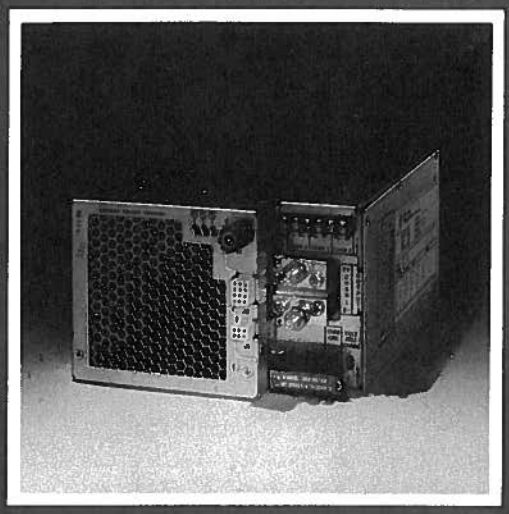
PIONEER MAGNETICS, INC.

Dependables

Series PM 2775A-77A

MULTIPLE OUTPUT, SWITCHING
DC/DC CONVERTERS
375 to 750 WATTS



FEATURES

- Approved to UL, CSA Safety Standards
- 5 x 8 x 11" Envelope
- 0 to 50°C Operation at Full Load
- Overvoltage Protection
- Overcurrent Protection
- Overtemperature Protection
- No Turn-On or Turn-off Overshoot
- Completely Isolated Outputs
- Self Contained Forced Air Cooling
- Wide Input Range

TYPICAL OPTIONS

- (-1) Power Fail Signal
- (-2) Logic Inhibit
- (-3) Main Channel Crowbar
- (-3S) Secondary Channel OV Shutdown
- (-5) Margining/Programming
- (-6) Direct Paralleling
- (-8T) Power Good

Model PM2775A, PM2776A and PM2777A

MULTIPLE OUTPUT, SWITCHING
DC/DC CONVERTERS
375 to 750 WATTS

Pioneer's PM2775/76/77A "Dependables" are multiple output switching DC/DC converters that provide from 375 to 750 watts of output power with up to four highly regulated voltages ranging from 2 VDC to 60 VDC. The supplies are based on a long established field proven technology utilizing an inherently stable regulator design that ensures excellent dynamic response.

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.

Over 300,000 "Dependables" are in the field providing reliable, trouble free operation.

CONFIGURATION DESCRIPTION

The PM2775/76/77A main channel is brought out on 5/16"–18 THD studs and is regulated by the main feedback loop of the supply. Output currents up to 150 amperes are available. The secondary channels are brought out on 6–32 screw terminal blocks and are fully isolated and regulated. 6, 7.5, 12, and 15 amp channel ratings are standard. 30 amp or 45 amp outputs can also be ordered.

The DC input is via a pair of 10–32 screw blocks.

The PM2775/76A is packaged in the industry standard 5 x 8 x 11" fan cooled envelope. The PM2777A extends the 11" dimension to 12¾".

Option Interface connections, where required, are brought out on two Molex connectors (6 pin and 12 pin) at the front panel.

All voltages are adjustable from the front panel along with the main channel OVP.

SPECIFICATIONS

INPUT:
- Continuous voltage range: 22–34 VDC (–4 input), 42–56 VDC (–2 input), 100–145 VDC (–1 input), 200–250 VDC (–3 input) (Note: 24V input units limited to 375 watts).
- Turn-on Delay: 200 msec. maximum.
- Reverse Input Protection: Supply is protected against reverse voltages applied across input terminals.

OUTPUT:
See Selection Chart.

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

STATIC REGULATION:
(All Channels)
- 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 outputs less than 5V the following apply: Line: ±12.5mV, Load: ±12.5mV, VS: ±5mV, TC: 1mV/°C)

DYNAMIC REGULATION:
- Output Transient Response: 1% deviation (100 mV deviation for units under 5V) with recovery to 0.5% in less than 250 μsec for a 25% load step, 1A/μsec slew rate.
- Overshoot: No turn-on or turn-off overshoot.

Dependables

MULTI-OUTPUT SUPPLY SELECTION CHART

Model Number		PM2775A	PM2776A	PM2777A	
Maximum Total Output Power (Watts)		375W	600W	750W	
Main Channel	DC Voltages Available	2, 3, 5, 12, 15, 24, 28, 48 or 60			
	Max 5V Power (Watts)	250W	500W	600W	
	Max Current @5V (Amps)	50A	100A	120A	
Channels 2, 3, & 4 Maximum Output Current (Amps) (2)	DC Voltages Available	2, 3, 5, 12, 15, VDC			18, 21, 24, 28 VDC
	Medium Current	12A			6A
	High Current (1) (3)	15A			7.5A

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.

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 of input 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 on output lines. 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) Main Channel Crowbar—Triggered by an overvoltage conditon (125% ±10% of nominal) discharging the output within 50 μsec (Note: Shutdown type OV on main channel is standard and is normally used in lieu of OV crowbar).

(−3S) Secondary Channel OV Shutdown—Triggered by overvoltage condition (125% ±10% of nominal) latching the entire supply off. Resettable by cycling AC power.

(−5MR) 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 terminals of one or more channels and sinks to logic return when output(s) are beyond ±4% of nominal voltage.

TEMPERATURE:
- Operating: 0 to 50°C at full load. Derate linearly to 80% rated power for 50°C to 71°C.
- Storage: −55°C to +85°C.

HUMIDITY:
5% to 95% without condensation.

SAFETY STANDARDS:
Standard models recognized to UL 114, 1012, 478 and designed to meet CSA 143 and 154.

EMI:
- Conducted EMI: Equipped with standard LC filter to suppress EMI. A unique filter circuit minimizes line reflected audio frequencies for talk circuit applications.
- Radiated EMI: Meets VDE 0871B.

MECHANICAL DIMENSIONS:
- PM2775/76 5 x 8 x 11" (12.7 x 20.3 x 27.9 cm).
- PM2777 5 x 8 x 12¾" (12.7 x 20.3 x 32.39 cm).

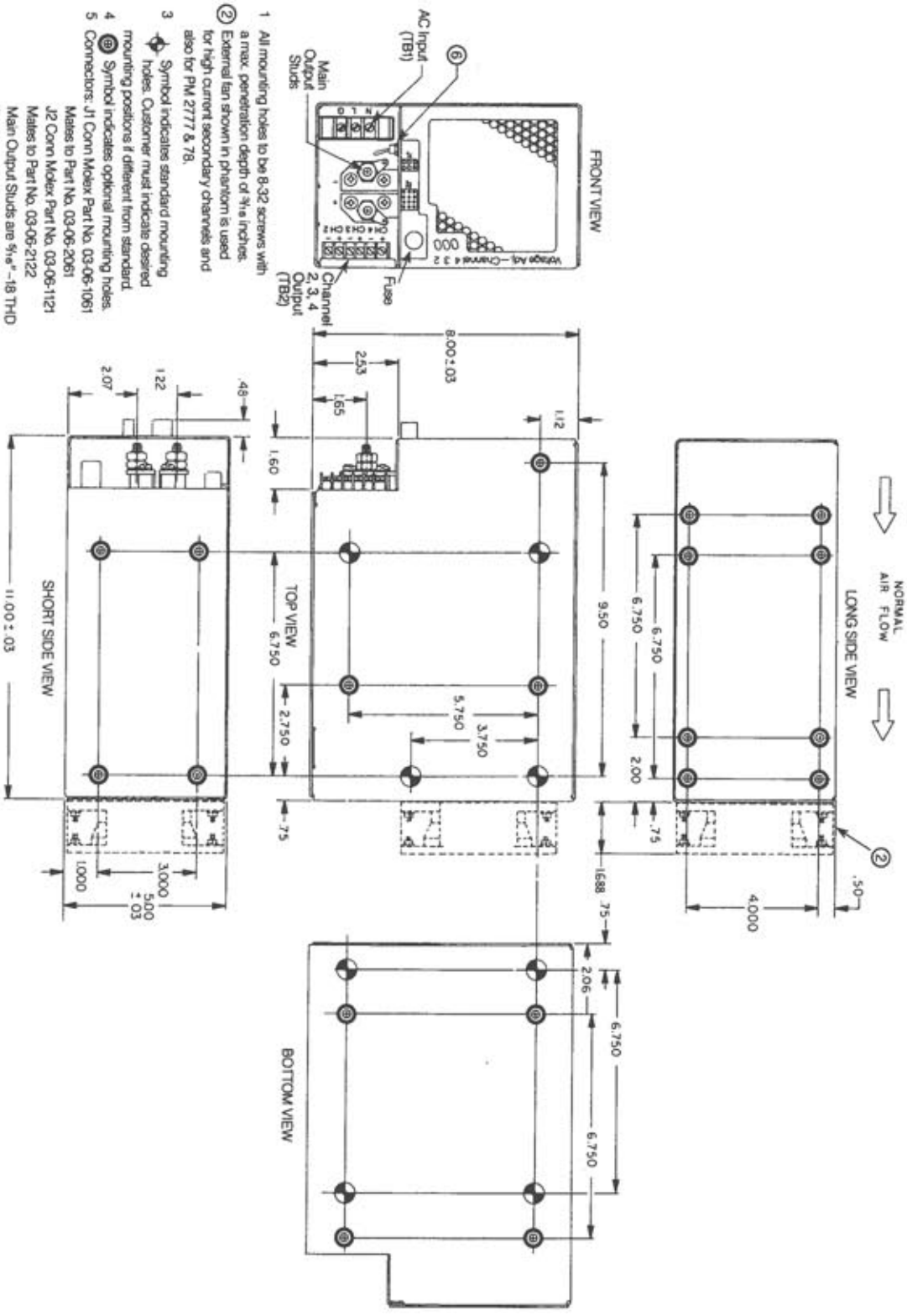
WEIGHT:
- PM2775/76 18 pounds (8.2 kg) maximum.
- PM2777 20 pounds (9.1 kg) maximum.

CONNECTORS:
- Main Output: 5/16"-18 THD studs.
- Secondary Outputs: 6–32 screw terminal barrier block. Magnum #A104206–NL–826 or equivalent.
- DC Input: 6–32 screw terminal barrier block.
- Options Interface: (1) 6 pin and (1) 12 pin molex type. Mates with Molex 03-06-2061 (6 pin) and Molex 03-06-2122 (12 pin). Uses Molex 02-06-2103 male pin.

INPUT FUSE:
Bus 30AB or equivalent.

(1) 5 x 8 x 12¾" envelope for one or more high current secondary channels.
(2) Sum of all channel output wattages may not exceed maximum supply rating.
(3) 30 and 45 amp channels available. Consult factory.

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.



1 All mounting holes to be 8-32 screws with a max. penetration depth of 3/16 inches.
2 External fan shown in phantom is used for high current secondary channels and also for PM 2777 & 78.
3 Symbol indicates standard mounting holes. Customer must indicate desired mounting positions if different from standard.
4 Symbol indicates optional mounting holes.
5 Connectors: J1 Conn Molex Part No. 03-06-1061
Mates to Part No. 03-06-2061
J2 Conn Molex Part No. 03-06-1121
Mates to Part No. 03-06-2122
Main Output Studs are 5/16"-18 THD
TB1: Input Terminals are 6-32 Screws
TB2: Channel 2, 3, 4 Output Terminals are 6-32 Screws
6 Switch optional.
7 All dimensional tolerances are .XX ± .02
.XXX ± .010