

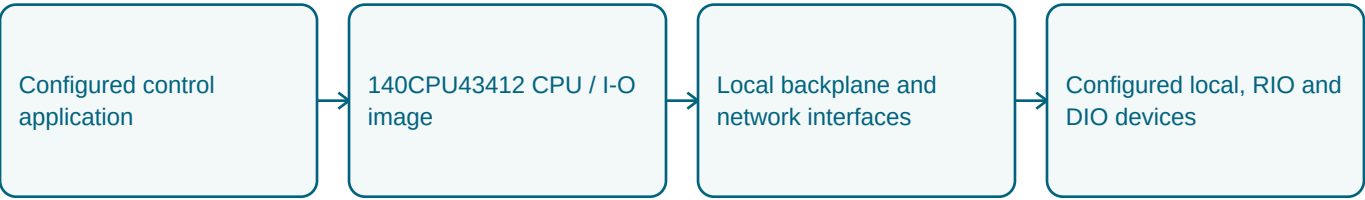
Schneider Electric

140CPU43412

CPU Module

Schneider Electric 140CPU43412 is a Modicon Quantum CPU with 2 MB SRAM, two RS-232 Modbus ports and one Modbus Plus network port. It executes the configured control application and coordinates local, remote and distributed I/O within the supported Quantum architecture.

System position



Identify the non-A controller

Use 140CPU43412 as the CPU identity in the controller configuration. The similarly named A version is not a license to interchange flash executives. For a hot-standby pair, both CPUs must have matching A or non-A identities.

Processor identity	140CPU43412, non-A
Programming environment	Concept model support is confirmed by FA309888
Executive boundary	Do not interchange the A and non-A executive
Hot-standby pairing	Two non-A CPUs or two A CPUs

Evidence: 35013379 pp.151,162

Keep the non-A executive and hot-standby identity separate from 140CPU43412A. Match the communication switch positions and rear node address to the restored application before starting the controller.

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Interfaces and integration

Separate the two communication paths

The two Modbus ports are RS-232 serial interfaces. The separate Modbus Plus port is an RS-485 network interface. Connect the host or field device to the appropriate path; matching connector shape alone does not establish the same protocol or modem capability.

Modbus port 1	Serial client and full modem interface
Modbus port 2	Normal serial communication; no modem support
Modbus Plus	Network node path, separate from the serial ports
Programming cable references	990NAA26320 or 990NAA26350, with applicable connector arrangement

Evidence: 35013379 pp.153,160

Choose fixed or software-defined serial settings

The front communication selector establishes fixed ASCII, fixed RTU or software-defined parameters. The fixed modes cannot be retuned in software. The fixed modes also place the CPU in bridge operation, allowing a panel on the Modbus port to reach nodes on the Modbus Plus network.

Top / ASCII	2400 baud; even parity; 7 data bits; 1 stop bit
Middle / RTU	9600 baud; even parity; 8 data bits; 1 stop bit
Bottom / software	Permits application-selected communication parameters
Fixed-mode address	Set by the rear rotary switches

Evidence: 35013379 pp.156-157

Engineering decision

Which 140CPU43412 Modbus port can be connected to a modem?

Port 1 provides full modem interfacing. Port 2 supports normal RTS/CTS serial communication but not modem operation.

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Technical resource bands

Read the exact model limits separately from system configuration and software-context values. No nearby-model electrical value is substituted.

SRAM capacity	2 MB	DIO capacity per network	500 input words and 500 output words
Maximum IEC program	896 k	DIO capacity per node	30 input words and 32 output words
984 ladder-logic capacity	64 k words	Option-module interfaces	Up to 6; only 2 Modbus Plus modules with full DIO functionality
Discrete reference capacity	64 k, any mix	Watchdog timer	250 ms, software-adjustable
Register capacity	57 k	Logic solve time	0.1-0.5 ms/k
Extended register capacity	96 k	Battery type	3 V lithium, 1200 mAh
Modbus serial ports	2, RS-232, 9-pin D-shell	Operating temperature	0-60 degrees C
Modbus Plus ports	1, RS-485, 9-pin D-shell	TOD clock accuracy	+/-8 seconds/day at 0-60 degrees C
Local I/O capacity	64 input words and 64 output words	Fixed ASCII setting	2400 baud, even parity, 7 data bits, 1 stop bit
Maximum local racks	2, requires expander	Fixed RTU setting	9600 baud, even parity, 8 data bits, 1 stop bit
Maximum remote drops	31	Rear-switch node range	1-64
Remote I/O capacity per drop	64 input words and 64 output words	Software Modbus address range	1-247
Maximum DIO networks	3, requires two 140NOM21x00 modules	Modem-capable serial interface	Modbus port 1; port 2 does not support modems

140CPU43412 and 140CPU43412A require different flash executives; hot-standby pairs must use matching A or non-A CPU identities.

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Controls and service logic

Control program access before starting

The memory-protection controls must match the authorized work. The key's Mem Prt position protects against programmer changes but does not itself change the current run state. Moving to Start can start a stopped controller, so application and output-state checks must precede that transition.

Stop	Controller stopped; programmer changes disabled
Mem Prt	Run state retained; programmer changes disabled
Start	Programmer changes permitted; programmer start/stop accepted
Left front slide switch	Top selects memory protection; middle and bottom do not

Evidence: 35013379 pp.156,159

Distinguish diagnostic readiness from execution

Observe the indicators separately. Ready is a diagnostic result, not proof that logic is running. Run confirms execution. A Modbus activity indication does not prove Modbus Plus communication, and Error A points to the Modbus Plus path.

Ready / green	Power-up diagnostics passed
Run / green	Controller started and solving logic
Bat Low / red	Battery absent or requires replacement
Modbus / green	Serial-port communication active
Modbus Plus / green	Network-port communication active
Error A / red	Modbus Plus communication error
Mem Prt / amber	Memory write-protected

Evidence: 35013379 p.154

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Engineering decisions

Interpret a Run blink group before service

Count the blink group and obtain the associated diagnostic code through the applicable utility before choosing a service action. The group identifies a diagnostic domain, not a universal replacement instruction. Preserve the recorded code and the exact executive identity for troubleshooting.

Two blinks	RAM sizing / run-output / MB command-handler domain
Three blinks	CPU ASIC or backplane-bus domain
Four blinks	UPI or communication-interface domain
Five or six blinks	RAM or processor self-test domain
Seven blinks	Executive not loaded or checksum domain
Eight blinks	PROM / flash / unexpected executive-return domain

Evidence: 35013379 pp.154-156

Can 140CPU43412 use the same flash executive as 140CPU43412A?

No. The A and non-A executives are not interchangeable. In hot standby, pair two non-A CPUs or two A CPUs rather than mixing them.

Related portfolio navigation

These separate product pages are reference navigation, not a statement of interchangeability or approval for the installed system.

Schneider Electric 140ACO02000	View Schneider Electric 140ACO02000 page
Schneider Electric 140AII33010	View Schneider Electric 140AII33010 page
Schneider Electric 140ARI03010C	View Schneider Electric 140ARI03010C page
Schneider Electric 140ATI03000	View Schneider Electric 140ATI03000 page

Technical evidence record

Quantum with Concept and ProWORX, Hardware Reference Manual - 35013379, 12/2013
Quantum CPU programming-software compatibility - FA309888

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