

Allen-Bradley 1746 1747 Series Service Manual

1746-IA16

1. Description

The Allen-Bradley 1746-IA16 is a SLC 500 Digital AC Input Module. This Digital AC Input Module has Sixteen (16) input channels with a voltage range of 85-132 Volts AC. This module occupies single slot of the SLC 500 chassis. Technical specifications for 1746-IA16

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Brand	Allen-Bradley
Part	Number/Catalog No. 1746-IA16
Series	SLC 500
Module	Type Digital AC Input Module
Voltage	Range 85-132 Volts AC
Backplane	Current (5 Volts DC) 85 milliamps
Inputs	16
Signal	delay 35 or 45 milliseconds
Off	State Current 2 milliamps
Backplane	Current (5 Volts DC) 85 milliamps
Slots	1
Signal	delay, ON 35 ms
I/O	Connection 1746-HT and 1746-HCA
Signal	Delay, OFF 45 milliseconds
Step	Response 100 milliseconds in, 2.5 milliseconds out
UPC	10662468067086
OFF	state Voltage, max 50V AC Description
The	Allen-Bradley 1746-IA16 is an AC input module compatible for use as component of SLC 500 controller platform. This input module has Sixteen (16) channels that accepts AC signal voltage range of 85-132 VAC.

3. Product Information

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Inputs 16

Signal delay 35 or 45 milliseconds

Off State Current 2 milliamps

Backplane Current (5 Volts DC) 85 milliamps

Slots 1

Signal delay, ON 35 ms

I/O Connection 1746-HT and 1746-HCA

Signal Delay, OFF 45 milliseconds

Step Response 100 milliseconds in, 2.5 milliseconds out

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OFF state Voltage, max 50V AC Description

The Allen-Bradley 1746-IA16 is an AC input module compatible for use as component of SLC 500 controller platform. This input module has Sixteen (16) channels that accepts AC signal voltage range of 85-132 VAC.

Input modules are necessary components of any Programmable Logic Controller (PLC) as it provides real-time interface to discrete devices in the process. It represents the actual state of signaling devices for reference of the controller for processing the logic. Most PLC systems perform Input scan as the primary phase for executing a user program. If input signals are not detected, the controller will have no reference for executing the program.

This AC input module has Twenty (20) terminals. All terminals are used with terminals 18 and 19 serving as internally connected commons. The terminal block of this module is removable allowing replacement of the input module while eliminating the need to reconnect the input terminations.

It has adjustable parameters to fine tune the module's operation. There is no limit when installing the 1746-IA16 as long as the chassis has available slots to support the installation.

This module may be installed in fixed hardware or modular hardware style controller, locally or in an expansion rack.

This module belongs to SLC 500 AC input module with operating voltage category of 100-120V AC. For 200/240V AC voltage operation, the counterpart part number is 17460IM16. Both modules does not offer internal protection circuitry. Any AC input device that will be terminated to this module shall be compatible with SLC 500 input circuit inrush current.

The Allen-Bradley 1746-IA16 weighs 0.34 kg and has 5 x 2 x 6 (13 cm x 5 cm x 15 cm) dimension. The controller module has 0.27 watts per point with min to 0.425 Watts and a total of 4.8 Watts. The module has a 100 - 120V AC input signal voltage category with 16 points per common and 16 inputs. The 1746-IA16 is a general-purpose input application. The mounting is a chassis-type and has 16 channels. The operating voltage ranges from 85 - 132V AC input signal. It has a 16-channel digital AC input module for a programmable controller. The operating voltage is 85 - 132V AC at 47 - 63 Hz operating frequency. The back-plane current consumption at 5V DC is 0.085 mA and it is 0.0 A at 24V DC.

The signal for the ON-delay is at its max at 35 ms and the signal for the OFF-delay is at max at 45 ms. While the maximum OFF-state voltage reaches 30V AC and OFF state current of 2 mA. The input current at 120V AC is 12 mA nominal. The 1746-IA16 has an inrush current time duration at maximum to 500 microseconds and 0.8 mA maximum inrush current.