

P R B X

POWERBOX Medline 60
OBJ07 Series
37.5-64W
Multiple Output
AC/DC Medical Switch Mode Power Supply

Features

BF Class insulation
Medical approvals
Compact size 2" x 4" x 1.18"
Single, dual and triple outputs
Wide-range input 90-264 VAC
Low earth leakage current
Level B emissions
RoHS compliant

Input

Input voltage	90-264 VAC
Input frequency	47-63 Hz
Input current	1.3 A (rms) for 100 VAC. 0.7 A (rms) for 240 VAC
Earth leakage current	150 µA max. @ 264 VAC, 63 Hz

Output

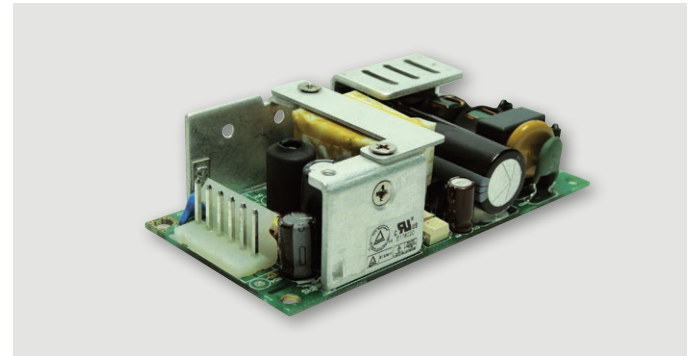
Output voltage/current	See rating chart
Maximum output power	See rating chart
Ripple and noise	100 mV peak to peak on 3.3 V & 5.0 V models, 1% peak to peak on other models
Overvoltage protection	Provided on output #1 only; set at 112-132% of its nominal output voltage
Overcurrent protection	All outputs protected to short circuit conditions
Temperature coefficient	All outputs ±0.04% / maximum
Transient response	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 µs after a 25% step load change

Environmental

Operating temperature	-10°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

General

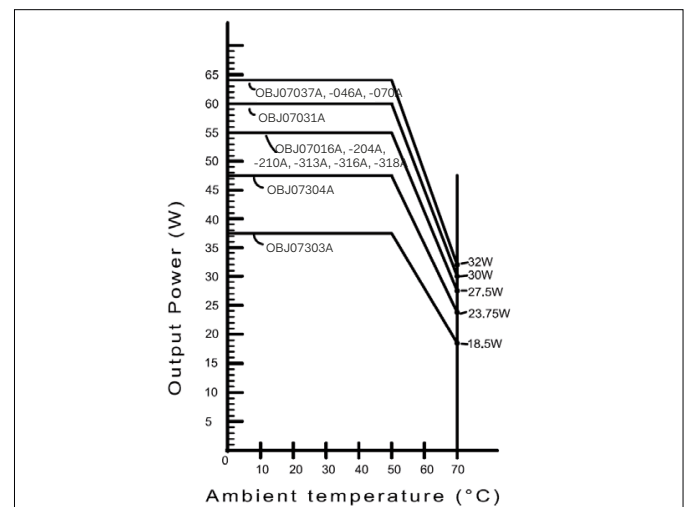
Switching frequency	62 kHz ±5 kHz
Efficiency	80-88% typical except OBJ07303A and OBJ07304A at 75% typical
Hold-up time	12 ms min at 110VAC
Line regulation	±0.5% max at full load
Inrush current	30A @ 115VAC, or 60A @ 230VAC, at 25°C cold start
Withstand voltage	4,000VAC from input to output (2 MOPP) 1,500VAC from input to ground (1 MOPP) 1,500VAC from output to ground
MTBF	400,000 hours min at full load at 25°C ambient, calculated per MIL-HDBK-217F



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	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 coupling plane
EN61000-4-3	Radiated immunity, 10 V/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

Derating Curve



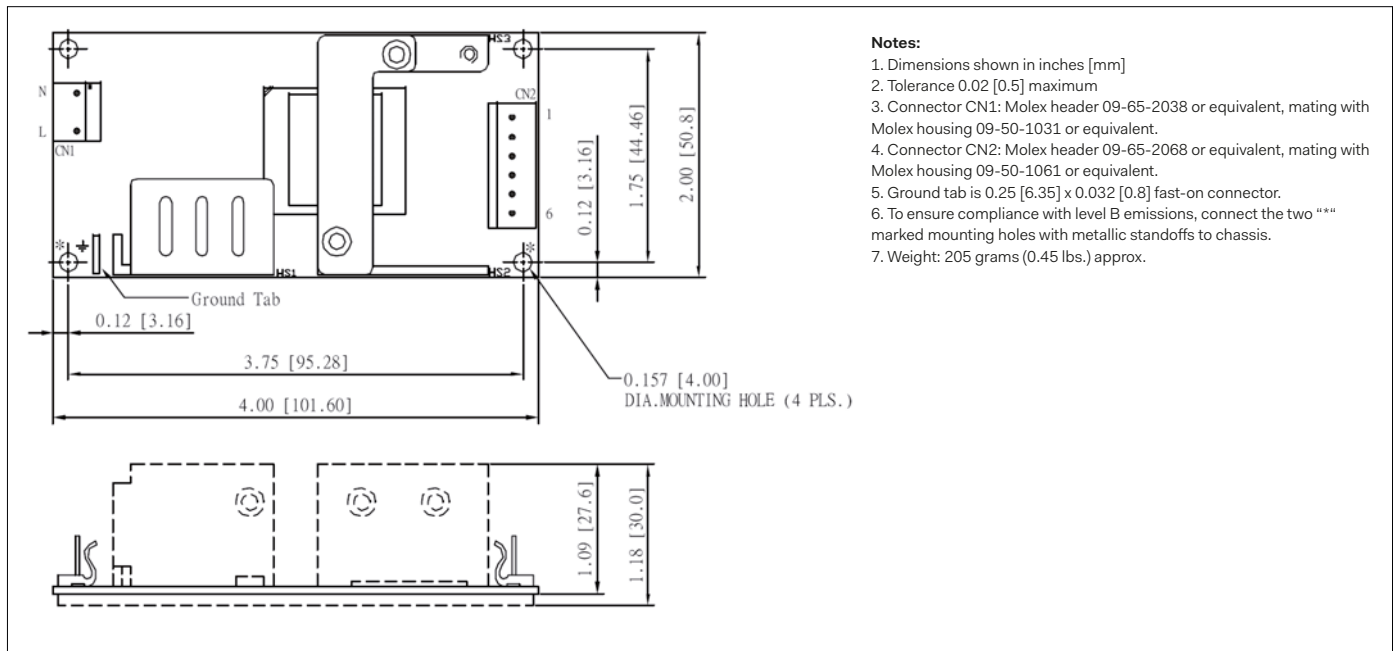
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Model ¹⁾ Number	Output #1					Output #2				Output 3#			Max Total Power	
	V1	Min Current	Max Current At Conv.	Max Current At 5 CFM ²⁾	Tol.	V2	Min Current	Max Current	Tol	V3	Min Current	Max Current		Tol
OBJ07016A	5 V	0 A	11.0 A	(N/A)	±2%	(N/A)				(N/A)				55 W
OBJ07031A	12 V	0 A	5.0 A	(N/A)	±2%	(N/A)				(N/A)				60 W
OBJ07037A	15 V	0 A	4.3 A	(N/A)	±2%	(N/A)				(N/A)				64 W
OBJ07046A	24 V	0 A	2.7 A	(N/A)	±2%	(N/A)				(N/A)				64 W
OBJ07070A	48 V	0 A	1.35 A	(N/A)	±2%	(N/A)				(N/A)				64 W
OBJ07204A	+5 V	0.5 A	6.0 A	8 A	±3%	+12 V	0.1 A	3.0 A	±5%	(N/A)				55 W
OBJ07210A	+5 V	0.5 A	6.0 A	8 A	±3%	+24 V	0.1 A	1.5 A	±5%	(N/A)				55 W
OBJ07313A	+5 V	0.5 A	6.0 A	8 A	±3%	+12 V	0.1 A	3.0 A	±5%	-12 V	0 A	0.5 A	±4%	55 W
OBJ07303A	+3.3 V	0.8 A	6.0 A	8 A	±3%	+5.2 V	0.1 A	3.0 A	±5%	+12 V	0 A	0.5 A	±4%	37.5 W
OBJ07304A	+5 V	0.5 A	6.0 A	8 A	±3%	+3.3 V	0 A	1.5 A	±5%	+12 V	0 A	0.5 A	±4%	37.5 W ²⁾
OBJ07316A	+5 V	0.5 A	6.0 A	8 A	±3%	+15 V	0.1 A	2.4 A	±5%	-15 V	0 A	0.5 A	±4%	55 W
OBJ07318A	+5 V	0.5 A	6.0 A	8 A	±3%	+24 V	0.1 A	1.5 A	±5%	-12 V	0 A	0.5 A	±4%	55 W

Notes:

- Safety approvals are for PCB form only. To order unit with cover fitted, change suffix "A" to "C".
- Maximum current of output #1 of multi-output models can be 8 A at 5 CFM forced air provided by user.
- It is rated at 37.5 W maximum at convection cooling or 47.5 W maximum at 5 CFM forced air cooling by user.
- The output voltages of a multiple output model may go outside of the stated tolerance when an output load current is out of stated limits. All models may be operated at no-load without damage.
- 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.
- Option available for fixed installations, fuse in Neutral removed, contact Powerbox for details.

Mechanical



Notes:

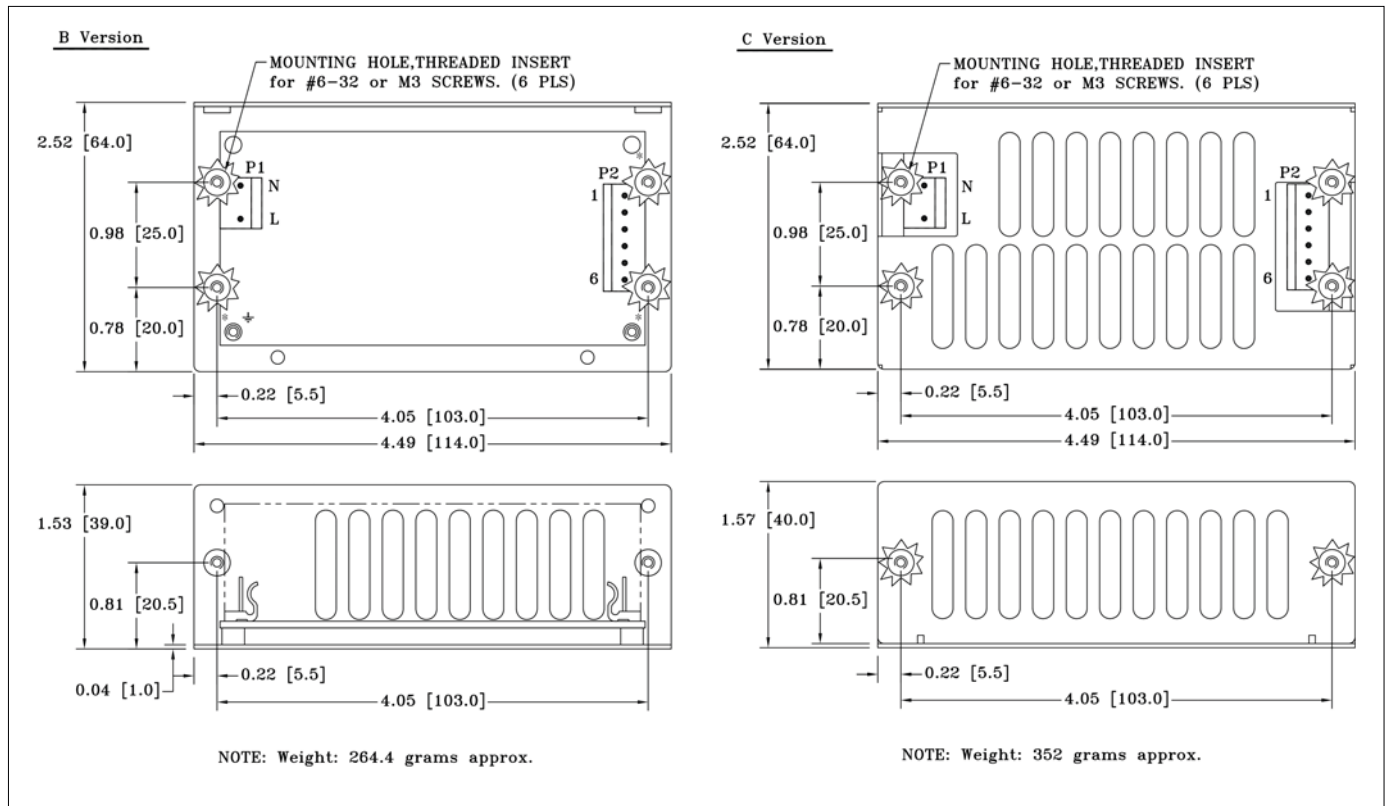
- Dimensions shown in inches [mm]
- Tolerance 0.02 [0.5] maximum
- Connector CN1: Molex header 09-65-2038 or equivalent, mating with Molex housing 09-50-1031 or equivalent.
- Connector CN2: Molex header 09-65-2068 or equivalent, mating with Molex housing 09-50-1061 or equivalent.
- Ground tab is 0.25 [6.35] x 0.032 [0.8] fast-on connector.
- To ensure compliance with level B emissions, connect the two "*" marked mounting holes with metallic standoffs to chassis.
- Weight: 205 grams (0.45 lbs.) approx.

Pin Connection

Pin Model	1	2	3	4	5	6
OBJ07016A OBJ07031A OBJ07037A OBJ07046A OBJ07070A	+V1	+V1	V1 Return	V1 Return	N.C.	N.C.
OBJ07204A OBJ07210A	V1	V1	Common Return	Common Return	N.C.	N.C.
OBJ07316A OBJ07318A	V1	V1	Common Return	Common Return	V3	V2
OBJ07313A OBJ07303A OBJ07304A	V1	V1	Common Return	Common Return	V3	V2

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Specifications are subject to change without notice.