

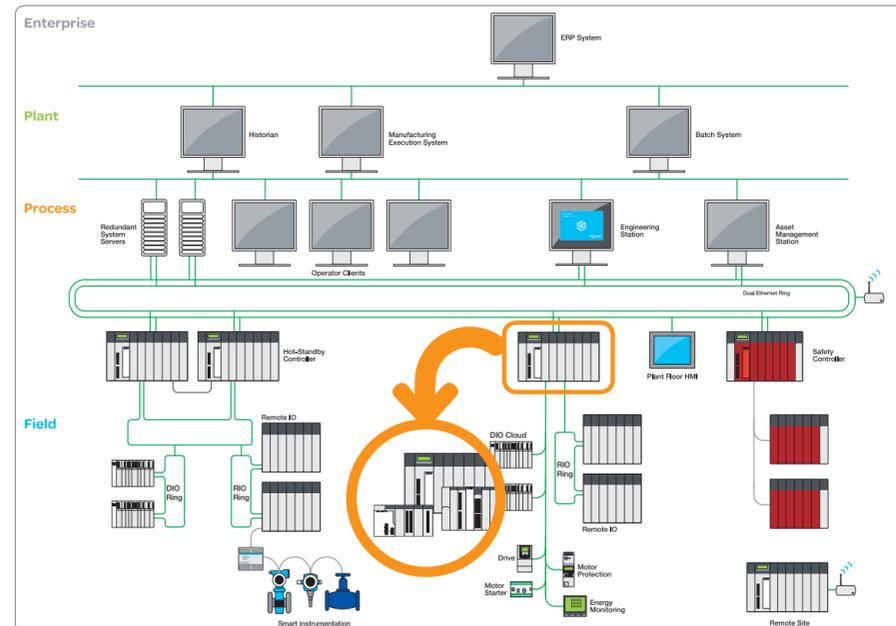
PlantStruxure™

Our Programmable Automation Controllers (PACs) are built to suit the needs of the process industry. The hardware is modular and scalable and supports a full range of input/output modules, along with dedicated communications and fieldbus modules, for connection to smart devices and instrumentation.

Our PACs form a key part of PlantStruxure™.

PlantStruxure™ is the automation system that allows industrial and infrastructure companies meet their automation needs and at the same time deliver on growing energy management requirements. In a single environment, measured energy and process data can be analyzed and used to yield a holistically optimised plant.

PlantStruxure is not only easy to engineer and simple to maintain, it delivers a clear picture of what is happening in your process. It integrates easily with third party devices and provides added value in the form of Historian and Manufacturing Execution System functionalities. In short, PlantStruxure helps you drive increased return on assets and meets your application needs.



> Scalable for changing times

From tens of I/O to hundreds of thousands, it means that you can start out small and grow as your requirements change.

> Flexible because your process is unique

Our system supports the architectures that you need for your application. Single site, multiple sites, distributed control, local or remote control, discrete, process, safety, batch, all within the one system.

> Integrated to reduce risk

From devices to MES, all of the system components are designed to work with each other and with our chosen technology partners.

> Collaborative to increase efficiency

It is open to exchange information with other plant and business software, and fosters an environment of collaboration by delivering the process information you need in the way that you like to see it.

The choice is yours...

Modicon M340

Modicon Premium

Modicon Quantum S908 & QEIO

I/O	Modicon M340	Modicon Premium	Modicon Quantum S908 & QEIO
Maximum DIO in rack	1024	2048	63 488
Maximum I/O in rack	256	512	3 968

ARCHITECTURE	Modicon M340	Modicon Premium	Modicon Quantum S908 & QEIO
Maximum number of racks	4	16	189
Maximum length between racks	30 metres	700 metres (250 depart rack, 100 extended rack)	4 572
Type of rack	4-6-8-12 slots	4-6-8-12 slots	2-3-4-6-10-16 slots
Hot swappable modules	All except CPU		
Add/remove I/O module in run mode	-	-	Yes

COMMUNICATION CAPABILITIES	Modicon M340	Modicon Premium	Modicon Quantum S908 & QEIO
Ethernet/IP and Modbus TCP	Up to 128 devices, FDR, Web pages		
CANopen	On CPU port		-
PROFIBUS DP Remote Master connected on Ethernet	Supports 126 slaves and up to 2 KW Input and 2 KW Output data. With a COM DTM for integration of tools based on FDT/DTM technology.		
Mix RIO bus with DIO on the same medium	-	-	Yes with Quantum Ethernet IO

CPU	Modicon M340	Modicon Premium	Modicon Quantum S908 & QEIO
Battery	No battery required - Backup and storage on an SD Card - Data on memory flash	Required	
Integrated ports in CPU	USB + Ethernet, CANopen, Modbus	USB + Ethernet, CANopen	USB + Modbus + Ethernet
File storage	In SD Card 128 MB maximum with FTP access	-	-

APPLICATION STRUCTURE	Modicon M340	Modicon Premium	Modicon Quantum S908 & QEIO
Multitask	Yes		

EXPERT MODULES	Modicon M340	Modicon Premium	Modicon Quantum S908 & QEIO
Conformal coating	For harsh environments and extended temperature (-25°C to +70°C)	For harsh environments	
Counting	Up to 36 channels	Up to 1MHz	Up to 500 kHz
Motion	With Motion Function Block over CANopen in Unity Pro		-
Absolute encoder	SSI module	-	-
PTO module	Module 2 independent axis, up to 200kHz per channel, up to 36 channels	With CFY stepper modules 2 axes	-
Axis module	No synchronized axis	Linear interpolation Complex trajectory	With Sercos
Weighing	Partnership solution with CAPP	Module 8 weighing sensors/2 expert channels	-
RTU module	In rack module: DNP3, IEC 101/104 and Modbus RTU protocols	Via W@de RTU or ETG 3000 gateways	
Time stamping module	Yes with ERT module (1 ms ⁹) New module is coming in 2012	-	Yes with M340 CRA (10 ms) and ERT Quantum (1 ms)
Process control, programmable loop	Library	Library up to 30 loops	Library up to 100 loops
Availability	-	Hot standby CPU	Dual bus Quantum S908 Daisy chain loop + RSTP (on the Quantum Ethernet IO)
Safety	-	Preventa module on Modbus /CANopen	SIL2 or SIL3 system configuration

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> To find out more about PlantStruxure, visit www.schneider-electric.com/PlantStruxure

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Driving performance with a flexible range of controllers

Control solutions for industrial processes

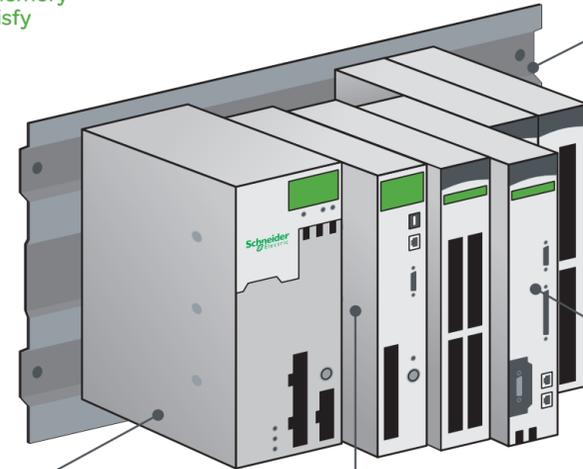
Schneider Electric

09/2011

A flexible hardware offer

Built for the process industry

A scalable selection of CPUs and memory options to satisfy your needs



A large choice of power supplies
To fit the size of the rack.
To accommodate your electrical distribution network strategy.

Multi-racks and extendable racks
Can expand as your system grows.
Minimises cabinet space.

Suitable for harsh environments
Conformal coating.
Extended temperature.

Meets international standards
The Modicon PAC conforms to standards all around the world.

Certified for use in SIL3 applications

Communication modules for Ethernet and major fieldbuses
High-capacity Converged Ethernet modules control Modbus TCP and EtherNet/IP devices simultaneously.
Dedicated modules connect to devices through Modbus, CANopen, ASInterface, Profibus, Interbus and WorldFIP.

A wide catalog of I/O modules - digital, analog and specialist - is available

RTU module
Communication features include telemetry standard protocols, DNP3, IEC 60870-5/101/104, Modbus RTU on LAN/WAN, serial and modem connections.

High density I/O options to reduce cabinet space and system cost

Engineering solutions

Use our flexible system engineering tools to configure your Modicon PAC to help you accelerate your engineering workflow.

- Unity Pro
Configuration of Modicon Programmable Automation Controllers
- Vijeo Citect
Design the operation environment of your system
- Web Designer
Design of Web based diagnostics and monitoring applications
- UAG / sg⁺
Management of the system from a single location
- Libraries
Tested and validated process and device objects for system engineering

Enhanced performance

> Deterministic network operation through the Quality of Service function

More flexibility and fewer constraints

> Ethernet backbone
> 6 times more I/O capacity per I/O drop

Simple and scalable

> QEIO adapts to its lifecycle without requiring extensive modifications



Head End adaptor
140 CRP 31200

Drop adaptor
140 CRA 31200

Satisfying your needs throughout your system's life cycle

Smoothly upgrade from existing installations

- > Thanks to quick wiring adaptors and dedicated communication cards, you can migrate your old PLC hardware to the new Modicon PAC while still preserving your wiring.
- > Easily upgrade your existing control configuration using software converters.

+ Our modernisation services provide you with a turnkey solution to update your aging systems according to your specific needs and requirements, allowing you to select the approach that is right for you.

Reduce your maintenance costs

- > Cut system-related downtime and get your plant up and running quickly.
- > Redundant network topologies continue to operate even when a network link fails.
- > Fast Device Replacement to quickly upload configuration data to a new device.
- > Secured access to the controller program for fast diagnosis.
- > Spare parts services to minimise downtime.

+ Change Configuration On The Fly
Allows you to add/remove I/O modules in the rack without interrupting the process.



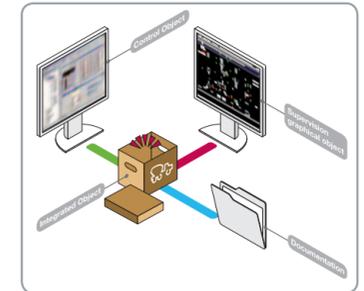
No backup battery required



Reduce your installation costs

- > Five IEC 1131-3 languages to mix as you choose.
- > Distributed I/O on Ethernet reduce cabling costs while increasing subsystem architecture flexibility.
- > FDT/DTM make it easy to configure devices.
- > Tested and validated application libraries focused on the process industry.

+ Detect devices on the network and add them to your configuration in one easy step using Fieldbus Discovery.
> Add devices to the configuration easily through DTM and EDS files.



Operate your process more efficiently

- > Self-checking hardware and integrated diagnostics notify the user of any system issues.
- > Multitasking functions and control program segmentation ensure the best utilisation of controller resources.
- > Fast processing scan times up to 1 ms.
- > Daisy chain loop and fast recovery time with RSTP protocol in case of cable failure.
- > Hot standby architectures ensure continuity in the process, even when one PAC is off-line.

+ Dedicated hardware modules and specific functionality deliver regulatory control, as well as cascade, motion, discrete and more.
> Built-in RTU features provide upstream communications with master stations and downstream communications with other RTU substations, and slave field devices.

Implement tighter process control

- > Tested and validated application libraries focused on the process industry
 - Fuzzy Logic
 - Sequencing
 - Multivariable Predictive Control
 - Advanced Process Control

+ Our controllers support Multivariable Predictive Control functions to enable you to operate your process closer to the limits and maximise economic returns.

*Check table to confirm the availability of all functions by product.