

Allen-Bradley 1756 Series Service Manual

1756-L1

1. Description

The 1756-L1 is a powerful controller that can support 250 connections. This Allen-Bradley controller weighs about 0.28 kilograms (i.e. 10 ounces) and it comes with a user memory of 64 Kilobytes. The 1756-L1, which belongs to the 1756 series, can communicate across a range of networks, such as the DeviceNet, ControlNet, and DH+ networks. It can also communicate with EtherNet/IP as well as RS-232-C (i.e. DF1/DH-485 protocol) networks. Connecting the module is easy and straightforward. Users can ei

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Brand	Allen-Bradley
Part	Number/Catalog No. 1756-L1
Series	ControlLogix
Module	Type Processor Module
User	Memory 64 KB
Isolation	Voltage 30 Volts Continuous
Communication	Port One (1) RS232
Operating	Temperature 32-140 Fahrenheit (0-60 Celsius)
Compatible	Memory Modules 1756-M1, 1756-M2 and 1756-M3
Minimum	Operating Current 2 milliamps at 10 Volts DC
Battery	Back-Up 1756-BA1; 1756-BA2
Maximum	Operating Current 3.5 milliamps at 30 Volts DC
Communication	Cable 1756-CP3
Maximum	Input Current, Off-State 1.5 milliamps
Enclosure	Open
Power	Dissipation (Max) 4.1 Watts at 60 degrees Celsius
Slot	Width One (1)
Backplane	Current at 5 Volts 120 milliamps
Backplane	Current at 24 Volts 2 milliamps
Removeable	Terminal Block(s) 1756-TBCH, 1756-TBS6H
UPC	1061250026553 Description
The	Allen-Bradley 1756-L1 is a ControlLogix 5550 controller. It can support up to 250 connections and weighs 0.28 kilograms or 10.0 ounces. This particular controller has a 64 Kilobytes user

3. Product Information

The 1756-L1 is a powerful controller that can support 250 connections. This Allen-Bradley controller weighs about 0.28 kilograms (i.e. 10 ounces) and it comes with a user memory of 64 Kilobytes. The 1756-L1, which belongs to the 1756 series, can communicate across a range of networks, such as the DeviceNet, ControlNet, and DH+ networks. It can also communicate with EtherNet/IP as well as RS-232-C (i.e. DF1/DH-485 protocol) networks. Connecting the module is easy and straightforward. Users can either directly insert it into any slot in the chassis, or install multiple controllers, or install it in any slot in the same chassis. It is important to note that the 1756-L1 does not come with any nonvolatile memory. This module's peak backplane current is 0.65 Amps at a voltage of 5 Volts DC and 0.02 Amps at 24 Volts DC. Moreover, this Allen-Bradley controller's average power dissipation is estimated at 3.3 Watts while its average thermal dissipation is 11.3 BTU/hour.

For optimal functionality, the 1756-L1 should be stored at a temperature of between -40 and 85 degrees Celsius. Plus, ensure that this controller operates at a temperature of between 0 and 60 degrees Celsius. The 1756-L1's non-condensing relative humidity is 5 to 95% while its maximum storage shock is 50 G for 11 milliseconds. In addition, the operating shock of the 1756-L1 is 30 G (peak) for 11 milliseconds. The 1756-L1 is characterized by a vibration of 10 to 500 Hertz operating frequency with a 2.0 G maximum peak acceleration. If the users need to replace the battery of the 1756-L1, they should only use a 0.59 g lithium battery (like the 1756-BA1). The module's programming cables that are compatible with this module are the 1756-CP3 as well as the 1747-CP3 Category 3 serial cables. It is also important to note that the module comes with an open enclosure type. The 1756-L1 is a controller module for the ControlLogix Modular Programmable Automation Controller (PAC) by Allen-Bradley. It comes with Memory of 2MB, and built-in RS232 communication interface. It is capable of 128,000 Discrete I/O and 4000 Analog I/O memory. Technical specifications for 1756-L1

Manufacturer Rockwell Automation

Brand Allen-Bradley

Part Number/Catalog No. 1756-L1

Series ControlLogix

Module Type Processor Module

User Memory 64 KB

Isolation Voltage 30 Volts Continuous

Communication Port One (1) RS232

Operating Temperature 32-140 Fahrenheit (0-60 Celsius)

Compatible Memory Modules 1756-M1, 1756-M2 and 1756-M3

Minimum Operating Current 2 milliamps at 10 Volts DC

Battery Back-Up 1756-BA1; 1756-BA2

Maximum Operating Current 3.5 milliamps at 30 Volts DC

Communication Cable 1756-CP3

Maximum Input Current, Off-State 1.5 milliamps

Enclosure Open

Power Dissipation (Max) 4.1 Watts at 60 Degrees Celsius

Slot Width One (1)

Backplane Current at 5 Volts 120 milliamps

Backplane Current at 24 Volts 2 milliamps

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

UPC 10612598169532 Description

The Allen-Bradley 1756-L1 is a ControlLogix 5550 controller. It can support up to 250 connections and weighs 0.28 kilograms or 10.0 ounces. This particular controller has a 64 Kilobytes user memory. Installing the 1756-L1 is installed directly into any slot available in the chassis and multiple controllers can be installed in any other slot within the same chassis. These controllers that belong to the same chassis, may communicate with each other across the backplane as well as operate independently. The 1756-L1 has the capacity to communicate across DeviceNet, RS-232-C (DF1/DH-485 protocol), ControlNet, DH+, and EtherNet/IP networks. Note that it does not have a nonvolatile memory. The 1756-L1 has a peak backplane current of 0.65 Amps at 5 Volts DC and 0.02 Amps at 24 Volts DC. It also has an average power dissipation of 3.3 Watts and an average thermal dissipation of 11.3 BTU/hour. The storage temperature of the 1756-L1 is from -40 to 85 Degrees Celsius, while its operating temperature ranges from 0 to 60 Degrees Celsius. It also has a noncondensing relative humidity of 5% to 95%. The storage shock of the 1756-L1 is 50 G peak for 11 milliseconds, while its operating shock is 30 G peak for 11 milliseconds. It also has a 10 to 500 Hertz vibration with a maximum peak acceleration of 2.0 G. If the 1756-L1 has a battery in need of replacement, you can only use the 1756-BA1, which is a 0.59g lithium battery. The programming cable compatible with the 1756-L1 are the category 3 serial cables 1756-CP3 and 1747-CP3.

The Allen-Bradley 1756-L1 is a Programmable Automation Controller (PAC) processor module that belongs to the ControlLogix product family. This processor belongs to one of the earlier versions of ControlLogix, the Logix 5550 category.

This module features an integrated RS232 communication port with 64KB user memory. It is also has a diagnostic front panel that reports the module's state through embedded LED lights. delivered with a battery back-up for the integrated Random-Access Memory (RAM) however, this processor is not installed with a non-volatile memory. To install a non-volatile memory for this controller, appropriate memory modules are 1756-M1, 1756-M2 and 1756-M3 are the only compatible modules. Do not use other memory modules as this will result to module failure.

This module is installed to any ControlLogix chassis such as 1756-A4, 1756-A7, 1756-A10, 1756-A13 and 1756-A17. It occupies single slot of the chassis and module power is provided by the backplane which is energized by a ControlLogix Power supply.

This controller is capable of controlling medium scale processes. It supports IEC-61131-2 defined programming language standards such as Ladder, Function Block, Sequential Function Chart, Statement List programming languages.

The integrated RS232 provides interface to programming devices, Human Machine Interface (HMI), Supervisory Control and Data Acquisition (SCADA) and other Visualization and Control systems. It also supports stand-alone and distributed I/O allocation with the use of ControlLogix I/O, Flex I/O and POINT I/O modules.

Communication setup is defined via the RSLinx Classic or Enterprise edition where communication drivers are defined.

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