrete inputs
- 10 relay outputs
- mimi USB-B programming port
- serial link × 2

HSC model

94.5 / 87.5 / 150
Unit: mm

TM218LDA24DHN

- 100-240 VAC power supply
- 14 discrete inputs Including 4 fast inputs Can be used for 2/4 channel high speed counting
- 10 relay outputs
- mimi USB-B programming port
- serial link × 2

Ethernet model

94.5 / 87.5 / 150
Unit: mm

TM218LDAE24DRHN

- 100-240 VAC power supply
- 14 discrete inputs Including 4 fast inputs Can be used for 2/4 channel high speed counting
- 10 relay outputs
- mimi USB-B programming port
- serial link × 2
- Ethernet port

Adapt your configuration to perfectly suit your needs with powerful, efficient and economical expansion modules.

Extension module TM2DMM16DRTN can be connected directly to M218.
Compatible with TM2 discrete IO, analog IO and HSC module.

M218 24 IO Bases TM218LDA.24DR.N

4 extension modules max., control up to 152 I/Os, including up to 42 I/Os for relay outputs

M218 Discrete I/O expansion module TM2DMM16DRTN

TM2 DOCKN expansion dock TM2 DOCKN

TM2 Discrete I/O expansion module TM2 D.I TM2 D.O

TM2 Analog I/O expansion module TM2 AMI/ARI/A.O TM2 A.M

TM2 HSC expansion module TM200HSC206D.

> Modicon M218 40 I/O Bases

Four 40 I/O PLC models are available. Embedded with 24 discrete inputs and 16 relay/transistor outputs, they provide high-speed counting, pulse train output, analog I/O, and Ethernet functions.

Analog model

94.5 / 87.5 / 190
Unit: mm

TM218LDA40DR2HN

- 100-240 VAC power supply
- 14 discrete inputs Including 4 fast inputs Can be used for 2/4 channel high-speed counting
- 10 relay outputs
- 2 analog outputs
- mimi USB-B programming port
- RS-485 serialcommuni-cation port x 2

94.5 / 87.5 / 190
Unit: mm

TM218LDA40DR4PHN

- 100-240 VAC power supply
- 14 discrete inputs Including 4 fast inputs Can be used for 2/4 channel high-speed counting
- 10 relay outputs
- 4 transistor outputs Can be used as 2 channel PTO/PWM
- 2 analogue input
- 2 analog outputs
- mimi USB-B programming port
- RS-485 serialcommuni-cation port x 2

PTO model

94.5 / 87.5 / 190
Unit: mm

TM218LDA40DRPHN

- 100-240 VAC power supply
- 14 discrete inputs Including 4 fast inputs Can be used for 2/4 channel high-speed counting
- 10 relay outputs
- 4 transistor outputs Can be used as 2 channel PTO/PWM
- mimi USB-B programming port
- RS-485 serialcommuni-cation port x 2

Ethernet model

94.5 / 87.5 / 190
Unit: mm

TM218LDAE40DRPHN

- 100-240A AC power supply
- 14 discrete inputs Including 4 fast inputs Can be used for 2/4 channel high-speed counting
- 10 relay outputs
- 4 transistor outputs Can be used as 2 channel PTO/PWM
- mimi USB-B programming port
- RS-485 serialcommuni-cation port x 2
- Ethernet port

Adapt your configuration to perfectly suit your needs with powerful, efficient and economical expansion modules.

Extension module TM2DMM16DRTN can be connected directly to M218.
Compatible with TM2 discrete IO, analog IO and HSC module.

M218 40 IO Bases TM218LDA.40DR..HN

7 extension modules max., control up to 248 I/Os, including up to 90 I/Os for relay outputs

M218 Discrete I/O expansion module TM2DMM16DRTN

TM2 DOCKN expansion dock TM2 DOCKN

TM2 Discrete I/O expansion module TM2 D.I TM2 D.O

TM2 Analog I/O expansion module TM2 AMI/ARI/A.O TM2 A.M
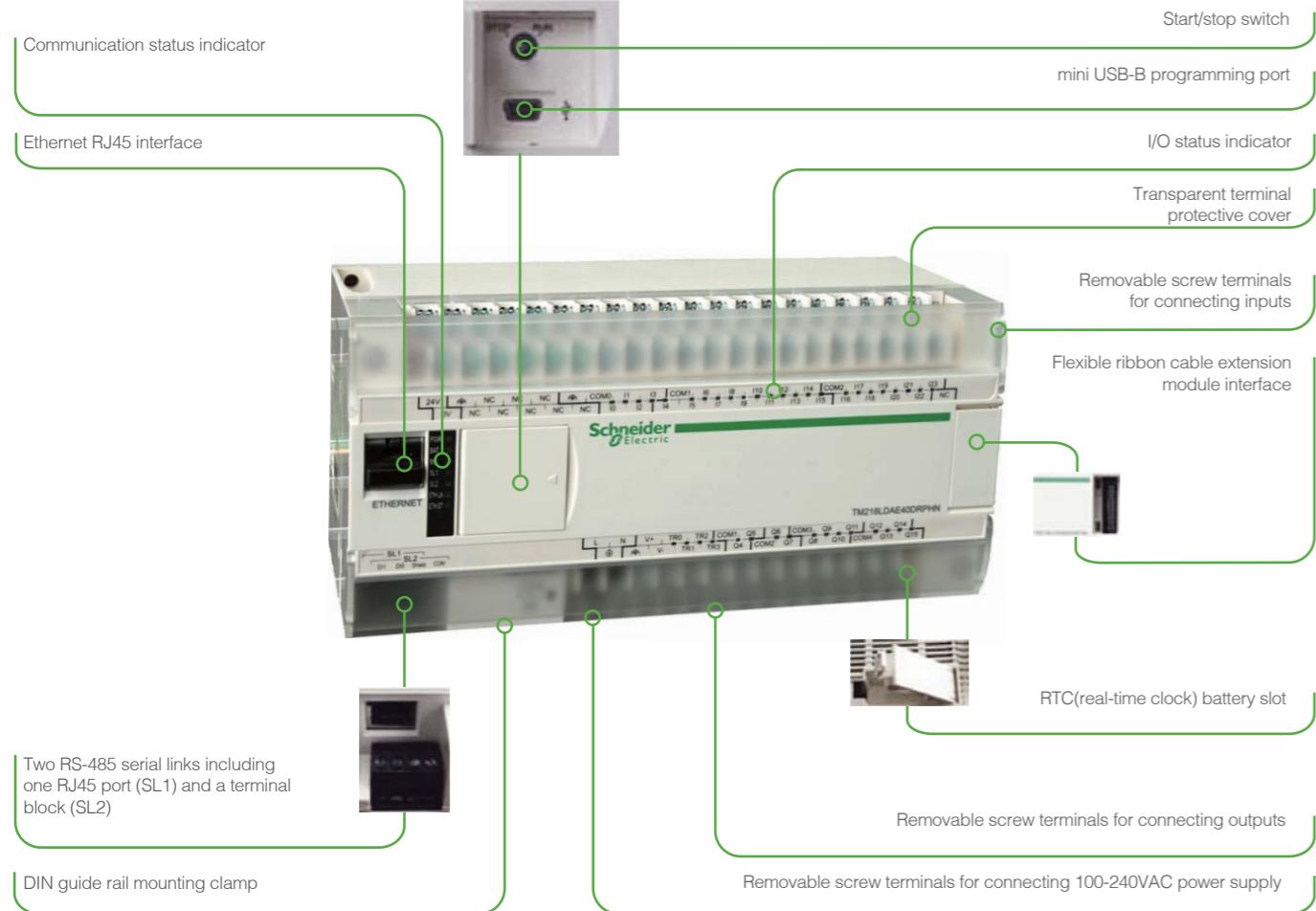
TM2 HSC expansion module TM200HSC206D.

> Compact

Powerful control functions and communication capabilities optimize your applications

Communication status indicator

Ethernet RJ45 interface

Start/stop switch

mini USB-B programming port

I/O status indicator

Transparent terminal protective cover

Removable screw terminals for connecting inputs

Flexible ribbon cable extension module interface

RTC(real-time clock) battery slot

Two RS-485 serial links including one RJ45 port (SL1) and a terminal block (SL2)

DIN guide rail mounting clamp

Removable screw terminals for connecting outputs

Removable screw terminals for connecting 100-240VAC power supply

High speed counting
2 A/B phase (max.100KHz, 45…55% duty) or 4 single phase HSC channels (max. 100KHz)

Pulse train output
2 PTO/PWM outputs, for motion function multiplex with 4 transistor outputs (PTO : 100KHz, PWM : 1KHz)

Analog I/O
The analog IOs are embedded with either 2 AO/2 AI or 2 AOs, which enables analog monitoring without extension

Serial link
2 RS-485 serial ports are embedded in standard configuration to communicate with field devices such as HMI and frequency converter

Ethernet
The Ethernet port are embedded with RJ45 port to facilitate high-speed data exchange

> Expandable

M218 expansions and TM2 expansions can be mixed on a M218 logic controller.
TM218LDA.24DR.N can be expanded with up to 4 expansion modules
TM218LDA.40DR..N can be expanded with up to 7 expansion modules

TM2DMM16DRTN

> **M218 soft connection extension module TM2DMM16DRTN**
(discrete inputs/8 relay outputs)

> **TM2 extension module interface**

TM2DOCK

> **TM2 counter module**
- Removable screw terminal block
  TM200HSC206DT
  (2-channel 60kHz)
- Fixed spring terminal block
  TM200HSC206DT
  (2-channel 60kHz)

TM200HSC206DT

TM200HSC206DT

> **TM2 discrete input module**
- Removable screw terminal block
  TM2DDI8DT (8 DC inputs)
  TM2DAI8DT (8 AC inputs)
  TM2DDI16DT (16 DC inputs)
- HE10 connector
  TM2DDI16DK (16 DC inputs)
  TM2DDI32DK (32 DC inputs)

TM2DDI8DT   TM2DDI32DK

> **TM2 discrete output module**
- Removable screw terminal block
  TM2DDO8UT
  (8 transistor sink outputs)
  TM2DDO8TT
  (8 transistor source outputs)
  TM2DRA8RT (8 relay outputs)
  TM2DRA16RT (16 relay outputs)
- HE10 connector
  TM2DDO16UK
  (16 transistor sink outputs)
  TM2DDO16TK
  (16 transistor source outputs)
  TM2DDO32UK
  (32 transistor sink outputs)
  TM2DDO32TK
  (32 transistor source outputs)

TM2DDO8●T/DRA8RT   TM2DDO16●K

TM2DDO32●K   TM2DRA16RT

> **TM2 discrete mixed module**
- Removable screw terminal block
  TM2DMM8DRT
  (8 DC inputs/4 relay outputs)
- Fixed spring terminal block
  TM2DMM24DRF
  (16 DC inputs/8 relay outputs)

TM2DMM8DRT   TM2DMM24DRT

> **TM2 analog input module**
- Removable screw terminal block
  TM2AMI2HT
  (2 analog inputs)
  TM2AMI2LT
  (2 thermocouple inputs)
  TM2AMI4LT
  (4 analog & temperature inputs)
  TM2AMI8HT
  (8 analog inputs)
  TM2ARI8HT
  (8 temperature inputs)
  TM2ARI8LT
  (8 Pt 100/100 inputs)
- RJ11 connector
  TM2ARI8LRJ
  (8 Pt 100/100 inputs)

TM2AMI2HT   TM2AMI2LT

TM2ARI8LRJ   TM2ARI8LT

> **TM2 analog output module**
- Removable screw terminal block
  TM2AMO1HT
  (1 analog output)
 TM2AVO2HT
  (2 analog outputs)

TM2AMO1HT   TM2AVO2HT

> **TM2 analog mixed module**
- Removable screw terminal block
  TM2AMM3HT
  (2 analog inputs/1 analog output)
  TM2ALM3LT
  (2 temperature inputs/1 analog output)
  TM2AMM6HT
  (4 analog inputs/2 analog outputs)

TM2DMM8DRT   TM2DMM24DRF

> Flexible

Modicon M218 logic controller provides machine builders with flexible and cost-effective solutions to optimize their simple machines.

Integrated Schneider Electric solutions using Modicon M218 as the control core

01 Circuit breaker Compact NSX…
02 Switching power supply Phaseo ABL8…
03 Module circuit breaker Compact Multi 9
04 Logic controller Modicon M218…
05 Safety controller Preventa XPS…
06 DC motor TeSys GV2
07 DC motor TeSys GV2 + TeSys K/D
08 Servo drive Lexium 32…
09 Frequency converter ATV 312…
10 Frequency converter ATV 12…
11 Soft starter ATS 22…
12 Touch screen Magelis XBTGT/GK/GH
13 Indicator Harmony XVM…
14 Push button & switch Harmony XB4/5…
15 Sensor Osisense XC/XS/XU/XM/XX…
16 Servo motor BMH
17 Emergency stop switch Harmony XALK…
18 Control cabinet Spacial 3D

With intelligent software platform, specialized functional blocks, powerful embedded functions and flexible system configration, Modicon M218 can definitely meet your control requirements in target industries including plastic machinery, textile machinery, packaging machinery and Universal machinery.

Universal equipment

Textile machinery

Plastic machinery

Packaging machinery

Material handling

Assembly

> Intelligent

Program your M218 Modicon controllers easily with the SoMachine software integrating 6 programming languages, ready-to-use automation system function libraries, powerful memory management, powerful debugging functions and preset debugging screens.
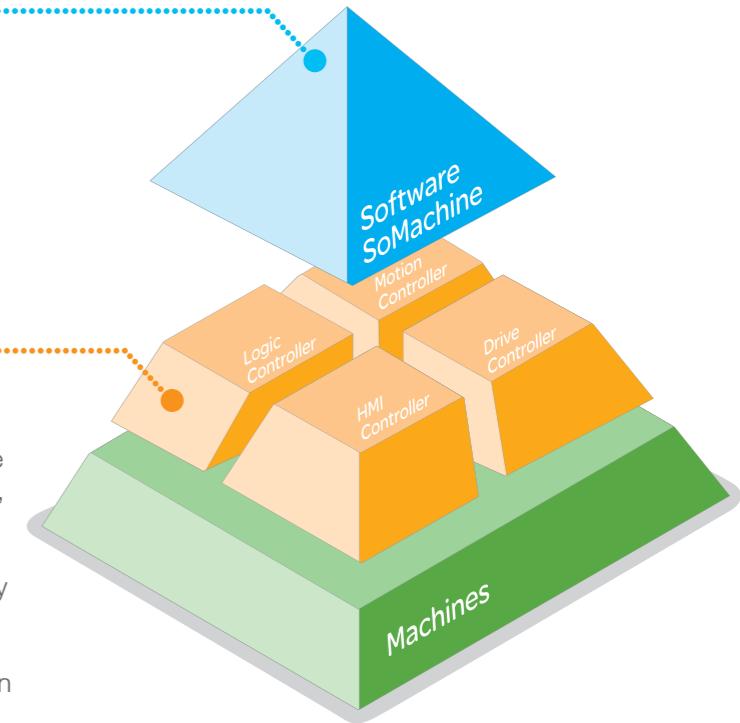
SoMachine software platform

Development and maintenance of a complete project can be completed on a single SoMachine software platform.

One software platform

One project document

One cable connection

One download operation

1 software environment SoMachine
• One software
• One project file
• One connection
• One download
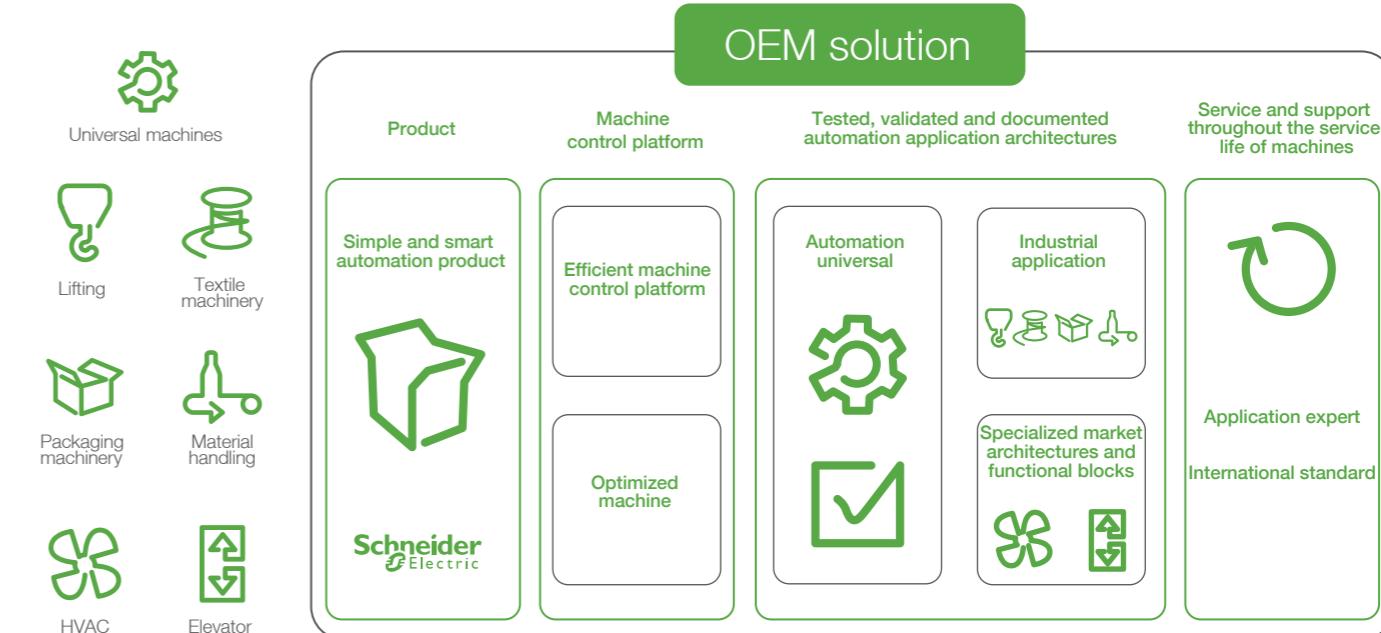
Software SoMachine

Motion Controller

Logic Controller

Drive Controller

HMI Controller

Machines

Multiple hardware control platforms
• Embedded intelligence in drives, HMI displays, motion & logic control devices
• The basis of an already tested,validated & documented offer of architectures & function blocks

SoMachine helps machine builders, design more energy efficient and cost effective machines and installations based on tested, validated and innovative architectures whilst maximising their performance.

OEM solution

Universal machines

Lifting

Textile machinery

Packaging machinery

Material handling

HVAC

Elevator

Product

Simple and smart automation product

Schneider Electric

Machine control platform

Efficient machine control platform

Optimized machine

Tested, validated and documented automation application architectures

Automation universal

Industrial application

Specialized market architectures and functional blocks

Service and support throughout the service life of machines

Application expert

International standard

Make the most of your energy

Modicon M218 24-I/O base

Power supply		100–240V AC (50-60Hz)		
User memory		1024KB		
Extension & I/O capacity		4 extension modules max., control up to 152 I/Os, including up to 42 I/Os for relay outputs		
Discrete I/O	Input	14	14, 4 of which can be can be configured as fast inputs	
	Output	10 relays		
Embedded function	High speed counter	2 reduced HSC channels, max. 10KHz	2 main channels(single, A/B phase(X1,X2,X4), P/D, CW/CCW) or 4 single channels, max. 100KHz	
	Pulse train output	-		
Embedded communication port	USB-B mini port	Programming port for SoMachine		
	RJ45 port (Modbus)	-Non-isolated RS485 -Protocol : Master/Slave Modbus ASCII/RTU or ASCII, SoMachine		
	Terminal Block (Modbus)	-Non-isolated RS485 -Protocol : Master/Slave Modbus ASCII/RTU or ASCII		
	RJ45 port (Ethernet)	-		EtherNet TCP Modbus
References		**TM218LDA24DRN**	**TM218LDA24DRHN**	**TM218LDAE24DRHN**

Modicon M218 40-I/O base

Power supply		100–240V AC (50-60Hz)			
User memory		1024KB			
Extension & I/O capacity		7 extension modules max., control up to 248 I/Os, including up to 90 relay outputs			
Discrete I/O	Input	24, 4 of which can be can be configured as fast inputs			
	Output	16 relays	12 relays + 4 transistor		
Analogue I/O	Input	-	2 analog inputs (12bits) -10…+10V, 0…+10V 0…20mA, 4…20mA	-	
	Output	2 analog outputs(12bits) -10…+10V, 0…+10V 0…20mA, 4…20mA	-		
Embedded function	High speed counter	2 main channels(single, A/B phase(X1,X2,X4), P/D, CW/CCW) or 4 single channels, max. 100KHz			
	Pulse port output	-	2 channel 100kHz PTO/PWM		
Embedded communication ort	USB-B mini port	Programming port for SoMachine			
	RJ45 port (Modbus)	-Non-isolated RS485 -Protocol : Master/Slave Modbus ASCII/RTU or ASCII, SoMachine			
	Terminal Block (Modbus)	-Non-isolated RS485 -Protocol : Master/Slave Modbus ASCII/RTU or ASCII			
	RJ45 port (Ethernet)	-			EtherNet TCP Modbus
References		**TM218LDA40DR2HN**	**TM218LDA40DR4PHN**	**TM218LDA40DRPHN**	**TM218LDAE40DRPHN**

Discrete I/O extension module

		8	16		32	4 DI / 4 DO	16 DI / 8 DO
Connection		Removable screw terminal block	Removable screw terminal block	HE10 connector	HE10 connector	Removable screw terminal block	Fixed spring terminal block
References	24 VDC sink/source input	**TM2DDI8DT**	**TM2DDI16DT**	**TM2DDI16DK**	**TM2DDI32DK**	-	
	120VAC input	**TM2DAI8DT**	-	-	-		
	Sink transistor output	**TM2DDO8UT** (0.3A)		**TM2DDO16UK** (0.1A)	**TM2DDO32UK** (0.1A)		
	Source transistor output	**TM2DDO8TT** (0.5A)		**TM2DDO16TK** (0.4A)	**TM2DDO32TK** (0.4A)		
	2A relay output	**TM2DRA8RT**	**TM2DRA16RT**	-	-		
	24 VDC sink/source input + 2A relay output	-	-	-	-	**TM2DMM8DRT**	**TM2DMM24DRF**

Analog I/O extension module - 1

		2 AI		4 AI	8 AI			
Connection		Removable screw terminal block		Removable screw terminal block	Removable screw terminal block			RJ11 connector
Input	Range	0..10V 4…20 mA	Thermocouple K, J, T	0…10V 0…20mA Pt100/1000 Ni100/1000	0…10V 0…20mA	NTC probe PTC probe	Pt 100/1000	Pt 100/1000
	Resolution	12 bits (4096)	12 bits (4096)	12 bits(4096)	10 bits (1024)	10 bits (1024)	12 bits (4096)	12 bits (4096)
References		**TM2AMI2HT**	**TM2AMI2LT**	**TM2AMI4LT**	**TM2AMI8HT**	**TM2ARI8HT**	**TM2ARI8LT**	**TM2ARI8LRJ**

Analog I/O extension module – 2

		1 AO	2 AO	2 AI / 1 AO		4 AI / 2 AO
Connection		Removable screw terminal block	Removable screw terminal block	Removable screw terminal block		Removable screw terminal block
Input	Range	-	-	0…20V 4…20mA	2Thermocouple K, J, T Pt100	0…10V 4…20mA
	Resolution			12 bits or 11 bits + sign bit (4096)		12 bits (4096)
Output	Range	0…10V 4…20mA	-10…10V	0…10V 4…20mA		0…10V 4…20mA
	Resolution	12 bits (4096)	11 bits + sign bit (2048)	12 bits (4096)		12 bits (4096)
References		**TM2AMO1HT**	**TM2AVO2HT**	**TM2AMM3HT**	**TM2ALM3LT**	**TM2AMM6HT**

High-speed counting extension module

	2 channels, 60KHz	2 channels, 60KHz
Number of channels		
Connection	Removable screw terminal block	Fixed springterminal block
Number of sensor input	6 per channel	6 per channel
Number of actuator input	2 per channel	2 per channel
Number of M218 supporting modules	2 max.	2 max.
References	**TM200HSC206DT**	**TM200HSC206DF**

M218 expansion module and TM2 interface

Type	Mixed, 8DI/8DO	TM2 interface
Connection	Removable screw terminal block	-
Discrete input	8	-
Discrete output	8	-
Power supply	By the bus	
References	**TM2DMM16RTN**	**TM2DOCKN**