

Schneider Series Service Manual

170ADM54080

1. Description

The Schneider Electric 170ADM54080 is a Modbus I/O module base designed for efficient connectivity and control within the Modicon Momentum series. It operates at an input voltage rating of 120 volts AC and has a robust frequency range of 47 to 63 Hertz.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Type Modbus I/O Module Base
Product	Line Modicon Momentum
Part	Number 170ADM54080
UPC	785901392255
Input	Voltage Rating 120 Volts AC
Frequency	Range 47 to 63 Hertz
Input	Voltage Limit 0 to 132 Volts AC
Number	of Inputs 6 discrete inputs
Number	of Outputs 3 discrete outputs
Communication	Protocol Modbus
Rated	Surge Current 30 milliamperes
Leakage	Current 1.9 milliamperes (maximum) at 120 Volts AC
Wiring	Mode 2 or 4 wires
Supported	Communication Port RS485 port
Current	Consumption 125 milliamperes at 120 Volts AC
Number	of Addresses 0 to 247
Ambient	Operating Temperature 0 to 60°C (in a non-condensing environment)
Storage	Temperature -40 to 85°C (in a non-condensing environment)

3. Product Information

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Technical specifications for 170ADM54080

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Storage Temperature -40 to 85°C (in a non-condensing environment)

Description

The 170ADM54080 Modbus I/O module base from Schneider Electric's Modicon Momentum series provides robust input and output capabilities for industrial applications. Designed for an input voltage of 120 Volts AC, this module can accommodate voltage fluctuations between 0 and 132 Volts AC.

This unit supports six discrete inputs along with three discrete outputs, allowing for flexible configurations in various setups. Its communication protocol is primarily based on Modbus, facilitating straightforward data transfer between devices. Current parameters include a rated surge of 30 milliamperes and a maximum leakage current of 1.9 milliamperes at 120 Volts AC, ensuring safe operation standards.

Wiring configurations can employ either 2 or 4 wires based on requirement, providing versatility in installation. The current consumption is rated at 125 milliamperes when operating at 120 Volts AC. For networking, the module supports RS485 communication ports, enhancing connectivity options in automation setups.

Operating within an ambient temperature range of 0 to 60°C, the 170ADM54080 is suitable for typical conditions without condensation. Additionally, the module can withstand storage temperatures as extreme as -40 to 85°C, ensuring functionality even in harsh environments. This unit is capable of being assigned addresses ranging from 0 to 247, which allows for extensive network addressing as needed.

Range of Product

Modicon Momentum automation platform

Product or Component Type

Modbus I/O module base

Group of channels

1 group of 6 discrete inputs

1 group of 3 discrete outputs

Discrete input number

6

Discrete output number

3

Number of port

1

Communication Port Protocol

Modbus

Wiring mode

2 or 4 wires

Complementary

Discrete input logic

Positive

Discrete input voltage

120 V AC 47...63 Hz

0...132 V AC

Input overvoltage protection

200 V

Voltage state 1 guaranteed

>= 79 V

Voltage state 0 guaranteed

<= 20 V

Current state 1 guaranteed

>= 5.5 mA

Current state 0 guaranteed

<= 1.9 mA

Discrete output logic

Positive

Discrete output voltage

120 V 47...63 Hz

Discrete output current

0.5 mA per point

1.5 mA per module

Maximum voltage drop

<1.5 V 0.5 A at state on

Maximum leakage current

1.9 mA AC 120 V

Surge current

30 mA

Response time

< 12.3 ms 60 Hz from state 1 to state 0 input circuit

< 12.3 ms 60 Hz from state 1 to state 0 output circuit

< 12.5 ms 60 Hz from state 0 to state 1 input circuit

< 12.5 ms 60 Hz from state 0 to state 1 output circuit

Communication port support

RS485

Transmission Rate

9600 bit/s

19200 bit/s

Data format

8-bit RTU

7-bit ASCII

Number of addresses

0...247

Port timeout

150 ms

Marking

CE

Electrical connection

2 connectors for removable terminal blocks

Current consumption

125 mA 120 V

Net Weight

0.53 lb(US) (0.24 kg)

Environment

Product Certifications

CSA

UL

Protective treatment

TC

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)