

Product datasheet

Specifications



distributed analog/discrete I/O Modicon Momentum

170ANR12090

Main

Range of product	Modicon Momentum automation platform
product or component type	Analogue,discrete I/O base
Group of channels	1 group of 8 discrete outputs 2 groups of 4 discrete inputs 1 group of 6 analog inputs 1 group of 4 analog outputs
Analogue input range	0...10 V
Analogue input type	Single ended
Analogue input resolution	14 bits 0...10 V
Discrete input voltage	24 V DC
Analogue output range	0...10 V 14 bits
Discrete output voltage	10...30 V
Output short-circuit protection	With discrete output
Output overload protection	With discrete output

Complementary

Discrete input number	8 conforming to IEC 1131-2 Type 2
[Us] rated supply voltage	24 V (19.2...30 V)DC
Maximum analogue input voltage	15 V
Input voltage limits	3...32 V
Discrete input logic	Positive
Voltage state 0 guaranteed	<= 5 V for discrete input
Voltage state 1 guaranteed	>= 11 V for discrete input
Current state 0 guaranteed	<= 2 mA (discrete input)
Current state 1 guaranteed	>= 6 mA (discrete input)
Input overvoltage protection	45 V 10 s discrete input
Input resistance	1 MOhm analogue input circuit
Output load	>= 2 kOhm 0...10 V analogue output
Conversion time	0.75 ms analogue input circuit 1.2 ms analogue output
Conversion error	+/- 0.4 % 0...10 V 25 °C analogue output 0,002 0...10 V 25 °C analogue input circuit
Fail state	For analogue output: hold For analogue output: reset to zero

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

Discrete output type	Transistor
Discrete output logic	Positive
Discrete output current	2 A per group 2 A per module 0.25 A per point
Maximum leakage current	0.4 mA DC 30 V discrete output
Maximum voltage drop	<0.4 V 0.25 A at state on discrete output
Surge current	2.5 A 1 ms discrete output
Response time	1.05 ms from state 1 to state 0 for discrete output 1.2 ms from state 0 to state 1 for discrete input 1.2 ms from state 0 to state 1 for discrete output 1.2 ms from state 1 to state 0 for discrete input
Isolation voltage	500 V (duration = 1 min) between analogue I/O and operating voltage 500 V (duration = 1 min) between operating voltage and I/O from ground
Maximum power dissipation in W	6 W
marking	CE
Local signalling	4 LEDs for channel status
Electrical connection	2 connectors for removable terminal blocks
Current consumption	400 mA at 24 V DC
Depth	47.5 mm
Height	125 mm
Width	141.5 mm
net weight	0.24 kg

Environment

Product certifications	UL CSA
protective treatment	TC
Resistance to electrostatic discharge	4 kV contact conforming to IEC 801-2 8 kV on air conforming to IEC 801-2
Resistance to electromagnetic fields	10 V/m 80...1000 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 Height	5.5 cm
Package 1 Width	18.0 cm
Package 1 Length	26.0 cm
Package 1 Weight	384.0 g
Unit Type of Package 2	S03
Number of Units in Package 2	10

Package 2 Height	30 cm
Package 2 Width	30 cm
Package 2 Length	40 cm
Package 2 Weight	4.281 kg
Unit Type of Package 3	P06
Number of Units in Package 3	80
Package 3 Height	75.0 cm
Package 3 Width	40.0 cm
Package 3 Length	80.0 cm
Package 3 Weight	55.72 kg

Contractual warranty

Warranty	18 months
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Sustainability

Green Premium™ label is Schneider Electric’s commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO₂ products.

Guide to assessing product sustainability is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product’s sustainability >](#)



Transparency RoHS/REACH

Well-being performance

 Mercury Free

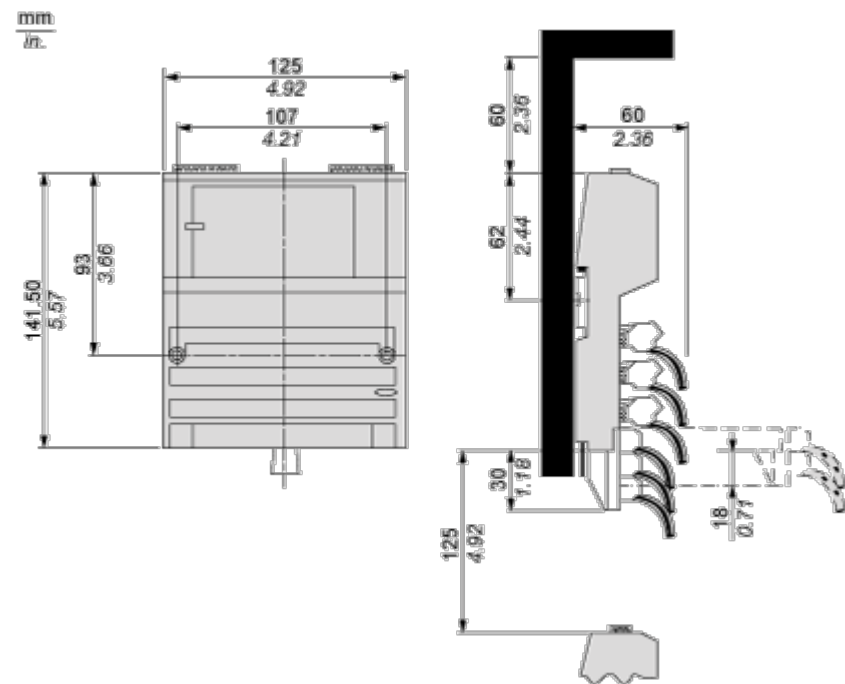
 RoHS Exemption Information [Yes](#)

Certifications & Standards

Reach Regulation	REACH Declaration
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)
China Rohs Regulation	China RoHS declaration
Environmental Disclosure	Product Environmental Profile
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
Circularity Profile	End of Life Information

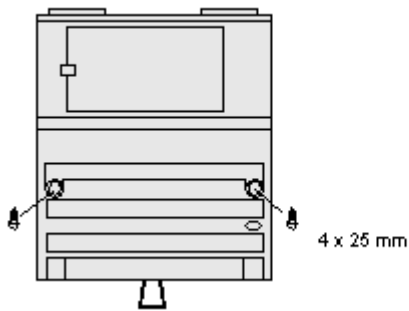
Standard Adapter on a Typical Base

Dimensions



Mounting and Clearance

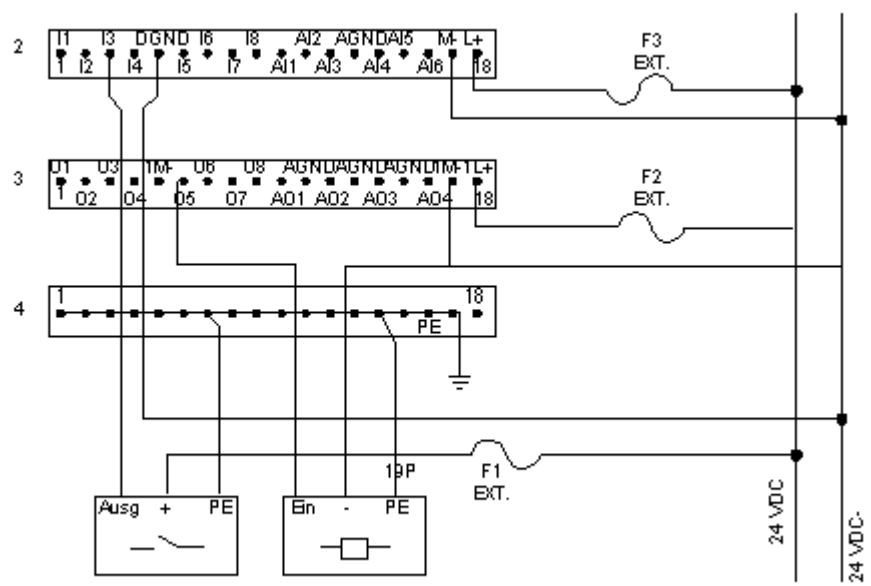
Mounting on a Wall



Connections and Schema

External Wiring Diagrams

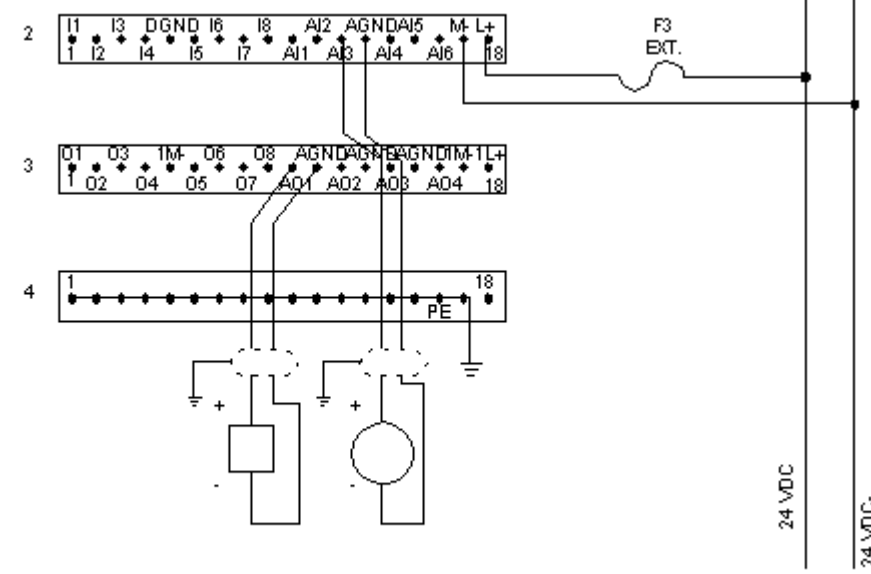
Discrete I/O Devices



F1, F3 1 A fuse

F2 2.5 A fuse

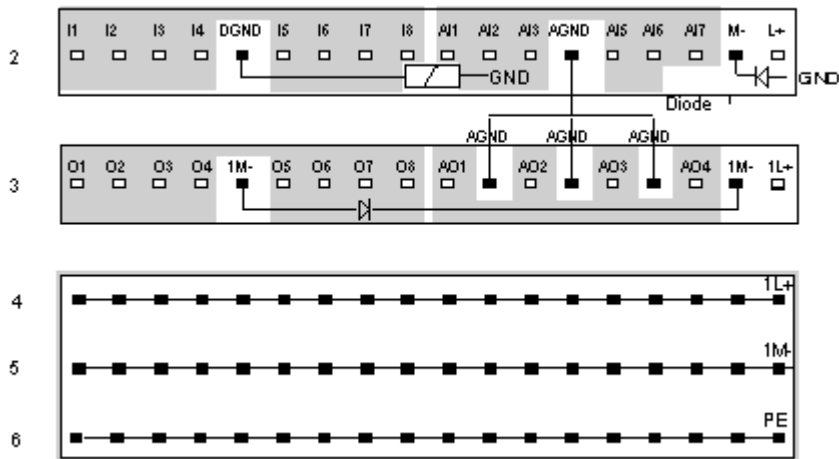
Analog I/O Devices



F3 1 A fuse

Internal Pin Connections

Rows 2 and 3 show the internal connections between terminals on the I/O base. Rows 4 through 6 show the internal connections on the optional busbar.



NOTE: AGND and DGND are separated inside the module. External digital inputs must be returned to the DGND terminal. External analog circuits must be returned to AGND terminals.