

Allen-Bradley 1794-IF4I Manual

Brand	Allen-Bradley
Product Series	1746 1747
Product Type	Flex I/O Isolated Input Analog Module

Description

The Allen-Bradley 1794-IF4I is a Flex IO analog input module. This module features Four (4) Voltage / Current isolated analog input channels. It supports analog input current signals such as 4-20 mA (user configurable), 0-20 mA (user configurable) ± 20 mA; Voltage signals such as ± 10 V (user configurable) 0-10V (user configurable) ± 5 V (user configurable) and 0-5V (user configurable). It is

Technical specifications for 1794-IF4I

Manufacturer Rockwell Automation

Conversion Type Sigma Delta

Part Number/Catalog No. 1794-IF4I

Brand Allen-Bradley

Product Description: Flex IO Isolated Analog Input Module

No. of inputs: Four (4); isolated

Input signal type: 0 to 20mA, 4 to 20 mA, +/-20mA, +/- 10VDC and 0 to 10 VDC, +/-5VDC and 0 to 5 VDC

Input resolution: 16 bits – unipolar; 15 bits plus sign – bipolar; Current: 0.156 mV/cnt unipolar; Voltage: 0.313 mV/cnt bipolar 0.320

?A/cnt unipolar; 0.640 ?A/cnt bipolar

Terminal base: 1794-TB2, 1794-TB3, 1794-TB3S, 1794-TB3T, 1794- TB3TS, and 1794-TBN

External DC supply, nom: 24V DC

External DC supply range: 19.0...31.2V DC (includes 5% AC ripple)

Mounting: DIN Rail

Wire Size: Determined by installed terminal base

Operating Temperature: 0 to 55 C (32 to 131 F)

Storage Temperature: -40...85 °C (-40...185 °F)

Vibration: 5g @ 10 to 500 Hz

Operating Shock: 30 g

Thermal dissipation, max 6.8 BTU/hr @ 31.2V DC

Power dissipation, max 2.0 W @ 31.2V DC

Product Type Flex I/O Isolated Input Analog Module

Inputs 4 Isolated

Resolution 16 bits

Input Current Terminal 4 to 20mA

Input Voltage Terminal +/- 10V

FlexBus Current 50mA

External DC Power Supply 24 Volts DC nominal

Isolation Voltage 120 Volts Continuous

Power Dissipation 2.0 Watts at 31.2 Volts DC maximum

Thermal Dissipation 6.8 BTU/hour at 31.2 Volts DC maximum

UPC 10781180908634

UNSPSC 32151602 Description

The Allen-Bradley 1794-IF4I is a FLEX I/O isolated analog input module. This 24 Volts DC analog module has Four (4) differential-ended, isolated inputs and comes with a power and status indicator. It is compatible with a number of terminal base units, namely the 1794-TBT, 1794-TBT3S, 1794-TB3, 1794-TB3S, 1794-TBNF, and the 1794-TBN.

The 1794-IF4I has a 16 bits unipolar resolution, 15 bits + bipolar resolution, and an open-type enclosure. It can be mounted using a DIN rail or a panel. The 1794-IF4I has a sigma-delta input conversion type with an input conversion rate of 2.5 to 7.5 milliseconds for all channels. It arrives factory-calibrated and it can be recalibrated when necessary. Its accuracy is 0.1% full scale at 25 degrees Celsius for both the voltage input and current input. Note that the voltage input accuracy includes gain, repeatability, offset, and nonlinearity error terms. The module has a Flexbus current of 50 mA and a Flexbus voltage of 5 Volts DC.

Its external DC power supply current is 80 mA at 24 Volts DC and its external DC power supply nominal voltage range is 19.2 to 31.2 Volts DC, including a 5% AC ripple. The 1794-IF4I has a current draw of 145 mA at 5.1 Volts and 125 mA at 24 Volts. It also has varying input current terminal ranges of 4 to 20 mA, 0 to 20 mA, and +/-20 mA, as well as varying input voltage terminal ranges of +/-10 Volts, 0 to 10 Volts, +/-5 Volts, and 0 to 5 Volts, all of which are user-configurable. The 1794-IF4I's isolation voltage depends on what terminal base unit is installed to it. Its continuous isolation voltage is 120 Volts when using the 1794-TBT3S, 1794-TB3T, 1794-TB3S, 1794-TB3, and the 1794-TB2 base units. When using a 1794-TBN base unit, its continuous isolation voltage becomes 250 Volts. This module has an operating temperature of -20 to 55 degrees Celsius and a non-operating temperature of -40 to 85 degrees Celsius. Its maximum surrounding air temperature is 55 degrees Celsius and it has a non-condensing relative humidity of 5 to 95%. It has an operating vibration of 5 G, a non-operating shock of 50 G and an operating shock of 30 G.

The 1794-IF4I comes with individually isolated channels. It has an internal Sigma-Delta analog-to-digital converter (ADC) with update rate of 2.5 ms, 5.0 ms, and 7.5 ms. It has a resolution of 16 bits – unipolar; 15 bits plus sign – bipolar with specific values of 0.156 mV/cnt unipolar; 0.313 mV/cnt bipolar for Voltage signals and 0.320 μ A/cnt unipolar; 0.640 μ A/cnt bipolar for Current signals. Each channel has a step response of 1200 Hz conversion rate = 0.6 ms 600 Hz conversion rate = 6.7 ms 300 Hz conversion rate = 13.4 ms 150 Hz conversion rate = 26.7 ms. This module has an absolute accuracy of 0.1% full scale @ 25 °C 0.1% full scale @ 25 °C for both voltage and current terminal with accuracy drift of 0.0028% full scale/°C for Voltage and 0.0038% full scale/°C for Current.

The 1794-IF4I has built-in status LED indicators such as OK status indicator. This indicator is a bi-colored indicator that flashes green if the module is in power up reset condition, 24VDC power is off and module is in configuration mode. Red is displayed when the module fails the initial hardware test.

Technical Specifications

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