

Allen-Bradley 1746 1747 Series Service Manual

1746-P2

1. Description

The Allen-Bradley 1746-P2 is a SLC 500 Power Supply. This Power Supply has a nominal Input Voltage of 120/220 Volts AC. It has an internal Current capacity of 5 A at 5V dc 0.96 A at 24V dc. It provides a 24VDC voltage output with built-in fuse protection. Technical specifications for 1746-P2

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Brand	Allen-Bradley
Part	Number/Catalog No. 1746-P2
Series	SLC 500
Module	Type Power Supply
Input	Power 70 Watts
Input	Voltage 120 to 220 Volts AC
Typical	line power requirement 180VA
Inrush	Current 20 Amps
Backplane	Current (5 Volts) 5 amps
Internal	Current Capacity 5 A at 5V dc; 0.96 A at 24V dc
Output	Voltage Range 18 to 30 Volts DC
CPU	Hold up time 20 ms (full load) 3000 ms (no load)
Backplane	Current (24 Volts) 0.46 Amps
Frequency	47 to 63 Hertz
Location	1746 Chassis
UPC	10662468088326
Weight	1.1 kg or 2.5 lbs.
UNSPSC	32151706
Dimensions	5.5 x 3.3 x 5.7 inches
Operating	Temperature 0 to 60 Celsius
Fuse	Protection 1746-F1 or equivalent Description
The	Allen-Bradley 1746-P2 is an SLC 500 modular power supply. It comes with an input voltage of 85-132 or 170-265V AC at 47-63 Hz. Its internal current capacity at 5V is 5 A and it is 0.96 A at 24V. This power supply also comes with a maximum user-supplied overcurrent protection of 15 A and a maximum inru

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Fuse Protection 1746-F1 or equivalent Description

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It has a maximum of two AWG wires per terminal. Fuse protection is present with the 1746-P2 power supply but it is limited to guarding against fire hazards due to short-circuit conditions. It comes with an open-type end cover and can only be installed in a 1746 chassis. The entire power supply measures 5.5 x 2.9 x 5.7 inches and weighs 1.1 kg or 2.5 lbs. Its operating temperature is from 0-60 Deg. Celsius. This power supply module has a jumper terminal that is used to set the input voltage to be applied to the device.

When undervoltage operation happens, the 1746-P2 power supply will continue to power up the SLC 500 controllers for a short period. When the power supply continues to receive input voltage that is lower than the recommended operating range for a period of time longer than the CPU hold-up time, the controllers will turn off. It will only resume operations automatically when the power supply receives the recommended operating input voltage.

For overcurrent conditions, the 1746-P2 Series A and B will undergo a power supply shutdown and CPU fault. The recovery procedure is to reload the user program. For the 1746-P2 Series C, it will have a 24V DC user shutdown but the CPU continues its operation and the recovery procedure is to correct the overcurrent condition.

The 1746-P2 is a Power supply module primarily designed for use with the SLC 500 automation system platform. This power supply is installed in the leftmost of the SLC chassis. The installation location of this power supply is not included in the slot count. The slot counting starts with Slot Zero (0) which is reserved for the Programmable Logic Controller's (PLC) processor or SLC 500 communication adapter.

When the front cover of the power supply is opened, the power supply's front panel is exposed. This power supply has Five (5) terminals, jumper pins and internal fuse. These terminals are designed to accommodate AC line connection and DC power connection. One terminal function as ground terminal. The internal fuse has an equivalent part number replacement of 1746-F2. The jumper pins are used to set the correct input voltage setting, whether 100/120 VAC or 200 / 240 VAC.

Avoid electrical arc when working with the power supply. Disconnecting or connecting a wire with active supply may produce an electric arc which may damage the electronic backplane. It is important to perform operation when the input power is inactive. The power supply module itself is sensitive to voltage surges that may occur when starting high-inductive electrical loads. To avoid damage to the power supply module, isolation transformer may be installed to prevent voltage surges from entering the power supply.

This power supply features a hold-up time of 20 ms (full load) 3000 ms (no load). This feature allows the PLC processor to continue functioning even when power supply input voltage falls below the nominal supply level.

Revisions