

Allen-Bradley 1756 Series Service Manual

1756-IF8

1. Description

Mfr. Part Number:

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Backplane	Current (24Volts) 40 mA
Power	Dissipation (Max) Voltage mode: 1.73 W Current mode: 2.33 W
Backplane	Current (5Volts) 150 mA
Module	Type Analog Input
Series	ControlLogix
Part	Number/Catalog No. 1756-IF8
Brand	Allen-Bradley
No.	of Inputs 8- channel Voltage / Current inputs
Conversion	Method Sigma-Delta
Data	format Integer mode (left justified, 2 s complement) IEEE 32-bit floating point
Input	signal Range -10...10V 0...10V 0...5V 0...20 mA
Input	Resolution $\pm 10.25V$: 320 μV /count (15 bits plus sign bipolar) 0...10.25V: 160 μV /count (16 bits) 0...5.125V: 80 μV /count (16 bits) 0...20.5mA: 0.32 μA /count (16 bits)
Inputs	2 high-speed differential, 4 differential, 8 single-ended
Input	Resolution (+/-) 10.25 Volts, 0-5.125 Volts, 0-10.25 Volts
Removeable	Terminal Blocks 1756-TBCH, 1756-TBS6H
Power	Consumption 1.73 Watts
UPC	10612598171795
UNSPSC	32151705 Description
The	Allen-Bradley 1756-IF8 is an analog input module from the ControlLogix Programmable Automation Con

3. Product Information

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Mfr. Part Number:

1756-IF8

Manufacturer: Allen-Bradley / Rockwell Automation

Description: Allen Bradley 1756-IF8 ControlLogix Analog Input Module Current/Voltage 8-Points

Full Description: Allen Bradley 1756-IF8 ControlLogix Analog Input Module, Current/Voltage, 8 Points (36 Pin) The Allen-Bradley 1756-IF8 is an analog input module from the ControlLogix product family. This module features Eight (8) single-ended, differential and Two high-speed differential input channels, configurable for +/-10VDC, 0-10VDC, 0-5VDC and 0-20 mA input signals with resolution of 15 bits for +/-10VDC and 16 bits for other signal types. Technical specifications for 1756-IF8

Manufacturer Rockwell Automation

Backplane Current (24Volts) 40 mA

Power Dissipation (Max) Voltage mode: 1.73 W Current mode: 2.33 W

Backplane Current (5Volts) 150 mA

Module Type Analog Input

Series ControlLogix

Part Number/Catalog No. 1756-IF8

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Inputs 2 high-speed differential, 4 differential, 8 single-ended

Input Resolution (+/-) 10.25 Volts, 0-5.125 Volts, 0-10.25 Volts

Removeable Terminal Blocks 1756-TBCH, 1756-TBS6H

Power Consumption 1.73 Watts

UPC 10612598171795

UNSPSC 32151705 Description

The Allen-Bradley 1756-IF8 is an analog input module from the ControlLogix Programmable Automation Controller (PAC) family. This analog input module features Eight (8) input channels that are configurable for a variety of input signals such as +/-10VDC, 0-10VDC and 0-5VDC Voltage signals and 0-20 mA Current signals. This module is typically used to interface analog signal generating instruments and devices such as transmitters, transducers, signal splitters, signal isolators, panel meters and other similarly capable devices. The 1756-IF8 is a single slot module with a high resolution of conversion. It has a 16-bit resolution, from 10-bit to 16-bit. Specific module resolution is $\pm 10.25V$: 320 μV /count (15 bits plus sign bipolar) for +/-10VDC, 160 μV /count (16 bits); for 0-10VDC, 80 μV /count (16 bits); for 0-5VDC and 0...20.5mA: 0.32 μA /count (16 bits) for 0-20 mA signals.

There is virtually no limit to the number of installation instances of this module. Most ControlLogix controllers are capable of up to 4000 analog I/O signals. The 1756-IF8 may be installed in the local chassis along the controller or within distributed I/O racks.

The 1756-IF8 used the Sigma-Delta conversion method and saves received signal in Integer mode (left justified, 2 s complement) IEEE 32-bit floating point register. It uses 1756-TBCH and 1756-TBSH removable terminal block (RTB) with user defined, mechanical keying.

The module scan time also varies depending on the wiring configuration. For single ended wiring, scan time is 16-488 ms, for 4 point differential, scan time is 8-244 ms while 5-122 ms for 2 point differential inputs.

The 1756-IF8 can be wired in three different ways: single-ended wiring, differential wiring, and high-speed mode differential wiring. In single-ended wiring, all the input devices are tied to a common ground and it allows the comparison of one side of the signal input to the signal ground. The difference is then used by the module in generating digital data for the controller. Using the single-ended wiring method maximizes the number of the module's usable channels. You should use differential wiring when your applications can have separate signal pairs or common ground is unavailable and when you need improved noise immunity in your environment. Channels in this wiring method are not totally isolated from each other. But when you need the fastest data updates possible, you should use the high-speed mode differential wiring method. Note that this mode only allows the use of one out of every four channels on the module. Specific features of the 1756-IF8 include the module filter, under-range/over-range detection, process alarms, wire off detection, multiple input ranges, real-time sampling, digital filter, and rate alarms. Its backplane voltage and current ratings are 5.1 Volts DC, 150 milliamps maximum, 24 Volts DC, and 40 milliamps maximum. It has an input current range of 4 to 20 milliamps and an input voltage range of -10 to 10 Volts. Power consumption is 1.73 Watts and the maximum overvoltage protection is 30 Volts DC (voltage) and 8 Volts DC (current).

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