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	**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	**impeda**

3. Product Information

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.

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

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

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.