

Specifications

Input Specifications

Attribute	Value
Number of inputs, nonisolated	1794-IE8 - 8 single-ended 1794-IE4XOE2 - 4 single-ended
Resolution Voltage Current	12 bits unipolar; 11 bits plus sign bipolar 2.56mV/cnt unipolar; 5.13mV/cnt bipolar 5.13µA/cnt
Data format	Left justified, 16 bit 2's complement
Conversion type	Successive approximation
Conversion rate	256µs all channels
Input current terminal, user configurable	4...20 mA 0...20 mA
Input voltage terminal, user configurable	±10V 0...10V
Normal mode rejection ratio - Voltage terminal Current terminal	3 dB @ 17 Hz; -20 dB/decade -10 dB @ 50 Hz; -11.4 dB @ 60 Hz -3 dB @ 9 Hz; -20 dB/decade -15.3 dB @ 50 Hz; -16.8 dB @ 60Hz
Step response to 63% -	Voltage terminal - 9.4 ms Current terminal - 18.2 ms
Input impedance	Voltage terminal - 100 kΩ Current terminal - 238 Ω
Input resistance voltage	Voltage terminal - 200 kΩ Current terminal - 238 Ω
Absolute accuracy ⁽¹⁾	0.20% full scale @ 25 °C
Accuracy drift with temperature	Voltage terminal - 0.00428% full scale/ °C Current terminal - 0.00407% full scale/ °C
Calibration required	None required
Maximum overload, one channel at a time	30V continuous or 32 mA continuous
Indicators	1 green power indicator

(1) Includes offset, gain, nonlinearity, and repeatability error terms.

Output Specifications

Attribute	Value
Number of outputs, nonisolated	1794-OE4 - 4 single-ended, nonisolated 1794-IE4XOE2 - 2 single-ended
Resolution Voltage Current	12 bits plus sign 0.156mV/cnt 0.320 µA/cnt
Data format	Left justified, 16 bit 2's complement
Conversion type	Pulse width modulation
Output current terminal, user configurable	0 mA output until module is configured 4...20 mA 0...20 mA
Output voltage terminal, user configurable	0V output until module is configured ±10V 0...10V
Step response to 63% - voltage or current terminal	24 ms
Current load on voltage output, max	3 mA
Absolute accuracy ⁽¹⁾ Voltage terminal Current terminal	0.133% full scale @ 25 °C 0.425% full scale @ 25 °C
Accuracy drift with temperature Voltage terminal Current terminal	0.0045% full scale/ °C 0.0069% full scale/ °C
Resistive load on mA output	15...750Ω @ 24V DC

(1) Includes offset, gain, nonlinearity, and repeatability error terms.

General Specifications for 1794-IE8, 1794-0E4, and 1794-IE4X0E2

Module location	1794-IE8 and 1794-IE4X0E2 - 1794-TB2, 1794-TB3, 1794-TB3S, 1794-TB3T, and 1794-TB3TS terminal base units 1794-0E4 - 1794-TB2, 1794-TB3, 1794-TB3S, 1794-TB3T, 1794-TB3TS, and 1794-TBN terminal base units
Terminal base screw torque	7 lb•in (0.8 N•m) 1794-TBN - 9 lb•in (1.0 N•m)
Isolation voltage	Tested at 850V DC for 1 s between user power to system No isolation between individual channels
External DC power supply Voltage range	24V DC nominal 10.5...31.2V DC (includes 5% AC ripple)
Supply current	1794-IE8 - 60 mA @ 24V DC 1794-0E4 - 150 mA @ 24V DC 1794-IE4X0E2 - 165 mA @ 24V DC
Dimensions, with module installed	31.8 H x 3.7 W x 2.1 D inches 45.7 H x 94 W x 53.3 D mm
Flexbus current	15 mA
Power dissipation, max	1794-IE8 - 3.0 W @ 31.2V DC 1794-0E4 - 4.5 W @ 31.2V DC 1794-IE4X0E2 - 4.0 W @ 31.2V DC
Thermal dissipation, max	1794-IE8 - 10.2 BTU/hr @ 31.2V dc 1794-0E4 - 13.6 BTU/hr @ 31.2V dc 1794-IE4X0E2 - 15.3 BTU/hr @ 31.2V d
Keyswitch position	1794-IE8 - 3 1794-0E4 - 4 1794-IE4X0E2 - 5
North American temp code	1794-IE4X0E2 - T4A 1794-IE8 - T5 1794-0E4 - T4
UKEX/ATEX temp code	T4
IECEx temp code	1794-IE8 - T4

Environmental Specifications

Attribute	Value
Temperature, operating	IEC 60068-2-1 (Test Ad, operating cold), IEC 60068-2-2 (Test Bd, operating dry heat), IEC 60068-2-14 (Test Nb, operating thermal shock): 0...55 °C (32...131 °F)
Temperature, surrounding air, max	55 °C (131 °F)
Temperature, storage	IEC 60068-2-1 (Test Ab, unpackaged nonoperating cold), IEC 60068-2-2 (Test Bb, unpackaged nonoperating dry heat), IEC 60068-2-14 (Test Na, unpackaged nonoperating thermal shock): -40...+85 °C (-40...+185 °F)
Relative humidity	IEC 60068-2-30 (Test Db, unpackaged nonoperating damp heat): 5...95% non-condensing
Vibration	IEC60068-2-6 (Test Fc, operating): 5g @ 10...500Hz
Shock, operating	IEC60068-2-27 (Test Ea, unpackaged shock): 30g
Shock, nonoperating	IEC60068-2-27 (Test Ea, unpackaged shock): 50g
Emissions	IEC 61000-6-4
ESD immunity	EC 61000-4-2: 4kV contact discharges 8kV air discharges
Radiated RF immunity	IEC 61000-4-3: 10V/m with 1 kHz sine-wave 80% AM from 80...6000 MHz
Conducted RF immunity	IEC 61000-4-6: 10V rms with 1 kHz sine-wave 80%AM from 150 kHz...30 MHz
EFT/B immunity	IEC 61000-4-4: ±2 kV at 5 kHz on signal ports
Surge transient immunity	IEC 61000-4-5: ±2 kV line-earth (CM) on shielded ports
Enclosure type rating	None
Conductors Wire size	22...12AWG (0.34 mm ² ...2.5 mm ²) stranded copper wire rated at 75 °C or higher 3/64 inch (1.2 mm) insulation maximum
Category ⁽¹⁾	2

(1) You use this category information for planning conductor routing as described in the Industrial Automation Wiring and Grounding Guidelines, Rockwell Automation publication [1770-4.1](#).