

Schneider Series Service Manual

140ACI03000C

1. Description

The Schneider Electric 140ACI03000C is a differential analog input module designed for the Modicon series. It supports eight inputs with a resolution of 12 bits and operates within a linear measuring range of 1 to 5 V and 4 to 20 mA.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Line Modicon
Part	Number 140ACI03000C
EAN	3595861136137
Number	of Inputs 8 Inputs
Input	Type Differential
Addressing	Requirement 9 input words
Analog	Input Resolution 12 bits
Linear	Measuring Range 1...5 V and 4...20 mA
Maximum	Input Current 25 mA
Maximum	Input Voltage 50 VDC
Input	Impedance > 20 MΩ (voltage) and 250 Ω (current)
Linearity	Error ±0.04%
Accuracy	Drift ±0.0025% of full scale/°C
Isolation	Between Channels 30 V DC
Update	Time 5 ms
Power	Consumption 2 W
Isolation	Between Channels and Bus 1000 V DC (3000 V DC for 60 s)
Common	Mode Rejection > -72 dB at 60 Hz
Range	of Product
Modicon	Quantum automation platform
Product	for Component Type
Analogue	input module
Type	of filter
Single	pole low pass - 3 dB at 15 Hz +/- 20 %
Complementary	
Analogue	input number
8	
Input	type
Differential	
Addressing	requirement
9	input words
Analogue	input resolution
12	bits
Linear	measuring range
1...5	V
4...20	mA
Absolute	maximum input
50	V DC
25	mA
Input	impeda

3. Product Information

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Technical specifications for 140ACI03000C

Manufacturer Schneider Electric

Product Line Modicon

Part Number 140ACI03000C

EAN 3595861136137

Number of Inputs 8 Inputs

Input Type Differential

Addressing Requirement 9 input words

Analog Input Resolution 12 bits

Linear Measuring Range 1...5 V and 4...20 mA

Maximum Input Current 25 mA

Maximum Input Voltage 50 VDC

Input Impedance > 20 MΩ (voltage) and 250 Ω (current)

Linearity Error ±0.04%

Accuracy Drift ±0.0025% of full scale/°C

Isolation Between Channels 30 V DC

Update Time 5 ms

Power Consumption 2 W

Isolation Between Channels and Bus 1000 V DC (3000 V DC for 60 s)

Common Mode Rejection > -72 dB at 60 Hz

Range of Product

Modicon Quantum automation platform

Product or Component Type

Analogue input module

Type of filter

Single pole low pass - 3 dB at 15 Hz +/- 20 %

Complementary

Analogue input number

8

Input type

Differential

Addressing requirement

9 input words

Analogue input resolution

12 bits

Linear measuring range

1...5 V

4...20 mA

Absolute maximum input

50 V DC

25 mA

Input impedance

250 Ohm current +/- 0.01 %

> 20 MOhm voltage

Absolute accuracy error

+/- 0.05 % of full scale

+/- 0.1 % of full scale maximum

Linearity error

+/- 0.04 %

Accuracy drift according to temperature

+/- 0.0025 % of full scale/°C

<= 0.005 % of full scale/°C

Common mode rejection

> - 72 dB 60 Hz

Isolation between channels and bus

1000 V DC

3000 V DC 60 s

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Isolation between channels
30 V DC
Update time
5 ms
Fault type
Broken wire 4...20 mA
Undervoltage range 1...5 V
Marking
CE
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
240 mA
Power dissipation in W
2 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
FM Class 1 Division 2
cUL
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
PC21
GTIN
3595861136137
Returnability
No
Packing Units
Unit Type of Package 1
PCE
Nbr. of units in pkg.
1
Package 1 Height

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2.0 in (5.0 cm)

Package 1 Width

6.5 in (16.5 cm)

Package 1 Length

12.2 in (31.0 cm)

Package weight(Lbs)

16.3 oz (461.0 g)

Description

The 140ACI03000C module by Schneider Electric is an analog input device from the Modicon series, facilitating the connection of up to eight differential inputs. This technical component is characterized by a 12-bit analog input resolution, enabling precise measurements within linear ranges of 1...5 V and 4...20 mA. Users must account for an addressing requirement of 9 input words when integrating this module into their systems.

The module can accommodate a maximum input voltage of 50 VDC and supports an input current up to 25 mA, making it versatile for various applications. Its input impedance boasts values exceeding 20 MΩ for voltage signals while yielding 250 Ω for current inputs, ensuring minimal loading on the sensor. With a linearity error of ±0.04%, the module demonstrates a high degree of accuracy, with drift specifications of ±0.0025% of the full scale per degree Celsius.

Designed with channel isolation in mind, this unit provides a significant 30 V DC isolation between its channels, paired with a robust 1000 V DC isolation between the channels and the communication bus (3000 V DC for up to 60 seconds). The update time stands at 5 milliseconds, enabling quick responsiveness. This module also exhibits impressive common mode rejection capabilities, measuring better than -72 dB at 60 Hz, which helps mitigate noise interference. Additionally, its power consumption is rated at 2 W, contributing to overall operational efficiency.

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