

Allen-Bradley 1746 1747 Series Service Manual

1746-P3

1. Description

The Allen-Bradley 1746-P3 is a SLC 500 Power Supply. This is a Power Supply operates at an input supply range of 19.2 - 28.8 VDC. It has an internal current capacity of 3.6 A at 5VDC 0.87 A at 24VDC. It supplies power to the backplane which is used to energize the SLC 500 modules attached to the chassis. Technical specifications for 1746-P3

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Location	1746 Chassis, Left Side
Input	Voltage Range 19.2-28.8 VDC
Module	Type Power Supply
Series	SLC 500
Part	Number/Catalog No. 1746-P3
Brand	Allen-Bradley
Nom	Input Voltage 24VDC
Typical	line power requirement 90 VA
Inrush	Current 20 A
Isolation	Voltage 600V ac RMS for 1 s (version B or later)
Current	Capacity 3.6 A at 5V dc and 0.87 A at 24V dc
Hold	Up time 5 ms (full load); 1000 ms (no load)
Fuse	protection 1746-F3 or equivalent
Temperature,	ambient operating 0...60 °C (32...140 °F)
Current	capacity deration 5% above 55 °C (131 °F).
Input	Voltage 24 Volts DC
Input	Power 61 Watts
Backplane	Current (5 Volts) 3.6 Amps
Backplane	Current (24 Volts) 0.87 Amps
Frequency	DC
Weight	2.5 pounds (1.1 kilograms)
Dimensions	5.5 x 1.9 x 5.7 inches
Operating	Temperature 0 to 60 degrees Celsius
UPC	10662073521430 Description
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Input Power 61 Watts

Backplane Current (5 Volts) 3.6 Amps

Backplane Current (24 Volts) 0.87 Amps

Frequency DC

Weight 2.5 pounds (1.1 kilograms)

Dimensions 5.5 x 2.9 x 5.7 inches

Operating Temperature 0 to 60 degrees Celsius

UPC 10662073521430 Description

The 1746-P3 is a Power Supply module. This module is part of the SLC 500 controller platform that is mainly used to provide power to the 1746 backplane to which the SLC 500 modules are attached to. This power supply module is located at the left-most area of the rack and does not occupy a chassis slot. It internally converts input power to a voltage level usable by the modules, specifically, converts an input supply voltage of 19.2-28.8 V dc to an internal supply of 5.0 A at 5V dc and 0.87 A at 24V dc.

The 1746-P3 is especially applicable to the SLC 500 Modular control system. It has a typical line power requirement of 90 VA with isolation of 600V ac RMS for 1 second. This module features a pre-installed fuse which may be replaced with Allen-Bradley recommended 1746-F3 or any equivalent. Additionally, Fuse sizes declared are used for end-devices only. It may be reduced depending on the size of circuit wiring. This power supply also exhibits a CPU hold-up time of 5 ms when operating at full load or 1000 ms when no load. This hold-up time allows the power supply to maintain the operating state of the CPU from the time when the supply voltage drops below the minimum range.

The 1746-P3 is certified by Underwriter's Laboratories (UL), Listed as Industrial Control Equipment for Class 1, Division 2, Groups A, B, C, D Hazardous Locations; C-UL Listed as Industrial Control Equipment for Class 1, Division 2, Groups A, B, C, D Hazardous Locations as well as other standardization and certifying bodies.

The current capacity for the module is 3.6 Amps at 5 Volts DC and 0.87 Amps at 24 Volts DC. The fuse recommended for use with the 1746-P3 module is the Allen-Bradley 1746-F3 fuse (or an equivalent fuse including the BUSSMAN AGC 5 or the Nagasawa ULCS-61ML-5 fuse). There is no isolation between the backplane and input terminals. There is, however, a dielectric withstand between the chassis ground terminal and input terminals which is 600 Volts AC RMS for 1 second. The recommended ambient temperature range for the 1746-P3 module to operate at is from 32 to 140 degrees Fahrenheit. The hold-up time for the CPU is 5 milliseconds at a full load and 1000 milliseconds at no load. The dimensions of the 1746-P3 are 139.7 x 79.2 x 144.8 millimeters. The module is designed for use at altitudes of up to 2000 meters without derating. It should be used in Pollution Degree 2 rated environments and in applications rated at Category II. Only a 1/8 inch flat head and a 1/4 inch Phillips head screwdriver are required for the installation of the module. To protect the module against ESD, it should be kept in static-shield packaging when it is not in use, the connector pins and backplane connector should not be touched and touching the circuit components on the module should be avoided too.