

Automation platform

## **Modicon M340**

Simply the *natural* choice



*Simply Smart !*

Leveraging  
ingenuity  
and intelligence  
for ease of use

## Modicon M340

### The *natural* choice

**Modicon M340** springs from the ingenuity of Telemecanique solutions. It is sourced from the very core of Modicon know-how, from the origins of programmable controllers.

**100% compact**, Modicon M340 is a distillation of power and innovation, offering optimum responses to machines manufacturers needs.

**0% worry**, it is the perfect accompaniment to Modicon Premium and Quantum, satisfying industrial process and infrastructure automation demands.

Associated with the power and flexibility of Unity software, it offers you benefits throughout the life cycle of your applications.



## “Slimline” enclosures

*Adopt the trim measurements of Modicon M340 and slim down your enclosures by several sizes.*



100% compact technology

### ① Compactness

- Height: 100 mm,
- Depth: 93 mm for integration in 150 mm enclosures.

### ② Adaptable rack

- 4, 6, 8 or 12 modules,
- Hot Swap function for easy maintenance.

### ③ High density module

- 64 channels in just 32 mm.

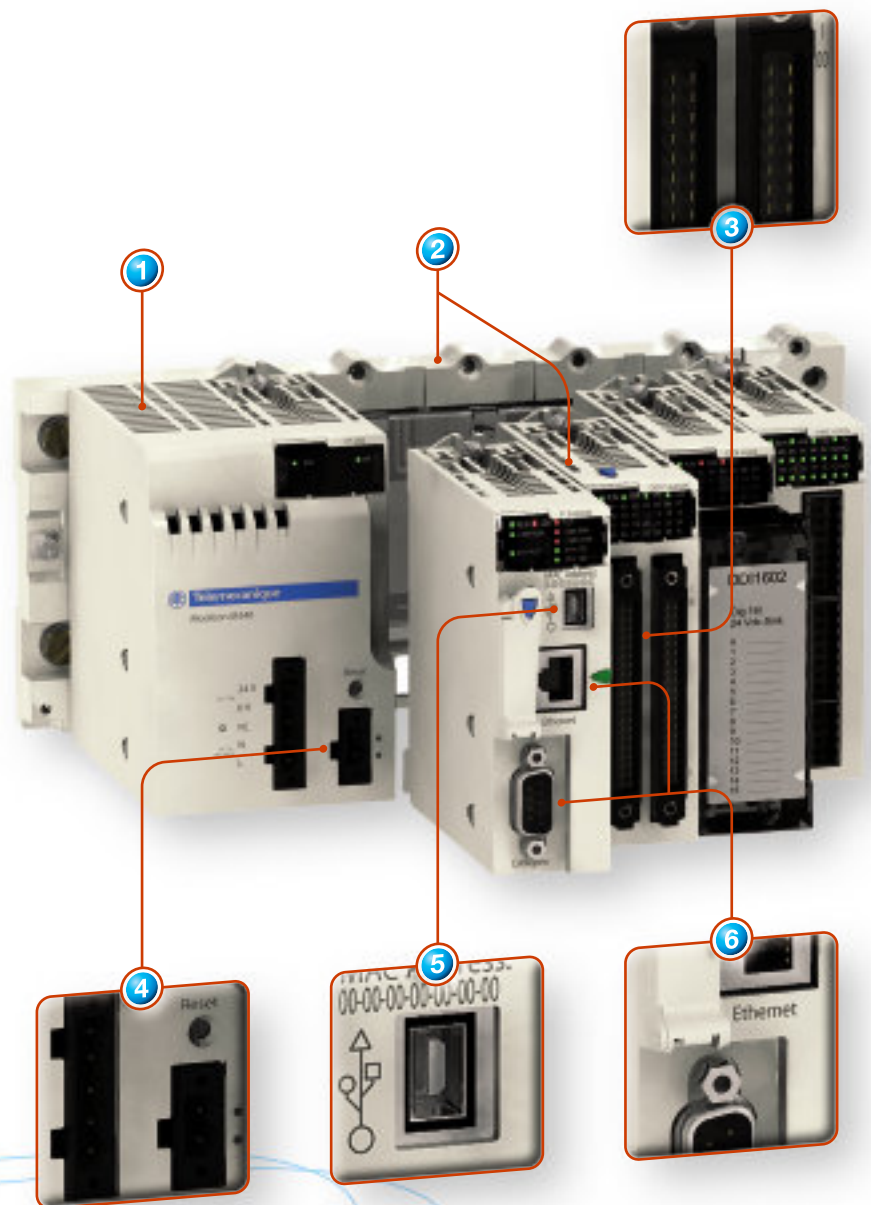
### ④ Wide power supply choice

- AC or DC current,
- 24 VDC/0.9 A sensor supply output.

### ⑤ Integrated USB port

### ⑥ 2 communication ports

- Choose Modbus, Ethernet or CANopen.



energizing slimming

slimming

fortifying

refreshing

refreshing

relaxing

energizing

# Full of energy

*With its astonishing memory and performance, this lightweight equipment revitalizes your machines.*

*Modicon M340 is distilled power.*



## High performance

- 7 Kinstructions/ms
- 4 MB program memory
- 70 Kinstructions

## > Vitamin-enriched processor

Whatever your application and its constraints, your preferences or your programming habits, Modicon M340 is always ready.

- With high boolean processing performance, it is equally at home executing integer and floating arithmetical calculations. Specialist yet versatile... a new balance that could fast become your major asset.
- You would like to use the power of evolved IEC languages... but then performance might suffer. Forget your preconceived ideas... Modicon M340 avoids slowdown whatever the IEC language used.
- A ms processing? Possible and simple with the Modicon M340 multitask operating system: MAST task, FAST task and 64 event tasks. You therefore adapt Modicon M340 to the essentials of your application, and not the other way round!

## > Boundless memory

No need to optimize your developments. With Modicon M340 you have the advantage of supersize memory.

- The processor has 4MB internal RAM to handle applications up to 70 Kinstructions.
- An SD card Flash memory is supplied with the processor and ready-formatted for application backup (executable program, source code and comments). So there's nothing to add. You can access generic programming without compromise for greater flexibility in your developments.



## > High application expertise content

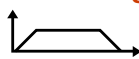
Because technological functions make you stand out, Modicon M340 lets you express your know-how simply, always coming up with a specialist response.

### Counting



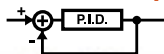
- The counting offer on Modicon M340 programmable controllers includes:
  - 2 modules: 2x60 KHz channels and 8x10 KHz channels, high performance with 32-bit counting, cycle time 1 ms, 2 capture registers and reflex actions with response time down to 200 microseconds,
  - configurable advanced services offering a filter on each input, a wide choice of reflex actions, pulse generator, mechanical play reducer,
  - counting and measurement mode configurable functions.
- It is designed to meet the demands of applications such as: unwinder empty state alarm generation, small parts sorting, simple electronic cam, speed control.

### Positioning

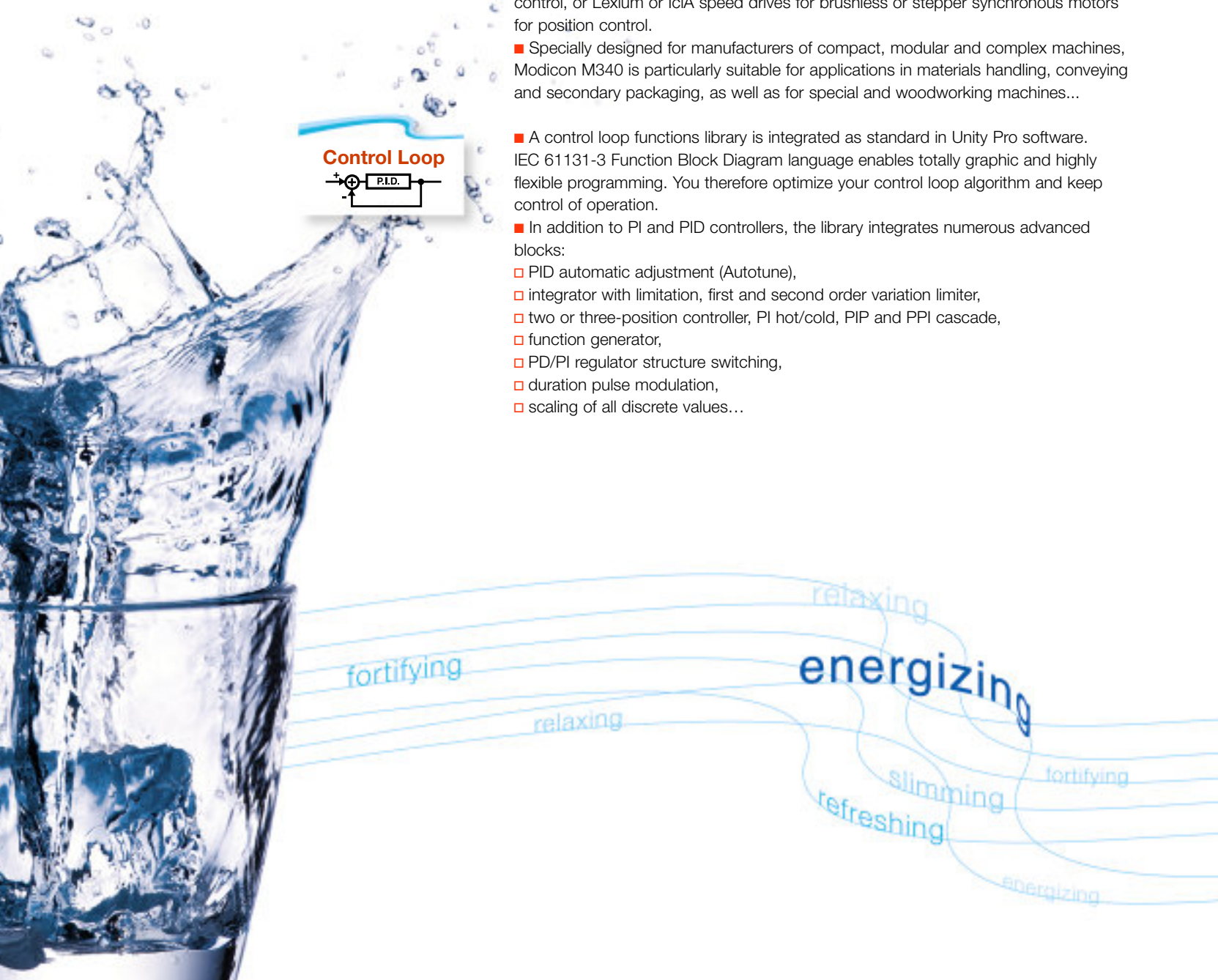


- Modicon M340 offers positioning solutions that are integrated, flexible and highly economical for applications implementing independent and master/slave linked axes.
- No axis module to be added. The solution is based on a Motion Function Block (MFB) library conforming to PLCopen standard. Variable speed drive and servomotor control is by MFB commands via CANopen.
- MFBs enable control of Altivar speed drives for asynchronous motors for speed control, or Lexium or IclA speed drives for brushless or stepper synchronous motors for position control.
- Specially designed for manufacturers of compact, modular and complex machines, Modicon M340 is particularly suitable for applications in materials handling, conveying and secondary packaging, as well as for special and woodworking machines...

### Control Loop



- A control loop functions library is integrated as standard in Unity Pro software. IEC 61131-3 Function Block Diagram language enables totally graphic and highly flexible programming. You therefore optimize your control loop algorithm and keep control of operation.
- In addition to PI and PID controllers, the library integrates numerous advanced blocks:
  - PID automatic adjustment (Autotune),
  - integrator with limitation, first and second order variation limiter,
  - two or three-position controller, PI hot/cold, PIP and PPI cascade,
  - function generator,
  - PD/PI regulator structure switching,
  - duration pulse modulation,
  - scaling of all discrete values...



## Source of freshness

*Modicon M340 innovates in memory management. The ingenious SD card offers you Plug & Load services you will soon find essential.*



### > “Plug & Load” card

Remove the card at any time without disturbing program execution, or insert another card. On power on, the new program is automatically transferred in the internal memory. So no need to be a specialist to update a machine.

If you have several identical machines, the same card is used to load all installed programmable controllers.

With Modicon M340, operation becomes so very user-friendly.

### > Simplified maintenance

The SD card enables application program automatic backup. Associated with context automatic backup at the heart of the processor, (256 kB Flash memory data backup), Modicon M340 eliminates need for a backup battery. Simplify your maintenance with Modicon M340.



## > Simple storage

Modicon M340 is also a storage peripheral for up to 16 MB.

- Via function blocks proposed in Unity Pro: in write mode, you have traceability and data logging functions available. In read mode, you easily manage production recipe configuration.
- From your PC connected to Ethernet, you directly access stored data via FTP services. So you make use of files in the desired application format (text file, spreadsheet,...). A simple copy/paste and the file is on your PC. So why not store the machine maintenance guide in your programmable controller?

## > Information from source

- Modicon M340 offers a Web server, simplifying your operation and maintenance. All of these services are accessible in local and remote (serial modem or ADSL).
- Modicon M340 has as standard a ready-to-use Web server for system diagnostics and settings adjustment.

In the programmable controller, you can even integrate a Human Machine Interface, accessible in local or remote via a simple Internet navigator.



energizing

fortifying

fortifying

refreshing

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## Relaxing work

*In choosing Modicon M340, you benefit from all exclusive services of the Unity software offer, from design of your application to its maintenance.*

*Modicon M340 and Unity, truly the 0% worry guarantee.*



### > Single software package

Capitalize on a single, simple and user-friendly approach. Unity Pro is common to Modicon M340, Modicon Premium and Modicon Quantum ranges and to the PC-based Modicon Atrium offer.

You reuse your developments from one platform to another without restrictions.

### > Power accessible to all

Available in 6 languages, Unity Pro software offers you the choice of 5 IEC languages, graphic programming, advanced online help and numerous data entry help wizards.

The simulator enables immediate testing of your developments. In maintenance phase and without programming, advanced diagnostics tools enable clear alarm display and instant diagnostics with fault cause automatic search.



### > High-speed connection as standard

From the USB port on all Modicon M340 processors, you have a simple and high-performance connection with your programming PC.

You can also connect to Ethernet, point-to-point or via local network.

### > Full services, even remotely

Your installations are always within reach. Via a serial modem (RTC, GSM/GPRS, Radio) or ADSL link, you access your machines easily in complete security.

Depending on technology, you benefit from:

- online programming,
- program transfer,
- Web server remote diagnostics,
- FactoryCast Web server remote operation,
- data file read/write access.



# Consume even in severe environments






*Tireless, it is a stimulating partner you can take anywhere.*

## > Robust by nature

	IEC	Modicon M340
Mechanical constraints	IEC 60068-2-x	
Shock	15 g <sub>n</sub>	30 g <sub>n</sub>
Vibration	1 g <sub>n</sub>	3 g <sub>n</sub>
Electrical immunity	IEC 61000-4-x	
Electromagnetic field	10 V/m	15 V/m
Electrostatic contact discharge	4 kV	6 kV
Environmental immunity	IEC 60068-2-x	
Temperature	0 ... 55° C	0 ... 60° C
Altitude	2 000 m	4 000 m

## > 100% certified!

Modicon M340 conforms to all international standards and marine classifications.

Standards and Certifications	Marine certifications
CE 	ABS 
UL 	DNV 
CSA, CSA Class 1 Div 2 	RMRS 
C-Tick 	BV 
Gost R 	GL 
	LR 
	RINA 

\*For more information, please contact your sales agency or visit our website [www.telemecanique.com](http://www.telemecanique.com)



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energizing relaxing  
fortifying  
energizing

# Modicon M340 selection guide

	Standard processor		High performance processor	
	BMX P34 1000	BMX P34 2010	BMX P34 2020	BMX P34 2030
<b>Execution time</b>				
Boolean instruction	0,18 $\mu$ s	0,12 $\mu$ s	0,12 $\mu$ s	0,12 $\mu$ s
Numerical instruction	0,26 $\mu$ s	0,17 $\mu$ s	0,17 $\mu$ s	0,17 $\mu$ s
<b>Internal memory</b>				
User RAM memory	2048 kB	4096 kB	4096 kB	4096 kB
Program Kinstructions	35 Kinst.	70 Kinst.	70 Kinst.	70 Kinst.
User data	128 kB	256 kB	256 kB	256 kB
<b>SD card memory</b>				
File storage	-	16 MB	16 MB	16 MB
Application backup	8 MB	8 MB	8 MB	8 MB
Web server	2 MB	2 MB	2 MB	2 MB
<b>Communication</b>				
Integrated USB port	1	1	1	1
Integrated TCP/IP Ethernet	-	-	1	1
Integrated CANopen	-	1	-	1
Integrated Modbus	1	1	1	-
<b>Application expertise</b>				
Counting	yes	yes	yes	yes
Positioning	-	yes	-	yes
Control Loop	yes	yes	yes	yes



# The efficiency of Telemecanique branded *solutions*

Used in combination, Telemecanique products provide quality solutions, meeting all your **Automation & Control** applications requirements.



## For more information...

Consult the "Automation solution" guides:

- Modicon M340 & Advantys/Magelis

Ref: DIA6ED1060604AEN

- Modicon M340 & CANopen

Ref: DIA6ED1060604BEN

- Modicon M340 & Ethernet

Ref: DIA6ED1060604CEN



## A worldwide presence

### Constantly available

- More than 5,000 points of sale in 130 countries.
- You can be sure to find the range of products that are right for you and which complies fully with the standards in the country where they are used.

### Technical assistance wherever you are

- Our technicians are at your disposal to assist you in finding the optimum solution for your particular needs.
- Schneider Electric provides you with all necessary technical assistance, throughout the world.

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