

Schneider Series Service Manual

140ARI03010C

1. Description

The 140ARI03010C is an input module from Schneider Electric's Modicon Quantum series, designed specifically for handling analog input signals. It features a total of 8 analog inputs that are differential, with a resolution of 13 bits for accurate readings in real-time applications.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Line Modicon Quantum
Part	Number 140ARI03010C
EAN	3595860003430
Name	Input Module
Input	Type Analog
Number	of Analog Inputs 8
Analog	Input Type Differential
Input	Resolution 13-bit
Local	Signaling LEDs
Power	Dissipation 1W
Module	Format Standard
Altitude	5000 meters (16404 feet)
RoHS	Compliant Yes

3. Product Information

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Technical specifications for 140ARI03010C

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Power Dissipation 1W

Module Format Standard

Altitude 5000 meters (16404 feet)

RoHS Compliant Yes

Description

Part of the Modicon Quantum series by Schneider Electric, the 140ARI03010C input module is designed for high-performance applications requiring analog signal processing. It accommodates 8 analog inputs, allowing for comprehensive data acquisition in various systems. The differential analog input type ensures enhanced accuracy, with a notable input resolution of 13 bits, yielding precise measurement capabilities.

Local signaling is provided via built-in LEDs that support easy monitoring of the module's status. This module operates with a low power dissipation of only 1 watt, maximizing energy efficiency in embedded systems. The standard module format makes it easy to integrate into existing frameworks, with dimensions of 1.97 by 6.5 by 12.2 inches (50 x 165 x 310 mm).

Weighing just 0.7 lbs (0.3 kg), this module is suitable for applications where weight is a consideration. It can function at significant altitudes, up to 5000 meters (16404 feet), and meets RoHS compliance for environmentally-conscious projects. The 140ARI03010C is an effective choice for automation tasks requiring reliable analog input handling and precise signal representation.

Range of Product

Modicon Quantum automation platform

Product or Component Type

Analogue input module

Complementary

Analogue input number

8

Input type

Differential

Addressing requirement

9 input words

Analogue input type

Temperature probe - 100...450 °C Pt 100, Pt 200, Pt 500, Pt 1000

Temperature probe - 200...850 °C Pt 100, Pt 200, Pt 500, Pt 1000

Temperature probe - 60...180 °C Ni 100, Ni 200, Ni 500, Ni 1000

Temperature probe 0.5 mA Ni 100, Ni 200, Ni 500, Ni 1000

Temperature probe 2.5 mA Pt 100, Pt 200, Ni 100, Ni 200

Analogue input resolution

13 bits

Input impedance

>= 10 MOhm

Absolute accuracy error

0.1 °C

Linearity error

+/- 0.01 % full scale

+/- 0.5 °C

Accuracy drift according to temperature

+/- 0.5 °C 77 °F (25 °C)

+/- 0.9 °C 32...140 °F (0...60 °C)

Isolation between channels and bus

1780 V AC 47...63 Hz 60 s

2500 V DC 60 s

Isolation between channels

300 Vrms AC

Update time

1200 ms 3 wires

640 ms 2 wires/4 wires

Fault type

Broken wire

Overtaking scale

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

200 mA

Power dissipation in W

1 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

3595860003430

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 (463.0 g)