

Schneider Series Service Manual

140CPU65860

1. Description

The 140CPU65860 from Schneider Electric's Modicon series operates at a clock speed of 266 MHz. This controller features 1024 KB of built-in RAM and a program execution speed of 30 K instructions per millisecond, making it capable of handling complex processing tasks efficiently.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Line Modicon
Part	Number 140CPU65860
EAN	3595864173467
Weight	3.13 lbs (1.42 kg)
Clock	Speed/Frequency 266 MHz
Memory	1024 KB (built-in RAM)
Program	Execution Speed 30 K instructions/ms
Communication	Ports 1 Ethernet (RJ45), 1 Modbus (RS232), 1 Modbus Plus (DB9)
Protocol	Support Modbus, TCP/IP, Modbus Plus
Number	of Slots Supported Up to 16 in a rack
I/O	Capacity Up to 64 racks with 3,072 discrete I/O per rack
User	Logic Memory 704 KB
Data	Storage Battery-backed SRAM
Real-Time	Clock Integrated
Operating	Temperature Range 0°C to +60°C
Storage	Temperature Range -25°C to +70°C
Power	Supply Voltage 24V DC (supplied through the backplane)
Power	Consumption 7.2 W
Diagnostics	Built-in self-diagnostics and system monitoring

3. Product Information

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Technical specifications for 140CPU65860

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Product Line Modicon

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I/O Capacity Up to 64 racks with 3,072 discrete I/O per rack

User Logic Memory 704 KB

Data Storage Battery-backed SRAM

Real-Time Clock Integrated

Operating Temperature Range 0°C to +60°C

Storage Temperature Range -25°C to +70°C

Power Supply Voltage 24V DC (supplied through the backplane)

Power Consumption 7.2 W

Diagnostics Built-in self-diagnostics and system monitoring

Description

The Schneider Electric Modicon 140CPU65860 is a powerful controller designed to enhance complex automation processes. Operating at a frequency of 266 MHz, it is equipped with 1024 KB of built-in RAM for effective program execution and has a quick instruction process speed of 30 K instructions per millisecond.

For communication, it features one Ethernet port (RJ45), one Modbus port (RS232), and one Modbus Plus port (DB9) to facilitate integration with various systems through well-supported protocols, including Modbus and TCP/IP.

The flexibility of this controller is exhibited in its support for up to 16 slots, allowing expanded capabilities through additional modules. With an impressive I/O capacity, it can manage as many as 64 racks, accommodating 3,072 discrete I/O per rack, ideal for large-scale applications.

In terms of memory, the 140CPU65860 also contains 704 KB of user logic memory, complemented by battery-backed SRAM for data retention. An integrated real-time clock ensures accurate timekeeping for time-sensitive processes.

For operating conditions, it functions within a temperature range of 0°C to +60°C and can be stored in environments from -25°C to +70°C, making it robust against typical industrial fluctuations. The system is powered by a 24V DC supply supplied through the backplane, consuming 7.2 W of power.

Furthermore, the 140CPU65860 includes built-in self-diagnostics and system monitoring capabilities, which assist in maintaining system integrity while optimizing performance through proactive troubleshooting.

Range of Product

Modicon Quantum automation platform

Product or Component Type

Unity processor

Complementary

Clock frequency

266 MHz

Number of slots

10

16

4

2

6

Number of racks

2 - local

Number of distributed I/O station

63 1 1 Modbus Plus

Number of remote I/O station

31 - 2 S908 remote I/O

31 - 2 ethernet Quantum remote I/O

31 - 2 ethernet X80 remote I/O

Discrete I/O number

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

Unlimited (26 slots max) - local

Unlimited (31 drops of 28 slots max) - ethernet remote I/O

31744 inputs, 31744 outputs - S908 remote I/O

Analogue I/O number

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

Unlimited (26 slots max) - local

Unlimited (31 drops of 28 slots max) - ethernet remote I/O

1984 inputs, 1984 outputs - remote

Application specific I/O

Serial link

High-speed interrupt inputs

Counter

Accurate time stamping

Communication Service

Ethernet router

Number of optional modules

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

Maximum number of connections

1 USB

2 AS-Interface - distributed

4 AS-Interface - remote

6 Ethernet TCP/IP - local

6 Modbus Plus - local

6 Profibus DP - local

1 Modbus RS232/485 Modbus/ASCII)

Integrated connection type

1 Modbus Plus

1 Ethernet TCP/IP

1 Modbus

1 USB

Checks

Process control

Memory description

Expandable 8 MB - file storage with PCMCIA card

Internal RAM 11264 kB - program and data

Switch Function

Key switch memory port on/off

Application structure

1 cyclic/periodic master task -

1 periodic fast task -

128 I/O interrupt tasks -

128 interrupt tasks -

32 timer interrupt tasks -

4 auxiliary tasks -

Number of instructions per ms

10.28 Kinst/ms 100 % Boolean

10.07 Kinst/ms 65 % Boolean and 35 % numerical

System overhead

0.2 ms fast task

1 ms master task

Bus current requirement

2760 mA

Local signalling

1 LED (green) for Ethernet activity (COM)

1 LED (red) for Ethernet collision

Electrical connection

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

1 connector RJ45 for connecting Ethernet network

1 connector RJ45 for connecting Modbus bus

Environment

Protective treatment

Conformal coating Humiseal 1A33

Product Certifications

CSA

UL

GOST

CE

Misc (Marine)

Standards

HazLoc

Ordering and shipping details

Category

US1PC2118150

Discount Schedule

PC21

GTIN

3595864173467

Returnability

No

Packing Units

Unit Type of Package 1

PCE

Nbr. of units in pkg.

1

Package 1 Height

4.3 in (11.0 cm)

Package 1 Width

7.3 in (18.5 cm)

Package 1 Length

12.8 in (32.5 cm)

Package weight(Lbs)

3.234 lb(US) (1.467 kg)