

Section 7

**LIQUID COOLED HIGH POWER SERIES 32V TO 360V
AC TO DC SINGLE OUTPUT**

Pioneer introduces a new line of High Efficiency, High Power and Liquid Cooled Product Series that provides full output power with Three Phase AC Input ranging from 365V to 600V. Designed to support both standalone and parallel configurations, these models are configured in standard I/O interfaces with quick liquid disconnects with no spill. The Premium Quality front ends are rugged, reliable, designed for high performance and come in the traditional 2U x 19" rack mount configuration. With optimum power density, excluding the I/O interface, water connection, input fuse case and holdup time, these units are featured with liquid cooling and built-in protection from electrical over-loads and over temperature

A single unit provides continuous full power over ambient operating temperatures of 0°C to +50°C, Three Phase AC Input line and max inlet liquid temperature of +35°C.

Product Matrix

MODEL	PM37222	PM37223	PM37224
MAX POWER	20kW	25kW	30kW
Vout	lout	lout	lout
32V	625A	-----	-----
42V	475A	600A	-----
48V	415A	520A	625A
60V	335A	415A	500A
100V	200A	250A	300A
200V	100A	125A	150A
300V	70A	85A	100A
360V	55A	70A	83A
Dimensions	2U x	17.4" x	24.4"
AC Input	365VAC	to	600VAC

Notes: AC Input is Three Phase

Features:

- ◆ Power Factor Correction
- ◆ Ambient 0°C to +50°C at Full Load
- ◆ De-rated @ 70°C
- ◆ Standard 2U x 19" Rack Mount
- ◆ Outputs Fully Floating
- ◆ Over Current Protection
- ◆ Over Voltage Protection
- ◆ Remote Sense
- ◆ Over Temperature Protection
- ◆ Max Inlet Liquid Temperature +35°C
- ◆ Input Fuses With Safety Cover

Options:

- ◆ (-128L) DC OK with LED indicator
- ◆ (-1CL) AC Fail with LED indicator
- ◆ (-2T) Unit enable/disable
- ◆ (-5LO) ±10% Output Margining
- ◆ (-6B) Single wire current sharing
- ◆ (-20C) Isolation diodes
- ◆ (-25) Constant current limit
- ◆ (-311) Isolated current monitor
- ◆ (-62B) 12V Aux Power Supply
- ◆ (-314) Max Inlet Liquid Temperature +60°C
- ◆ (-60/61) Voltage and Current Programming
- ◆ (-P) Pluggability
- ◆ (-E) Extended Hold up Time

SPECIFICATION

Inputs

RANGE: 365 to 600VAC, 3P
Nominal 480VAC
FREQUENCY: 47 to 63 Hz.
POWER FACTOR: >0.94 @ Full Load.
EFFICIENCY: Typical 92%

Environmental

AUDIBLE NOISE: < 50dBA at 1m max
MAX INLET WATER TEMPERATURE: +35°C
AMBIENT TEMPERATURE: 0°C to +50°C.
HUMIDITY: 20% to 95% non-condensing.
VIBRATION: Operating: From 5 to 27 Hz, 0.02 in double amplitude; from 27 Hz to 500 Hz, 0.75G, 3 Axes, 3 min per octave sweep, dwell 15 min at resonance. *Non-operating:* From 5 to 17 Hz, 0.10 in double amplitude, from 17 to 500Hz, 1.5G peak; 3 axes, 5 min per octave sweep; dwell 15 min at resonance.
SHOCK: Operating: 5G, half sine, 11msec, 3 axes. Non-Operating: 15G, half sine, 11msec, 3 axes.
COOLING: Cold Plate to Liquid cooling. Min Liquid Flow Rate 2.5g/m

Safety

SAFETY: TUV to EN60950-1. CE Mark (LVD)
EMI: Conducted & Radiated: EN55022 Level A

Output

POWER: See Product Matrix
VOLTAGE & CURRENT: See Product Matrix
POLARITY: Output is isolated. It may be referenced plus/minus as required.
STATIC REGULATION:
Line: $\pm 0.25\%$ over full line range.
Load: $\pm 0.25\%$ from zero to full load.
VOLTAGE STABILITY: $\pm 0.1\%$ for 24-hr period after 30-minute warm up.
P-P RIPPLE: 1% V_{outpp} , 5% to 100% load
MINIMUM LOAD: Not Required.

Internal Protection

OVER VOLTAGE PROTECTION: 115% $\pm 5\%$ of nominal. OVP shutdown is latched until the input line is removed for 30 seconds and then reapplied. OVP sensing is done at the output terminals.
OVER CURRENT PROTECTION: Current Limit Point: 105% to 110% of full load.
OVER TEMPERATURE PROTECTION: The unit automatically shuts down in the event of an over temperature condition. After cool down, power must be recycled to restart unit.
INPUT FUSES: Three 60A fuses are provided with safety cover

