

P R B X

POWERBOX Medline 1100
OBS01Series
1100W
Single Output
AC/DC Medical Switch Mode Power Supply

Features

Compliant against IEC60601-1-2:2014 (EMC 4th edition)
BF Class insulation
Operation up to 5000 meters
Compact size 5.91" x 9.25" x 2.4"
Less than 300 μ A leakage current
Compliant against IEC 60601-1-2:2014
EN55011 Class B conducted and radiated emissions
Inhibit - TTL low to disable output
Standard PS Off and DC OK signals
High efficiency 89% typical
Compliant with RoHS requirements
Standby output 5 VDC at 200 mA
Variable speed internal fan
Overcurrent protection
Thermal protection

Input

Voltage range 90-264VAC.
Frequency 47-63Hz.
Input current 16A (rms) @ 100VAC, 60Hz.
8A (rms) @ 240VAC, 50Hz.
Earth leakage current 300 μ A max @ 264VAC, 63Hz.
Touch current 100 μ A max. @ 264 VAC, 63 Hz.

Output

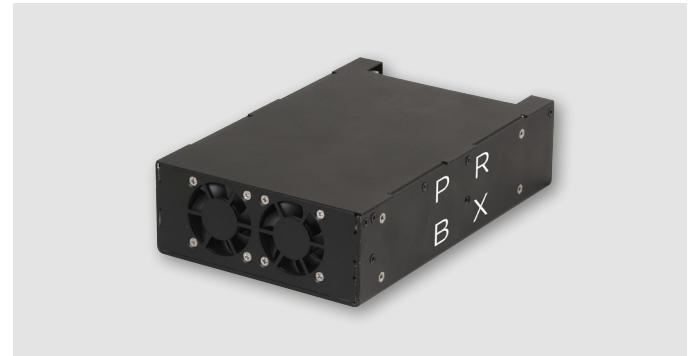
Output voltage/current See table.
Total output power See table.
Ripple and noise 1% peak to peak maximum
Remote sense Compensation for cable losses up to 0.5V
Overvoltage protection Set at 112-140% of nominal output voltage.
Overcurrent protection Set at 120-140% of maximum output current.
Thermal shutdown Protected to overtemperature conditions.
Temperature coefficient All outputs $\pm 0.04\%$ / $^{\circ}$ C maximum.
Transient response: Max excursion of 4%, recovering to 1% of final value within 500 μ s after a 25% step load change.
Standby power 5V at 200mA maximum.
Fan power 12V at 1.0A maximum.

Environmental

Operating temperature -10° C to $+70^{\circ}$ C.
Storage temperature -40° C to $+85^{\circ}$ C.
Relative humidity 5-95% non-condensing.
Derating Derate from 100% at $+50^{\circ}$ C linearly to 50% at $+70^{\circ}$ C, applicable to convection and forced-air cooling conditions.

General

Switching frequency 40 KHz to 240KHz
Efficiency See table.
Hold-up time 10 ms minimum at 110 VAC
Line regulation $\pm 0.5\%$ maximum at full load



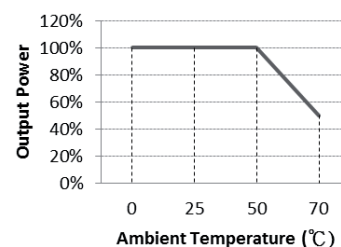
Inrush current	50 A @ 115 VAC or 100 A @ 230 VAC, at 25°C cold start
Withstand voltage	4000 VAC from input to output (2MOPP). 1500 VAC from input to ground (1MOPP). 1500 VAC from output to ground.
MTBF	300,000 hours at full load at 25°C ambient, calculated per MIL-HDBK-217F.

Interface Signals

PFD	TTL high for normal operation, low upon loss of input power, turn-on delay time 100-2500 ms, turn-off delay time 1 ms minimum.
Inhibit	TTL low to turn off output.
DC OK	TTL high when output voltage >95%.
PS OFF	TTL high to turn off output.

Standards

Safety standards	UL ES 60601-1, CSA C22.2 No 60601-1 File No E189020, TUV EN 60601-1, UL60950-1.
EMC Performance	IEC60601-1-2:2014.
EN55011	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, 10 V/m.
EN61000-4-4	Fast transient/burst, ± 2 KV.
EN61000-4-5	Surge, ± 1 KV diff., ± 2 KV com.
EN61000-4-6	Conducted immunity, 3 Vrms.
EN61000-4-8	Magnetic field immunity, 3 A /m.
EN61000-4-11	Voltage dip immunity, 100% drop, 0.5 periods, 100% dip, 1 period, 30% dip, 25/30 periods, Interrupt 100% drop, 5 seconds.



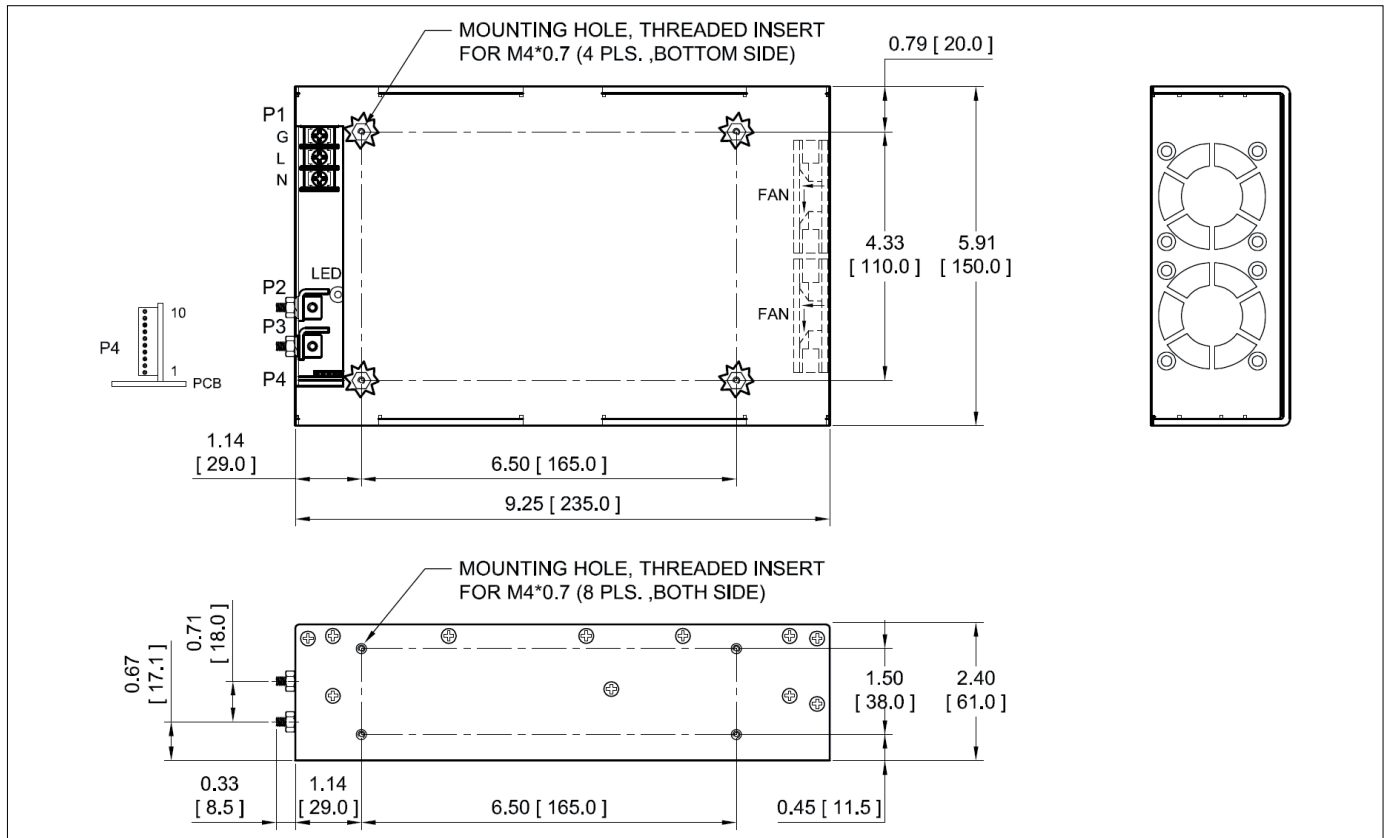
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Model Number	Output V1	Min Current	Max Current	Peak Current	Tol.	Ripple & Noise	Max Output Power	Eff (typ) @1100W 115V/@230VAC
OBS01046C	24 V	0 A	45.84 A	52.10 A	±2%	240 mV	1100 W /1250 W	87 /88%
OBS01050C	28 V	0 A	39.29 A	44.65 A	±2%	280 mV	1100 W /1250 W	87 /88%
OBS01055C	32 V	0 A	34.38 A	39.07 A	±2%	320 mV	1100 W /1250 W	87 /88%
OBS01060C	34 V	0 A	32.35 A	36.77 A	±2%	340 mV	1100 W /1250 W	87 /89%
OBS01061C	36 V	0 A	30.56 A	34.73 A	±2%	360 mV	1100 W /1250 W	87 /89%
OBS01064C	42 V	0 A	26.20 A	29.77 A	±2%	420 mV	1100 W /1250 W	87 /89%
OBS01070C	48 V	0 A	22.92 A	26.10 A	±2%	480 mV	1100 W /1250 W	87 /89%

Notes:

1. Peak current and power possible at 170-260 VAC input, 10 seconds, 35% duty cycle.
2. 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 capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

Mechanical



Notes:

1. Dimensions shown in inches [mm].
2. Tolerance 0.02 [0.5] maximum.
3. Input connector P1 is Dinkle terminal P/N DT-4C-B01W-03, with nickel plated M3.5 screws or equivalent.
4. Output connectors P2 and P3 are for M5*0.8 screw connections.
5. Output connector P4 is Molex header 22-05-7105 or equivalent, mating with Molex housing 50-37-5103 or equivalent.
6. Weight: 2.884 Kgs (6.35 lbs.) approx. for enclosed form.
7. Maximum penetration depth of fixing screws is 4 mm from the outer surface of chassis.

Connection Pin	P1 1	2	3	P2 1	2	P3 1	2
Polarity	Live	Neutral	Ground	+V1	+V1	V1 Return	V1 Return

Connection Pin	1	2	3	4	5	6	7	8	9	10
Polarity	Fan	+12V	PS OFF	DC OK	+5V	Inhibit	PFD	-V1	+V1	Common
	Return	Fan			Standby			Sense	Sense	Return

Specifications are subject to change without notice.