Section 3

HIGH VOLTAGE 70V TO 300V AC TO DC SINGLE OUTPUT

Pioneer Magnetics introduces a new breed of High Efficiency High Voltage PFC Models that provide full output power with Single or Three Phase AC Input. Designed to support both stand alone and parallel configurations, these models are configured in standard Non-Plug and Hot Plug I/O interfaces. The Premium Quality front ends are rugged, reliable, designed for high performance and come in the traditional 5" x 5" package. With power density up to 25.8watts/in^3, these units are featured with internal forced air-cooling and built-in protection from electrical overloads.

A single module provides continuous full power over operating temperatures of 0°C to +50°C, from a Single or Three Phase AC Input line.

Product Matrix

MODEL	PM3326	PM3327	PM3328	PM3329	PM33211	PM3329	PM33210	PM33215	PM36216	PM36218	PM36219
MAX POWER	1000W	1200W	1500W	2000W	3000W	2000W	2500W	5000W	6000W	8100W	10000W
Vout	Iout	Iout	Iout	Iout	Iout	Iout	Iout	Iout	Iout	Iout	Iout
70V	14A	17A	21A	29A	43A	29A	36A	71A	86A	116A	143A
90V	11A	13A	17A	22A	33A	22A	17A	56A	67A	90A	111A
100V	10A	12A	15A	20A	30A	20A	25A	50A	60A	80A	100A
150V	8.3A	8A	10A	13A	20A	13A	17A	34A	40A	53A	67A
200V	5A	6A	8A	10A	15A	10A	13A	25A	30A	40A	50A
250V	4A	5A	6A	8A	12A	8A	10A	20A	24A	32A	40A
300V	3A	4A	5A	7A	10A	7A	8A	17A	20A	27A	33A
Non-Plug	5"	5"	11.25"	5" 5"	11.25"	5" 5"	15.55"	5"	5"		15.5"
Hot Plug	5"	5"	11.50"	5" 5"	11.5"	5" 5"	17"	5"	5"		17"
AC Input	90V	to	264V	180V to	264V	90V to	264V	180V to	264V	or 365V	528VDC

Notes:
1. All Models are available with wide input range 90 to 264VAC (option –6) or high input 180 to 264VAC (option –5)
2. Models with prefix PM36 are high efficiency units.
3. All Models are available in Single Phase or Three Phase AC Input.
4. Input Current Formula: 1φ Iin = Pout/(Vin x Efficiency x 0.99PFC)
   3φ Iin = Pout/(Vin x Efficiency x 0.95PFC x √3)
5. 1000W & 1200W are also available in 2U packages. See section on 1U and 2U Power Supplies

Features:

- Power Factor Correction
- 0°C to +50°C at Full Load
- De-rated @ 70°C
- Standard 5" x 5" Case
- Outputs Fully Floating
- Over Current Protection
- Over Voltage Protection
- Remote Sense
- Over Temperature Protection
- Internal Forced Air Cooling

Options:

- (-128L) DC OK with LED indicator
- (-1CL) AC Fail with LED indicator
- (-2T) Unit enable/disable
- (-5LO) ±10% Output voltage adjust
- (-6B) Single wire current sharing
- (-6D) Slope/Droop current sharing
- (-20C) Isolation diodes
- (-25) Constant current limit
- (-33) Current monitor

Note: Refer to Section 26 for list of all standard options

SPECIFICATION

Inputs

RANGE: 90 to 264 VAC, 1φ or 3φ. 365 to 528VAC, 3φ
FREQUENCY: 47 to 63 Hz. 400Hz also available as an option
POWER FACTOR:
0.99 @ Full Load for 1φ
0.95 @ Full Load for 3φ
INRUSH CURRENT: 25/40A when averaged over 1/2 cycle, depending on output power.
HARMONIC CURRENT: < 5% for 1φ only
INTERNAL FUSE: One or three depending on 1φ or 3φ

Environmental

AUDIBLE NOISE: 63dBA/70dBA max at 1 meter
TEMPERATURE: Operating: 0°C to +50°C at full load. Storage: -55°C to +85°C.
HUMIDITY: 20% to 95% non-condensing.
ALTITUDE: Operating: 5,000 feet. De-rates to 70% at 15,000 feet. Non-Operating: To 30,000 feet.
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: Forced air, internal fan. Airflow exits at connector end. Reverse airflow available.

Output

ADJUSTMENT RANGE: ±10% of nominal output voltage.
POLARITY: Output is isolated. It may be referenced plus/minus as required.
REMOTE SENSE: Compensates for up to 0.5V total loop drop, in the output line.
STATIC REGULATION:
Line: ±0.25% over full line range.
Load: ±0.25% zero load to full load.
VOLTAGE STABILITY: ±0.1% for 24 hour period after 30 minute warm up.
TEMP COEFFICIENT: ±0.02%/°C from 0°C to +50°C.
P-P RIPPLE AND NOISE:
1% (20Hz to 50MHz Bandwidth).
MINIMUM LOAD: Not Required.
TURN ON DELAY: 1sec max from application of AC line.

Internal Protection

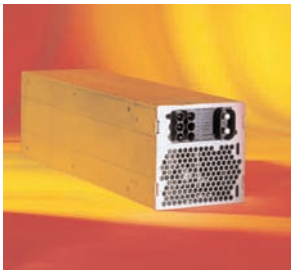
OVER VOLTAGE PROTECTION: 125% ±5% of nominal. OVP shutdown is latched until the input line is removed for 30 seconds and then reapplied. OVP sensing is done at the output terminals.
OVER CURRENT PROTECTION: Current Limit Point: 110% to 120% of full load.
SHORT CIRCUIT CURRENT: Fold back type to 40%-80% of full rated current. Unit will recover when overload is removed.
REVERSE VOLTAGE PROTECTION: Protected to rated load with the fan running.
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. Optionally, non-latchable protection is also available.

Safety

SAFETY: UL1950, CSA22.2 No 950 and TUV to EN60950. CE Mark (LVD)
EMI: Conducted & Radiated: EN55022 Level A
CE Certification is Optional

5” x 5” x 11.25”
Up to 2000W
DC Terminal Block
AC Terminal Block
Option Connector DB25

5” x 5” x 11.5”
Up to 3000W
Elcon lower Drawer
Hot Plug Connector



5” x 5” x 17”
Up to 5000W
Elcon Top Drawer
Hot Plug Connector

5” x 5” x 11.25”
Up to 3000W
DC Bus Bars
AC Terminal Block
Option Connector DB25

5” x 5” x 15.5”
Up to 8100W
DC Bus Bars
AC Terminal Block
Option Connector DB25