

# Allen-Bradley 1756 Series Service Manual

1756-OB16D

## 1. Description

Mfr. Part Number:

## 2. Specifications

| Specification | Value                                                                                                                                                                                                                                                                                                                                            |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturer  | Rockwell Automation                                                                                                                                                                                                                                                                                                                              |
| Brand         | Allen-Bradley                                                                                                                                                                                                                                                                                                                                    |
| Part          | Number/Catalog No. 1756-OB16D                                                                                                                                                                                                                                                                                                                    |
| Series        | ControlLogix                                                                                                                                                                                                                                                                                                                                     |
| Module        | Type Diagnostic DC Output Module                                                                                                                                                                                                                                                                                                                 |
| Outputs       | 16-Point Diagnostic                                                                                                                                                                                                                                                                                                                              |
| Voltage       | 24 Volts DC Source                                                                                                                                                                                                                                                                                                                               |
| Operating     | Voltage Range 19.2-30 Volts DC                                                                                                                                                                                                                                                                                                                   |
| Maximum       | Output Current Rating-Point 2 Amps at                                                                                                                                                                                                                                                                                                            |
| Maximum       | Output Current Rating-Module 8 Amps at 30 degrees Celsius and 4 Amps at 60 degrees Celsius                                                                                                                                                                                                                                                       |
| Power         | Dissipation (Max) 3.3 Watts at 60 Celsius                                                                                                                                                                                                                                                                                                        |
| Backplane     | Current at 5 Volts 250 milliamps                                                                                                                                                                                                                                                                                                                 |
| Backplane     | Current at 24 Volts 140 milliamps                                                                                                                                                                                                                                                                                                                |
| Removeable    | Terminal Block(s) 1756-TBCH, 1756-TBS6H                                                                                                                                                                                                                                                                                                          |
| Isolation     | Voltage 50 Volts Continuous                                                                                                                                                                                                                                                                                                                      |
| Enclosure     | None                                                                                                                                                                                                                                                                                                                                             |
| UPC           | 10612598164537 Description                                                                                                                                                                                                                                                                                                                       |
| The           | Allen-Bradley 1756-OB16D is a ControlLogix DC diagnostic output module. It has 16 diagnostic outputs available, with 8 points per group, and has been fused electronically on a per-point basis. You can install it in any available slot in a compatible ControlLogix chassis. However, a 36-position removable terminal block housing (RTB) is |

## 3. Product Information

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Mfr. Part Number:

1756-OB16D

Manufacturer: Allen-Bradley / Rockwell Automation

Description: Allen-Bradley 1756-OB16D ControlLogix 19-30VDC Diagnostic Output Module 16-Point

Full Description: Allen-Bradley 1756-OB16D ControlLogix 19-30 VDC Diagnostic Output Module, 16 Points (36 Pin). Number of Outputs: 16 diagnostic; Voltage Category: 12/24V DC source; Operating Voltage: 19.2-30V DC; Removable Terminal Block Housing: 1756-TBCH or 1756-TBS6H. Allen-Bradley 1756-OB16D ControlLogix 19-30 VDC Diagnostic Output Module provides diagnostic features to the point level. Allen Bradley ControlLogix Diagnostic DC Output Module with 16-Point Diagnostic Outputs Technical specifications for 1756-OB16D Manufacturer Rockwell Automation

Brand Allen-Bradley

Part Number/Catalog No. 1756-OB16D

Series ControlLogix

Module Type Diagnostic DC Output Module

Outputs 16-Point Diagnostic

Voltage 24 Volts DC Source

Operating Voltage Range 19.2-30 Volts DC

Maximum Output Current Rating-Point 2 Amps at

Maximum Output Current Rating-Module 8 Amps at 30 degrees Celsius and 4 Amps at 60 degrees Celsius

Power Dissipation (Max) 3.3 Watts at 60 Celsius

Backplane Current at 5 Volts 250 milliamps

Backplane Current at 24 Volts 140 milliamps

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

Isolation Voltage 50 Volts Continuous

Enclosure None

UPC 10612598164537 Description

The Allen-Bradley 1756-OB16D is a ControlLogix DC diagnostic output module. It has 16 diagnostic outputs available, with 8 points per group, and has been fused electronically on a per-point basis. You can install it in any available slot in a compatible ControlLogix chassis. However, a 36-position removable terminal block housing (RTB) is required for this. The RTB can either be the 1756-TBCH or the 1756-TBS6H. It is important to install and ground the chassis and power supply before installing the module with the RTB.

This 1756-OB16D module has the following features in common with other output modules: output data echo, multiple output point densities, configurable point-level output states, electronic fusing, and isolated and non-isolated varieties of output modules. It also allows you to configure various features of the module, particularly a no-load detection, output verify detection, output state in Fault mode, output state in Program mode, transition from Program state to Fault state, and diagnostic latching.

The short trip diagnostic function of the 1756-OB16D module is 8 A for 180 ms (minimum) and 10 A for 120 ms (minimum). The no-load function is only for off-state detection and the output verification is only for on-state detection. The pulse test has a user-configurable maximum pulse width. The module also allows you to configure Fault states per point and state in Program mode per point, where 'Off' is set by default and other options are 'On' and 'Hold Last State'.

This output module possesses an operational voltage range of 19.2 to 30V DC and a 24V DC source voltage category. It also has a 3 mA per point minimum load current, a 1 mA per point maximum off-state leakage current, and a 1.2V DC at 2 A maximum on-state voltage drop. Its backplane current is 140 mA at 24V DC and 250 mA at 5.1V DC and comes with a total backplane power of 4.64 W. Its linear derating output current rating is 2 A maximum at 30 Degrees Celsius (80 Degrees Fahrenheit) and 1 A maximum at 60 Degrees Celsius (140 Degrees Fahrenheit) for per-point and the rating is 8 A maximum at 30 Degrees Celsius and 4 A maximum at 60 Degrees Celsius for per-module. The surge current per point of the 1756-OB16D module is 4 A for 10 ms each, which is repeatable for every second. Its isolation voltage from group-to-group and user-to-system have been tested at 2546V for 1 s and both have a 250V AC maximum continuous voltage.

It has an output delay time of 55µs nominal and a maximum of 1 ms from Off to On and 630µs nominal and a maximum of 5 ms from On to Off. The operating temperature range is 0 to 60 Degrees Celsius (32 to 140 Fahrenheit) and the storage temperature is -40 to 85 Degrees Celsius (-40 to 185 Fahrenheit).

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