

Schneider Series Service Manual

140CPU53414BC

1. Description

The Schneider Electric 140CPU53414BC is a processor from the Modicon Quantum series, notable for its efficient performance in industrial applications. Operating with a clock frequency of 100 MHz, it contains an internal RAM of 2972 kB, allowing for robust processing capabilities.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Line Modicon Quantum
Part	Number 140CPU53414BC
Product	Processor
Clock	Frequency 100 MHz
Memory	Internal RAM 2972 kB
Watchdog	Timer 250 ms
I/O	Words/Network 500 I/500 O distributed
Drops/Network	63 distributed
Number	of Drops 31 Remote
Battery	Type Lithium 10 μA 420 μA
Battery	Capacity 1.2 Ah
Switch	Function Key Switch
Bus	Current Requirement 1250 mA
Resistance	to Electrostatic Discharge 4 kV and 8 kV
Resistance	to Electromagnetic Fields 10 V/m
Ambient	Air Temperature for Operation 0 to 60 degrees Celsius
Description	
The	140CPU53414BC processor from Schneider Electric is crafted for demanding industrial control environments as part of the Modicon Quantum series. This processor features a significant clock frequency of 100 MHz, enabling it to handle processing tasks efficiently. It is equipped with an internal RAM of 2972 kB, providing ample memory to support various applications.

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Technical specifications for 140CPU53414BC

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A key feature of this processor is the watchdog timer, which operates at 250 ms to ensure system reliability. The device efficiently manages input and output operations, supporting 500 I/O words per network configuration. With the capability to manage 63 distributed drops and support 31 remote drops, it offers substantial flexibility in network setup.

For powering requirements, the 140CPU53414BC processor necessitates a bus current of 1250 mA. Its lithium battery type is rated for a capacity of 1.2 Ah, with a discharge rate of 10 µA to 420 µA, ensuring dependable long-term performance. The processor also incorporates a key switch function for secure operations.

Robustness is a key aspect of this unit, as it demonstrates resistance to both electrostatic discharges rated at 4 kV and 8 kV and can withstand electromagnetic fields measuring up to 10 V/m. Designed for diverse operational conditions, it can function within an ambient temperature range of 0 to 60 degrees Celsius. Weighing in at 0.85 kg, the 140CPU53414BC is a compact yet powerful solution for enhancing control in various industrial settings.

Range of Product

Modicon Quantum automation platform

Product or Component Type

Processor

Software name

ProWORX 32

Concept

Processor name

80486

Mathematical coprocessor

With

Complementary

Clock frequency

100 MHz

Memory description

Internal RAM 2972 kB

Exact time for 1 Kinstruction

0.1...0.5 ms LL984

Watchdog timer

250 ms

Clock drift

+/-8 s/day 32...140 °F (0...60 °C)

I/O words

30 I/32 O distributed

64 I/64 O max local

64 I/64 O remote

I/O words/network

500 I/500 O distributed

Drops/network
63 distributed
Number of drops
31 remote
Number of network
2 remote
3 distributed
Battery type
Lithium 10 μ A 420 μ A
Battery Capacity
1.2 Ah
Battery Life
10 year(s)
Switch Function
Key switch
Marking
CE
Bus current requirement
1250 mA
Module format
Standard
Net Weight
1.87 lb(US) (0.85 kg)
Environment
Protective treatment
Conformal coating Humiseal 1A33
Product Certifications
FM Class 1 Division 2
cUL
Standards
UL 508
CSA C22.2 No 142
Resistance to electrostatic discharge
4 kV contact IEC 801-2
8 kV on air IEC 801-2
Resistance to electromagnetic fields
9.1 V/m (10 V/m) 80...2000 MHz IEC 801-3
Ambient Air Temperature for Operation
32...140 °F (0...60 °C)
Ambient Air Temperature for Storage
-40...185 °F (-40...85 °C)
Relative Humidity
95 % without condensation
Operating altitude
<= 16404.2 ft (5000 m)
Ordering and shipping details
Category
18150-QUANTUM CONTROLLERS,HSBY,COMM.
Discount Schedule
PC21
GTIN
3595863917093
Returnability
No
Country of origin
FR
Packing Units
Unit Type of Package 1
PCE

Nbr. of units in pkg.

1

Package 1 Height

2.0 in (5.0 cm)

Package 1 Width

6.5 in (16.5 cm)

Package 1 Length

12.4 in (31.5 cm)

Package weight(Lbs)

22.4 oz (634.0 g)