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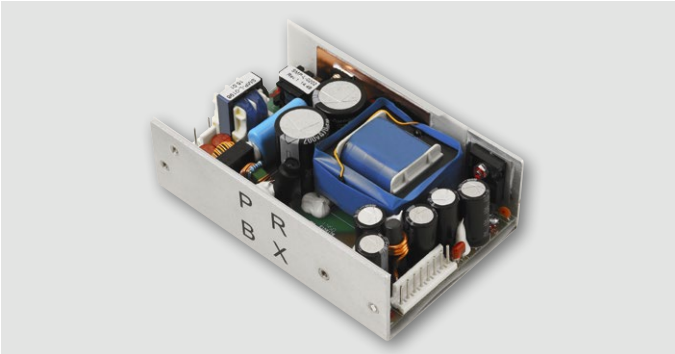
POWERBOX Medline 225
OFM225 Series
225W
Single Output
AC/DC Medical Switch Mode Power Supply



**Features**

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|---|
| 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<br>4000VAC, input to ground<br>100VDC, output to ground<br>10Mohm isolation prim-sec |
| Power consumption | Zero load approx 0,3 Watts at 110 VAC input |

**Output**

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|---|---|
| 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 for OFM225 5228 and 10ms at 240VAC and 5ms at 100VAC input for OFM225 5225 |
| 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<br>50°C to 70°C at 50% load<br>–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 (11m³/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 W 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<br>Calculation based on MIL-HDBK-217E |
| Lifetime prediction | Min. 80.000h at 230 VAC 50% load and 100% duty cycle at 35ºC average ambient temperature |

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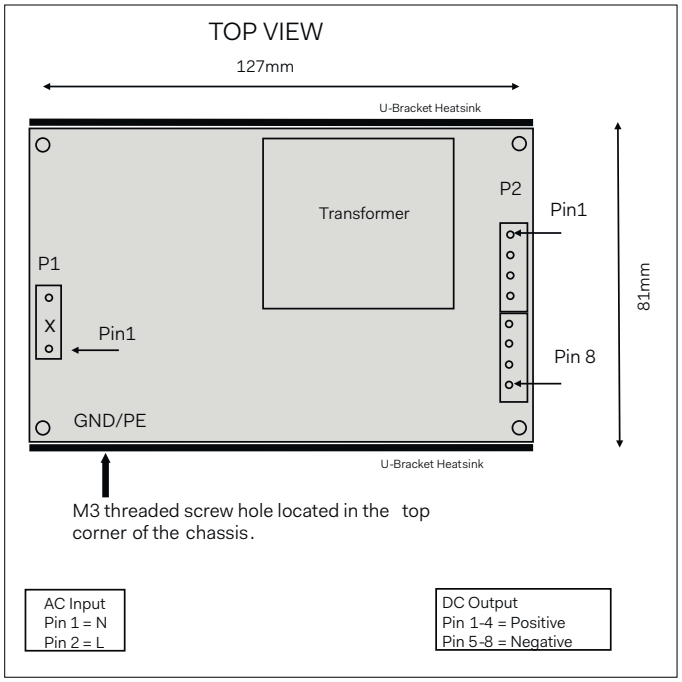
| Model Number | Output Voltage | Continous Output Current[1] | Continous Output Power Convection[1] | With Forced Air 6.6CFM[2] | With Forced Air 12CFM[2] | Peak Output Current[3] | Peak Output Power[3] | Eff. |
|---|---|---|---|---|---|---|---|---|
| **Input Voltage 100VAC[4]** | | | | | | | | |
| 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% |

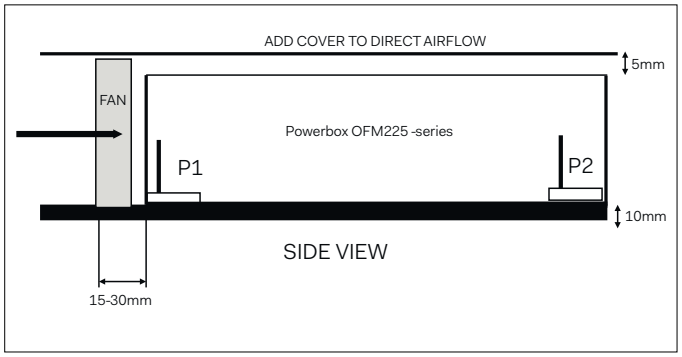
**Notes:**
1. Convection cooling at operating temperature +50°C.
2. Maximum power rating at +50°C. Airflow must be directed to pass through the OFM225.
3. Peak power max duration 10 sec every 100 sec (10% duty cycle), average power to be within limitations by cooling condition.
4. Derate output power 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.

| | |
|---|---|
| Component count | Approx 115 |
| Warranty | 2 years |
| Installation guide | Available at PRBX.com |
| **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<br>100% dip, 1 period<br>30% dip, 25/30 periods<br>Interruptions: 100% drop, 5 seconds |

## Mechanical size




## Cooling



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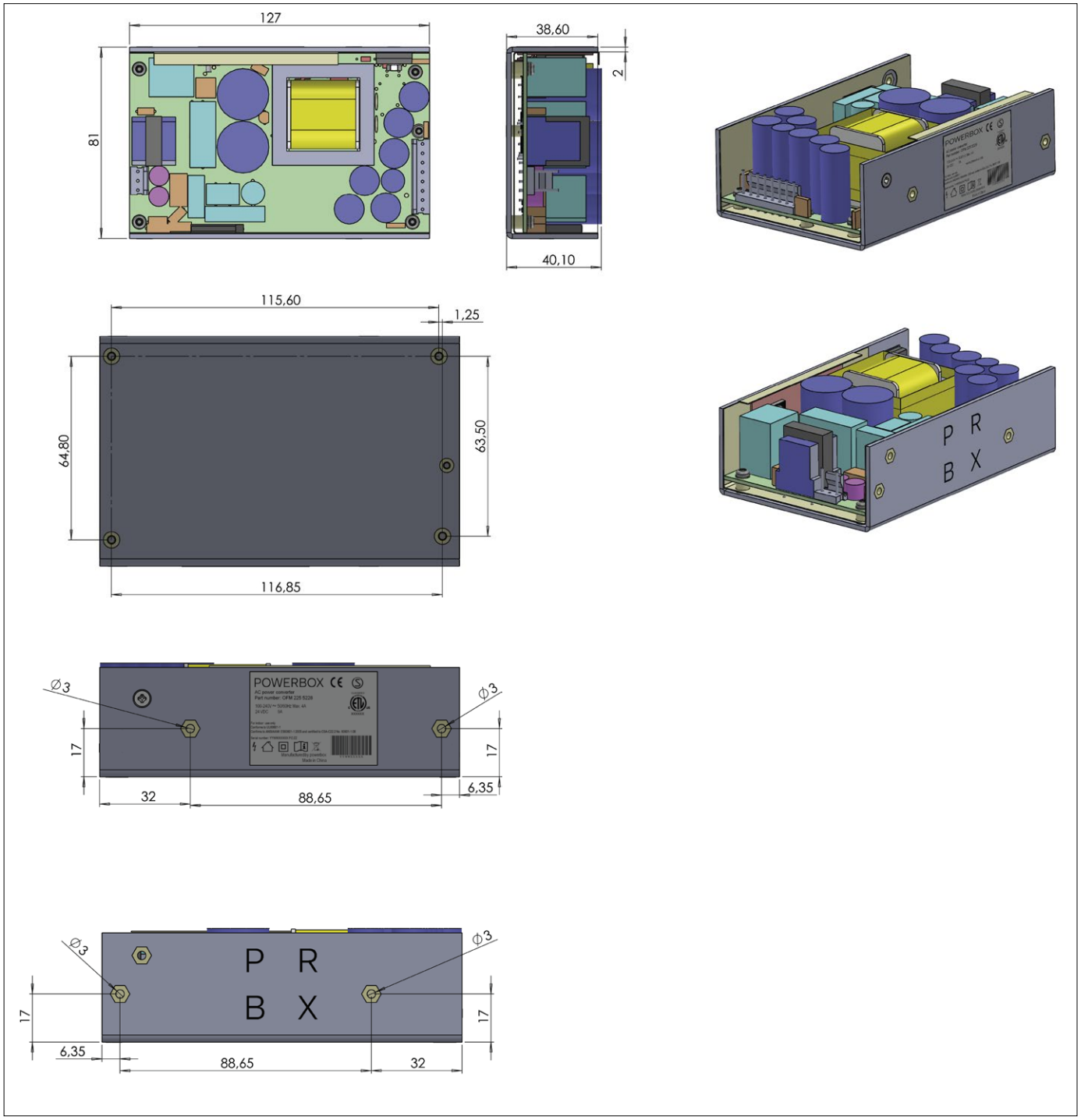


Specifications are subject to change without notice.