

Schneider Series Service Manual

140ATI03000C

1. Description

The Schneider Electric 140ATI03000C is an I/O expansion module designed for use with Modicon Quantum systems. This module accommodates 8 analog input points and supports thermocouple input with a high resolution of 16 bits.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Line Modicon Quantum
Part	Number 140ATI03000C
EAN	3595861136144
Product	I/O Expansion Module
Number	of Output Points 0
Number	of Input Points 8
Input	Type Analog
Filter	Type Notch filter - 3 dB at 50/60 Hz, Single pole low pass - 3 dB at 20 Hz
Analog	Input Nature Thermocouple
Analog	Input Resolution 16-bits
Update	Time 1000 ms
Bus	Current Requirement 280 mA
Power	Dissipation 1.5 W
Request	a Repair

3. Product Information

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Technical specifications for 140ATI03000C

Manufacturer Schneider Electric

Product Line Modicon Quantum

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EAN 3595861136144

Product I/O Expansion Module

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Input Type Analog

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Analog Input Nature Thermocouple

Analog Input Resolution 16-bits

Update Time 1000 ms

Bus Current Requirement 280 mA

Power Dissipation 1.5 W

Request a Repair

Description

The 140ATI03000C by Schneider Electric functions as an I/O expansion module within the Modicon Quantum series. This device integrates eight analog input channels specifically designed for thermocouple measurements.

With a resolution of 16 bits, the module ensures that signal precision is maintained for accurate temperature readings. Additionally, the analog inputs utilize a notch filter set at 3 dB for 50/60 Hz and a single pole low pass filter at 20 Hz, which helps mitigate interference and maintain the integrity of analog signals.

The module operates with a bus current requirement of 280 mA and exhibits a power dissipation range of 1.5 watts. The update time is set at 1000 ms, ensuring timely data transmission for responsive application performance. Notably, this expansion module does not provide output points, focusing solely on analog input functionality, making it a specialized component for specific needs in control systems.

Range of Product

Modicon Quantum automation platform

Product or Component Type

Analogue input module

Type of filter

Notch filter - 3 dB at 50/60 Hz

Single pole low pass - 3 dB at 20 Hz

Complementary

Analogue input number

8

Addressing requirement

10 input words

Analogue input type

Thermocouple - 210...760 °C thermocouple J

Thermocouple - 270...1000 °C thermocouple E

Thermocouple - 270...1370 °C thermocouple K

Thermocouple - 270...400 °C thermocouple T

Thermocouple - 50...1665 °C thermocouple R

Thermocouple - 50...1665 °C thermocouple S

Analogue input resolution

16 bits

Absolute accuracy error

+/- 2 °C plus + 0.1 % of reading thermocouple E

+/- 2 °C plus + 0.1 % of reading thermocouple J

+/- 2 °C plus + 0.1 % of reading thermocouple K

+/- 2 °C plus + 0.1 % of reading thermocouple T

+/- 4 °C plus + 0.1 % of reading thermocouple R

+/- 4 °C plus + 0.1 % of reading thermocouple S

Linearity error

1 °C, 0.1 °C, 1 F, 0.1 F - 210...760 °C

1 °C, 0.1 °C, 1 F, 0.1 F - 270...1000 °C

1 °C, 0.1 °C, 1 F, 0.1 F - 270...1370 °C

1 °C, 0.1 °C, 1 F, 0.1 F - 270...400 °C

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1 °C, 0.1 °C, 1 F, 0.1 F - 50...1665 °C
Accuracy drift according to temperature
0.15 $\mu\text{V}/^\circ\text{C}$ + 0.0015 % of reading/ $^\circ\text{C}$ max low level voltage
Common mode rejection
> - 120 dB 50/60 Hz
Isolation between channels and bus
1780 V AC 60 s
2500 V DC 60 s
Isolation between channels
300 V DC
220 V AC
Update time
1000 ms
Fault type
Broken wire
Overtaking scale
Marking
CE
Cold junction compensation
Internal 32...140 °F (0...60 °C)
Local signalling
1 LED (green) for bus communication is present (Active)
1 LED (red) for external fault
8 LEDs (green) for channel is turned on
8 LEDs (red) for channel fault
Bus current requirement
280 mA
Power dissipation in W
1.5 W
Module format
Standard
Net Weight
0.7 lb(US) (0.3 kg)
Environment
Protective treatment
Conformal coating Humiseal 1A33
Standards
UL 508
CSA C22.2 No 142
Product Certifications
cUL
FM Class 1 Division 2
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...1000 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
US1PC2118155
Discount Schedule

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PC21
GTIN
3595861136144
Returnability
No
Packing Units
Unit Type of Package 1
PCE
Nbr. of units in pkg.
1
Package 1 Height
1.8 in (4.5 cm)
Package 1 Width
6.5 in (16.5 cm)
Package 1 Length
12.6 in (32.0 cm)
Package weight(Lbs)
16.2 oz (459.0 g)

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