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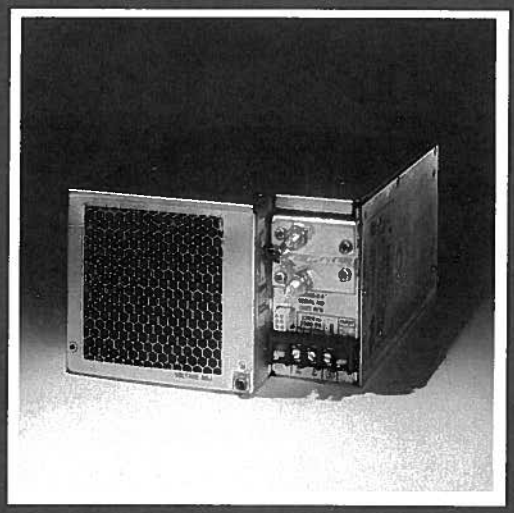
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PIONEER MAGNETICS, INC.

International

Model PM2501B

SINGLE OUTPUT,
SWITCHING POWER SUPPLY
1500 WATTS



FEATURES

- Approved to UL, CSA and IEC (Class I, SELV) Safety Standards
- 5 x 8 x 11″ Envelope
- 0 to 50°C Operation at Full Load
- AC Input Fuse
- Overvoltage Protection
- Overcurrent Protection
- Overtemperature Protection
- Soft Start
- Remote Sense
- No Turn-On or Turn-off Overshoot
- Completely Isolated Output
- Self Contained Forced Air Cooling

TYPICAL OPTIONS

- (–1) Power Fail Signal
- (–2) Logic Inhibit
- (–3) Crowbar
- (–5) Margining/Programming
- (–6) Direct Paralleling
- (–8T) Power Good

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Model PM2501B

SINGLE OUTPUT,
SWITCHING POWER SUPPLY
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Pioneer's PM2501B single-output model is an upgraded version of the original PM2501A, the first of a new generation of switching power supplies providing unprecedented high power density. The upgrade allows the PM2501B to meet today's stringent international safety and EMI standards.

The PM2501B provides 5V at 300A (1500 watts) at 50°C in a 5 x 8 x 11″ industry standard envelope. Improvements in electrical and heat transfer technology allow component stresses to be kept well within manufacturers conservative ratings, insuring high reliability.

Pioneer Magnetics can provide special custom options on request for units in suitable OEM quantities. Mechanical packaging considerations may limit the number of options that can be combined. Consult factory for details.

CONFIGURATION DESCRIPTION

The output is brought out on a pair of $^{5}/_{16}$″–18 THD studs. The AC input is via an 8–32 screw terminal block and is protected with an internal 25 amp fuse. Automatic soft start circuitry minimizes inrush surges.

Option interface connections, where required, are available on one Molex connector (6 pin) along with the output voltage adjustment at the front panel.

SPECIFICATIONS

INPUT:
- Continuous voltage range: 180 to 264 VAC, single phase.
- 10 minute operation: 160 VAC minimum
- Brown-out point: Less than 160 VAC
- Frequency: 47 to 63 Hz.
- Inrush Limiting: Automatic soft start circuitry minimizes inrush surges. Upon loss of AC power inrush circuitry will reset within 100 msec at full load.
- Turn-on Delay: 1 second maximum from application of AC line. 200 msec. maximum from inhibit turn-on.
- Leakage Current to Ground: 0.5 mA maximum @ 264 VAC, 63 Hz.
- Surge Withstand Test: IEEE Spec 472, Rev 1974.

OUTPUT:
See Selection Chart.

OUTPUT VOLTAGE ADJUSTMENT RANGE:
±10% of nominal output voltage.

STATIC REGULATION:
- Line: ± 0.25% over full line range.
- Load: ± 0.25% over no load to full load.
- Voltage Stability: ± 0.1% after 30 minutes warm-up for a 24 hour period.
- Temperature coefficient: ± 0.02%/°C from 0°C to 50°C.

(Note: For units less than 5V the following apply: Line: ±12.5 mV, Load: ±12.5 mV, VS: ±5 mV, TC: 1 mV/°C)

DYNAMIC REGULATION:
- Output Transient Response: 3% deviation (150 mV deviation for units under 5V) with recovery to 0.5% in less than 500 μsec for a 25% load step, 1A/μsec slew rate.
- Overshoot: No turn-on or turn-off overshoot.

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International

SINGLE-OUTPUT SUPPLY SELECTION CHART

Model No.		PM2501B
Max. 5V power (Watts)		1500W
DC Output Voltage (1)	Type #s (Add Amps in Blanks)	OUTPUT CURRENT (AMPS)
2	2D—	325A
3	3D—	300A
5	5D—	300A
12	12D—	125A
15	15D—	100A
18	18D—	85A
24	24D—	65A
28	28D—	55A
48 (1)	48D—	32A

P-P RIPPLE AND NOISE:
1% of nominal output at full load current, 20Hz to 20Mhz bandwidth for 5V to 48V outputs. 50mV for outputs less than 5V.

HOLD-UP TIME:
30 milliseconds minimum from 230 VAC nominal with output voltage set to nominal.

OVERVOLTAGE PROTECTION:
(Shutdown type)
- 3V–48V outputs: Unit will shut down at 125% ±10% of nominal output.
- 2V outputs: Unit will shutdown at 3V ±0.1V.

OVERLOAD PROTECTION:
(Automatic recovery from overload or short circuit).
- Foldback Point: 105 to 120% of full output current.
- Short Circuit Current: Less than 65% of full output current.

OVERTEMPERATURE PROTECTION:
Automatic latching shut-down type. After a suitable cool down period unit can be reset by cycling AC power.

REVERSE VOLTAGE PROTECTION:
Protection against reverse voltage applied across output terminals up to rated output current (with fan running).

REMOTE SENSE:
Will compensate for up to ½ volt total loop drop on output line. Internal 100 ohm resistors prevent output from rising more than 100 mV should sense line be disconnected.

OPTIONS:
(–1) Power Fail Signal—Provides a typical 5 msec warning of output drop upon loss of AC power.
(–2) Logic Inhibit and Enable—System can be turned on or off with a TTL compatible signal or switch contact.
(–3) Crowbar—Triggered by an overvoltage conditon (125% ±10% of nominal) discharging the output within 50 μsec (Note: Shut-down type OV is standard and is normally used in lieu of OV crowbar.
(–5L) Margining/Programming—Allows ±5% change of main output.
(–6) Direct Paralleling—Current foldback is set between 100% and 105% of rated output allowing direct parallel operation.
(–8T) Power Good Signal—Monitors the output terminal and sinks to logic return when output is beyond ±4% of nominal voltage.

TEMPERATURE:
- Operating: 0 to 50°C at full load.
- Storage: –55°C to +85°C.

HUMIDITY:
5% to 95% without condensation.

ISOLATION:
Class I SELV.

SAFETY:
Recognized to UL114, 1012 and 478 5th edition, certified to CSA 22.2–142/143/154, and approved to VDE 0806 Class I SELV, and IEC 380 and 435.

EMI:
- Conducted: Certified to meet VDE 0871, level A and FCC Docket 20780, Part 15 Subpart J, Level A with internal filtering from 150 kHz to 30 MHz.
- Radiated: Meets VDE 0871B.

MECHANICAL DIMENSIONS:
5 x 8 x 11″ (12.7 x 20.3 x 27.9 cm).

WEIGHT:
20 pounds (9.1 kg) maximum.

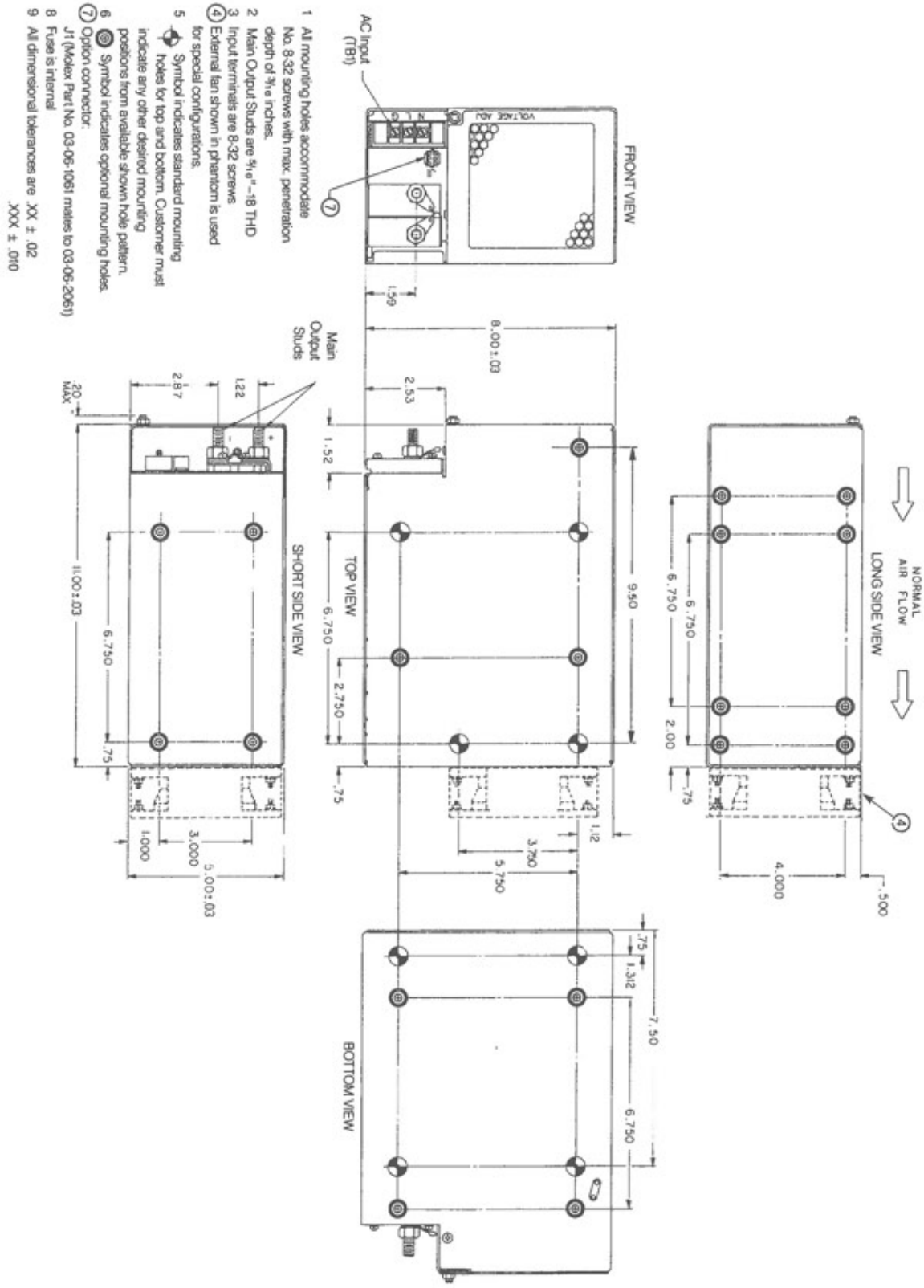
CONNECTORS:
- Main Output: 5/16″–18 THD studs.
- AC Input: 8–32 screw terminal barrier block.
- Options Interface: (1) 6 pin Molex type. Mates with Molex 03-06-2061 (6 pin) Uses Molex 02-06-2103 male pin.

AC INPUT FUSE:
(Internal fuse). Gould OTM25 or equivalent.

(1) Other volt/amp combinations available up to 60V. Consult factory. Outputs above 42V non SELV. Approval upon request.

Pioneer Magnetics reserves the right to change specifications at any time without prior notice. It is Pioneer Magnetics' policy to improve products as new techniques and components become available.

Model PM 2501B



1 All mounting holes accommodate No. 8-32 screws with max. penetration depth of 3/16 inches.
2 Main Output Studs are 5/16"-18 THD
3 Input terminals are 8-32 screws.
4 External fan shown in phantom is used for special configurations.
5 Symbol indicates standard mounting holes for top and bottom. Customer must indicate any other desired mounting positions from available shown hole pattern.
6 Symbol indicates optional mounting holes.
7 Option connector:
J1 (Molex Part No. 03-06-1061 mates to 03-06-2061)
8 Fuse is internal
9 All dimensional tolerances are .XX ± .02
.XXX ± .010

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