

Allen-Bradley 1756 Series Service Manual

1756-L7SP

1. Description

Mfr. Part Number:

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Isolation	Voltage 30V (continuous), basic insulation, USB port-to-system, type tested at 980V AC for 60 s
Power	Dissipation 2.5 W
Module	Type Safety Partner controller
Series	GuardLogix
Part	Number/Catalog No. 1756-L7SP
Brand	Allen-Bradley
Module	Width Two (2) Slot
Backplane	Current, 5.1VDC 5 mA
Backplane	Current, 24VDC 800 mA
Thermal	Dissipation 8.5 BTU/hr
Module	Location Chassis-based, any slot (the safety partner must be installed in the slot to the immediate right of the primary controller)
Compatible	Primary Controller 1756-L71S, 1756-L71SK, 1756-L72S,1756-L72SK, 1756- L73S,1756-L73SK
Compatible	Chassis 1756-A4, 1756-A4K, 1756-A7, 1756-A7K, 1756-A10, 1756-A10K, 1756-A13, 1756-A13K,1756-A17, 1756- A17K
Standard	Power Supply 1756-PA50, 1756-PA72, 1756-PA72K, 1756-PA75, 1756- PA75K, 1756-PB50, 1756-PB72, 1756-PB72K, 1756- PB75, 1756-PB75K
I-O	Memory N/A
User	Memory N/A
Maximum	I-O N/A
Maximum	Analog I-O N/A
Maximum	Digital I-O N/A
Current	Draw 1.2 Va

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3. Product Information

Mfr. Part Number:

1756-L7SP

Manufacturer: Allen-Bradley / Rockwell Automation

Description: Allen-Bradley 1756-L7SP ControlLogix GuardLogix Safety Partner Controller

Full Description: Allen-Bradley 1756-L7SP ControlLogix GuardLogix Safety Partner Processor, requires one for each GuardLogix L7 Controller The Allen-Bradley 1756-L7SP is a GuardLogix controller. This controller is a safety partner controller that is paired with 1756-L71S, 1756-L72S, 1756-L73S primary controllers, forming 1oo2 safety architecture, rated up to and including Safety Integrity Level 3 (SIL 3), Performance Level e (PL e) functionality. This controller is located to the immediate slot, next to the primary controller. It has a user Technical specifications for 1756-L7SP

Manufacturer Rockwell Automation

Isolation Voltage 30V (continuous), basic insulation, USB port-to-system, type tested at 980V AC for 60 s

Power Dissipation 2.5 W

Module Type Safety Partner controller

Series GuardLogix

Part Number/Catalog No. 1756-L7SP

Brand Allen-Bradley

Module Width Two (2) Slot

Backplane Current, 5.1VDC 5 mA

Backplane Current, 24VDC 800 mA

Thermal Dissipation 8.5 BTU/hr

Module Location Chassis-based, any slot (the safety partner must be installed in the slot to the immediate right of the primary controller)

Compatible Primary Controller 1756-L71S, 1756-L71SK, 1756-L72S, 1756-L72SK, 1756-L73S, 1756-L73SK

Compatible Chassis 1756-A4, 1756-A4K, 1756-A7, 1756-A7K, 1756-A10, 1756-A10K, 1756-A13, 1756-A13K, 1756-A17, 1756-A17K

Standard Power Supply 1756-PA50, 1756-PA72, 1756-PA72K, 1756-PA75, 1756-PA75K, 1756-PB50, 1756-PB72, 1756-PB72K, 1756-PB75, 1756-PB75K

I-O Memory N/A

User Memory N/A

Maximum I-O N/A

Maximum Analog I-O N/A

Maximum Digital I-O N/A

Current Draw (1.2 Volts DC) 5 milliamps

Current Draw (5.1 Volts) 801 milliamps

Thermal Dissipation 8.5 BTU per hour

Enclosure None (Open-Style)

UPC 10885630016495 Description

The Allen-Bradley 1756-L7SP is a part of the GuardLogix controller product family. This controller is specifically a partner controller, used with a primary GuardLogix Safety controller. It does not come with a dedicated memory as the 1756-L7SP's memory corresponds to the memory of the primary controller. Specifically, the 1756-L7SP is compatible with 1756-L71S, 1756-L71SK, 1756-L72S, 1756-L72SK, 1756-L73S, 1756-L73SK primary controllers and compatible with Energy storage modules such as 1756-SPESMNSE capacitor energy storage module for the safety partner and 1756-SPESMNRM which is a non-removable energy storage module.

The 1756-L7SP is a double slot width controller with Current draw of 5 mA @ 1.2 VDC and 800 mA @ 5.1 VDC. It has a rated power dissipation of 2.5 W and Thermal dissipation of 8.5 BTU/hr. The module has an isolation voltage rating of 30V (continuous), basic insulation, USB port-to-system, type tested at 980V AC for 60 s.

The 1756-L7SP is installed to any available slot of the 1756 chassis however, it must be installed right beside the primary controller, to form a 1oo2 architecture, applicable for systems that require up to and including Safety Integrity Level 3 (SIL 3), Performance Level e (PL e) functionality. Compatible chassis for the 1756-L7SP are 1756-A4, 1756-A4K, 1756-A7, 1756-A7K, 1756-A10, 1756-A10K, 1756-A13, 1756-A13K, 1756-A17, 1756-A17K while standard power supplies are 1756-PA50, 1756-PA72, 1756-PA72K, 1756-PA75, 1756-PA75K, 1756-PB50, 1756-PB72, 1756-PB72K, 1756-PB75, 1756-PB75K.

The 1756-L7SP safety partner controller has an operating temperature requirement of 0 °C < Ta < +60 °C (+32 °F < Ta < +140 °F) and storage temperature specification of -40...+85 °C (-40...+185 °F) with 5-95% non-condensing relative humidity.

It has a backplane draw current of 800mA at 5.1V DC, and 5mA at 1.2V DC, and it can dissipate 2.5W of heat, with 8.5 BTU/hr of thermal dissipation when operational. The 1756-L7SP provides 30V voltage isolation with the Basic Insulation type, tested at 980V AC for 1 minute, between USB 2.0 port-to-system and it uses circuit cables with 3 - on USB ports wire category. It uses the standard EtherNet/IP, DeviceNet, and ControlNet safety communication options, and employs the Relay Ladder Logic (RLL), Structured Text, and the Sequential Function Chart (SFC) programming languages. It is installed in any available slot of the 1756 ControlLogix chassis, and it occupies 2 slots, right beside the primary controller. It has the North America T4A temperature code, with the ATEX and IECx T4 temperature codes, and comes in a factory-designed open-style enclosure. It has a 0-60 °C (32-140 °F) operational temperature range, and it has an ambient relative humidity range of 5-95% without condensation. It comes with an operational shock rating of 30G and it can stand an operational vibration of 2G at 10-500Hz.

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