

PS-2217

High Efficiency ATC Cabinet Power Supply Operations Manual

THIS MANUAL CONTAINS TECHNICAL INFORMATION FOR
THE PS-2217 SERIES POWER SUPPLY.

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WARNING

High voltages may be present on the circuit board after removal from the rack for up to 10 seconds. Do not touch device components or the PCB, and be careful placing the unit on a conductive surface during this time.

1.1 OVERVIEW

The PS-2217 Cabinet Power Supply series is a card style rack mounted high efficiency switching power supply for the Advanced Transportation Controller Cabinet (ATCC). The PS-2217 model provides a regulated 24VDC output and a 48VDC output.

The PS-2217 series provides output regulation across changes in AC Line voltage and output load over the full operating temperature range of -34C to +74C. Power Factor Correction is also provided reducing peak AC Line input current and associated stress on wiring. The 24VDC output is protected against voltage transients by a 1500 Watt suppressor.

1.2 INDICATORS

A green LED indicator is provided to display AC Line input status and fuse integrity. Separate green LED indicators are provided to display output status and fuse integrity for each DC output.

1.3 SPECIFICATIONS

1.3.1 AC POWER REQUIREMENTS

AC Operating Voltage.....	85 to 270 Vac
AC Operating Frequency	45 to 65 Hz
Power Factor (120 Vac at full load).....	0.98
Maximum Input Surge	20 Amps
Efficiency.....	>80%

1.3.2 DC OUTPUTS

Total DC Output Power	120 watts
48VDC Output Voltage	48 Vdc +/- 2 Vdc
48VDC Output Current Maximum	1 Amp
24VDC Output Voltage	24 Vdc +/- 2 Vdc
24VDC Output Current Maximum	3 Amps
DC Output Ripple Maximum	250 mVpp

Note: Ripple is measured at 20MHz of bandwidth using a 12" twisted pair-wire terminated with a 0.1uf & 47uf capacitor.

Maximum Power-up time (110 Vac, -34°C).....	1000 milliseconds
Minimum Holdup Time (110 Vac, full load)	50 milliseconds

1.3.3 MECHANICAL

Height	4.50 inches
Width.....	1.70 inches
Depth (excluding handle).....	6.99 inches

1.3.4 ENVIRONMENTAL

Operating Temperature Range	-34 to +74 °C
Storage Temperature Range	-45 to +85 °C
Humidity (non-condensing).....	0 to 95% Relative

1.4 FUSES (250V, 5MM X 20MM)

AC Power	3 Amp SB
48VDC	1.6 Amp SB
24VDC	4 Amp SB

1.5 DC CONNECTOR

The connector on the PS-2217 PCB is a Phoenix #1776553. The mating connector on the rack is a Phoenix #1785997 or equivalent.

Pin	Function
1	Chassis Ground
2	AC- Neutral
3	AC+ Power
4	24VDC Ground
5	+24VDC Output
6	48VDC Ground**
7	+48VDC Output

****NOTE**

The 48VDC output is electrically isolated from the AC Line input and the 24VDC output. The *48VDC Ground* (pin #6) must be connected within the cabinet to the same AC- Neutral that the Cabinet Monitor Unit (CMU) is connected to.