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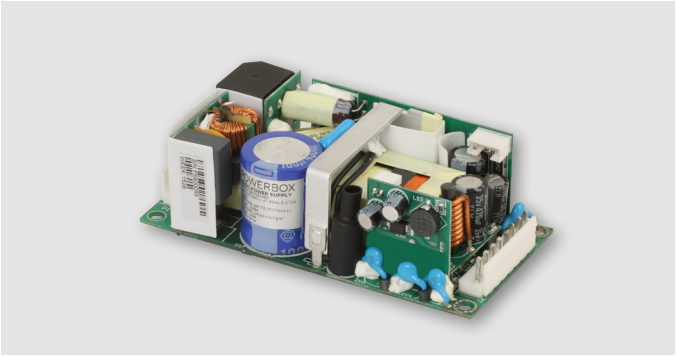
POWERBOX Medline 150
OBM03 Series
100-150W Single Output
AC/DC Medical Switch Mode Power Supply



Features
Fulfills IEC60601-1-2:2014 (EMC 4th edition)
BF Class insulation
Operation up to 5000 meters
2 x 4 inch footprint with 1.3 inch low profile
100-240 VAC input with active PFC
Less than 275 µA leakage current
Meet EN55011 /55022 and FCC Class B
Version for fixed installations
100% burn-in at full load
Short-circuit protection
Power Fail Detect (PFD) signal (option)
Compliant with RoHS requirements
High efficiency 89% typical
No load power consumption less than 0.5W without PFD or 1W with PFD

Input	
Voltage range	90-264VAC.
Frequency	47-63Hz.
Current	1.7A (rms) for 115VAC.
	0.85A (rms) for 230VAC.
Leakage current	275µA max @ 264VAC, 63Hz.

Output	
Power	See table.
Voltage/current	See table.
Ripple and noise	See table.
Remote sense	Compensation for cable losses up to 0.5V.
Over voltage protection	Set at 112-140% of its nominal output voltage.
Over current protection	Output protected to short circuit conditions.
Temperature coefficient	±0.04%/°C max.
Transient response	Max excursion of 4% or better on all models,
	recovering to 1% of final value within 500us
	after a 25% step load change.
Fan power	12V at 0.5A max (isolated).

Enviromental	
Operating temperature	0°C to +70°C.
Storage temperature	–40°C to +85°C.
Relative humidity	5-95% non-condensing.
Derating	Derate from 100% at +50°C linearly to 50% at
	+70°C, applicable to convection and forced-air
	cooling conditions.

General	
Switching frequency	133KHz typical.
Efficiency	See table.
Hold-up time	10ms min at 120VAC.
Line regulation	±0.5% max at full load.

Inrush current	80A @ 115VAC, or 160A @ 230VAC, at 25°C
	cold start.
Withstand voltage	4,000VAC from input to output (2MOPP).
	1,500VAC from input to ground (1MOPP).
	1,500VAC from output to ground (1MOPP).
MTBF	250,000 hours at full load at 25°C ambient,
	calculated per MIL-HDBK-217F.

Interface Signals	
PFD	TTL logic high for normal operation and TTL
	logic low upon loss of input power. This signal
	appears at least 1ms prior to V1 output
	dropping 5% below its nominal value. This
	signal also provides a minimum delay of
	100ms after V1 is within regulation.

Standards	
Safety standards	UL ES 60601-1, CSA C22.2 No. 60601-1
	TÜV EN 60601-1.
EMC performance	IEC 60601-1-2:2014 (4th ed.).
EN55011/EN55022	Class B conducted, Class B radiated.
FCC	Class B conducted, Class B radiated.
VCCI	Class B conducted, Class B radiated.
EN61000-3-2	Harmonic distortion Class A and D.
EN61000-3-3	Line flicker.
EN61000-4-2	ESD, ±15 KV air and ±8 KV contact.
EN61000-4-3	Radiated immunity, 10V/m.
	Proximity test, 9V/m and 28V/m.
EN61000-4-4	Fast transient/burst, ±2KV.
EN61000-4-5	Surge, ±1KV diff., ±2KV com.
EN61000-4-6	Conducted immunity, 10 Vrms (0.15 – 80 MHz).
	10 Vrms ISM Bands + Amateurs.
EN61000-4-8	Magnetic field immunity, 30A/m.
EN61000-4-11	Voltage dips:
	100% drop, 0.5 periods.
	100% dip, 1 period.
	30% dip, 25/30 periods.
	Interruptions: 100% drop, 5 seconds.

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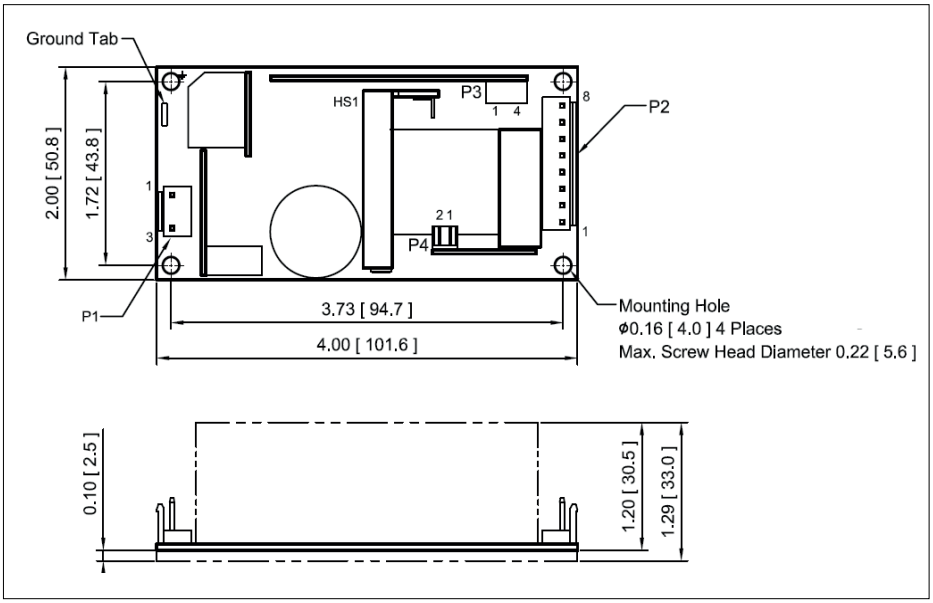
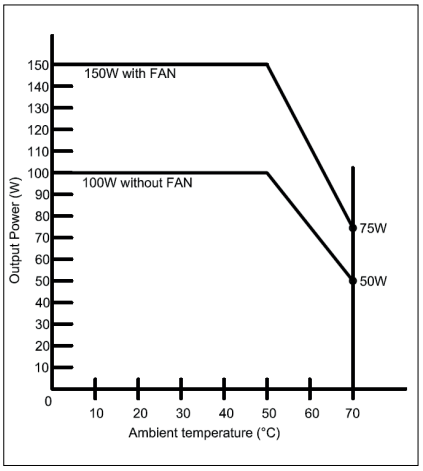
Model Number	Output V1	Min Load	Max Current at Convection	Max Current at 7.5CFM	Peak[3] Current	Tol	Ripple & Noise[5]	Max[4] Power	Efficiency (typical) Max Power at Convection 115/230VAC	Efficiency (typical) Max Power at 7.5CFM 115/230VAC
OBM03031A	12 V	0 A	8.35 A	12.50 A	14.0 A	±2%	120 mV	100 W /150 W	87 /89%	86 /88%
OBM03037A	15 V	0 A	6.70 A	10.00 A	11.0 A	±2%	150 mV	100 W /150 W	87 /89%	86 /88%
OBM03038A	18 V	0 A	5.56 A	8.34 A	9.2 A	±2%	180 mV	100 W /150 W	87 /89%	86 /88%
OBM03046A	24 V	0 A	4.20 A	6.25 A	7.0 A	±2%	240 mV	100 W /150 W	87 /89%	86 /88%
OBM03055A	30 V	0 A	3.34 A	5.00 A	5.6 A	±2%	300 mV	100 W /150 W	87 /89%	86 /88%
OBM03061A	36 V	0 A	2.78 A	4.17 A	4.6 A	±2%	360 mV	100 W /150 W	87 /89%	86 /88%
OBM03070A	48 V	0 A	2.10 A	3.13 A	3.5 A	±2%	480 mV	100 W /150 W	87 /89%	86 /88%

Notes:
1. To order a model with PFD signal, please consult Powrbox to get an exclusive part number distinguishing it from the standard model without PFD signal.
2. Add suffix -SP after part number for fixed installations. Fuse in Neutral not used.
3. Peak output current with 10% duty cycle maximum for less than 15 seconds, average power not to exceed maximum power rating.
4. The first value of max. power is at convection cooling. The second value is with 7.5 CFM forced air provided by user.
5. Ripple and noise is maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 10 µF tantalum (or electrolytic) capacitor in parallel with a 0.1 µF ceramic capacitor across the output except model OBM03031A which is with a 47 µF tantalum (or electrolytic) capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

Mechanical



Derating Curve



Notes:
1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector P1: JST header P/N B3P-VH, mating with JST housing P/N VHR-3N or equivalent.
4. Output connector P2: JST header P/N B8P-VH, mating with JST housing P/N VHR-8N or equivalent.
5. Connector P3: JST header B4B-PH-K-S (LF) (SN) , mating with JST housing PHR-4 or equivalent.
6. FAN connector P4: JST header B2B-PH-K-S (LF) (SN) , mating with JST housing PHR-2 or equivalent.
7. Ground tab is 0.25 [6.35] × 0.032 [0.8] fast-on connector.
8. Weight: 200 grams (0.44 lbs.) approx.

Pin Connection

Connector	P1			P2							
Pin No	1	2	3	1	2	3	4	5	6	7	8
Polarity	Neutral	Void	Live	Common Return	Common Return	Common Return	Common Return	+V1	+V1	+V1	+V1

Connector	P3				P4	
Pin No	1	2	3	4	1	2
Polarity	Common Return	PFD (optional)	-Sense	+Sense	Fan Return(Isolated)	+12V Fan

Specifications are subject to change without notice.