VL-PS Series
STD Bus Power Supplies

REFERENCE MANUAL

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Note

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MPS

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1 Introduction

The VL-PS Series power supplies are compact, high efficiency supplies designed specifically to attach to, and become an integral part of the VX or V32 Series STD Bus card cages. All models feature triple output voltages of +5V and ±12V, and provide the following output capacity:

Table 1: Output Ratings

Model	Output Wattage	Output Current (Amps)		
		+5V	+12V*	–12V
VL-PS35	35W	3.5	2.5	0.5
VL-PS50	50W	6.0	2.5	0.5
VL-PS80	80W	10.0	2.5	0.5
VL-PS100	100W	12.0	3.0	0.5

* 4.0A Peak

All supplies accept wide range AC input with no jumper or wiring changes needed for different line conditions. A power switch and LED indicator are on the front panel.

Mechanical Assembly

The power supplies are designed to mount on the right hand side of either the VX or V32, table or rack mount, card cages.

- Remove right hand end plate.
- Remove ventilated cover on power supply.
- (VL-PS80/100 only) remove power supply circuit board for access to mounting holes.
- Attach power supply base to card cage using four 1/4" pan head screws.
- (VL-PS80/100 only) replace power supply circuit board.
- Replace ventilated power supply cover.
- Attach right hand end plate to power supply using the four original flat head screws.

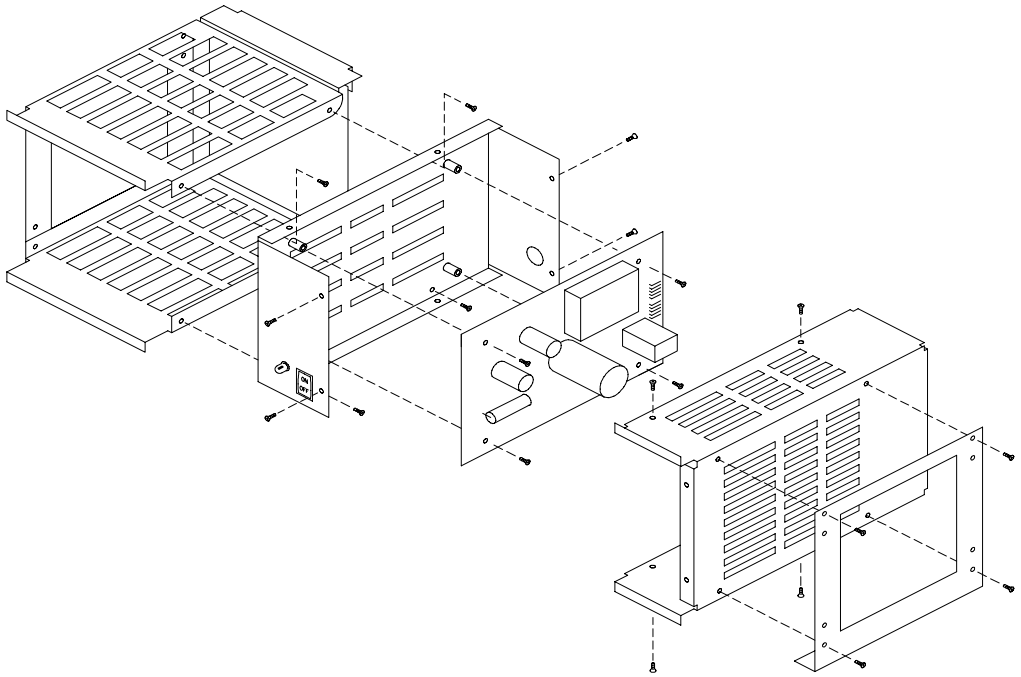

Figure 1. Assembly Diagram

DC Output

DC output voltages are available on the color coded wiring harness. The front panel indicator LED wires are also in the wiring harness and are connected to +5V and Ground on the motherboard. Color coding is as follows:

Table 2: DC Output Connections

Color	Description	Quantity
Black	Common ground	3
Red	+5V	3
Orange	+12V	1
Violet	–12V	1
White/Black	LED Ground	1
White/Red	LED +5V input	1

Connect only one of the black ground leads to AUX GND on the motherboard. The other two black ground leads should be connected to GND (+5V logic ground).

AC Input

The power supplies are supplied with a standard 120 VAC USA style cord and grounded plug. An AC input fuse is located on the power supply circuit board. The ground prong (safety ground) is connected to the metal chassis of the power supply, but is NOT connected to logic ground.

Front Panel

The power supplies have an AC power switch on the front panel and an LED located next to the power switch to indicate +5V power is present on the motherboard.

Electrical Pinouts

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The following figures detail the AC and DC power connectors on the circuit board inside the power supply enclosure.

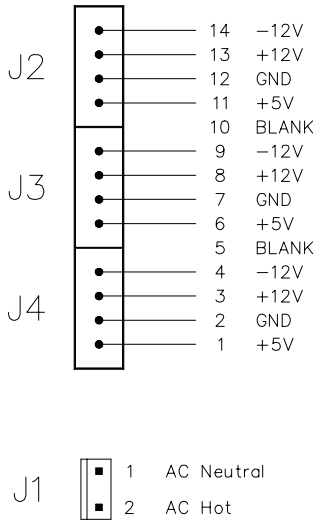


Figure 2. VL-PS35/50 Pinout

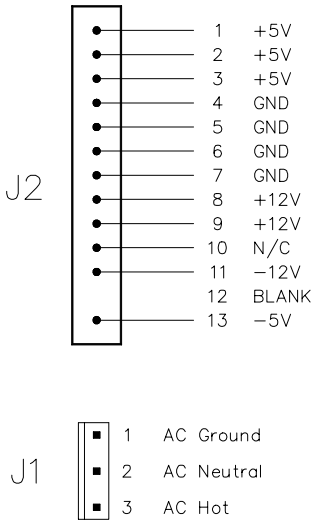


Figure 3. VL-PS80/100 Pinout

4 Dimensions

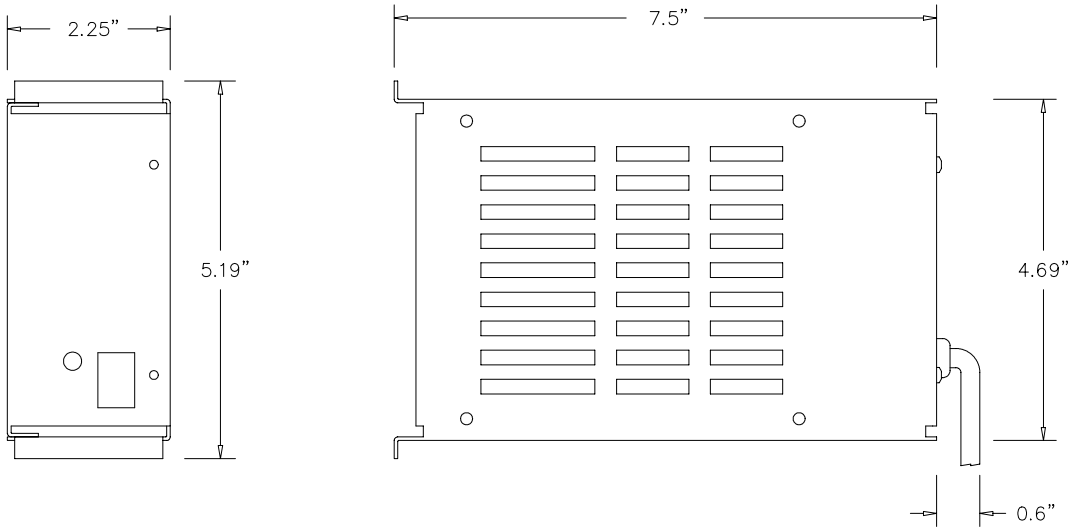
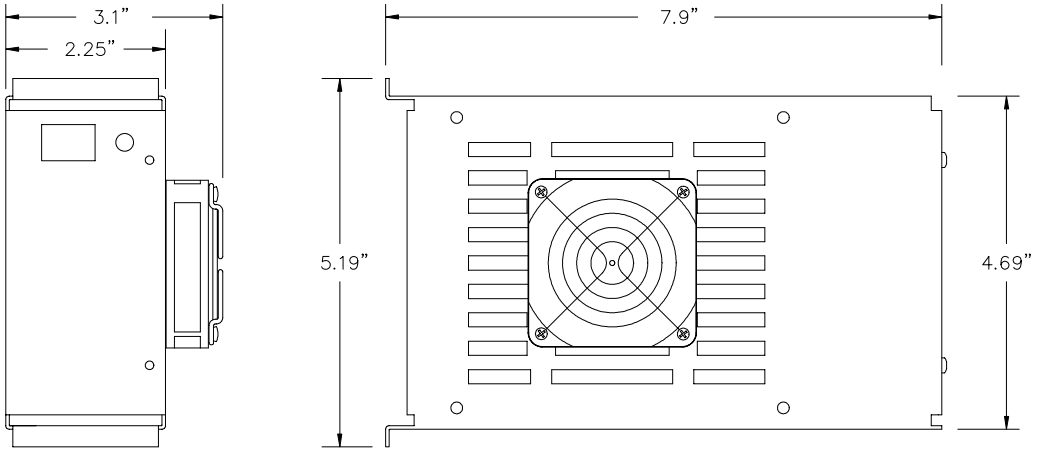


Figure 4. VL-PS35/50 Dimensions



Fan installed on VL-PS100 only.

Figure 5. VL-PS80/100 Dimensions

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VL-PS35 Specifications

Input Voltage:
90 to 264 VAC
Input Frequency:
47 to 440 Hz
Conducted RFI:
Meets FCC and VDE Class B
Safety Ground Leakage:
0.5 ma Max., 132 VAC, 60 Hz
Outputs:
+5V ±2.5%, 0.5 – 3.5A
+12V ±5%, 0.2 – 2.5A, 4A peak
–12V ±5%, 0 – 0.5A
Ripple and Noise:
+5V output, ±50 mv typical
±12V outputs, ±60 mv typical
Output Voltage Adjustment:
+5V output, ±3%
Line Regulation:
0.3%, all outputs fully loaded
Turn-On Overshoot/Undershoot:
None
Transient Response:
+5V Output: 500 µs settling,
500 mv peak transient at 2.0A load change
+12V Output: 500 µs settling,
300 mv peak transient at 1.0A load change
Temperature Coefficient:
±0.03%/°C max., all outputs
Overvoltage Protection Threshold:
+5V output, 6.25V ±0.75V
Total Output Power:
0 – 35W continuous at 50°C
Hold Up Time:
12 ms with 110 VAC, 60 Hz input
Storage Temperature:
–20° to +85°C
Operating Temperature:
0° to +50°C, full power output
50° to +70°C, derate output to 25W
Relative Humidity:
5% to 95%, non-condensing
Size:
5.2" H x 2.25" W x 7.5" D
Weight:
2 lbs. 10 oz.
MTBF:
125,000 hours

VL-PS50 Specifications

Input Voltage:
90 to 264 VAC
Input Frequency:
47 to 440 Hz
Conducted RFI:
Meets FCC and VDE Class B
Safety Ground Leakage:
0.5 ma Max., 132 VAC, 60 Hz
Outputs:
+5V ±2.5%, 0.5 – 6.0A
+12V ±5%, 0.2 – 2.5A, 4A peak
–12V ±5%, 0 – 0.5A
Ripple and Noise:
+5V output, ±50 mv typical
±12V outputs, ±60 mv typical
Output Voltage Adjustment:
+5V output, ±3%
Line Regulation:
0.3%, all outputs fully loaded
Turn-On Overshoot/Undershoot:
None
Transient Response:
+5V output: 500 µs settling,
500 mv peak transient at 2.5A load change
+12V output: 500 µs settling,
300 mv peak transient at 1.0A load change
Temperature Coefficient:
±0.03%/°C max., all outputs
Overvoltage Protection Threshold:
+5V output, 6.25V ±0.75V
Total Output Power:
0 – 50W continuous at 50°C
Hold Up Time:
16 ms with 110 VAC, 60 Hz input
Storage Temperature:
–20° to +85°C
Operating Temperature:
0° to +50°C, full power output
50° to +70°C, derate output to 25W
Relative Humidity:
5% to 95%, non-condensing
Size:
5.2" H x 2.25" W x 7.5" D
Weight:
2 lbs. 10 oz.
MTBF:
125,000 hours

Specifications are subject to change without notice.

VL-PS80 Specifications

Input Voltage:
85 to 264 VAC
Input Frequency:
47 to 63 Hz
Conducted RFI:
Meets FCC and VDE limit B
Safety Ground Leakage:
0.5 ma max., 132 VAC, 60 Hz
Outputs:
Convection cooled, 80W max.
+5V ±2.5%, 1.0 – 10.0A
+12V ±5%, 0 – 2.5A, 4.0A peak
–12V ±5%, 0 – 0.5A
Ripple and Noise:
+5V output, ±50 mv typical
±12V outputs, ±60 mv typical
Output Voltage Adjustment:
+5V output, ±3%
Line Regulation:
0.3%, all outputs fully loaded
Turn-On Overshoot/Undershoot:
< 3%
Transient Response:
+5V output, 500µs settling,
200 mv peak transient at 2.5A load change
+12V output, 500 µs settling,
100 mv peak transient at 1A load change
Temperature Coefficient:
±0.03%/°C max., all outputs
Overvoltage Protection Threshold:
+5V output, 6.25V ±0.75V
Total Output Power:
5 – 80W continuous at 50°C
Hold Up Time:
20 ms with 110 VAC, 60 Hz input
Storage Temperature:
–20° to +85°C
Operating Temperature:
0° to +50°C, full power output
+50° to +70°C, derate output to 50%
Relative Humidity:
5% to 95%, non-condensing
Size:
5.2"H x 2.25"W x 7.9"D
Weight:
3 lbs. 2 oz.
MTBF:
125,000 hours

VL-PS100 Specifications

Input Voltage:
85 to 264 VAC
Input Frequency:
47 to 63 Hz
Conducted RFI:
Meets FCC and VDE limit B
Safety Ground Leakage:
0.5 ma max., 132 VAC, 60 Hz
Outputs:
Forced air cooled @ 20 CFM, 100W max.
+5V ±2.5%, 1.0 – 12.0A
+12V ±5%, 0 – 3.0A, 4.0A peak
–12V ±5%, 0 – 1.0A
Ripple and Noise:
+5V output, ±50 mv typical
±12V outputs, ±60 mv typical
Output Voltage Adjustment:
+5V output, ±3%
Line Regulation:
0.3%, all outputs fully loaded
Turn-On Overshoot/Undershoot:
< 3%
Transient Response:
+5V output, 500 µs settling,
200 mv peak transient at 2.5A load change
+12V output, 500 µs settling,
100 mv peak transient at 1A load change
Temperature Coefficient:
±0.03%/°C max., all outputs
Overvoltage Protection Threshold:
+5V output, 6.25V ±0.75V
Total Output Power:
5 – 100W continuous at 50°C and 20 CFM
Hold Up Time:
20 ms with 110 VAC, 60 Hz input
Storage Temperature:
–20° to +85°C
Operating Temperature:
0° to +50°C, full power output
+50° to +70°C, derate output to 50%
Relative Humidity:
5% to 95%, non-condensing
Size:
5.2"H x 3.1"W x 7.9"D
Weight:
3 lbs. 5 oz.
MTBF:
125,000 hours

Specifications are subject to change without notice.