Product data sheet

Specifications



analog input output module Modicon Quantum - 4 I - 2 O

140AMM09000

To be discontinued on: 31 December 2022

To be end-of-service on: 31 December 2030

To be discontinued

Main

Range of product	Modicon Quantum automation platform
Product or component type	Input/output analog module
Type of filter	Single pole low pass - 3 dB at 21 Hz +/- 20 % input circuit

Complementary

I/O modularity	6 channels
Addressing requirement	2 output words 5 input words
Analogue input number	4
Analogue input type	Bipolar current +/- 20 mA - resolution: 15 bits DC Bipolar voltage +/- 10 V - resolution: 16 bits DC Bipolar voltage +/- 5 V - resolution: 15 bits DC Unipolar current 0...20 mA - resolution: 15 bits DC Unipolar offset current 4...20 mA - resolution: 14 bits DC Unipolar offset voltage 1...5 V - resolution: 14 bits DC Unipolar voltage 0...10 V - resolution: 16 bits DC Unipolar voltage 0...5 V - resolution: 15 bits DC
Absolute maximum input	+/- 25 mA current +/- 50 V voltage
Input impedance	> 10 MOhm voltage > 250 Ohm current
Offset	+/- 0.0014 % of full scale maximum/°C 0...60 °C input circuit
Gain shift	+/- 0.002 of full scale maximum 0...60 °C input circuit
Common mode rejection	> 80 dB 50/60 Hz input circuit
Analogue output number	2
Analogue output range	4...20 mA
Analogue output resolution	12 bits
Loop voltage	0…60 V DC with external resistance output circuit 7…30 V DC output circuit
Maximum voltage drop	<30 V DC at 20 mA
Setting time	900 µs to +/- 0.1 % of the final value output circuit
External power requirement	7...30 V output circuit
Absolute accuracy error	+/- 0.004 % of full scale at 0…60 °C output circuit +/- 0.007 %/°C of full scale maximum at 0…60 °C output circuit +/- 0.03 % at 25 °C input circuit +/- 0.05 % of full scale maximum at 25 °C input circuit

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

	+/- 0.20 % of full scale at 25 °C output circuit
Linearity	2.4 % over and under range voltage 2.4 % over range, and - 9.6 % under range current Monotonic +/- 1 LSB input Monotonic +/- 1 LSB output
Update time	15 ms output circuit 320 ms input circuit
Fault type	Open circuit input/output circuit Overtacking scale (unipolar) input circuit Status byte output circuit
Isolation between channels	500 V AC for 1 minute 750 V DC for 1 minute
Isolation between channels and bus	500 V AC for 1 minute 750 V DC for 1 minute
Isolation between input channel and output channel	500 V for 1 minute 750 V for 1 minute
Marking	CE
Local signalling	1 LED (green) for bus communication is present (Active) 1 LED (red) for external fault 6 LEDs (green) for channel is turned on 6 LEDs (red) for channel fault
Bus current requirement	350 mA
Module format	Standard
Net weight	0.3 kg

Environment

Product certifications	FM Class 1 Division 2 C-Tick.1
Standards	UL 508 CSA C22.2 No 142
Resistance to electromagnetic fields	10 V/m 80…2000 MHz conforming to IEC 801-3
Ambient air temperature for operation	0…60 °C
Ambient air temperature for storage	-40…85 °C
Relative humidity	95 % without condensation
Operating altitude	<= 5000 m

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	461.0 g
Package 1 Height	5 cm
Package 1 width	16.4 cm
Package 1 Length	31 cm
Unit Type of Package 2	S03
Number of Units in Package 2	7
Package 2 Weight	3.62 kg
Package 2 Height	30 cm
Package 2 width	30 cm
Package 2 Length	40 cm

Offer Sustainability

Sustainable offer status	Green Premium product
REACh Regulation	REACh Declaration
REACh free of SVHC	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS declaration
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End of Life Information
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Contractual warranty

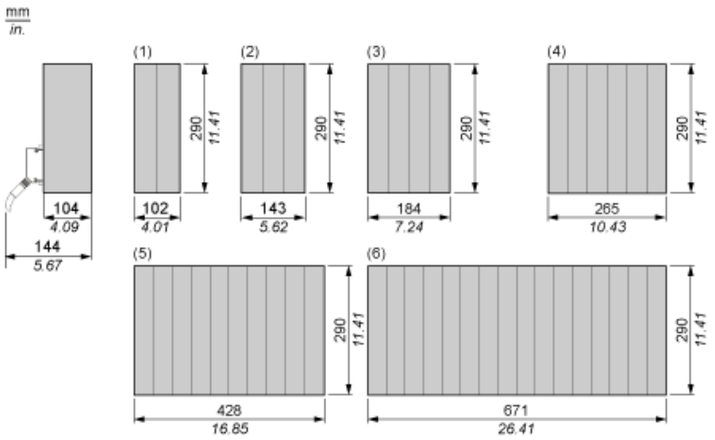
Warranty	18 months

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Dimensions Drawings

Racks for Modules Mounting

Dimensions of Modules and Racks



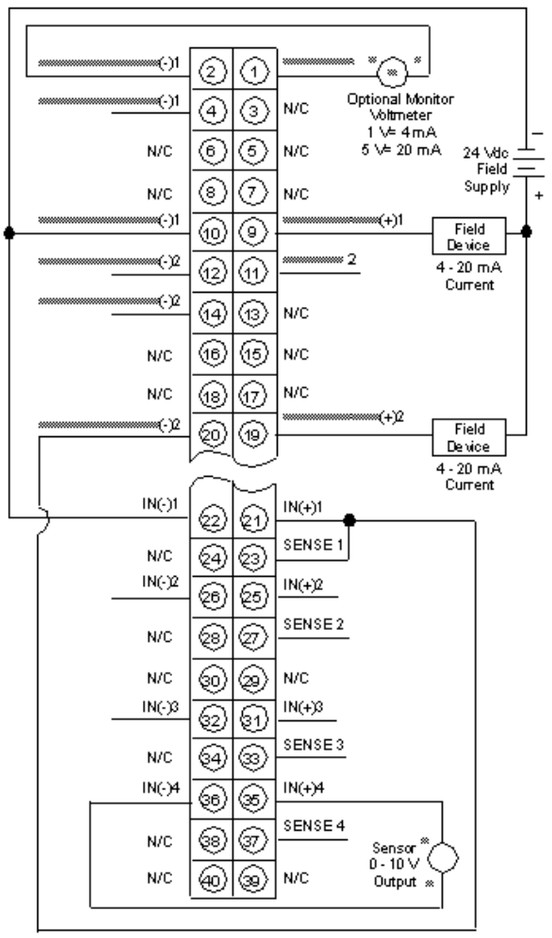
(1) 2 slots
(2) 3 slots
(3) 4 slots
(4) 6 slots
(5) 10 slots
(6) 16 slots

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Connections and Schema

Analog Input/Output Module

Wiring Diagram



N/C Not Connected

- Jumpers are required between IN (+) and SENSE terminals for all current input ranges.
- Pins 1 ... 20 are outputs.
  Pins 21 ... 40 are inputs.
- For Inputs, the maximum channel to channel working voltage cannot exceed 30 Vdc.

Recommended replacement(s)

140AMM09000 is replaced by:

1x 

mixed analog I/O module X80 - 4 inputs - 2 outputs

BMXAMM0600