Allen-Bradley 1794-IRT8 Manual

Brand	Allen-Bradley
Product Series	1746 1747
Product Type	-

Description

The Allen-Bradley 1794-IRT8 is a Flex I/O combination module. This module supports both RTD and Thermocouple sensors. It has Eight (8) channels in Two (2) groups of Four (4) with nominal input ranges of -40…100 mV dc for thermocouples for Thermocouple and 0…325 mV for RTDs for RTD. This module has a resolution of 14 bits. Technical specifications for 1794-IRT8
Brand Allen-Bradley
Series Flex I/O 1794
Part Number 1794-IRT8
Manufacturer: Rockwell Automation
Product Description: Flex IO 8-Channel RTD / Thermocouple Input Module
Terminal base: 1794-TB3G, 1794-TB3GS, 1794-TB3GK
RTD Sensors supported: 100 ? Pt ? = 0.00385 Euro (-200…+870 °C) 100 ? Pt ? = 0.003916 U.S. (-200…+630 °C) 200 ? Pt ? = 0.00385 Euro (- 200…+630 °C) 500 ? Pt ? = 0.00385 U.S. (-200…+630 °C) 100 ? Nickel ? = 0.00618 (-60…+250 °C) 120 ? Nickel ? = 0.00672 (-60…+250 °C) 200 ? Nickel ? = 0.00618 (-60…+250 °C) 500 ? Nickel ? = 0.00618 (-60…+250 °C) 10 ? Copper ? = 0.00427 (- 200…+260 °C).

Thermocouple Sensors supported: Type B: 300…1800 °C (572…3272 °F) Type E: - 270…1000 °C (-454…1832 °F) Type J: -210…1200 °C (- 346…2192 °F) Type K: -270…1372 °C (-454…2502 °F) Type TXK/XK (L):-200…800 °C (-328…1472 °F) Type N: -270…1300 °C (-454…2372 °F) Type R: -50…1768 °C (-58…3214 °F) Type S: -50…1768 °C (-58…3214 °F) Type T: -270…400 °C (-454…752 °F)
Nominal input voltage ranges: -40…100 mV DC for thermocouples 0…325 mV for RTDs mV default
Resolution: 14 bits
Accuracy: 0.05% of full range in mV mode with filtering selected Hardware only = 0.10% of full range in mV mode
Data Format: °C (implied decimal point XXX.X) °F (implied decimal point XXX.X) °K (implied decimal point XXX.X) - 32767…+32767 0…65535 0…5000 (? mode) (implied decimal point XXX.X) -4000…+10000 (mV mode) (implied decimal point XXX.XX)
ystem Throughput: 7.4 ms - mV 8.0 ms - ? - 2-wire 10.0 ms - ? - 3-wire 10.4 ms - ? - 4-wire 8.0 ms - 2-wire RTD (°F) 10.4 ms - 4-wire RTD (°F) 8.8 ms - 2-wire RTD (°C), (°K) 10.8 ms - 4- wire RTD (°C), (°K) 9.8 ms - 3-wire RTD (°F) 10.0 ms - 3-wire RTD (°C), (°K) 8.0 ms - Thermocouples (°F) 8.8 ms - Thermocouples (°C), (°K)?
Mounting: DIN Rail
Indicators: 1 green power status indicator 8 red open input indicators
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
Series variations A and B
Nominal voltage 24 Volts DC
Indicator Power indicator
Inputs 8
Accessories 2 cold junction compensators
Host system FLEX I/O system
UPC 10612598180223 Description

The 1794-IRT8 module is an Allen-Bradley FLEX I/O millivolt, thermocouple, and RTD module. In a FLEX I/O system, the 1794-IRT8 module is connected to a terminal base and a power adapter. The Allen-Bradley 1794-IRT8 is shipped with 2 cold junction compensators. This cold junction compensator increases the accuracy of the module for Thermocouple mode. 1794-IRT8 module has a nominal voltage rating of 24 Volts DC and 8 analog inputs. It can connect to up to 8 RTD or thermocouple inputs. The front panel of the 1794-IRT8 module has a nameplate that identifies the module, a removable label that the users can customize, a keyswitch position indicator, and LED status indicators.

Compatible RTD sensors for this module are 2-wire, 3-wire and 4-wire RTDs such as 100 ? Pt ? = 0.00385 Euro -200…870 °C (-328…1598 °F) 200 ? Pt ? = 0.00385 Euro -200…400 °C (-328…752 °F) 100 ? Pt ? = 0.003916 U.S. -200…630 °C (-328…1166 °F) 100 ? Pt ? = 0.003916 U.S. -200…400 °C (-328…752 °F) 100 ? Nickel -60…250 °C (-76…482 °F) 200 ? Nickel -60…200 °C (-76…362) °F) 120 ? Nickel -80…320 °C (-112…608 °F) 10 ? Copper -200…260 °C (-328…470 °F). While supported Thermocouple sensors by this module are Thermocouple Type B, E, J, K, TXK/XK(L), N, R, S, and T.

This module has a resolution of 14 bits with selectable data formats such as °C (implied decimal point XXX.X) °F (implied decimal point XXX.X) °K (implied decimal point XXX.X) -32767…32767 0…65535 0…5000 ohms mode (implied decimal point XXX.X) -4000…+10000 millivolt mode (implied decimal point XXX.XX).

The 1794-IRT8 has diagnostic functions embedded including an open circuit detection wherein module reading upscales or defaults to max value when in RTD and Thermocouple mode. It also has an open input detection time of 2 scans, overvoltage capability of 15V DC continuous at 25 °C.

When wiring signal wirings, recommended wires are Thermocouple wires as specified by the TC manufacturer and Belden 8761 for millivolt signal.

Technical Specifications

Brand Allen-Bradley

Series Flex I/O 1794

Part Number 1794-IRT8

Manufacturer: Rockwell Automation

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Nominal input voltage ranges: -40…100 mV