

# Allen-Bradley 1756 Series Service Manual

1756-IG16

## 1. Description

Mfr. Part Number:

## 2. Specifications

| Specification | Value                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturer  | Rockwell Automation                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Brand         | Allen-Bradley                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Part          | Number/Catalog No. 1756-IG16                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Series        | ControlLogix                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Module        | Type Digital DC Input Module                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Inputs        | 16-points (9 per common)                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Input         | Voltage 5 Volts DC with TTL Source                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Operating     | Voltage Range 4.5-5.5 Volts DC                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Input         | Delay Time 0.25 milliseconds plus selected filter time                                                                                                                                                                                                                                                                                                                                                                                                            |
| Maximum       | Input Current, Off-State 4.1 milliamps                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Power         | Dissipation (Max) 1.4 Watts at 60 degrees Celsius                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Backplane     | Current at 5 Volts 110 milliamps                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Removeable    | Terminal Block(s) 1756-TBNH, 1756-TBSH                                                                                                                                                                                                                                                                                                                                                                                                                            |
| UPC           | 10612598171290 Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| The           | Allen-Bradley 1756-IG16 is a Transistor-Transistor Logic (TTL) Input Module. To connect the 1756-IG16 to a ControlLogix 1756 chassis, you need to use a removable terminal block housing or RTB. You can use either the 1756-TBNH or the 1756-TBSH RTB. When using this module, you should note that TTL inputs are inverted. That is, the low-true format is -0.2 to 0.8 low voltage = True = On, or the input is guaranteed to in on-state if it is within this |

## 3. Product Information

Mfr. Part Number:

1756-IG16

Manufacturer: Allen-Bradley / Rockwell Automation

Description: Allen-Bradley 1756-IG16 ControlLogix Digital Input 16 P, 5V DC TTL (Low True)

Full Description: Allen-Bradley 1756-IG16 ControlLogix Digital DC Input Module, (16) 0 - 5V DC TTL Inputs (Low True), Source, 8 Points/Group, 20-Pin Allen Bradley ControlLogix Digital DC Input Module with 16-points (9 per common) Inputs Technical specifications for 1756-IG16

Manufacturer Rockwell Automation

Brand Allen-Bradley

Part Number/Catalog No. 1756-IG16

Series ControlLogix

Module Type Digital DC Input Module

Inputs 16-points (9 per common)

Input Voltage 5 Volts DC with TTL Source

Operating Voltage Range 4.5-5.5 Volts DC

Input Delay Time 0.25 milliseconds plus selected filter time

Maximum Input Current, Off-State 4.1 milliamps

Power Dissipation (Max) 1.4 Watts at 60 degrees Celsius

Backplane Current at 5 Volts 110 milliamps

Removeable Terminal Block(s) 1756-TBNH, 1756-TBSH

UPC 10612598171290 Description

The Allen-Bradley 1756-IG16 is a Transistor-Transistor Logic (TTL) Input Module. To connect the 1756-IG16 to a ControlLogix 1756 chassis, you need to use a removable terminal block housing or RTB. You can use either the 1756-TBNH or the 1756-TBSH RTB. When using this module, you should note that TTL inputs are inverted. That is, the low-true format is -0.2 to 0.8 low voltage = True = On, or the input is guaranteed to in on-state if it is within this range. If it is between 0.8 to 2.0 Volts, the input state is not guaranteed. And if it is between 2.0 to 5.5 Volts, the input is guaranteed to be in off-state. The 1756-IG16 module has a voltage category of 5 Volts DC TTL source (where low means true). Its operating voltage range lies from 4.5 to 5.5 Volts DC and has a maximum of 50 millivolts P-P ripple. It has a nominal input current of 3.7 milliamps at 5 Volts DC and a maximum input current of 4.1 milliamps at 5 Volts DC. At an off-state, the maximum voltage is 2 Volts, while the maximum current is 4.1 milliamps. It has a backplane current of 110 milliamps at 5.1 Volts DC and 2 milliamps at 24 Volts DC, with a backplane power of 0.61 Watts. The current draw of the module at 5.1 Volts DC, while the current draw at 24 Volts is 2 milliamps. The maximum power dissipation at 60 Degrees Celsius is 1.4 Watts. Thermal dissipation, at maximum, is 4.8 BTU/hour also at 60 Degrees Celsius The screw to backplane input delay times are as follows: 'off' to 'on', or 5 to 0 Volts DC transition, has a nominal hardware delay of 270 microseconds up to the maximum of 450 microseconds plus the user-selectable filter time of 0, 1, or 2 milliseconds. While 'on' to 'off', or 0 to 5 Volts DC transition, it has a nominal hardware delay of 390 microseconds and a maximum of 700 microseconds max plus the user-selectable filter time of 0, 1, 2, 9, and 1 milliseconds.