

Flexibility for your applications...

Modicon® M238™ PLC

Intelligence, performance and affordability
in a programmable logic controller



SoMachine

Make the most of your energySM

Schneider
Electric



More of what you need

Designed to do more, the Modicon M238 PLC is the ideal PLC for small to medium size packaging, conveying, hoisting and other machines requiring both power and flexibility. It's a small, economical controller that gives you more memory, more input options, more motion modules and more fast counting modules than any PLC in its class.

The Modicon M238 PLC also provides extensive cabling flexibility with input/output (I/O) extension modules. More options exist, including removable screw block terminals, spring terminal blocks and HE10 type connectors for simple, fast and secure cabling.

More options to choose:

- Embedded High Speed Counter (HSC) for counting pulses and update outputs regardless of the scan time of the application
- One CANopen master to manage 16 devices and is open to third-party devices
- Up to eight High Speed Counters (100 KHz),
- Up to seven expansion modules (up to 248 digital I/Os, up to 56 analog I/Os)

High performance. Easy installation. Modular design.

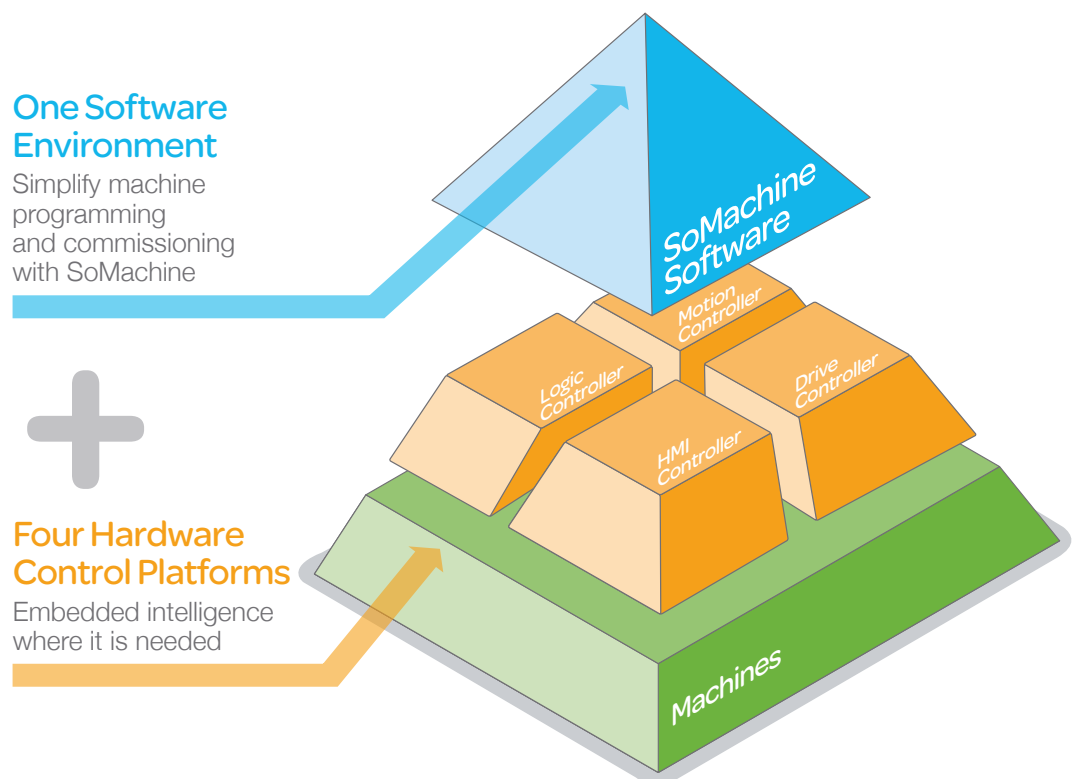
Take advantage of flexible machine control

The Modicon M238 PLC streamlines machine design by utilizing Schneider Electric's flexible machine control solution that embeds intelligence in a single programming software and four key hardware platforms (logic, drive, motion, and HMI). This provides the flexibility to adapt your machines to your customers' specific needs, without prolonging development, sacrificing performance or functionality.

The SoMachine™ software is the first control programming software that allows you to design, commission and maintain your logic, drive, motion and HMI controllers in a single environment. It allows you to further accelerate your machine design and get to market faster by starting with a library of pre-tested, validated and documented control function blocks. Each design gives you critical functionality that is:

- Designed to handle the critical systems needs of numerous industries
- Tested to comply with local and national regulations
- Proven to improve machine and worker safety
- Able to simplify the integration of components

Combine this with the power, flexibility and ease-of-use of the Modicon M238 PLC and you have the ideal solution for your complex machine control at an affordable price.



The Modicon M238 PLC



+ intelligence



> Simplify machine programming...

> SoMachine software

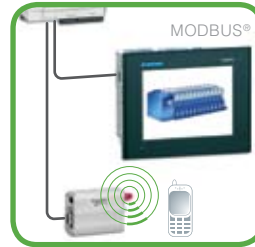
Program your Modicon M238 controllers easily with the SoMachine software, integrating six programming languages, ready-to-use automation system function libraries, powerful memory management, powerful debugging functions and preset debugging screens.

+ communication



> Manage your control equipment

Opt for fast exchanges with CANopen. Its openness also provides access to efficient and fast communication with numerous products.



> Exchange data easily

Communicate with your automation equipment, such as XBT graphic terminals, Altivar® variable speed controllers or monitor your equipment remotely via integrated communication ports.

Discrete
Extension module



Digital
Extension module



Fast counting
Extension module



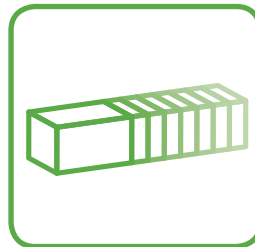
+
integration



> Closer to your core business

Control your servo motor or synchronous motors efficiently using integrated business functions, application function blocks, motion function blocks and dedicated function blocks: fast counting HSC, Pulse Train Output (PTO) and Pulse Width Modulation (PWM).

+
upgradeable



> Up to seven extension modules

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

- Discrete I/O
- Analog I/O for measurement values for:
 - PT100/1000 temperature
 - current
 - voltage
- Fast I/O counting for measurement values for:
 - frequency
 - speed

Modicon M238 selection guide

Logic controller compact bases

Maximum number of expansions	7	7
Power supply	24 VDC	24 VDC
Serial link	1	2
CANopen master	—	1
Inputs	14/24 VDC, 8/100 kHz	14/24 VDC, 8/100 kHz
Outputs	10 trans; 0.5 A, 4/100 kHz	10 trans; 0.5 A, 4/100 kHz
References	TM238LDD24DT	TM238LFDC24DT

Fast counting extension module

Number of modules per controller	3 maximum	3 maximum
Number of channels	2	2
Number of inputs per channel	6/60 kHz	6/60 kHz
Number of outputs per channel	2 (reflex actions)	2 (reflex actions)
Connection	Removable screw terminal block	Removable spring terminal block
Reference	TM200HSC206DT	TM200HSC206DF

Network/bus communication gateway

Ethernet	499TWD01100 ⁽¹⁾
Net Device	LUFF9 ⁽¹⁾
DP Profibus	LUFF7 ⁽¹⁾

⁽¹⁾ Logic controller Modicon M238 connection by cable VW348306R...to order separately.

Analog extension module*

Number of inputs and/or outputs	2 I	8 I	4 I	2 I/1 O	1 O	2 O
Connections	Removable screw terminal block					
Inputs	range	0 ... 10 V 4 ... 20 mA ⁽¹⁾	0 ... 10 V 0 ... 20 mA ⁽¹⁾	0 ... 10 V, 0 ... 20 mA ⁽¹⁾ PT100/1000 NI100/1000	0 ... 10 V 4 ... 20 mA ⁽¹⁾	—
	resolution	12 bits (4096 points)	10 bits (1024 points)	12 bits (4096 points)	12 or 11 bits + sign (4096 points)	—
Outputs	range	—			0 ... 10 V 4 ... 20 mA ⁽¹⁾	0 ... 10 V 4 ... 20 mA +/- 10V
	resolution	—			12 bits (4096 points)	12 bits (4096 points) 11 bits + sign (2048 points)
Measurement precision	0.2 % PE					
Power supply voltage	24 VDC					
Dimensions L x D x H (mm)	23.5 x 70 x 90					
References	TM2AMI2HT	TM2AMI8HT	TM2AMI4LT	TM2AMM3HT	TM2AMO1HT	TM2AVO2HT

* Other references are available, see the TM2 catalog

⁽¹⁾ Non-differential

Discrete I/O extension module

Number of discrete I/O	8	16	32	4 I/4 O	16 I/8 O
Connections	Removable screw terminal block	Removable screw terminal block	HE10 connectors	HE10 connectors	Removable screw terminal block Fixed spring terminal block
Ref: 24 VDC sink/source inputs	TM2DDI8DT	TM2DDI16DT	TM2DDI16DK	TM2DDI32DK	—
120 VAC inputs	TM2DAI8DT	—	—	—	—
2 A relay outputs	TM2DRA8RT	TM2DRA16RT	—	—	—
0.1 A source transistor outputs	TM2DDO8TT ⁽¹⁾	—	TM2DDO16TK ⁽¹⁾	TM2DDO32TK ⁽¹⁾	—
24 VDC sink/source inputs + 2 A relay outputs	—	—	—	—	TM2DMM8DRT TM2DMM24DRF

⁽¹⁾ Also comes in version: sink transistor outputs (TM2DDO8UT, TM2DDO16UK and TM2DDO32UK)



Adaptable to your needs



Easy to integrate

- Intuitive software and offline debugging
- Ready-to-use and customizable business functions



Compact and economical

- Minimum volume
- Removable connection
- Adapts perfectly to needs



Powerful

- Fast counting and integrated PWM/PTO control
- Complex calculations
- Extended memory



Flexible and modular

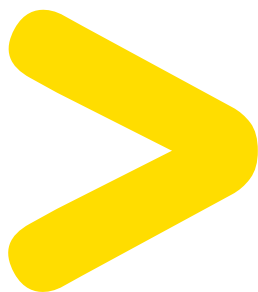
- 15 Discrete modules and 12 extension analog modules
- Motion control and remote I/O by field bus



Open and communicative

- One USB port
- Two serial links
- One integrated field bus
- Link to the upper level via gateways

Talk to someone you can trust



When we introduced the first programmable controller, we were responding to the needs of our customers for better, more effective machine control. More than 40 years later, we continue to listen and work with you to pioneer innovative new ways of delivering value, efficiency and performance. This commitment has earned us a reputation for dependability, innovation and reliability that is the defining characteristic of Schneider Electric team members from around the world. This includes product specialists, industry experts, distributors, partners and the countless other members of the Schneider Electric family.



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