

Section 16

DC TO DC MID VOLTAGE 12V TO 60V HIGH POWER SERIES

Pioneer Magnetics introduces a new breed of High Efficiency, Mid Voltage and High Power DC to DC Series that provide full output power with DC Input ranging from 90VDC to 750VDC. 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/in³, 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.

Product Matrix

MODEL	PM3336	PM3337	PM3338	PM3339	PM33311	PM3339	PM33310	PM33315	PM36316	PM36318	PM36319
MAX POWER	1000W	1200W	1500W	2000W	3000W	2000W	2500W	5000W	6000W	8100W	10000W
Vout	lout	lout	lout	lout	lout	lout	lout	lout	lout	lout	lout
12V	83A	100A	125A	166A	250A	166A	208A	416A	500A	675A	833A
15V	67A	80A	100A	136A	200A	136A	167A	363A	400A	540A	665A
24V	42A	50A	63A	83A	125A	83A	104A	208A	271A	367A	416A
28V	36A	43A	54A	71A	107A	71A	89A	179A	232A	289A	357A
32V	30A	38A	47A	63A	94A	63A	78A	156A	203A	253A	312A
40V	25A	30A	37A	50A	75A	50A	63A	125A	150A	202A	250A
48V	21A	25A	31A	42A	63A	42A	52A	104A	135A	169A	208A
54V	18A	22A	28A	37A	56A	37A	46A	93A	111A	150A	185A
60V	17A	20A	25A	36A	50A	36A	42A	83A	108A	135A	167A
Non-Plug	5"	5"	11.25"	5" 5"	11.25"	5" 5"	15.5"	5"	5"	15.5"	15.5"
Hot Plug	5"	5"	11.5"	5" 5"	11.5"	5" 5"	17.5"	5"	5"	17"	17"
DC Input	90V	to	350V	180V	to	350V	90V	to	350V	180V	to 350V or 400V to 750V

Notes: 1. All Models are available with wide DC input range 90 to 350V or high input 180 to 350VDC
 2. Models with output ≥ 4000W are also available with DC Input range 400 to 750VDC

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
- ◆ (-1UL) DC Input Monitor 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:

Up to 1500W - 90 to 350VDC
 > 1500W - 180 to 350VDC

INRUSH CURRENT: < 25A/40A averaged over 10msec.

REVERSE POLARITY PROTECTION: Reverse voltage within rating will not damage power supply.

INPUT FUSING: External Fuse Required

HOLD UP TIME: At least 20msec from loss of input to loss of regulation.

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.

Output

ADJUSTMENT RANGE: +5% to -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 15.5"
 Up to 10kW
 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