Allen-Bradley 1756 Series Service Manual

1756-IB16I

1. Description

Mfr. Part Number:

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Input	Voltage 24VD
Module	Type DigitalDC Input module
Series	ControlLogix
Part	Number/Catalog No. 1756-IB16I
Brand	Allen-Bradley
No.	of Inputs Sixteen (16) individually islolated
Input	Voltage range 10-30VDC
ON-state	Current, min. 2 mA @ 10V DC
ON-state	Current, max. 10 mA @ 30V DC
Cyclic	update time 200 µs...750 ms
Signal	Delay, ON transition Hardware delay: 1 ms max + filter time User-selectable filter time: 0 ms, 1 ms, or 2 ms
Signal	Delay, OFF Transition Hardware delay: 4 ms max + filter time User-selectable filter time: 0 ms, 1 ms, 2 ms, 9 ms, or 18 ms
Backplane	Current, 5.1VDC 100 mA
Backplane	Current, 24VDC 3 mA
Total	Backplane power 0.58 W
Removable	Terminal Block (RTB) 1756-TBNH 1756-TBSH
Inputs	16 Individually Isolated Inputs
Operating	Voltage Range 10-30 Volts DC
Input	Delay Time 4 milliseconds plus selected filter time
Minimum	Operating Current 2 milliamperes at 10 Volts DC
Maximum	Operating Current 10 milliamperes at 30 Volts DC
Maximum	Input

3. Product Information

Mfr. Part Number:

1756-IB16I

Manufacturer: Allen-Bradley / Rockwell Automation

Description: Allen-Bradley 1756-IB16I ControlLogix Isolated Input Module 10-30VDC 16-P 36-Pin

Full Description: Allen-Bradley 1756-IB16I ControlLogix 10-30 VDC Isolated Input Module, 16 Points (36 Pin) The Allen-Bradley 1756-IB16I is a ControlLogix discrete input module. It features Sixteen (16) individually isolated input channels. Each channel operates at an input voltage signal range of 10-30VDC with nominal signal voltage of 24VDC. It is compatible for use with any ControlLogix chassis and uses the 1756-TBCH and 1756-TBS6H Removable Terminal Block (RTB). Technical specifications for 1756-IB16I

Manufacturer Rockwell Automation

Input Voltage 24VD

Module Type DigitalDC Input module

Series ControlLogix

Part Number/Catalog No. 1756-IB16I

Brand Allen-Bradley

No. of Inputs Sixteen (16) individually islolated

Input Voltage range 10-30VDC

ON-state Current, min. 2 mA @ 10V DC

ON-state Current, max. 10 mA @ 30V DC

Cyclic update time 200 µs...750 ms

Signal Delay, ON transition Hardware delay: 1 ms max + filter time User-selectable filter time: 0 ms, 1 ms, or 2 ms

Signal Delay, OFF Transition Hardware delay: 4 ms max + filter time User-selectable filter time: 0 ms, 1 ms, 2 ms, 9 ms, or 18 ms

Backplane Current, 5.1VDC 100 mA

Backplane Current, 24VDC 3 mA

Total Backplane power 0.58 W

Removable Terminal Block (RTB) 1756-TBNH 1756-TBSH

Inputs 16 Individually Isolated Inputs

Operating Voltage Range 10-30 Volts DC

Input Delay Time 4 milliseconds plus selected filter time

Minimum Operating Current 2 milliamperes at 10 Volts DC

Maximum Operating Current 10 milliamperes at 30 Volts DC

Maximum Input Current, Off-State 1.5 milliamperes

Power Dissipation (Max) 5 Watts at 60 degrees Celsius

Removeable Terminal Block(s) 1756-TBCH, 1756-TBS6H

UPC 10612598164506 Description

The Allen-Bradley 1756-IB16I is a ControlLogix discrete input module. This module features Sixteen (16) individually isolated input channels that accepts input signal voltage range of 10-30VDC with nominal value of 24VDC. This module is typically used to interface discrete devices such as pushbuttons, switches, auxiliary contacts and other devices that provide binary or ON-OFF signal state.

The 1756-IB16 is a single slot module that installs to any 1756 ControlLogix chassis. It may be attached to any available slot except the lect most slot which is dedicated for ControlLogix processor or communication adapters. With this, the 1756-IB16I can be used in local I/O configuration as well as remote or distributed I/O architecture.

The 1756-IB16I input channels have inherent signal transition delays. For OFF to ON transition, signal delay is 1 ms max + filter time hardware delay where user configurable filter time such as 0 ms, 1 ms, or 2 ms. For ON to OFF transition, signal delay is composed of 4 ms max + filter time where selectable filter time are 0 ms, 1 ms, 2 ms, 9 ms, or 18 ms. This module has a current draw of 100 mA @ 5.1VDC and 3 mA @ 24VDC with a total backplane power requirement of 0.58 Watts.

This module requires use of a Removable Terminal Block (RTB). RTBs serve as the module’s termination points which can be disconnected and reconnected to any module that supports the same RTB. This way, module replacement or migration is simplified as existing connections do not require to be removed. Apapropriate RTB for the 1756-IB16I are 1756-TBCH and 1756-TBS6H.

The 1756-IB16I's voltage category is 12/24V DC sink/source, with an operating voltage range of 10 to 30V DC. This module has a nominal input voltage of 24V DC, a maximum power dissipation of 5 W at 60 Degrees Celsius, and a thermal dissipation of 17.05 BTU/hour. At 5.1V, it has a current draw of 100 mA and 3 mA at 24V. It also has a maximum inrush current of 250 mA peak (decaying to <37% in 22 ms, without activation). During an off-state, the maximum current is 1.5 mA and the maximum voltage is 5V. The module's current during on-state ranges from 2 mA at 10V DC to 10 mA at 30V DC. The current draw of this module at 5.1V is 100 mA and at 24V, it is 3 mA. The input delay time of this module varies depending on its state (off to on or off to on). From 'off' to 'on', its delay time is the hardware delay of up to1 ms plus the user-selectable filter time of either 0 ms, 1 ms, or 2 ms. From 'on' to 'off', on the other hand, the delay time is the hardware delay of up to 4 ms plus the user-selectable filter time of 0 ms, 1 ms, 2 ms, 9 ms, or 18 ms.