

Allen-Bradley 1746 1747 Series Service Manual

1746-IB16

1. Description

The Allen-Bradley 1746-IB16 is an SLC500 module that features Sixteen (16) Discrete sinking input channels. It has One (1) group of input channels and operates at nominal signal voltage of 24VDC with operating voltage range of 10-30VDC. It is compatible for use with any SLC500 chassis. Technical specifications for 1746-IB16

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Module	Type Digital DC Sinking Input
Series	SLC 500
Part	Number/Catalog No. 1746-IB16
Brand	Allen-Bradley
No.	of Inputs 16; Sinking input
Input	Voltage 24 Volts DC
Input	Voltage range 10-30VDC
Input	Current, nominal 8mA @24VDC
Signal	Delay, ON transition 8 ms
Backplane	Current 0.050 A
Thermal	Dissipation per channel .20 Watts
OFF	State voltage, max 5.0V DC
OFF	state current, max 1 mA
Voltage	Range 10-30 Volts DC Sink
Inputs	16
Backplane	Current (5 Volts DC) 85 milliamps
Signal	delay 8 milliseconds
Off	State Current 1 milliamps
Applications	General Purpose DC Inputs
I/O	Connection 1746-HT and 1746-HCA
Step	Response 100 milliseconds in, 2.5 milliseconds out
UPC	1746-IB16-001
UNSPSC	32151705Description
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3. Product Information

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Applications General Purpose DC Inputs

I/O Connection 1746-HT and 1746-HCA

Step Response 100 milliseconds in, 2.5 milliseconds out

UPC 10662468067048

UNSPSC 32151705Description

The Allen-Bradley 1746-IB16 is a medium density DC input module that is used to interface with signal devices that delivers a signal voltage range of 10-30VDC towards each of the input channel of the module. This module features Sixteen (16) input channels, rated for nominal input voltage of 24VDC, grouped into One (1) input group, having a single common terminal. This input module is mounted to any available I/O slot of the 1746-Chassis and draws backplane current of 0.05 A @ 5VDC.

The 1746-IB16 supports sinking wiring configuration only. It can be used to interface with a number of components such as switches including limit, proximity, pushbutton devices as well as auxiliary contacts of relays, contactors and other electronic devices. Each of the input channels of the 1746-IB16 exhibits a common signal delay duration of 8 ms for both On and OFF transitions, with maximum OFF-state voltage of 5VDC and maximum OFF-state current of 1 mA while the module's nominal input current is 8 mA @ 24VDC.

The number of installation instances of the 1746-IB16 varies according to the SLC500 CPU installed. Specifically, depending on the number of I/O supported by the CPU memory. This module may also be installed locally, along the rack where the SLC 500 CPU is installed or in a Distribute I/O chassis, along a 1746 Communication adapter such as Remote I/O (RIO) and Ethernet adapter modules. This module comes with status LED indicators that provided indications to the actuation of each of the input channels for simplified monitoring and troubleshooting. It also has a Removable Terminal Block that enables ease of termination and module replacement.

The 1746-IB16 has a maximum signal delay time of 8ms for both ON and OFF transitions while the module's maximum drop voltage of 5V DC in the OFF state. It has a maximum leakage current of 1mA and has a nominal input current of 8mA at 24V DC across the entire module.

The 1746-IB16 has a net heat dissipation of 0.22W on each input point and a total heat dissipation on the entire module is 3.6W. Its operating temperature ranges between 0 and 60 °C (32 and 140 °F) in a surrounding with 5-95% relative humidity, and when not in use, should be stored at a temperature range between -40 and 85 °C (-40 and 185 °F). The 1746-IB16 has a tested operational shock rating of 30G and is designed to withstand an operational vibration of 2.5G at 57-200 Hz operational frequency. It has a NEMA standard ICS 2-230 rated noise immunity and is UL-A196, CSA, and C-UL Class I, Division 2 Hazardous Environment-rated. It offers Electro-optical isolation tested at 1500V, between input terminals and control logic, and is UL, CSA, and CE-certified.

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