

Allen-Bradley 1756 Series Service Manual

1756-OF6VI

1. Description

Mfr. Part Number:

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Brand	Allen-Bradley
Part	Number/Catalog No. 1756-OF6VI
Series	ControlLogix
Series	ControlLogix
Module	Type Voltage loop Analog output Module
Module	Type Isolated Analog Output Module with voltage loop
No.	of output Six (6) individually isolated channels
Outputs	6-Point Isolated
Output	signal Voltage: +/-10VDC
Backplane	Current (5Volts) 250 milliamps
Resolution	14 bits across 21V (1.3 mV); 13 bits across 10.5V +sign bit
Backplane	Current (24 Volts) 175 milliamps
Accuracy	0.5% of range
Power	Dissipation (Max) 4.9 Watts at 60 Celsius
Data	Format: Integer mode (left justified, 2 s complement) IEEE 32-bit floating point
Removable	Terminal Blocks 1756-TBNH, 1756-TBSH
Output	conversion method R-Ladder DAC, monotonicity with no missing codes
Removable	terminal block 1756-TBCH; 1756-TBSH
Current	Draw 250 mA @ 5.1 VDC and 175 mA @ 24 VDC
Open	circuit detection time None
Removeable	Terminal Block(s) 1756-TBNH, 1756-TBSH
Overvoltage	protection, max +/- 24 VDC
Isol	

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3. Product Information

Mfr. Part Number:

1756-OF6VI

Manufacturer: Allen-Bradley / Rockwell Automation

Description: Allen-Bradley 1756-OF6VI ControlLogix Isolated Analog Output Voltage Module 6-Pt

Full Description: Allen-Bradley 1756-OF6VI ControlLogix Isolated Analog Output Module, Voltage, 6 Points (20 Pin). Number of Outputs: 6 individually isolated, voltage; Resolution: 14 bits across 21V (1.3 mV); Removable Terminal Block Housing: 1756-TBNH or 1756-TBSH. The module supports On-board data alarming, Scaling to engineering units, Real-time channel sampling, Integer mode IEEE 32-bit floating point data format. The 1756-OF6VI is an analog output module that is part of Allen-Bradley's Logix controller platform. This module features Six (6) individually isolated voltage output channels. Each channel has a voltage output range of +/- 10 VDC with a resolution of 14 bits across 21V (1.3 mV) and 13 bits across 10.5V + sign bit. This module has a backplane current draw of 250 mA @ 5.1 VDC and 175mA @ 24 Technical specifications for 1756-OF6VI

Manufacturer Rockwell Automation

Brand Allen-Bradley

Part Number/Catalog No. 1756-OF6VI

Series ControlLogix

Series ControlLogix

Module Type Voltage loop Analog output Module

Module Type Isolated Analog Output Module with voltage loop

No. of output Six (6) individually isolated channels

Outputs 6-Point Isolated

Output signal Voltage: +/-10VDC

Backplane Current (5Volts) 250 milliamps

Resolution 14 bits across 21V (1.3 mV); 13 bits across 10.5V +sign bit

Backplane Current (24 Volts) 175 milliamps

Accuracy 0.5% of range

Power Dissipation (Max) 4.9 Watts at 60 Celsius

Data Format: Integer mode (left justified, 2 s complement) IEEE 32-bit floating point

Removable Terminal Blocks 1756-TBNH, 1756-TBSH

Output conversion method R-Ladder DAC, monotonicity with no missing codes

Removable terminal block 1756-TBCH; 1756-TBSH

Current Draw 250 mA @ 5.1 VDC and 175 mA @ 24 VDC

Open circuit detection time None

Removeable Terminal Block(s) 1756-TBNH, 1756-TBSH

Overvoltage protection, max +/- 24 VDC

Isolation Voltage 50 Volts Continuous

Short circuit protection Electronically current limited

Enclosure None

UPC 10612598164667Description

The Allen-Bradley 1756-OF6VI is a voltage loop analog output module that is part of the ControlLogix controller platform. This module occupies a single slot of the chassis which can be mounted to any available slot of the backplane. It may also be used as a local I/O module or a component module of a distributed I/O architecture. The 1756-OF6VI comes with Six (6) individually isolated voltage output channels capable of generating +/- 10 VDC output signals. It has an output resolution of 14 bits across 21V (1.3 mV) and 13 bits across 10.5V +sign bit. The module's current draw is 250 mA @ 5.1 VDC and 175 mA @ 24 VDC while the total backplane power consumption of the module is 5.5 Watts. The 1756-OF6VI has overvoltage protection rated at 24 VDC and electronic short circuit protection. This module can drive loads rated > 1000 Ω loads, 10 mA. The module's output settling time is < 2 ms to 95% of the final value with resistive loads while the calibrated accuracy is better than 0.1% of the output range. The module is recommended to be calibrated every Six (6) months with an offset drift of 60 μ V/ $^{\circ}$ C typical while the module error is 0.5% of range and maximum module scan time 25 ms floating-point or 10 ms for integer data format. The 1756-OF6VI comes with internal Digital to Analog Converter (DAC) circuit utilizing the R-Ladder type. It converts data into Integer mode (left-justified, 2 s complement) IEEE 32-bit floating-point type.

The 1756-OF6VI ControlLogix Voltage Loop Output Analog module by Allen-Bradley is a ControlLogix chassis slot fitted analog output module with 6 individually-isolated outputs. It has a selectable signal range with an overall output range of +/- 10.5V and a signal resolution of 14 bits across 21V. It has a backplane draw current of 175mA at 24V DC and of 250mA at 5.1V DC and it has a maximum backplane power of 5.5W. The 1756-OF6VI has a thermal dissipation of 16.54 BTU/hr with 4.85W power dissipation and a 1 Ohm output impedance. It does not come with an open circuit detection but offers overvoltage protection at 24V DC, and electronic current-limited short-circuit protection. The 1756-OF6VI has a drive capability of loads at 10mA, and a <2ms settling time. The 1756-OF6VI has a calibration accuracy far better than 0.1% of its range and requires re-calibration only after 6 months. The module has a maximum gain drift of 80 ppm/ deg C, and it has a standard offset drift of 60 V per deg. C. The 1756-OF6VI has an overall module error margin of 0.5% and it has a module scan time of 25ms for floating point, and 10ms for integer. It has an isolation voltage of 250V with basic insulation, tested at 1350V AC for 2s, between output channels-to-backplane, and output channel-to-channel. It has the T4A North America Designated temperature code and an IEC T4 temperature code and comes in an open-style enclosure. The 1756-OF6VI has a functional temperature range between 0 and 60 deg. C at 5-95% non-condensing humidity environment and it is designed to withstand an operational shock of 30G with a vibration of 2G at 10-500Hz.