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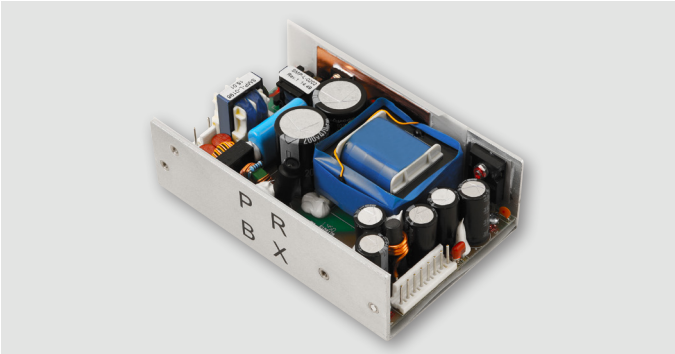
POWERBOX Medline 225
OFM225 Series
225W
Single Output
AC/DC Medical Switch Mode Power Supply



Features

Reliable front edge fly-back design with very low component count
Up to 325W in peak power
Parallel operation
Standard 3x5 inch footprint
Very low leakage current allow parallel connection for higher output power requirements
Approved according to IEC/UL 60601-1
Superior EMC performance
Intelligent over temperature protection

Input

Nominal input voltage	100-240VAC.
Voltage range	90-264 VAC, derate output power with
	1%/1VAC from 100 VAC.
Frequency	47-63Hz.
Inrush current	70A.
Input current	1-3A.
Power factor correction	PF>0,90 for 25 to 100 % of load current.
Input connector	AMP/TE 640388-3 (2 pin, middle pin cut)
	Pins = Tin plated copper.
Mating input	Recommended AMP/TE 3-640426-3.
Leakage current	<100µA.
Isolation class	Class I. Designed as a Class II fulfilling EMC
	requirements with output grounded.
Isolation	4000VAC, 1s input to output.
	4000VAC, input to ground.
	100VDC, output to ground.
	10Mohm isolation prim-sec.
Power consumption	Zero load approx 0,3 Watts at 110 VAC input.

Output

Power	Up to 325 W. See table on page 2 for details.
Voltage	See table. Factory preset non adjustable.
Tolerance	±5% including line, load, step load, temp
	coefficient. See table.
Ripple and noise	Typ <1% 120-264VAC (5228).
20Mhz BW	Typ <2% 120-264VAC (5225 & 5226).
	Typ <6% 90-119VAC, 100Hz ripple component.
	Increased ripple at current limit or temperature
	protection mode, 100Hz ripple component.
Efficiency	Up to 92%.
Hold up time	Typical 20ms at 240VAC and 10ms at 100VAC.
Start up time	<2s.
Line regulation	±1%.
Load regulation	±1% at 10-90% load change at output terminal.
Overcurrent protection	Trip point max 130%, auto recovery.
Current limiting charact.	Constant current.
Overtemp. protection	Yes, auto recovery and output power limiting.
Overvoltage protection	Yes, trip point approx. at 125%.
Max capacitive load	100.000µF.
Transient response	2.5% deviation for a 25% load change at
	1A/1ms. Output returns within
	regulation in max 4ms and typical 1ms.
Temperature coefficient	Typ. 0.04%/°C of Uo.
Input connector	AMP/TE 640388-3 (2 pin, middle pin cut)
	Pins = Tin plated copper.
Output connector	AMP/TE 640388-8 (8 pin) 1-4 positive/5-8
	negative, Pins = Tin plated copper.
Mating output	Recommended AMP/TE 3-640426-8.

Environmental

Operating temperature	0°C to 50°C at 100% load.
	50°C to 70°C at 50% load.
	–40°C start up.
Storage temperature	–40°C to +75°C.
Humidity	5% to 95% non-condensing.
Derating	Automatically derating linearly to 50% power at
	70°C controlled by internal over temperature
	protection.
Cooling	Convection or forced air cooling with external fan.
	6.6CFM (11m^3/h) required for peak power output.
Environmental efficiency	Fulfilling Green Mode requirements from
	IEC60950-1, CEC Level V, EISA and ErP.
	Less than 0.3 Watts in zero load consumption.
Home care environment	IEC60601-1-11.
Environmental compliance	RoHS, REACH and WEEE.
Altitude	Rated for use at 70kPa corresponding to
	3000m with forced air 6.6CFM.

General

Switching frequency	80-120 kHz.
Parallel operation	Yes without additional components. Automatic
	load sharing through the integrated temperature
	protection (approx. 80% load sharing) N+1.
Acoustic noise	Less or equal to 30dB(A) at a distance of 0.3m
	and in frequency range 1Hz to 20kHz.
Dimensions	81 x 127 x 40.1 mm (3 x 5 inch).
Mechanical type	U-bracket mounting holes 115.6mm x 64.8mm
	(63.5). Mounting holes M3 diameter according
	to drawing.
Weight	Approx 500g.
Colour	Nature aluminium.
MTBF	>500.000h at 25°C, 100% load.
	Calculation based on MIL-HDBK-217E.
Lifetime prediction	Min. 80.000h at 230 VAC 50% load and 100%
	duty cycle at 35°C average ambient temperature.
Component count	Approx 115.
Warranty	2 years.
Installation guide	Available at PRBX.com.

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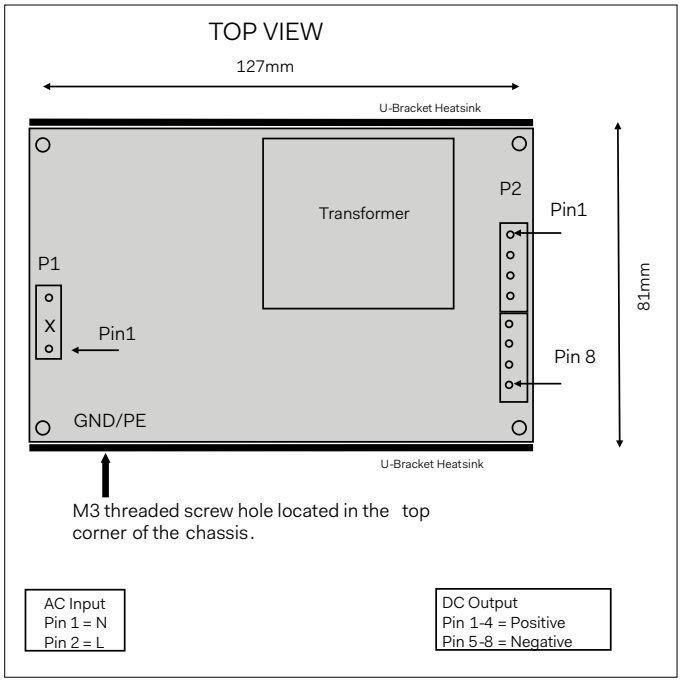
Model Number	Output Voltage	Continous Output Current[1]	Continous Output Power Convection[1]	With Forced Air 6.6CFM[2]	With Forced Air 12CFM[2]	Peak Output Current[3]	Peak Output Power[3]	Eff.
Input Voltage 100VAC[4]								
OFM2255225	12V	6.7 A	80W	160W	160W	21.66A	260W	
OFM2255226	15V	8 A	120W	165W	165W	19A	285W	
OFM2255228	24V	8.75A	210W	225W	225W	13.54A	325W	
Input Voltage 230VAC								
OFM2255225	12V	12.9 A	155W	180W	200W	21.66A	260W	90.5%
OFM2255226	15V	11A	165W	200W	225W	19A	285W	91%
OFM2255228	24V	9.375A	225W	250W	325W	13.54A	325W	92%

Notes:
1. Convection cooling at operating temperature +50°C.
2. Maximum power rating at +50°C. Airflow must be directed to pass through the OFM225.
3. Peak power max duration 10 sec every 100 sec (10% duty cycle), average power to be within limitations by cooling condition.
4. Derate output power lineary to 90% between 90-100VAC with 1%/1VAC.
5. App suffix -02 after part number, example OFM225 5228-02, for fuse in Neutral replaced by jumper.

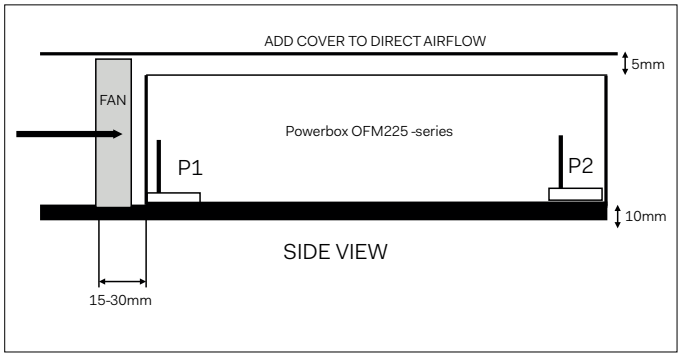
Standards

Safety standards	Approved according to IEC60601-1
	including deviations for Europe,
	US & Canada by Intertek SEMKO.
	UL ANSI/AAMI ES60601-1,
	CAN/CSA C22.2 No. 60601-1.
	Designed to meet IEC60950-1.
Safety markings	ETL, UL & CE.
EMC standards	IEC60601-1-2, IEC61204-3, EN55011
	Class B.
Harmonic current emissions	IEC61000-3-2.
Voltage fluctuations and flicker	IEC61000-3-3.
ESD susceptibility	IEC61000-4-2, ±15KV air and ±8KV
	contact.
Radiated susceptibility	IEC61000-4-3, 10V/m. Proximity test,
	9V/m and 28V/m.
EFT/Burst	IEC61000-4-4, ±2kV on AC port,
	±1kV on signal ports.
Surge	IEC61000-4-5, ±2kV common mode,
	±1kV differential mode.
Conducted susceptibility	IEC61000-4-6, 10V/m.
Power frequency magnetic field	IEC61000-4-8, 30A/m.
Dips and interruptions	IEC61000-4-11, 100% drop, 0.5 periods.
	100% dip, 1 period.
	30% dip, 25/30 periods.
	Interruptions: 100% drop, 5 seconds.

Mechanical size



Cooling



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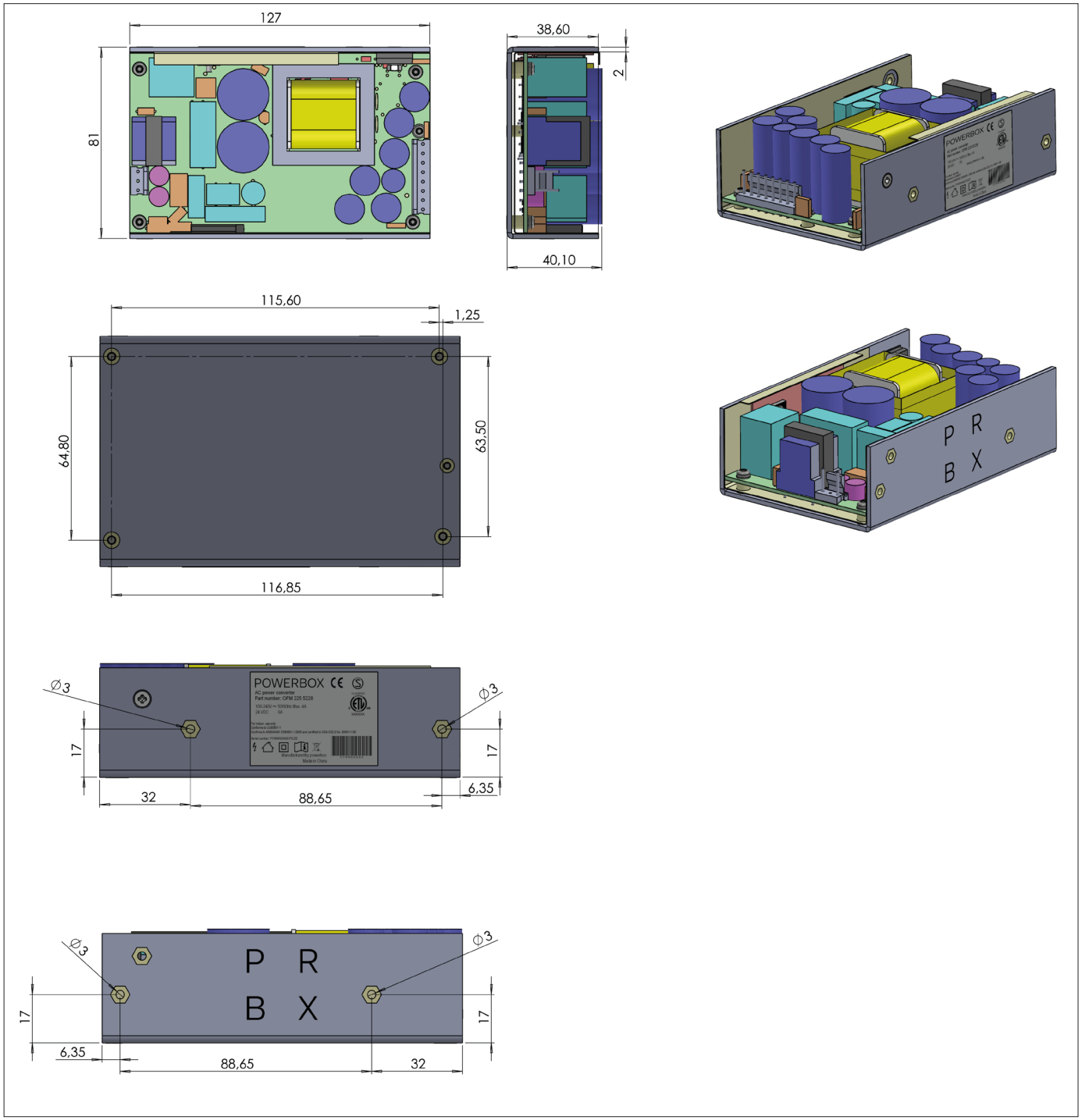

Specifications are subject to change without notice.