

Allen-Bradley 1756 Series Service Manual

1756-IB32/B

1. Description

Mfr. Part Number:

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Brand	Allen-Bradley
Part	Number/Catalog No. 1756-IB32
Series	ControlLogix
Inputs	32
Module	Type Digital DC Input Module
No.	of Inputs Thirty-Two (32) Inputs
Input	Voltage 12-24 Volts DC Sink
Operating	Voltage Range 10-31.2 Volts DC
Module	Keying Electronic
Maximum	Operating Current 5.5 milliamperes
Input	Delay Time 2 milliseconds plus selected filter time
Maximum	Input Current, Off-State 1.5 milliamperes
Minimum	Operating Current 2 milliamperes at 10 Volts DC
Input	Delay Time, OFF to ON Hardware delay: 380 μ s max + filter time
Backplane	Current at 5 Volts 120 milliamperes
Input	Delay Time, ON to OFF Hardware delay: 420 μ s max + filter time
Power	Dissipation (Max) 6.2 W @ 60 °C (140 °F)
Backplane	Current at 24 Volts 2 milliamperes
Backplane	Current at 5.1 Volts 100 milliamperes
Thermal	Dissipation 21.1 BTU/hr @ 60 °C (140 °F)
UPC	10612598171306
Removeable	Terminal Block(s) 1756-TBCH 1756-TBSH Description
The	Allen-Bradley 1756-IB32 is a ControlLogix digi

3. Product Information

Mfr. Part Number:

1756-IB32/B

Manufacturer: Allen-Bradley / Rockwell Automation

Description: Allen-Bradley 1756-IB32 ControlLogix Input Module 10-31V DC, 32 Points, Series B

Full Description: Allen-Bradley 1756-IB32 ControlLogix Digital DC Input Module, 10-31V DC Operating Voltage Range, 32 Points Sink (36 Pin), 16 Points/Group, Series B 1756-IB32/B, Series B, Rev B

The 1756-IB32 input module is an Allen-Bradley/Rockwell Automation ControlLogix series input module. It is a digital DC type of input module. The 1756-IB32 digital DC input module has 32 input channels that are divided into 2 groups of 16 inputs each. Its voltage category is 12 to 24 Volts DC sink voltage. The 1756-IB32 digital DC input module supports 120 milliamps of rated current draw at 5.1 Volts and 2 milliamps of rated current draw at 24 Volts. Technical specifications for 1756-IB32

Manufacturer Rockwell Automation

Brand Allen-Bradley

Part Number/Catalog No. 1756-IB32

Series ControlLogix

Inputs 32

Module Type Digital DC Input Module

No. of Inputs Thirty-Two (32) Inputs

Input Voltage 12-24 Volts DC Sink

Operating Voltage Range 10-31.2 Volts DC

Module Keying Electronic

Maximum Operating Current 5.5 milliamperes

Input Delay Time 2 milliseconds plus selected filter time

Maximum Input Current, Off-State 1.5 milliamperes

Minimum Operating Current 2 milliamperes at 10 Volts DC

Input Delay Time, OFF to ON Hardware delay: 380 μ s max + filter time

Backplane Current at 5 Volts 120 milliamperes

Input Delay Time, ON to OFF Hardware delay: 420 μ s max + filter time

Power Dissipation (Max) 6.2 W @ 60 °C (140 °F)

Backplane Current at 24 Volts 2 milliamperes

Backplane Current at 5.1 Volts 100 milliamperes

Thermal Dissipation 21.1 BTU/hr @ 60 °C (140 °F)

UPC 10612598171306

Removeable Terminal Block(s) 1756-TBCH 1756-TBSH Description

The Allen-Bradley 1756-IB32 is a ControlLogix digital I/O module. Part of the ControlLogix system, this input module has 32 inputs available in 2 groups, with 16 points in each group. It is mounted to a ControlLogix chassis by using the required removable terminal block housing, or RTB, such as either the Allen-Bradley 1756-TBCH or 1756-TBS6H. This module, occupies a single slot of the ControlLogix Chassis and supplied with an open enclosure type. The 1756-IB32 module has an operating voltage range of 10 to 31.2 Volts DC and a nominal input voltage of 24 Volts DC. It has a voltage category of 12/24 Volts DC sink, a current draw of 120 mA at 5.1 Volts and 2 mA at 24 Volts, and a total backplane power rating of 0.66 W. The maximum power dissipation is 6.2 W at 60 degrees Celsius, while the thermal dissipation is 21.1 BTU/hour, also at 60 degrees Celsius. The Allen-Bradley 1756-IB32 ControlLogix digital I/O module also has a maximum inrush current rating of 250 mA, which decays to less than 37% in 22 milliseconds without activation. In an off-state, its maximum current is 2.27 mA and its maximum voltage is 5 Volts. The input delay time for the off-to-on and on-to-off processes differ. For the off-to-on process, there is a hardware delay of up to 380 microseconds plus a user-configurable filter time of either 0, 1, or 2 milliseconds. The on-to-off delay time includes the hardware delay time of up to 420 microseconds plus the user-configurable filter time of either 0, 1, 2, 9, or 18 milliseconds.

The Allen-Bradley 1756-IB32 is a High-Density Discrete input module that belongs to the ControlLogix product family of Programmable Automation Controllers (PAC). This module features Thirty-Two (32) input channels, grouped in Two (2) with Sixteen (16) channels each group.

It may be installed to a local I/O rack or distributed I/O chassis or in a stand-alone or Distributed Control Systems (DCS) such as Allen-Bradley's Plant PAX. Once this module is entered through the Hardware configuration, the module's parameters are accessible such as the module's general properties with important parameters of compatible keying and slot assignment. This module also has a configurable Request Packet Interval (RPI), Module Inhibition, Reaction to communication failure and Scheduled connection over ControlNet. Each channel of this module has configurable filter settings to allow fine tuning of the module's reaction time to signals. This adjustment is useful in applications where discrete signals are erratic and exposed to noise. This feature helps prevent false positive negative readings.

This module is also provided with the capability of self-diagnosis through the module info where the module's diagnostic status can be monitored such as minor and major fault. It can also detect the status of the ControlLogix backplane where the module is connected.

This module is shipped with a Removable Terminal Block (RTB). This RTB enables modular replacement of a defective module and provides ease of wiring the signals. Compatible RTB for this module are 1756-TBCH 1756-TBS6H or a 36-terminal RTB.

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