

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ALLEN-BRADLEY

1794-IE8

EIGHT-CHANNEL ANALOG INPUT MODULE

Used with the applicable FLEX I/O analog system configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: FLEX I/O High-Density Analog Modules User Manual, publication 1794-UM062

Module Default Values

Module Defaults for:		Factory Defaults		Real Time Size	
Catalog Number	Description	Input Default	Output Default	Input Default	Output Default
1794-OE4XT	4-pt Analog Output	1	14	0	4
1794-OE12	12-pt Analog Output	1	14	0	13
1794-IE4XOE2	4 in/2 out Analog Combo	5	10	4	2
1794-IE4XOE2XT	4 in/2 out Analog Combo	5	10	4	2
1794-IE8XOE4	8 in/4 out Analog Combo	9	6	8	5

Factory defaults are the values assigned by the adapter when you:

- first power up the system, and
- no previous stored settings have been applied.

For analog modules, the defaults reflect the actual number of input words/output words. For example, for the 8 input analog module, you have 9 input words, and 6 output words.

You can change the I/O data size for a module by reducing the number of words mapped into the adapter module, as shown in real time size.

Real time size is the setting that provides optimal real time data to the adapter module.

Analog modules have 15 words assigned to them. This is divided into inputs words and output words. You can reduce the I/O data size to fewer words to increase data transfer over the backplane. For example, an 8 input analog module has 9 words input and 6 words output with factory default. You can reduce the input words to 8 by not using the underrange settings set in Word 9. Likewise, you can reduce the write words to 0, thus eliminating the configuration setting and unused words.

For information on using DeviceNetManager software, refer to the DeviceNetManager Software help.

Chapter Summary

This chapter explained how to communicate with your module.

Input Specifications – 1794-IE8, 1794-IE8XT, 1794-IE12, 1794-IE4XOE2, 1794-IE4XOE2XT, 1794-IE8XOE4 Analog Input Modules

Specification	1794-IE12	1794-IE8XOE4	1794-IE8, 1794-IE8XT	1794-IE4XOE2, 1794-IE4XOE2XT
Input Impedance Voltage Terminal Current Terminal	> 1 M Ω < 100 Ω ⁽¹⁾		100 k Ω 238 Ω	
Absolute accuracy Voltage Terminal Current Terminal	0.1% Full scale @ 25 °C 0.1% Full scale @ 25 °C		0.29% Full scale @ 25 °C 0.29% Full scale @ 25 °C	
Accuracy Drift with Temperature Voltage Terminal Current Terminal	0.00428% Full scale/°C 0.00407% Full scale/°C			
Max overload	30V continuous or 32 mA continuous, one channel at a time			

⁽¹⁾ If 24V DC is removed from the module, input resistance is <100 Ω . This is also true at 0 mA current input, even if there is 24V DC. If there is an input current applied, input resistance is >1 M Ω .

Output Specifications

The following are output specifications for the FLEX I/O analog output and combination modules.

Output Specifications – 1794-OE4, 1794-OE4XT, 1794-OE12, 1794-IE4XOE2, 1794-IE4XOE2XT, 1794-IE8XOE4

Specification	1794-OE12	1794-IE8XOE4	1794-OE4, 1794-OE4XT	1794-IE4XOE2, 1794-IE4XOE2XT
Number of outputs	12 single-ended, non-isolated	4 single-ended, non-isolated		2 single-ended, non-isolated
Output voltage range, nom	±10V			
Output current, max	0...20 mA			
Voltage output current load, max	3 mA			
Voltage resolution	320 μV/cnt		2.56 μV/cnt	
Current resolution	0.641 μA/cnt		5.13 μA/cnt	
Absolute accuracy Voltage Terminal Current Terminal	0.1% Full scale @ 25% 0.1% Full scale @ 25%		0.133% Full scale @ 25% 0.425% Full scale @ 25%	
Accuracy Drift with Temperature Voltage Terminal Current Terminal	0.004% Full scale/° C 0.004% Full scale/° C		0.0045% Full scale/° C 0.0069% Full scale/° C	
Resistive load, mA output	0...750 Ω @ 24V DC		15...750 Ω @ 24V DC	

General Specifications

The following are general specifications common to all the FLEX I/O analog modules in this publication.

Output Specifications – 1794-OE4, 1794-OE4XT, 1794-OE12, 1794-IE4XOE2, 1794-IE4XOE2XT, 1794-IE8XOE4

Specification	1794-IE12, 1794-OE12, 1794-IE8XOE4	1794-IE8, 1794-IE8XT, 1794-OE4, 1794-OE4XT, 1794-IE4XOE2, 1794-IE4XOE2XT
Module location	1794-TB3G 1794-TB3GS	1794-TB2 1794-TB3 1794-TB3S 1794-TB3T 1794-TB3TS For 1794-OE4, 1794-OE4XT only 1794-TBN
Keyswitch position	1794-IE12 3 1794-OE12 4 1794-IE8XOE4 5	1794-IE8, 1794-IE8XT 3 1794-OE4, 1794-OE4XT 4 1794-IE4XOE2, 1794-IE4XOE2XT 5
Dimensions, approx. (HxWxD)	94.0 x 94.0 x 53.3 mm (3.7 x 3.7 x 2.1 in.)	45.7 x 94.0 x 53.3 mm (1.8 x 3.7 x 2.1 in.)
Calibration	None required	
Indicators	1 green/red power/status indicator	1 green power indicator
Data format	16 bit 2's complement, left justified	
External DC power supply, nom	24V DC	
External DC power supply, voltage range	10.0...31.2V DC (includes 5% AC ripple)	19.2...31.2V DC (includes 5% AC ripple)
External DC power supply, current	1794-IE12 30 mA @ 24V DC; 45 mA @ 10V DC 1794-OE12 320 mA @ 24V DC; 720 mA @ 10V DC 1794-IE8XOE4 140 mA @ 24V DC; 280 mA @ 10V DC	70 mA @ 24V DC 1794-IE8, 1794-IE8XT 60 mA @ 24V DC
FlexBus current	80 mA	70 mA 60 mA – For 1794-IE8, 1794-IE8XT only
Isolation voltage	50V continuous Tested at 850V DC for 60 s between user power to system No isolation between individual channels	50V continuous Tested @ 850V DC for 1 s between user power to system No isolation between individual channels