

Allen-Bradley 1756 Series Service Manual

1756-OB16I

1. Description

Mfr. Part Number:

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Brand	Allen-Bradley
Part	Number/Catalog No. 1756-OB16I
Series	ControlLogix
Outputs	16-Point Individually Isolated
Module	Type Isolated DC Output Module
Voltage	12-24 Volts DC Sink-Source
Operating	Voltage Range 10-30 Volts DC
Output	Delay Time (OFF to ON) 1 ms max
Output	Delay Time (ON to OFF) 2 ms max
Current	per point 2 A @ 30 °C (86 °F) 1 A @ 60 °C (140 °F) (linear derating)
Current	per module 8 A @ 30 °C (86 °F) 4 A @ 60 °C (140 °F) (linear derating)
Maximum	Output Current Rating-Point 2 Amps at 30 degrees Celsius, 1 Amp at 60 degrees Celsius
Maximum	Output Current Rating-Module 8 Amps at 30 degrees Celsius and 4 Amps at 60 degrees Celsius
Power	Dissipation (Max) 3.6 Watts at 60 Celsius
UPC	10612598164544
Backplane	Current at 5 Volts 350 milliamps
Backplane	Current at 24 Volts 3 milliamps
Removeable	Terminal Block(s) 1756-TBCH, 1756-TBS6H
Isolation	Voltage 50 Volts Continuous
Enclosure	None Description
The	Allen-Bradley 1756-OB16I is a ControlLo

3. Product Information

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Mfr. Part Number:

1756-OB16I

Manufacturer: Allen-Bradley / Rockwell Automation

Description: Allen Bradley 1756-OB16I ControlLogix 10-30 VDC Isolated Output Module 16 Points

Full Description: Allen Bradley 1756-OB16I ControlLogix 10-30 VDC Isolated Output Module, 16 Points (36 Pin). Number of Outputs: 16 individually isolated; Voltage Category: 12/24V

DC source; Operating Voltage: 10-30V DC; Removable Terminal Block Housing: 1756-TBCH or 1756-TBS6H. The Allen Bradley 1756-OB16I ControlLogix Modules have individually isolated outputs. The 1756-OB16I is a ControlLogix Discrete output module which operate at a voltage category of 12/24VDC in sinking or sourcing configuration. This module has Sixteen individually isolated outputs (16). It is directly installed to a 1756 local or remote chassis. Technical specifications for 1756-OB16I

Manufacturer Rockwell Automation

Brand Allen-Bradley

Part Number/Catalog No. 1756-OB16I

Series ControlLogix

Outputs 16-Point Individually Isolated

Module Type Isolated DC Output Module

Voltage 12-24 Volts DC Sink-Source

Operating Voltage Range 10-30 Volts DC

Output Delay Time (OFF to ON) 1 ms max

Output Delay Time (ON to OFF) 2 ms max

Current per point 2 A @ 30 °C (86 °F) 1 A @ 60 °C (140 °F) (linear derating)

Current per module 8 A @ 30 °C (86 °F) 4 A @ 60 °C (140 °F) (linear derating)

Maximum Output Current Rating-Point 2 Amps at 30 degrees Celsius, 1 Amp at 60 degrees Celsius

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

Power Dissipation (Max) 3.6 Watts at 60 Celsius

UPC 10612598164544

Backplane Current at 5 Volts 350 milliamps

Backplane Current at 24 Volts 3 milliamps

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

Isolation Voltage 50 Volts Continuous

Enclosure None Description

The Allen-Bradley 1756-OB16I is a ControlLogix DC digital output module that has sixteen (16) individually sourced points. It does not have internal however, external IFM can be used to protect outputs. The recommended fuse type for this module is the 5x20mm 4 A quick-acting fuse supplied by with part number SOC p/n MQ2-4A. For the 1756-OB16I module, compatible Remote Terminal Blocks (RTB) are 1756-TBCH 1756-TBS6H, which both have 36 pins. RTB are required to provide signal termination point. The output channels of this module feature a configurable safe state position ne the controller's mode is changed to Program and Controller fault.

This module also has the following communication formats output data, listen-only output data, rack optimization, listen-only rack optimization, and scheduled output data. It also allows the selection of states in Fault or Program per point, with Hold Last State, On, or Off as the choices available for each and set by default for both. It is a 12/24V DC sink/source output module with an operating voltage range of 10 to 30V DC. Its backplane current is 350 mA at 5.1V and 2.5 mA at 24V and has a total backplane power of 1.8 W. Its maximum current per point is 2 A at 30 Degrees Celsius and 1 A at 60 Degrees Celsius (linear derating), while its maximum current per module is 8 A at 30 Degrees Celsius and 4 A at 60 Degrees Celsius (linear derating). Its surge current per point is repeatable every 2 s at 4 A for 10 ms per point. It also has a 1 mA per point minimum load current, a 1.2V DC at 2 A maximum on-state voltage drop, and a 0.5 mA per point maximum off-state leakage current per point. The 1756-OB16I module has also been routine-tested at 1350V AC for 2 s. It has an outputs-to-backplane continuous isolation voltage of 250V and an output-to-output continuous isolation voltage of 125V. It also has an output delay time of a maximum of 1 ms from off to on and a maximum of 2 ms from on to off. Power dissipation of **the 1756-OB16I module is 3.6W at 60 Degrees Celsius (maximum) and its thermal dissipation is 12.28 BTU/hr. It has an operating temperature range of 0 to 60 Degrees Celsius and a non-operating temperature range of -40 to 85 Degrees Celsius.

The Allen-Bradley 1756-OB16I is a 1756 ControlLogix Discrete output module that supports sinking and sourcing configuration and operates at a Voltage category of 12/24VDC. This output module is a single slot module that directly installs to the 1756 chassis.

It has Sixteen (16) individually isolated channels that allows wiring of different voltage sources to every output channel as long as the external power is connected to a 12/24 VDC source. It may also be terminated following a non-isolated wiring scheme where the DC (+) and DC (-) may be connected to a common voltage source. This output module has integrated Sixteen (16) LED indicators to indicate the module's operation and depict the active output channel. When a channel is active, the corresponding LED is energized or ON otherwise, it is OFF. The pilot duty rating of this module is 2A with a maximum OFF to ON output delay time of 1 ms and ON to OFF maximum output delay of 2 ms. This module may be used to energize electrical loads such as Relays, Pilot Lamps, Indicators, Siren, Horn, Buzzer, Solenoid and may other loads. When driving inductive loads, it is ideal to install an external surge protection device as high-inductive loads have high inrush current.

This module also features individually configured safe states. These safe states may be defined when the ControlLogix processor is changed from Run to Program mode or from Run to Faulted mode. By defining the safe state of each channel, unwanted turning OFF and ON of a channel may be prevented. This allows safe operation of a machine or process and prevent accidents. **