

Allen-Bradley 1769 Series Service Manual

1769-OF8V

1. Description

The Allen-Bradley 1769-OF8V is Programmable Controller module that is part of the compact I/O series. This module is an analog output module that features Eight (8) channels configurable for $\pm 10V$ dc, 0 to 10V dc, 0 to 5V dc and 1 to 5V dc Voltage output. It is compatible for use with CompactLogix and MicroLogix controllers.

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation / Allen-Bradley
Product	Family: Compact I/O modules
Product	Type: Analog Output Module
No.	of Outputs: Eight (8) Single Ended
Compatible	Controllers: MicroLogix 1500; CompactLogix
Power	Supply Distance rating: 8
Analog	Ranges: $\pm 10V$ dc, 0 to 10V dc, 0 to 5V dc, 1 to 5V dc
Full	scale analog ranges: $\pm 10.5V$ dc, -0.5 to 10.5V dc, -0.5 to 5.25V dc, 0.5 to 5.25V dc
Analog	data format: Raw / Proportional data, Engineering unit, Scaled for PID and Percent full range.
Bus	Current Draw (max.): 5V DC, 145 mA 24V DC, 135 mA
Conversion	rate: 5 ms
Digital	resolution: 16 bits plus sign (bipolar) $\pm 10V$ DC: 15.89 bits, 330 ?V/bit 0...10V DC: 14.89 bits, 330 ?V/bit 0...5V DC: 13.89 bits, 330 ?V/bit 1...5V DC: 13.57 bits, 330 ?V/bit
Calibration:	None required (guaranteed by hardware design)
Overall	accuracy: $\pm 0.5\%$ full scale @ 25 °C (77 °F)
Slot	width: 1
Brand	Allen-Bradley
Part	Number/Catalog No. 1769-OF8V
Product	Line CompactLogix
Module	Type Analog Voltage Output Module
Inpu	

3. Product Information

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Technical specifications for 1769-OF8V

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Brand Allen-Bradley

Part Number/Catalog No. 1769-OF8V

Product Line CompactLogix

Module Type Analog Voltage Output Module

Input Type Output Voltage

Communication Cable 8 Point

Shipping Weight 2 lbs.

Shipping Dimensions 8 x 8 x 5 in.

Series A and B

Outputs 8 Single-Ended

Output Range 0-10 Volts

Enclosure Open

Wire Type Copper-90?

Solid Wire Size 22?14 AWG

Stranded Wire Size 22?16 AWG

UPC 10662468861387 Description

Eight (8) Single ended Voltage outputs are available in the module. It only has a single group of outputs with resolution of 16 bits plus sign (bipolar) $\pm 10V$ DC: 15.89 bits, 330 ?V/bit 0...10V DC: 14.89 bits, 330 ?V/bit 0...5V DC: 13.89 bits, 330 ?V/bit 1...5V DC: 13.57 bits, 330 ?V/bit .

Single ended wiring are more susceptible to noise and electrical disturbance than differential wiring. Ensure that proper module and signal grounding is implemented to be able to obtain accurate readings. The 1769-OF8V has modules series A and B. Series A does not allow the use of an external power supply while series B module allows external 24VDC power. The module operates by converting the binary data residing at the CPU's memory registers. The analog output captures the data and converts to analog format with the internal Digital to Analog Converter (DAC). Data formats available are Raw / Proportional data, Engineering unit, Scaled for PID and Percent full range.

The Allen-Bradley 1769-OF8V compact I/O is a compact output module with eight single-ended outputs and an output voltage range between 0 to 10V. It is an output module with about 10V DC and 15.89 bits at a 330 ?V/bit resolution. The 1769-OF8V draws a current of 145mA at 5.1V and dissipates heat at 2.1W. It has a maximum conversion rate of 5.0ms and a 63% step response at 2.1ms. The 1769-OF8V module has a resistance output load of more than $> 1\text{ k?}$ at 10V dc. The 1769-OF8V compact I/O compact module can maintain a capacitive load of up to 17F and requires no field calibration. It is a device with a $\pm 0.5\%$ full scale at 77 degree Fahrenheit accuracy and a $\pm 0.8\%$ margin module error. The 1769-OF8V has an offset error margin of $\pm 0.05\%$ at an impedance of less than 1?. It offers short-circuit protection for up to 30mA as well as protection from excess voltage. The 1769-OF8V module has a powerup time of less than 5ms, and when it is operational, it has a rated voltage of 30V DC. Its dimensions are 4.65 x 1.38 x 3.43 in. and it weighs about 0.58 lb. It is a special compact module with a power supply rating across 8 modules with a copper wire. About 1769-OF8V

The Allen-Bradley/Rockwell Automation output module with the product code 1769-OF8V is a compact output component which operates in an analog manner. The 1769-OF8V module features over-range/under-range channel diagnostics and it has a "Module OK" LED indicator for showing its operating status. The 1769-OF8V module has an output impedance of less than 1 Ohm and a maximum short-circuit current of 30 milliamps. The module has protection from open circuit and short-circuit situations along with output overvoltage protection. The 1769-OF8V module has 30 Volts AC and 30 Volts DC rated working voltage levels and 500 Volts AC and 710 Volts DC output group to bus isolation ratings for the duration of 1 minute. The 1769-OF8V module has an output ripple of $\pm 0.05\%$ and an accuracy drift with a temperature of $\pm 0.0086\%$ FS per degree Celsius.

The 1769-OF8V module features a heat dissipation rating of 2.16 Watts and a maximum bus current draw of 145 milliamps at 5 Volts DC and 125 milliamps at 24 Volts DC. The module features a normal analog operating range of ± 10 Volts DC and a full-scale analog range of ± 10.5 Volts DC. The module has 8 available single-ended outputs and it features 16 bits plus sign (bipolar) digital resolution across the full range. The maximum conversion rate for all channels is 5 milliseconds and the stop response to 63% is less than 2.9 milliseconds. In addition to that, the current load output is maximum 10 milliamps and the load range output is less than 1 kilohms at 10 Volts DC. The overall accuracy of the 1769-OF8V output module has $\pm 0.5\%$ full scale overall accuracy at a temperature of 25 degrees Celsius (77 degrees Fahrenheit).

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