

PR BX

POWERBOX **Medline 30**
OFM30 Series
30W
Single Output
AC/DC Medical Switch Mode Power Supply

Features

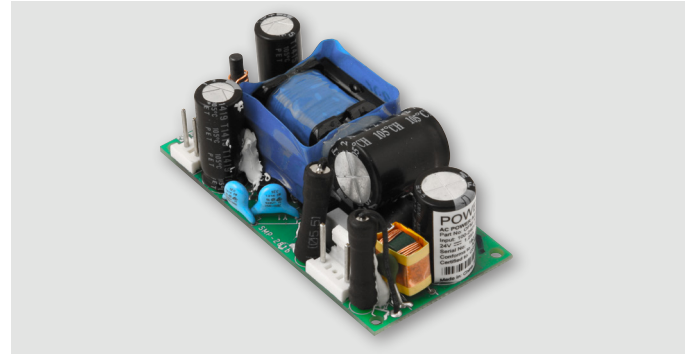
Reliable front edge fly-back design with very low component count
Peak up to 45W
Standard 1.5x3 inch footprint
Extra low leakage, less than 10 μ A
Class II double isolation and UL/IEC60601-1 medical approval
Suitable to power up medical systems up to CF class
Superior EMC performance
Intelligent over temperature protection

Input

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| Nominal voltage | 100-240VAC. |
| Voltage range | 90-264VAC. |
| Frequency | 47-63Hz, sine-wave. |
| Input current | 0.2. to 0.4A. |
| Leakage current | <10 μ A at nominal load and input voltage. |
| Inrush current | I _{peak} <35A at 265VAC. |
| Isolation | 4000VAC, 1s input to output. 10Mohm isolation prim-sec. |
| Isolation class | Designed as a Class II fulfilling EMC requirements with output grounded. |

Output

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| Voltage | 12.3V (5025) |
| | 15.2V (5026) |
| | 24.1V (5028) |
| Power | 30W at 90-240VAC input and 50°C ambient temp. Peak power capacity of max 45W. See table. |
| Efficiency | Up to 88% . |
| Hold up time | 40ms at 230VAC. 20ms at 115VAC. |
| Start up time | >2 sec. |
| Line regulation | \pm 1%. |
| Load regulation | \pm 1%, 10-90% load change. |
| Voltage adjustment | Not customer adjustable. |
| Current adjustment | No. |
| Voltage tolerance | \pm 2.5% including line, load, step load, temp coefficient, see table. |
| Ripple and noise | Max 1% p-p, 0-20 MHz. |
| Transient response | Max 2.5% deviation for a 25% load change at 1A/1 μ s. Output returns to 1% regulation within 100 μ s. |
| Overcurrent protection | Trip point max 200%, auto recovery, hiccup mode, straight current limit characteristics. |
| Current limiting charact. | Constant current. |
| Overvoltage protection | Trip point approx. at 120%, shut down. |
| Max capacitive load | 47.000 μ F. |
| Remote sense | No. |
| Overtemp. protection | Yes, automatic recovery and output power limiting by gracefully decline. |



Environmental

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| Operating temperature | 0°C to 50°C at 100% load. |
| | -10°C to 70°C at 50% load. |
| | -40°C start up with increased output ripple. |
| Storage temperature | -40°C to +75°C. |
| Humidity | 10% to 95% non-condensing. |
| Altitude | Rated for use at 70kPa corresponding to 3000m with forced air 6.6CFM. |
| Derating | Automatically derating linearly to 50% power at 70°C controlled by internal over temperature protection. |
| Cooling | Convection. |
| Environmental compliance | RoHs, REACH and WEEE. |
| Operating vibration | 2-200Hz, 0.27G, sweep cycle 10 time, 3 min ea. |
| | Direction X,Y,Z. |
| Non-operation vibration | 2-200Hz, 1.0G, sweep cycle 10 time, 3 min ea. |
| | Direction X,Y,Z. |
| Shock | 20G, 3 shocks on each axis, no damage to be sustained. |
| Environmental efficiency | Fulfilling Green Mode requirements from IEC60950-1, CEC Level V, EISA and ErP. Less than 0.3 Watts in zero load consumption. |
| CB report IEC60601-1 edition 3 | Registered under Powerbox. Performed by ETL/Intertek Semko. |

General

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| Switching frequency | 100-300 kHz. |
| MTBF | >500.000 h at 25°C, 100% load, according to MIL-HDBK-217E. |
| Lifetime expectation | Min 80.000 h at 230VAC 50% load and 100% duty cycle at 35°C average ambient temperature. |
| Component count | Approx. 65. |
| Acoustic noise | Less or equal to 30dB(A) at a distance of 0.3m and in frequency range 1Hz to 20kHz. |
| Input connector | AMP 640 388-3. |
| Output connector | AMP 650 388-2. |
| Weight | < 80g. |
| Dimensions | 75,5mm x 37,3mm x 25mm, 3 x 1.5 x 0.9 inch. |

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| Carton box | 90pcs/box. |
| Export pallet | 2880pcs/pallet. |
| Mounting | Holes size and distance between: 70mm x 32 mm, see drawing. |
| Mechanical type | Open frame. |
| Parallel operation | Yes without additional components. Automatic load sharing through the integrated temperature protection (approx. 80% load sharing) N+1. |

Standards

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| Safety standards | Approved according to IEC 60601-1 ed.3 and CB's by ETL Intertek. |
| Safety markings | CE, ETL, (sUL pending). |
| EMC/EMI standards | IEC60601-1-2 ed. 3, IEC55011 B, IEC61204-3. |
| Harmonic current emiss. | IEC61000-3-2 class A with 0.5 Ohm equivalent mains source impedance. |
| Voltage fluct. and flicker | IEC61000-3-3. |
| ESD susceptibility | IEC61000-4-2, ±6kV contact, ±8kV air. |
| Radiated susceptibility | IEC61000-4-3, 3V/m. |

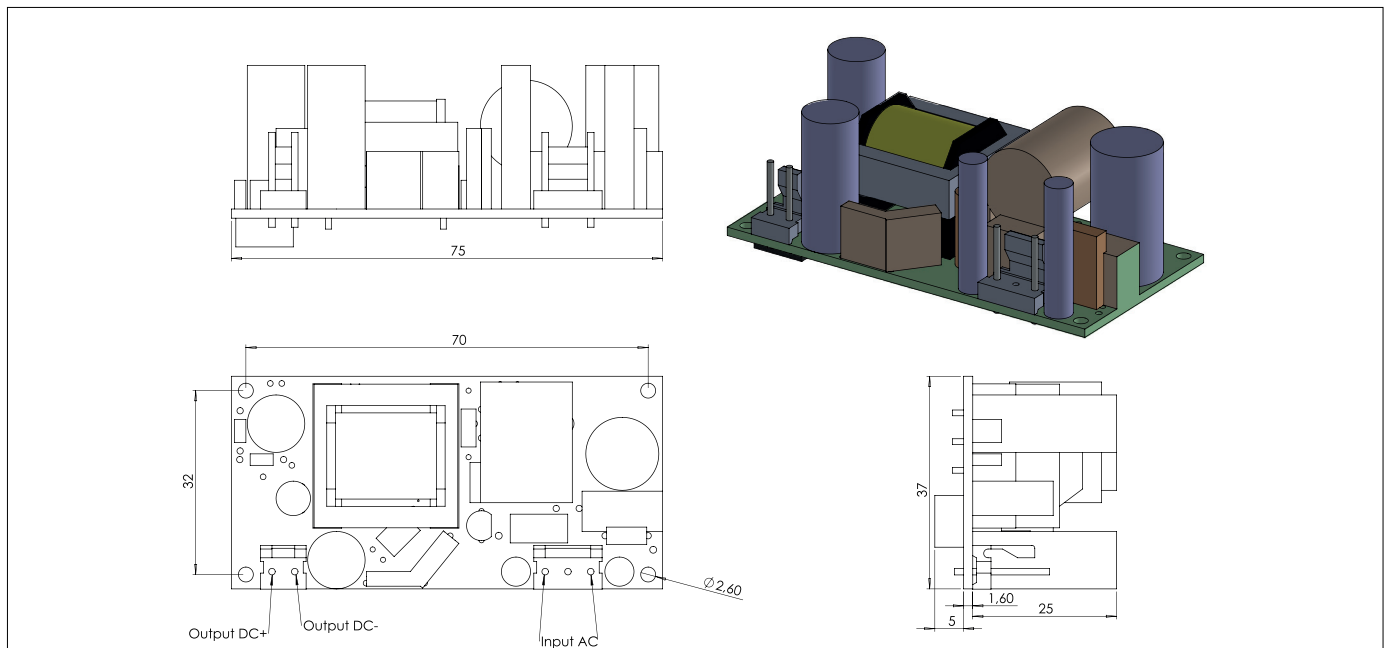
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| EFT/Burst | IEC61000-4-4, ±2kV on AC port, ±1kV on signal ports. |
| Surge | IEC61000-4-5, ±2kV common mode, ±1kV differential mode. |
| Conducted susceptibility | IEC61000-4-6, 3V/m. |
| Power freq. magnetic field | IEC61000-4-8, 3A/m. |
| Dips and interruptions | IEC61000-4-11, 30% 500ms, 60% 100ms, 95% 5sec. Performance criteria A,A, B. PRBX: measure at nominal input voltage. Test is performed by interrupting/dropping the AC input anytime at the sinewave AC input curve. At 100VAC input voltage then drops to/during: Test 1: 70VAC for 500ms – performance criteria A. Test 2: 40VAC for 100ms – At 30% load performance criteria A. At higher load the out voltage decreases and output ripple increases. Test 3: 5VAC for 5 seconds – Performance criteria B, output interrupted but no damage to the unit. |

| Model Number | Output Voltage | Voltage Tolerance | Continuous Output Current* | Continuous Output Power Convection* | Peak Output Current* | Peak Output Power* | Efficiency |
|--------------|----------------|-------------------|----------------------------|-------------------------------------|----------------------|--------------------|------------|
| OFM305025 | 12V | 12.00-12.60V | 2.5 A | 30W | 3.75A | 45W | 85.5% |
| OFM305026 | 15V | 14.85-15.55V | 2.0 A | 30W | 3A | 45W | 88% |
| OFM305028 | 24V | 23.50-24.70V | 1.25A | 30W | 1.875A | 45W | 88% |

*)
a) Definition of free convection cooling and 50°C ambient: OFM30 mounted vertically with 10mm distances.
b) Continuous output power at 50°C ambient and 90-240VAC convection cooling.

c) Peak power at 100-240VAC max duration 10 sec per every 100 sec (10% duty cycle) convection cooling.

Mechanical



Specifications are subject to change without notice.