

Allen-Bradley 1769 Series Service Manual

1769-IF16V

1. Description

The 1769-IF16V is an analog input module that is part of Allen-Bradley's Compact I/O modules. This module features Sixteen (16) single-ended voltage input channels, generating $\pm 10V$, 0-10V, 0-5V, and 1-5V. This module has an output resolution of 16 bits for unipolar and 15 bits for bipolar configuration. The 1769-IF16V is an analog input module that is part of Allen-Bradley's Compact I/O Technical specifications for 1769-IF16V

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Manufacturer:	Rockwell Automation / Allen-Bradley
Manufacturer	Rockwell Automation
Brand	Allen-Bradley
Part	Number/Catalog No. 1769-IF16V
Brand	Allen-Bradley
Part	Number/Catalog No. 1769-IF16V
Product	Family: Compact I/O
Series	Compact I/O
Product	Line CompactLogix
No.	of Inputs: 16 Single Ended Inputs
Module	Type Analog input Module
Module	Type 16 Point Analog Voltage Input Module
Power	Supply Distance rating: 8
No.	of input Sixteen (16) channels
Input	Type Analog Input
Input	signal voltage range: $\pm 10.5V$ DC, -0.5...10.5V DC, -0.5...5.25V DC, 0.5...5.25V DC
Wiring	configuration Single-ended
Voltage	signal normal ranges: $\pm 10V$ DC, 0 -10V DC, 0-5V DC, and 1-5V DC
Input	signals $\pm 10V$, 0-10V, 0-5V and 1-5V.
Communication	Cable 16 Point
Compatible	Controllers: MicroLogix 1500, CompactLogix
Resolution	16 bits (unipolar); 15-bits (bipolar)
Shipping	Weight 2 lbs.
Resolution:	16 bits (unipolar) 15 bits plus sign (bipolar)
Accuracy	$\pm 0.35\%$ full scale @ 25 °C (77 °F)
Shipp	

3. Product Information

The 1769-IF16V is an analog input module that is part of Allen-Bradley's Compact I/O modules. This module features Sixteen (16) single-ended voltage input channels, generating $\pm 10\text{V}$, 0-10V, 0-5V, and 1-5V. This module has an output resolution of 16 bits for unipolar and 15 bits for bipolar configuration. The 1769-IF16V is an analog input module that is part of Allen-Bradley's Compact I/O Technical specifications for 1769-IF16V

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Product Family: Compact I/O

Series Compact I/O

Product Line CompactLogix

No. of Inputs: 16 Single Ended Inputs

Module Type Analog input Module

Module Type 16 Point Analog Voltage Input Module

Power Supply Distance rating: 8

No. of input Sixteen (16) channels

Input Type Analog Input

Input signal voltage range: $\pm 10.5\text{V DC}$, $-0.5\text{...}10.5\text{V DC}$, $-0.5\text{...}5.25\text{V DC}$, $0.5\text{...}5.25\text{V DC}$

Wiring configuration Single-ended

Voltage signal normal ranges: $\pm 10\text{V DC}$, 0 -10V DC, 0-5V DC, and 1-5V DC

Input signals $\pm 10\text{V}$, 0-10V, 0-5V and 1-5V.

Communication Cable 16 Point

Compatible Controllers: MicroLogix 1500; CompactLogix

Resolution 16 bits (unipolar); 15-bits (bipolar)

Shipping Weight 2 lbs.

Resolution: 16 bits (unipolar) 15 bits plus sign (bipolar)

Accuracy $\pm 0.35\%$ full scale @ 25°C (77°F)

Shipping Dimensions 8 x 8 x 5 in.

Channel Diagnostics: Over- or under-range by bit reporting, process alarms

Analog to Digital Converter (ADC) Sigma-Delta

Series A and B

Slot width: 1

Power supply distance rating Eight (8)

Enclosure Type Open

Recommended cable: Belden™ 8761 (shielded)

Module location DIN rail or panel mount

Backplane Current 1.4 Amps at 24 Volts

Dimension: 118 mm (height) x 87 mm (depth) x 35 mm (width) [52.5 mm (width) for 1769-IF8] Height including mounting tabs is 138 mm 4.65 in (height) x 3.43 in (depth) x 1.38 in (width) [2.07 in (width) for 1769-IF8] Height including mounting tabs is 5.43 in

Power supply 1769-PA2, 1769-PB2, 1769-PA4, and 1769-PB4

Power Consumption 33.6 Watts

Removable terminal block 1756-TBCH; 1756-TBSH

Power Dissipation 7.5 Watts

Current Draw 190 mA @ 5.1 VDC; 70 mA @ 24 VDC

UPC 10612598626790 Description

The 1769-IF16V is a Compact I/O module from Allen-Bradley. This module is specifically an analog input module that is designed to accept a variety of input voltage signals such as $\pm 10\text{V}$, 0-10V, 0-5V, and 1-5V. This module features an integrated Analog to Digital Converter (ADC utilizing the Sigma-Delta method for digital conversion of the received input signal with 16-bit resolution at unipolar conversion and 15-bit resolution at bipolar configuration. The 1769-IF16V comes with single-ended channels. It accepts input signal ranges of $\pm 10.5\text{V}$, -0.5 to 10.5V , -0.5 to 5.25V and $0.5\text{...}5.25\text{V}$ voltage range. This module has a current draw of 190 mA at 5.1 VDC and 70 mA at 24 VDC with heat dissipation of 2.4 Watts. The 1769-IF16V has calibrated accuracy of $\pm 0.35\%$ full scale @ 25°C (77°F); Accuracy drift with a temperature of $\pm 0.03\%$ per $^\circ\text{C}$; Nonlinearity of $\pm 0.03\%$; Repeatability at $\pm 0.06\%$ and module error of 1.0%. The 1769-IF16V is mounted to a DIN rail or directly enclosure subpanel and connected to the CompactLogix bus through the bus connectors pin at the side of the module that directly couples to the adjacent module. Ensure that the pins are aligned and connected to the adjacent module to maintain bus connectivity and continuity. This module has a power supply distance rating of Eight (8) and is compatible with 1769-PA2, 1769-PB2, 1769-PA4, and 1769-PB4 power supplies.

The 1769-IF16V compact density analog input module by Allen-Bradley is an input I/O module in the compact I/O series. It has 16 single-ended inputs with a Sigma Delta modulator with 16/15 bit Unipolar/bi-polar resolution and a configuration-dependent channel response time. It has a common offset voltage range of ± 10 Volts DC per channel, with 60 dB at 50 to 60 Hertz common rejection mode and an operational input impedance of 1 Megahertz. The 1769-IF16V has an overall accuracy of 0.35% at 25 degrees Celsius (77 degrees Fahrenheit) for 16 Hertz, 50 Hertz, and 60 Hertz selectable filters and a drift accuracy of $\pm 0.003\%$ per degrees Celsius at each terminal. The 1769-IF16V has an input linearity of $\pm 0.003\%$

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0.03% and a repeatability of +/- 0.06% for a 16 Hertz filter. It has a module error of 1.0% for 16 Hertz, 50 Hertz, and 60 Hertz filters at 0 to 60 degrees Celsius (32 to 140 degrees Fahrenheit) temperature limits and a maximum load ± 30 Volts DC with 0.03 mA at the terminal. The 1769-IF16V compact density analog input module has an isolation voltage of 30 Volts DC with reinforced insulation, tested at 710 Volts DC for 1 minute between input groups and BUS isolation. It can operate at a temperature range of around 0 to 60 degrees Celsius (32 to 140 degrees Fahrenheit) at 5 to 95% non-condensing relative humidity and at an altitude of 2000 meters (6561 feet) without de-rating. It has a color indicator light for displaying fault status and a power dissipation of 2.4W around an open-style enclosure. It weighs approximately 281g (0.62 pounds) and measures 118 x 87 x 35 millimeters (4.65 x 3.43 x 1.38 inches). 1769IF16V Allen Bradley INPUT MODULE AB Rockwell Automation

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