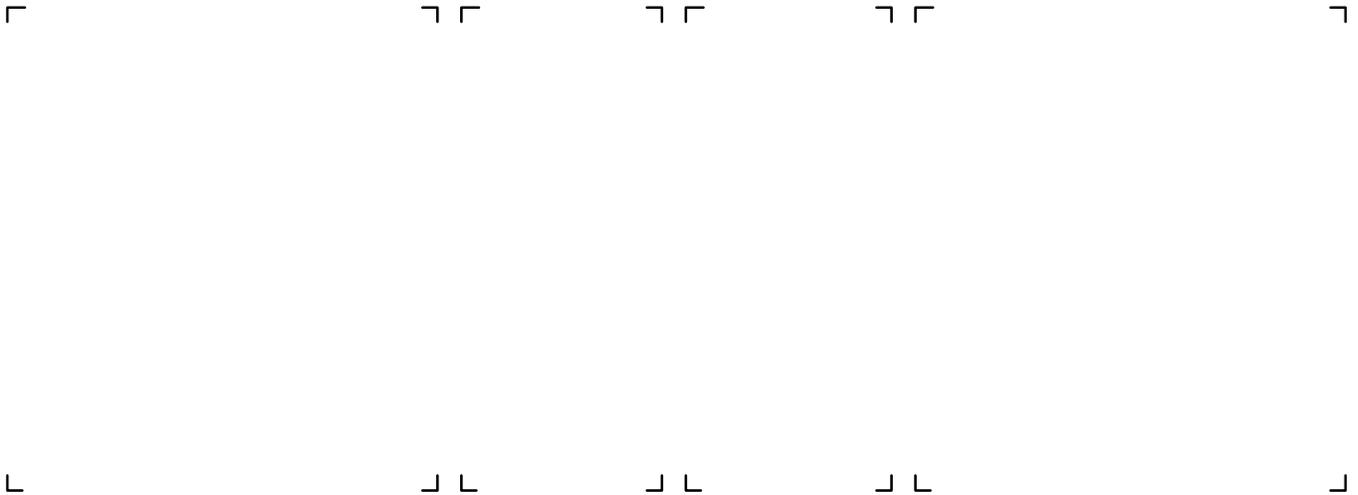




Allen-Bradley PLC-2 24V DC Power Supply

(Cat. No. 1772-P4 and 1777-P4)

Product Data



Introduction

The 1772-P4 and 1777-P4 power supplies provide DC power for the logic circuits in PLC-2 family programmable controllers. These power supplies can accept a power source of 24V DC and are useful in applications where a battery back-up or a 24V DC power source is used.

There are minor differences between the 1772-P4 system power supply module and the 1777-P4 auxiliary power supply. These differences are described in this publication. Common information is discussed without distinction.

System Power Supply Module (cat. no. 1772-P4)

The 1772-P4 system power supply module is designed to provide all necessary DC voltages for proper programmable controller operation. It is capable of powering:

- One PLC-2 Processor (cat. no. 1772-LP1, -LP2, or -LP3) with CMOS RAM Memory Module (cat. no. 1772-ME)
- Bulletin 1771 and/or bulletin 1777 I/O chassis

Total I/O capacity is limited:

- Physically because there are only two I/O power sockets.
- Electrically because only 4 amperes can be supplied to I/O chassis. (The 1772-LP1, -LP2, or -LP3 processors require 5 amperes.)

When you have exceeded physical and/or electrical limitations of the system power supply module, the configuration requires an auxiliary power supply. For further information about this configuration, refer to the Assembly and Installation Manual of your PLC-2 family programmable controller.

Auxiliary Power Supply (cat. no. 1777-P4)

The 1777-P4 auxiliary power supply has the same internal circuitry as the 1772-P4 system power supply module but is contained within its own chassis. It is not a module within the PC processor chassis like the system power supply module.

Total I/O capacity is limited:

- Physically because there are only two I/O power sockets.
- Electrically because only 9 amperes can be supplied.

Main Input Voltage

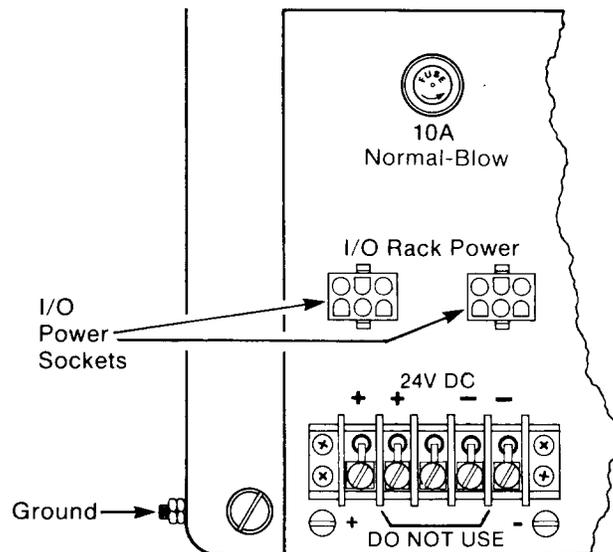
The power supplies require 24V DC input. They support PC processor operation as long as their input voltage remains within the range of 20.5 to 32.0V DC. The power supplies monitor the input voltage for proper levels. Should the DC voltage fall below 20.5V DC, it signals the PC processor. If the input voltage remains below 20.5V DC for more than 15ms, the PC processor stops communicating with the I/O racks and shuts down. The PC processor restarts when the correct DC input voltage level returns.



WARNING: Remove input power from the system power supply module before attempting to service or replace it. Failure to observe this warning may result in equipment damage and/or personal injury.

Make DC input connections to power supply terminals marked + and - (figure 1). The positive terminal + is the high side of DC input. The negative terminal - is the low side of DC input.

Figure 1
External Power Terminal Strip



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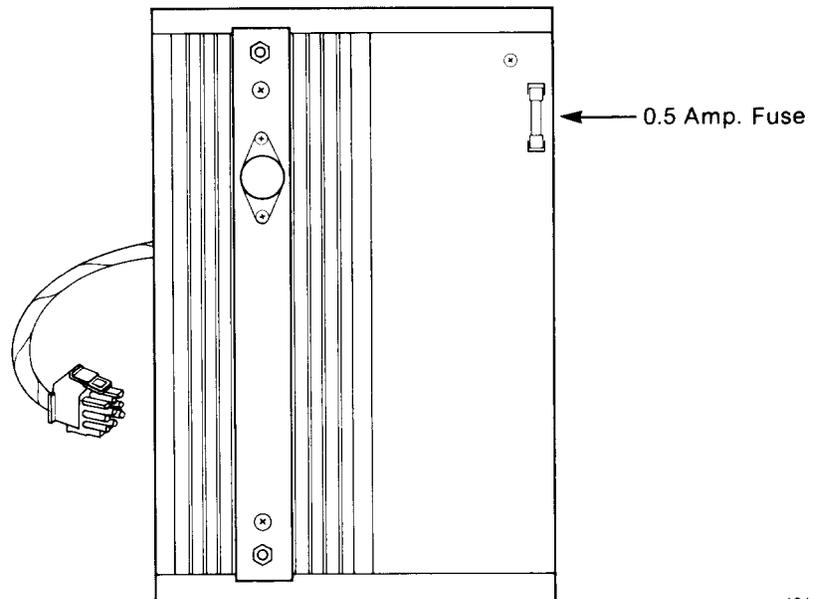


WARNING: Connect wires only to the two outer terminals of the terminal strip. Failure to observe this warning may result in equipment damage and/or personal injury.

Power Supply Outputs

There is a cable extending from the system power supply module (figure 2). You must connect the free end of this cable to the socket on the PC processor backplane.

Figure 2
System Power Supply Module (Cat. No. 1772-P4) Fuse Location



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There are two sockets on the face of the auxiliary power supply labeled I/O RACK POWER (figure 1). You may connect one or both of these sockets to an I/O chassis power socket depending on the size of the system. On a bulletin 1771 I/O chassis, the chassis power socket is located at the bottom of the left-most slot of the I/O chassis. On a bulletin 1777 I/O chassis, the chassis power socket is located at the top left side of the chassis.

Equipment Grounding Terminal

A lug is located on the left side of the auxiliary power supply to provide a convenient termination point for grounding the power supply to system ground when required.

Output Protection

The power supplies monitor output voltage and current for overvoltage, undervoltage, and overcurrent conditions. An output power failure of a power supply indicates a major fault. This condition stops the processor I/O scan, stops execution of the program and shuts down the PC processor.

There are two fuses in a power supply. A 10 ampere normal-blow fuse is located on the power supply front panel. It protects the input circuit and wiring to the power supply.

A second fuse protects against overcurrent in the +12V DC output circuit. This 0.5 ampere fuse is located along the front of the circuit board near the top (figure 2). This fuse is accessed by removing the fuse access cover.



CAUTION: Do not connect I/O chassis to the system or auxiliary power supply if the sum total of their 4V requirements exceeds 9 amperes. Overcurrent conditions present potential hazard to the power supply. Protective circuitry is designed to shut down the supply when current ratings are exceeded.

Fuses are specified in table A. Equivalent fuses may be used.

Table A
PLC-2 Power Supply Fuses

Fusing Current Amps	Bussman ¹	Littelfuse ¹
10 Normal Blow	ABC-10	314010 10 Amp
0.5	AGC 1/2	312.500 1/2 Amp

¹ Or Equivalent

Specifications

Input Voltage

- 24V DC (nominal)

Input Voltage Range

- 20.5-32.0V DC

Output Voltage

- +5.1V, +12.0V DC

Input Power

- 75VA (Nominal)

Power Supply 5V Capability

- 1 to 9A

Fuses

- 10A/125V normal-blow
- 0.5A in +12V DC circuit

Ambient Temperature Rating

- Operational 0° to 60°C
(32° to 140°F)
- Storage -40° to 85°C
(-40° to 185°F)

Relative Humidity Rating

- 5% to 95%
(without condensation)

Auxiliary Power Supply Dimensions

Width	Height	Depth
19.1	34.3	22.4 cm
7.5	13.5	8.8 inches

Weight

- System power supply module
4.3 kg (9.5 lbs)
- Auxiliary power supply
9 kg (20 lbs)

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