Section 6

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

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 standalone 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 over-loads.

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	PM3356	PM3357	PM3358	PM3359	PM33511	PM3359	PM33510	PM33515	PM36516	PM36518	PM36519
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
0 to 70V	0 to 14A	0 to 17A	0 to 21A	0 to 29A	0 to 43A	0 to 29A	0 to 36A	0 to 71A	0 to 86A	0 to 116A	0 to 143A
0 to 90V	0 to 11A	0 to 13A	0 to 17A	0 to 22A	0 to 33A	0 to 22A	0 to 17A	0 to 56A	0 to 67A	0 to 90A	0 to 111A
0 to 100V	0 to 10A	0 to 12A	0 to 15A	0 to 20A	0 to 30A	0 to 20A	0 to 25A	0 to 50A	0 to 60A	0 to 80A	0 to 100A
0 to 150V	0 to 8A	0 to 8A	0 to 10A	0 to 13A	0 to 20A	0 to 13A	0 to 17A	0 to 34A	0 to 40A	0 to 53A	0 to 67A
0 to 200V	0 to 5A	0 to 6A	0 to 8A	0 to 10A	0 to 15A	0 to 10A	0 to 13A	0 to 25A	0 to 30A	0 to 40A	0 to 50A
0 to 250V	0 to 4A	0 to 5A	0 to 6A	0 to 8A	0 to 12A	0 to 8A	0 to 10A	0 to 20A	0 to 24A	0 to 32A	0 to 40A
0 to 300V	0 to 3A	0 to 4A	0 to 5A	0 to 7A	0 to 10A	0 to 7A	0 to 8A	0 to 17A	0 to 20A	0 to 27A	0 to 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 528 VAC, 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: < 25A/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

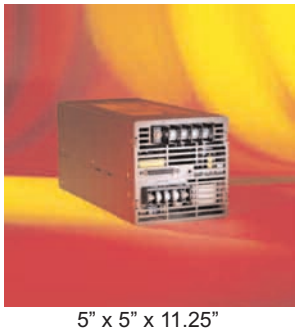
ADJUSTMENT RANGE: ±10% of nominal output voltage.
POLARITY: Output is isolated. It may be referenced plus/minus as required.
REMOTE SENSE: Compensates for up to 0.5V total loop drop, in the output line.
STATIC REGULATION:
Line: ±0.25% over full line range.
Load: ±0.25% zero load to full load.
VOLTAGE 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.

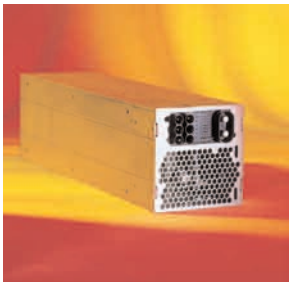
Safety

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

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