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Zenith's Low Power 3" x 5" Switching Power Supplies

Zenith's standard line of compact, low power switch mode power supplies includes the ZPS-30, 30C, 30-15, 30-15C — variations of a 30 watt, triple output power supply; and the ZPS-45, 45C, 45-15, 45-15C — variations of a 45 watt, triple output power supply. All products are configured in a small 3" x 5" footprint and feature universal input with increased power density. This *Low Power Series* is designed to meet the strictest international safety and emissions standards of VDE 0871/B, VDE EN60950 and IEC 950, as well as UL and CSA.

Standard Features

- Universal for 90-265 VAC, 120-364 VDC.
- Triple Output.
- 47-63 Hz single phase input.
- Approved by UL 1950, CSA 22.2, IEC 950, FCC Part 15J, Class B, VDE 0871/B and VDE EN60950, BS6301 applied for.
- 500,000 hours MTBF.
- Clearly identified traces and component legends.

- Compact 3" x 5" design.
- No minimum load required.
- Board level construction.
- One year warranty.
- 100% cycled burn-in.
- Standard off-the-shelf delivery.

Optional Feature

- Safety Cover (Models ZPS-30C, 30-15C, 45C, 45-15C).

SPECIFICATIONS

Electrical

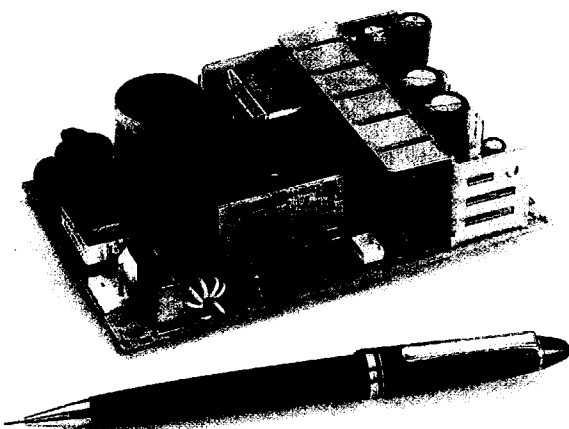
Input Voltage:	90-265 VAC, 57-63 Hz single phase. 100-265 VAC, 47-63 Hz single phase. 120-364 VDC. Continuous voltage input range for AC and DC.
Input Current:	1.2A @ 90 VAC. 0.5A @ 220 VAC.
Leakage Current:	0.75mA maximum.

Inquire about Zenith's single and dual output models.

Output Voltage & Current Ratings:

Zenith Model	Maximum Output Power (Watts)	Main Output		2nd Output		3rd Output	
		Volts DC (Nominal)	Amps (Min/Max)	Volts DC (Nominal)	Amps (Min/Max)	Volts DC (Nominal)	Amps (Min/Max)
ZPS-30	30	+5.0	0.0/3.0 PK 4.0	+12.0	0.0/2.0 PK 3.0	-12.0	0.0/0.7 PK 0.7
ZPS-30C	30	+5.0	0.0/3.0 PK 4.0	+12.0	0.0/2.0 PK 3.0	-12.0	0.0/0.7 PK 0.7
ZPS-30-15	30	+5.0	0.0/3.0 PK 4.0	+15.0	0.0/1.5 PK 2.0	-15.0	0.0/0.7 PK 0.7
ZPS-30-15C	30	+5.0	0.0/3.0 PK 4.0	+15.0	0.0/1.5 PK 2.0	-15.0	0.0/0.7 PK 0.7
ZPS-45	45	+5.0	0.0/5.0 PK 7.0	+12.0	0.0/2.0 PK 3.0	-12.0	0.0/0.7 PK 0.7
ZPS-45C	45	+5.0	0.0/5.0 PK 7.0	+12.0	0.0/2.0 PK 3.0	-12.0	0.0/0.7 PK 0.7
ZPS-45-15	45	+5.0	0.0/5.0 PK 7.0	+15.0	0.0/1.5 PK 2.0	-15.0	0.0/0.7 PK 0.7
ZPS-45-15C	45	+5.0	0.0/5.0 PK 7.0	+15.0	0.0/1.5 PK 2.0	-15.0	0.0/0.7 PK 0.7

Model
ZPS-45



Regulation:

+5V Output:	Load, Line and Cross $\pm 3\%$.
+12V and -12V Outputs:	Load, Line and Cross $\pm 5\%$.
+15V and -15V Outputs:	Load, Line and Cross $\pm 5\%$.

Regulation is specified at 20% to 100% of full load for the +5V, +12V and +15V outputs. The -12V and -15V output regulation will be at 0% to 100% of full load. Load ratio of

$$0.25 < \frac{\text{Load for +5V}}{\text{Load for +12V}} < 6.0 \quad 0.67 < \frac{\text{Load for +5V}}{\text{Load for +15V}} < 10.0$$

to maintain the stated regulation.

Maximum Peak Output Power:	35 Watts for Models ZPS-30, 30C, 30-15, 30-15C. 50 Watts for Models ZPS-45, 45C, 45-15, 45-15C.
Ripple & Noise:	+5V Output: 50 mV PK-PK +12V and -12V Outputs: 120 mV PK-PK +15V and -15V Outputs: 150 mV PK-PK Ripple to be measured differentially using a 1 MHz bandwidth limited oscilloscope with a 0.1 μ F ceramic capacitor and a 10 μ F tantalum capacitor connected at the measuring points.
Input Fusing:	A 2 amp 250V, slow blow fuse is located on the printed circuit board.
Inrush Current Limiting:	The inrush current shall be limited to 55 amps peak for one-half cycle of applied power at 230 VAC, 27 amps at 115 VAC.
Input Voltage Transients:	Protection to 1000V, 50 μ S exponentially decaying voltage spikes.
Efficiency:	65% minimum at full load.
Hold-Up Time:	16 mSec at full load @ 115 VAC; 40 mSec at full load @ 240 VAC.
Turn-On Delay:	The output voltages reach their nominal values within 1.5 seconds after the application of input power.
Overvoltage Protection (OVP):	Voltage on + 5V output will be clamped to 7.00V maximum.
MTBF:	500,000 hours per MIL-HDBK 217E @ 25°C ground benign.
Safety:	UL 1950, CSA 22.2, IEC 950, VDE EN60950.
EMI:	FCC Part 15J, Class B, VDE 0871/B. To meet the EMI requirements, the safety ground connection must be made at the grounding terminal P ₁ and all the EMI grounds must be electrically connected together by means of a ground plane or otherwise through the four mounting holes.

Environmental

Operating Temperature:	0°C to +50°C; Over 50°C, derate each output linearly 2%/°C to 70°C.
Storage Temperature:	-55°C to +85°C (unit should be stabilized at operating temperature range for 2 hours prior to operation).
Relative Humidity:	Non-Condensing, 5% to 85%.
Cooling:	Models ZPS-45C, 45-15, 45-15C require 5 CFM. All other models are convection cooled.

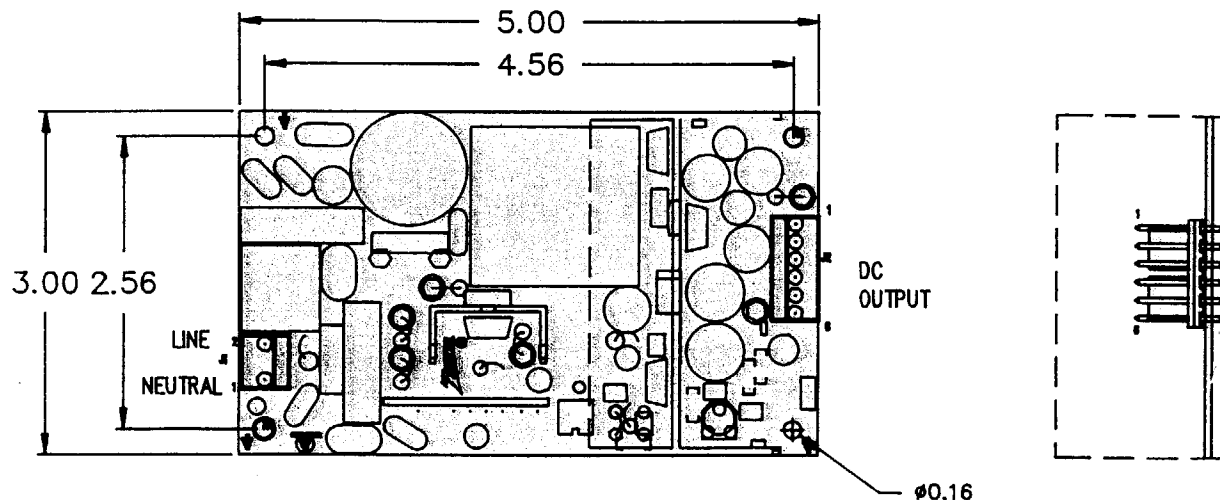
Mechanical

Size (LxWxH):	ZPS-30, 30-15, 45, 45-15 5.0 x 3.0 x 1.35 inches. 127 x 76.2 x 34.3 millimeters.	ZPS-30C, 30-15C, 45C, 45-15C 5.38 x 3.42 x 1.85 inches. 136.7 x 86.9 x 47 millimeters.
Weight:	ZPS-30, 30-15, 45, 45-15 0.5 pounds. 0.227 Kilograms.	ZPS-30C, 30-15C, 45C, 45-15C 0.96 pounds. 0.435 Kilograms.
Construction:	ZPS-30, 30-15, 45, 45-15 Open frame PCB.	ZPS-30C, 30-15C, 45C, 45-15C Enclosed PCB. Safety cover only.

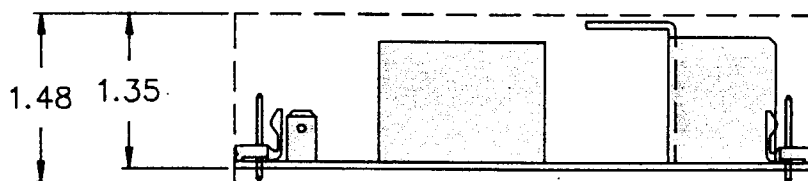


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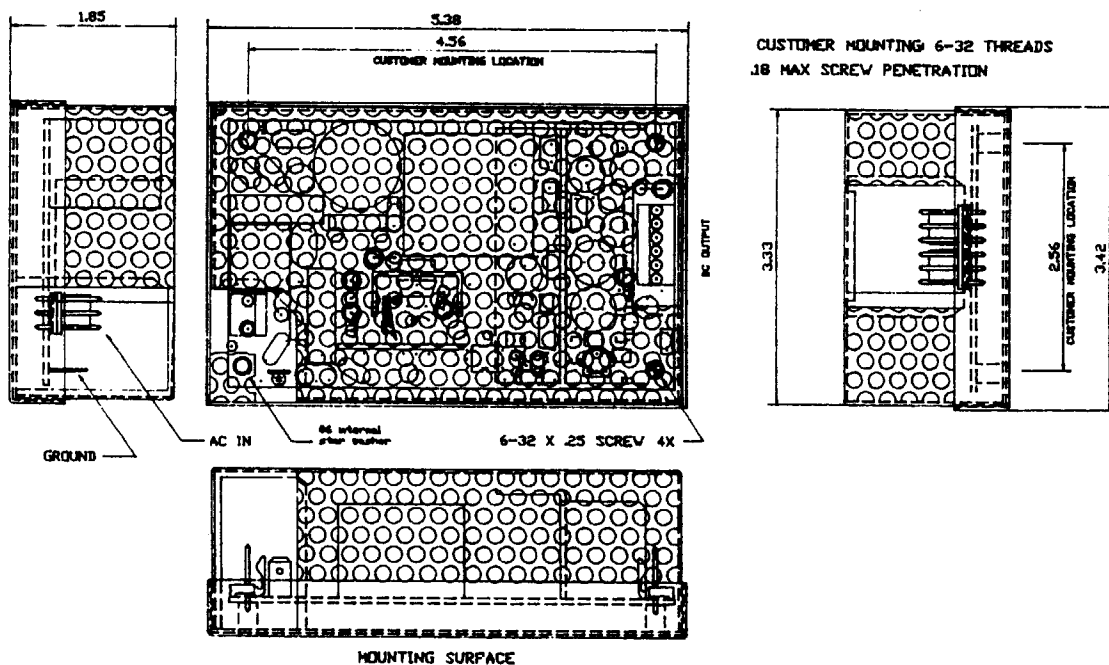
SWITCHING POWER SUPPLIES



MAXIMUM COMPONENT HEIGHT



ASSEMBLY SPECIFICATIONS FOR ENCLOSURE



J1 Mating Connector:
Molex® 09-50-3031
with 2878 Series Crimp
Terminals.

J2 Mating Connector:
Molex® 09-50-3061
with 2878 Series Crimp
Terminals.

PIN-1 — +12V (+15V)
PIN-2 — +5V
PIN-3 — +5V
PIN-4 — DC RTN
PIN-5 — DC RTN
PIN-6 — -12V (-15V)

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Mouser Electronics

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[ZPS-45-15](#)