

Allen-Bradley 1769 Series Service Manual

1769-IA16

1. Description

The Allen-Bradley 1769-IA16 is a Compact I/O module with Sixteen (16) AC input channels operating at voltage range of 79-132 VAC. This module is compatible for use with a 1769 CompactLogix chassis or MicroLogix 1500. Technical specifications for 1769-IA16

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation /Allen-Bradley
Brand	Allen-Bradley
Part	Number/Catalog No. 1769-IA16
Product	Type: Discrete Input Module
Product	Line CompactLogix
Module	Type 16 Channel Input Module
Compatible	Controllers: MicroLogix 1500; 1769 CompactLogix
Input	Type Analog Input
Input	Voltage: 100/120 VAC
Operating	Voltage: 79 to 132V AC
Communication	Cable 16 Point
Input	Frequency: 47 - 63 Hz
Shipping	Weight 2 pounds
No.	of Inputs: 16
Shipping	Dimensions 8x8x5 inches
Input	delay, On: 20 ms
Series	A and B
Enclosure	Type Open
Current	Draw @ 5.1Vdc: 115 mA
Backplane	Current 1.4 Amps at 24 Volts
Heat	Dissipation: 3.3 W
Power	Consumption 33.6 Watts
Off	state voltage, min: 20 VAC
Power	Dissipation 7.5 Watts
On	state voltage, min: 79 VAC
Slot	width: 1
Voltage	Category 100 to 102 Volts AC
Wire	size: (22...14 AWG) solid or (22...16 AWG)
UPC	10662468992807
Wire	type: Cu-90 °C (194 °F)
UNSPSC	32151705
Dimension:	118 x 35 x 87 mm (4.65 x 1.38 x 3.43 in.) Height with mounting tabs 138 mm (5.43 in.)

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Part Number/Catalog No. 1769-IA16

Product Type: Discrete Input Module

Product Line CompactLogix

Module Type 16 Channel Input Module

Compatible Controllers: MicroLogix 1500; 1769 CompactLogix

Input Type Analog Input

Input Voltage: 100/120 VAC

Operating Voltage: 79 to 132V AC

Communication Cable 16 Point

Input Frequency: 47 - 63 Hz

Shipping Weight 2 pounds

No. of Inputs: 16

Shipping Dimensions 8x8x5 inches

Input delay, On: 20 ms

Series A and B

Enclosure Type Open

Current Draw @ 5.1Vdc: 115 mA

Backplane Current 1.4 Amps at 24 Volts

Heat Dissipation: 3.3 W

Power Consumption 33.6 Watts

Off state voltage, max: 20 VAC

Power Dissipation 7.5 Watts

On state voltage, min: 79 VAC

Slot width: 1

Voltage Category 100 to 102 Volts AC

Wire size: (22...14 AWG) solid or (22...16 AWG) stranded

UPC 10662468992807

Wire type: Cu-90 °C (194 °F)

UNSPSC 32151705

Dimension: 118 x 35 x 87 mm (4.65 x 1.38 x 3.43 in.) Height with mounting tabs 138 mm (5.43 in.) Current Draw @ 5.14Vdc: 425 mA Description

The Allen-Bradley 1769-IA16 is a CompactLogix module, each channel operating at 120 Volt AC. It has Sixteen (16) points functioning as digital input module. The channels present in this module form a single group and have internally-connected commons. The 1769-IA16 has a voltage category of 100 to 120 Volts AC and an operating voltage range of 79 to 132 Volts AC, with a line frequency of 47 to 63 Hertz. When in an off-state, this module has a maximum current of 2.5 mA and a maximum voltage of 20 Volts AC. During an on-state, the module's minimum voltage is 79 Volts AC, the minimum current is 5 mA at 74 Volts AC, and the maximum current is 12 mA at 120 Volts AC. The maximum input impedance of the 1769-IA16 module is 12 kOhms at 50 Hertz and 10 kOhms at 60 Hertz, while its maximum inrush current is 250 mA. This module also has a maximum heat dissipation of 3.3 Watts, thermal dissipation of 2.7 BTU/hour, and a current draw of 115 mA at 5.1 Volts. The input delays of this module are 20 ms for both the On and the Off states. The 1769-IA16 is an AC Digital I/O module requires a removable terminal block. This terminal block provide connections to I/O sensors and actuators. It is equipped with finger-safe covers. The I/O wiring for 1769-IA16 can be configured from beneath the module out to the I/O terminals. The removable terminal blocks ease this wiring process. The power supply distance rating of the 1769-IA16 module is 8 modules and the compatible power supply modules are the 1769-PA2, the 1769-PB2, the 1769-PA4, and the 1769-PB4. It comes with an open-style enclosure type rating and it is mounted using a panel mount or DIN rail mount. The approximate dimensions are 4.65 x 1.38 x 3.43 inches the module's weight is 0.61 pounds or 280 grams. Note that the height of this module increases to 5.43 inches when used with mounting tabs. The 1769-IA16 is also an electronically-protected module.

The Allen-Bradley 1769-IA16 is a 1769 Compact I/O module that is used with 1769 CompactLogix controllers and MicroLogix 1500 controllers. This discrete input interface module features a single group with internally connected commons, composed of Sixteen (16) 100-120 VAC input channels. This module is primarily used to interface with field devices that operate in binary or ON/OFF mode such as switches, auxiliary contacts, sensors and other devices that generate or may pass through an AC signal. The 1769-IA16 is compatible for with MicroLogix 1500 and CompactLogix controllers systems.

When configured in CompactLogix system, the power supply distance rating of the module must be observed. For the 1769-IA16, the power supply distance rating is Eight (8). If more than 8 modules are required, the module positioned outside the power supply distance rating must be installed after an additional system power supply or to a CompactLogix I/O bank. In a MicroLogix 1500 controller, the module is installed after the base module or to any adjacent module.

Compatible power supply for the 1769-IA16 includes 1769-PA2, 1769-PB2, 1769-PA4 and 1769-PB4. The module's on state voltage is 79V AC. The catalog number 1769-IA16 is an order reference for a CompactLogix series I/O module that has been designed and manufactured by Allen-Bradley/Rockwell Automation. The unit comes with a built-in removable terminal block and it features a rugged construction that is designed for use in industrial environment. Additionally, the 1769-IA16 module has patented bus connector and optically-isolated digital and field circuits. The module has an operating temperature range of 0 to 60 degrees Celsius (32 to 140 degrees Fahrenheit) and its specified storage temperature range is -40 to 85 degrees Celsius (-40 to 185 degrees Fahrenheit).

The 1769-IA16 module features 16 inputs with internally connected commons. This component operates on power sources with a 100/120 Volts AC voltage rating and it has an operating voltage range of 79 to 132 Volts AC. The operating frequency is 47 to 63 Hertz. The 1769-IA16 module has 20 milliseconds of rated input delay for both the on and off

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states. The module has a current draw of 115 milliamps at 5.1 Volts. The maximum heat dissipation is 3.30 Watts. In addition to that, the 1769-IA16 module has a maximum off-state voltage of 20 Volts AC and the maximum off-state current is 2.5 milliamps. The module has a minimum on-state voltage of 79 Volts AC and minimum on-state current of 5 milliamps at 74 Volts AC. Additionally, the module has a maximum on-state current is 12 milliamps at 120 Volts AC. The maximum inrush current is 250 milliamps and the maximum input impedance is 12 kilohms at 50 Hertz and 10 kilohms at 60 Hertz.

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