Modicon M340
The all-in-one PAC
Modicon PAC family
Powered by Unity

- Modicon Quantum
  - Process Automation
  - Critical Infrastructures

- Modicon M340
  - Mid-size Infrastructures
  - Complex Machines

- Modicon Premium
  - Advanced Machines
  - Manufacturing
  - Large Infrastructures
What are the Modicon M340 values?
Launched as one of the most innovative Programmable Logic Controllers developed to date, Modicon M340 continues to be perceived as a model basis of a modern-day automation platform, garnering recognition for its robust quality and high-end capabilities, including improved performance, compliance with the latest networking standards, and operational cost-efficiency. Designed for a widely range of process and machine management, it finds perfectly his place in numerous segments such as the WWW, MMM and the Food & Beverage.

*Modicon M340 Launch Director*
Benefits at each stage of your application life cycle

- Integrated simulator
- Minimize the risk
- Reduce cost
- Flexible installation

- Powered by Unity Pro, the common software of the Modicon PAC range
- Integrated simulator
- Process libraries
- 6 languages
- Easy installation
- Fast set up
- Efficient debug tool

- Maintenance
- Implementation
- Operation

- Modules hot-swapping
- Integrated diag viewer
- Native diagnostics
- Remote maintenance
- Faulty device replacement
- FDT / DTM

- Tested, Validated and Documented Architectures
- Six languages
- Easy installation
- Fast set up
- Efficient debug tool

- Optimized performances
- Reliability
- Easy evolution
Reduced to the maximum … and expandable

**Flexible**
- 4, 6, 8, or 12-slot racks
- Up to 4 racks

**Compact**
- Height: 100 mm
- Depth: 93 mm
- Width: 32 mm

**High Density**
- 64 DIO channels within 32 mm
- 8 Analog IO channels on TB(*)

(*) Terminal Block

Expand your configuration without stopping your process on M340 RIO drops (CCOTF)
Integrated offer with up to 3 built-in communication ports

<table>
<thead>
<tr>
<th></th>
<th>P34-1000</th>
<th>P34-2000</th>
<th>P34-20102</th>
<th>P34-2020</th>
<th>P34-20302</th>
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</thead>
<tbody>
<tr>
<td>Ethernet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modbus</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CANopen</td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Much more than a simple PLC
It is not a fate if we have choosen to work with Schneider Electric, takes back Gilles Husard (plant manager of a company in the cosmetic industry). The quality of very products is a forceful argument. An example? The Modicon M340 is opened, compact with a very competitive value for money. He allows the diagnoses and the remote programming.
Multi-usages platform

Performance PLC
9 CPU references to provide the just enough PLC

Modular RTU
IEC 101/104 & DNP3 communication capabilities
Non permanent communications management

Distributed I/O
Ethernet non-deterministic communications with any Unity PLC

Remote I/O
Ethernet deterministic communication with Quantum
available from July 2012
“Plug and Load” memory card

Need to update your system on site?
No software to use on site …
… just plug the new card and power ON !

Need to duplicate your application?
Use 1 SD card to load the other ones thru the CPU
… or just from your PC !

Industrial SD Card format
Embedded monitoring and diagnostic web server

**With CPU & NOE0100**

- Rack Viewer
- Remote Diagnostic
- Remote & pocket Data Editor
- Program Viewer

**With NOE0110**

- Alarm Viewer
- Graphic Data Editor
- Customized Web page
- SOAP/XML Web services

Standardization of Data access using SOAP protocols (MES, ERP, Excel, ...)

Schneider Electric - PlantSolutions Control Marketing – F. Lacharme - October 2011
Multi-port Ethernet module
to do more with less

- One module for all communications
  - Modbus TCP
  - EtherNet/IP

- Embedded switch
  - 4 Ethernet ports
  - IGMP filtering
  - QoS sorting
  - Port mirroring for troubleshooting
  - Configured through Unity Pro and Web

- Ring topology support
  - 2 ports to support ring topologies
  - RSTP-based topology recovery
    - Up to 32 nodes
    - Module performance
      (Max. 15ms fault detection)

- Full services range
  - IP addressing server
  - FDR server
  - Access control
  - …
Easy connection whatever the location

Use any standard modem!
- Connection: Serial, Ethernet
- Network: PSTN/LL, GSM / GPRS / Radio, DSL

All services available from home!
- On-line programming
- Program download
- Diagnostic via the system web-server
- Remote monitoring via HMI web-server
- Data files transfer
Motion Plug’n Move solution

Integrated in the CPU, you can access easily to your Unity Pro MFB library to provide a PLCopen standard motion control.

Integrated offer that simplifies programming, diagnostics and maintenance of your applications.
Quality first
Compact and powerful, the Modicon M340 programmable automation controller becomes integrated perfectly into the most demanding automated processes, that it is about the world of the industry or about the domain of infrastructures. It bases on the know-how and the tried solutions which are at the origin of the success of this product. The quality was always a major stake from the conception of the range, and since a few months, we benefit from a rate of 0 defect on the CPU!

*Modicon M340 Marketing product manager*
Maintenance has never been so simple

There is no battery inside!
- Source Program is saved in the Memory card
- Data saved in internal Flash memory on Power Off

Easy replacement of modules when the PLC is running
- Hot-Swap capability
- Automatic software re-configuration by the CPU
Robust!
Offering more than the standards

<table>
<thead>
<tr>
<th>Mechanical constraints</th>
<th>IEC60068-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shocks [27 Ea]</td>
<td>30 g</td>
</tr>
<tr>
<td></td>
<td>x 2</td>
</tr>
<tr>
<td>Vibrations [6 Fc]</td>
<td>3 g</td>
</tr>
<tr>
<td></td>
<td>x 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical immunity</th>
<th>IEC61000-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiated field</td>
<td>15 V/m</td>
</tr>
<tr>
<td></td>
<td>+50%</td>
</tr>
<tr>
<td>Electrostatic discharges</td>
<td>8 kV</td>
</tr>
<tr>
<td></td>
<td>+30%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environment immunity</th>
<th>IEC61000-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>0 … 60°C</td>
</tr>
<tr>
<td></td>
<td>+5°C</td>
</tr>
<tr>
<td>Hardened offer M340H</td>
<td>-25 … 70°C</td>
</tr>
<tr>
<td>Altitude</td>
<td>4,000 m</td>
</tr>
<tr>
<td></td>
<td>X 2</td>
</tr>
</tbody>
</table>
## Certified

**International standards**

- **CE**
- **UL**
- **CSA Class I, Div 2**
- **C-Tick**
- **GOST R**
- **IEC61850**

**Done**

**Marine standards**

- **ABS**
- **BV**
- **GL**
- **RMRS**
- **DNV**
- **RINA**
- **LR**
- **PRS (Poland)**

**Done**
Ready for the future
The M340 is at the heart of the Schneider Automation strategy. We’ll continue to invest a lot on this range in the coming years. We capitalize on this platform for our future developments through Modicon X80 I/Os. M340 brings also its values in many of our PlantStruxure architectures and EcoStruxure solutions.

Modicon PAC Marketing Director
Future proof

Update your Installed Base
- New CPU firmware V2.4 with LL984 support (UnityPro V6.1)
- Legacy Quick wiring solutions

Keep forward moving family
- Twice a year CPU functionalities upgrade
- New version of RTU module V1.5 with enhanced protocol

Coming soon…
- Ethernet/IP remote IO module (CRA) for Quantum
- New NRP module to convert Ethernet fiber into copper
- New ERT module for high precision time stamping

... and later
- Mx80 family to reuse all your M340 I/Os for an easy evolution

Modicon M340 is compatible with the future Schneider Electric offer
Selection guide
Large choice of communication interfaces
From devices level to plant level

In-rack communications modules

- 1 Ethernet/IP Module
  - Ethernet/IP & Modbus/TCP
- 1 Serial Link Module
  - 2 isolated channels RS485 & RS232
- 2 Ethernet TCP Modules
  - Ethernet Modbus TCP
- 1 RTU Module
  - 2-channel RTU module
- 1 AS-I Module
  - 1 channel M4 Master supporting V3 standard

In-rack expert modules

- 1 Motion control
  - Pulse Train Output module to control variable speed drives
- 1 Encoder module
  - SSI absolute encoder
- 2 Counting Modules

Remote Master

- 1 Profibus DP Master
  - Profibus V2 Remote Master
  - Plugged on Ethernet
  - Master DTM for Unity V5.0
  - Certified
  - Hardened version available
- 1 Modbus+ Gateway
  - Support both PeerCop and Global Data services
### An IO Catalog of 29 modules

#### Digital inputs (9)

<table>
<thead>
<tr>
<th>Module</th>
<th>Voltage</th>
<th>Number of channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDI</td>
<td>24 VDC</td>
<td>16, 32, 64</td>
</tr>
<tr>
<td>DDI</td>
<td>48, 125 VDC</td>
<td>16</td>
</tr>
<tr>
<td>DAI</td>
<td>24, 48 VAC</td>
<td>16</td>
</tr>
<tr>
<td>DAI</td>
<td>110, 230 VAC</td>
<td>8, 16</td>
</tr>
</tbody>
</table>

#### Digital inputs/outputs (3)

<table>
<thead>
<tr>
<th>Module</th>
<th>Voltage</th>
<th>Number of channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDM</td>
<td>24 VDC</td>
<td>8 or 16 DI and DO</td>
</tr>
<tr>
<td>DDM</td>
<td>24 VAC</td>
<td>8 or 16 DI and DO</td>
</tr>
</tbody>
</table>

#### Digital outputs (8)

<table>
<thead>
<tr>
<th>Module</th>
<th>Voltage</th>
<th>Current</th>
<th>Number of channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDO</td>
<td>24 VDC</td>
<td>0.5 A</td>
<td>16</td>
</tr>
<tr>
<td>DDO</td>
<td>24 VDC</td>
<td>0.1 A</td>
<td>32, 64</td>
</tr>
<tr>
<td>DAO</td>
<td>100…240 VAC</td>
<td>0.6 A</td>
<td>16</td>
</tr>
<tr>
<td>DRA</td>
<td>24, 125 VDC</td>
<td>0.3 or 2 or 3 A</td>
<td>8, 16</td>
</tr>
<tr>
<td>DRA</td>
<td>24…240 VAC</td>
<td>2 or 3 A</td>
<td>8, 16</td>
</tr>
</tbody>
</table>

#### Analog inputs (5)

<table>
<thead>
<tr>
<th>Module</th>
<th>Measuring range</th>
<th>Resolution</th>
<th>Number of channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI</td>
<td>Voltage</td>
<td>16 bits</td>
<td>4, 8</td>
</tr>
<tr>
<td>AMI</td>
<td>Current</td>
<td>16 bits</td>
<td>4, 8</td>
</tr>
<tr>
<td>ART</td>
<td>Resistor</td>
<td>16 bits</td>
<td>4, 8</td>
</tr>
<tr>
<td>ART</td>
<td>Thermocouple</td>
<td>16 bits</td>
<td>4, 8</td>
</tr>
</tbody>
</table>

#### Analog inputs/outputs (1)

<table>
<thead>
<tr>
<th>Module</th>
<th>Measuring range</th>
<th>Resolution</th>
<th>Number of channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMM</td>
<td>Voltage/Current</td>
<td>14/12 bits</td>
<td>4 IN and 2 OUT</td>
</tr>
</tbody>
</table>

#### Analog outputs (3)

<table>
<thead>
<tr>
<th>Module</th>
<th>Measuring range</th>
<th>Resolution</th>
<th>Number of channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMO</td>
<td>Voltage</td>
<td>16 bits</td>
<td>2, 4</td>
</tr>
<tr>
<td>AMO</td>
<td>Current</td>
<td>16 bits</td>
<td>2, 4, 8</td>
</tr>
</tbody>
</table>
Modicon M340
Success
M340 key figures

- More than 100,000 PLC sold in the world from 2007 launch
- +26% growth in 2011
- 60M€ turnover in 2011 with more than 35,000 configurations sold
- Worldwide footprint, one of the most famous PLC in the world!
Modicon M340 inside!