

Schneider Series Service Manual

140CPU43412UC

1. Description

The 140CPU43412UC is a CPU module from Schneider Electric's Modicon Quantum series. This unit operates at a clock frequency of 66 MHz, accommodating two racks and offering extensive input and output capabilities.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Type CPU Module
Product	Line Modicon Quantum
Part	Number 140CPU43412UC
EAN	3595863839838
Clock	Frequency 66 MHz
Racks	2
Remote	I/O 31.7K in / 31.7K out
Exec	Time (Boolean) 0.12-0.59 µs
RAM	1056 KB
Remote	I/O Stations 31
I/O	Interrupts High-speed, counters
Instr.	per ms 2.49 Kinst/ms
Distributed	I/O 8K in / 8K out
Comm	Ports 1 Modbus Plus, 2 Modbus
Power	1800 mA @ 5 V
Optional	Modules 6
LEDs	7
Max	Ethernet Connections 6

3. Product Information

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Technical specifications for 140CPU43412UC

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Product Type CPU Module

Product Line Modicon Quantum

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Distributed I/O 8K in / 8K out

Comm Ports 1 Modbus Plus, 2 Modbus

Power 1800 mA @ 5 V

Optional Modules 6

LEDs 7

Max Ethernet Connections 6

Description

The part number 140CPU43412UC from Schneider Electric is a robust CPU module within the Modicon Quantum series. With a clock frequency set at 66 MHz, it is engineered to support two racks for versatile mounting options. This CPU module features impressive memory capacity, equipped with 1056 KB of RAM to enhance data processing and storage. In terms of remote I/O functionalities, the module can manage a total of 31 remote I/O stations, offering extensive input and output capabilities of 31.7K inputs and 31.7K outputs. It excels in managing high-speed interrupts and counters, optimizing response times with execution times for Boolean operations ranging from 0.12 to 0.59 microseconds. Furthermore, this unit supports distributed I/O configurations with an additional capacity of 8K inputs and 8K outputs.

For communication, it includes 1 Modbus Plus port and 2 Modbus ports, facilitating robust networking and data exchange. The CPU module requires a power supply of 1800 mA at 5 V for operation and can accommodate up to 6 optional modules for enhanced functionality. It is also equipped with 7 indicator LEDs to display operational statuses, ensuring efficient monitoring. With its capabilities, the 140CPU43412UC is a critical component for high-performance control systems.

Range of Product

Modicon Quantum automation platform

Product or Component Type

Unity processor

Complementary

Clock frequency

66 MHz

Number of slots

16

6

4

10

2

Number of racks

2 - local

Number of distributed I/O station

63 1 3 Modbus Plus

Number of remote I/O station

31 - 2 S908 remote I/O

0 - 0 ethernet remote I/O

Discrete I/O number

31744 inputs, 31744 outputs - remote

8000 inputs, 8000 outputs - distributed - per network Modbus Plus

Unlimited (26 slots max) - local

Analogue I/O number

500 inputs, 500 outputs - distributed - per network Modbus Plus

1984 inputs,1984 outputs - S908 remote I/O

Unlimited (26 slots max) - local

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Application specific I/O

High-speed interrupt inputs

Counter

Accurate time stamping

Serial link

Number of optional modules

6 Ethernet, Modbus, Modbus Plus, Profibus DP, Sy/Max)

Maximum number of connections

2 AS-Interface - distributed

2 Modbus RS232/485 Modbus/ASCII)

4 AS-Interface - remote

6 Ethernet TCP/IP - local

6 Modbus Plus - local

6 Profibus DP - local

Integrated connection type

1 Modbus Plus

2 Modbus

Checks

Process control

Memory description

Internal RAM 1056 kB

Switch Function

Slide switch communication port : ASCII/RTU/Memory

Key switch memory start/stop memory protection

Application structure

1 cyclic/periodic master task -

1 periodic fast task -

16 timer interrupt tasks -

64 I/O interrupt tasks -

64 interrupt tasks -

No auxiliary task -

Execution time per instruction

0.1...0.27 μ s floating points

0.1...0.27 μ s on fixed-point arithmetic

0.12...0.585 μ s Boolean

0.12...0.585 μ s on word

Number of instructions per ms

1.86 Kinst/ms 100 % Boolean

2.49 Kinst/ms 65 % Boolean and 35 % numerical

System overhead

0.2 ms fast task

1 ms master task

Bus current requirement

1800 mA

Local signalling

1 LED (green) for communications are active on the Modbus Plus port (Modbus Plus)

1 LED (green) for communications are active on the Modbus port (Modbus)

1 LED (green) for CPU has been started and is solving logic (RUN)

1 LED (green) for CPU has passed the power-up diagnostic tests (READY)

1 LED (orange) for write-protected memory (memory port)

1 LED (red) for battery needs replacing or is not present (BAT LOW)

1 LED (red) for communications error on the Modbus Plus port (ERROR A)

Electrical connection

1 female connector SUB-D 9 for connecting to the Modbus Plus network

2 female connectors SUB-D 9 for connecting to the Modbus bus

Environment

Protective treatment

Conformal coating Humiseal 1A33

Product Certifications

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CSA
CE
UL
Misc (Marine)
GOST
Standards
HazLoc

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