

# P R B X

POWERBOX **Medline 40**  
OBH07 Series  
30-48W  
Multiple Output  
AC/DC Medical Switch Mode Power Supply

## Features

BF Class insulation  
Medical approvals  
Compact size 2" x4" x1.18"  
Single, dual and triple outputs  
Wide range input 90-264 VAC  
Low earth leakage current  
Level B emissions  
RoHS compliant

## Input

Voltage range	90-264VAC.
Frequency	47-63Hz.
Current	0.9A (rms) for 100VAC. 0.5A (rms) for 240VAC.
Leakage current	150µA max @ 264VAC, 63Hz.

## Output

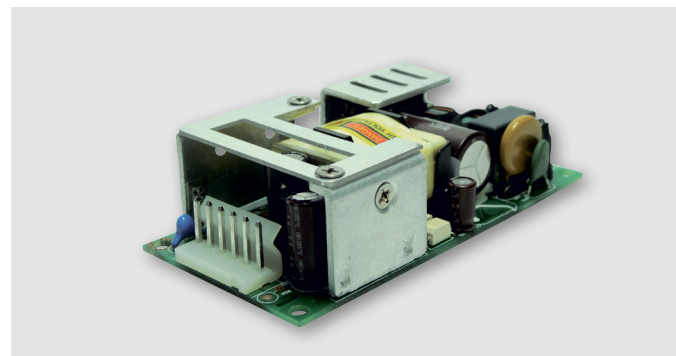
Power	See table.
Voltage/current	See table.
Ripple and noise	100mV peak to peak on 3.3V and 5.0V model, 1% peak to peak on other models.
Over voltage protection	Provided on output #1 only, set at 112-132% of its nominal output voltage.
Over current protection	All outputs protected to short circuit condition.
Temperature coefficient	All output $\pm 0.04\%/^{\circ}\text{C}$ 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.

## Enviromental

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

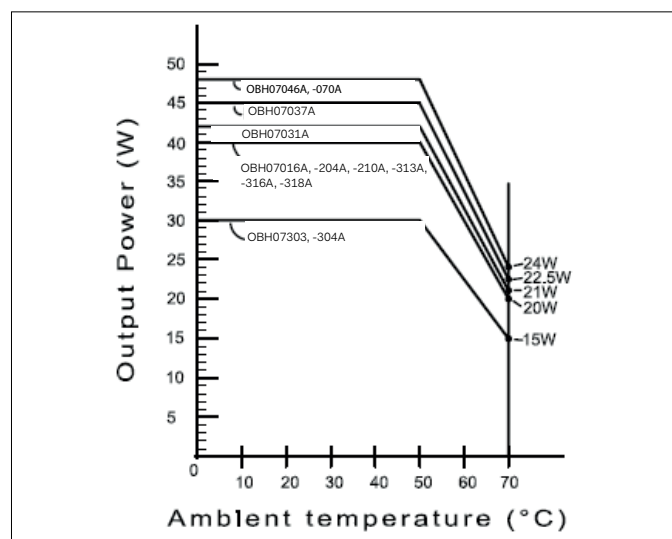
Switching frequency	62KHz $\pm 5\text{KHz}$ .
Efficiency	80-88% typical except OBH07303 and OBH07304 at 75% typical.
Hold-up time	12msec min at 110VAC.
Line regulation	$\pm 0.5\%$ max at full load.
Inrush current	25A @ 115VAC, or 50A @ 230VAC, at 25°C cold start.
Withstand voltage	4,000VAC from input to output (2 MOPP). 1,500VAC from input to ground (1 MOPP). 1500VAC 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 ES60601-1, CSA C22.2 No. 60601-1, TUV EN60601-1.
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, $\pm 15\text{KV}$ air and $\pm 8\text{KV}$ coupling plane.
EN61000-4-3	Radiated immunity, 10 V/m. Proximity test, 9V/m and 28V/m.
EN61000-4-4	Fast transient/burst, $\pm 2\text{KV}$ .
EN61000-4-5	Surge, $\pm 1\text{KV}$ diff., $\pm 2\text{KV}$ com.
EN61000-4-6	Conducted immunity, 3 Vrms (0.15 – 80 MHz). 6 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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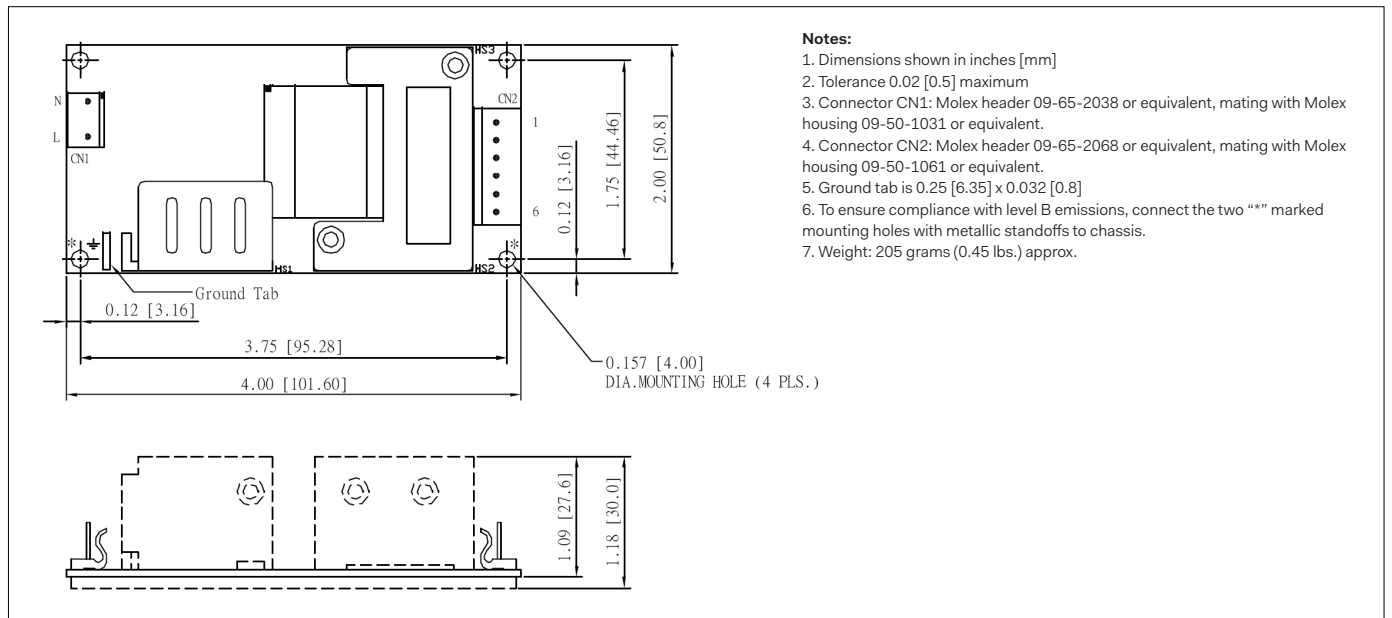
Model <sup>1</sup>	Output #1				Output #2				Output #3				Max Output
Number	Vnom	Imin	Imax	Tol.	Vnom	Imin	Imax	Tol.	Vnom	Imin	Imax	Tol.	Power
OBH07016A	5 V	0 A	8.0 A	2%	(N/A)				(N/A)				40 W
OBH07031A	12 V	0 A	3.5 A	2%	(N/A)				(N/A)				42 W
OBH07037A	15 V	0 A	3.0 A	2%	(N/A)				(N/A)				45 W
OBH07046A	24 V	0 A	2.0 A	2%	(N/A)				(N/A)				48 W
OBH07070A	48 V	0 A	1.0 A	2%	(N/A)				(N/A)				48 W
OBH07204A	+5 V	0.5 A	6 A	3%	+12 V	0.1 A	2 A	5%	(N/A)				40 W
OBH07210A	+5 V	0.5 A	6 A	3%	+24 V	0.1 A	1 A	5%	(N/A)				40 W
OBH07313A	+5 V	0.5 A	6 A	3%	+12 V	0.1 A	2 A	5%	-12 V	0 A	0.3 A	4%	40 W
OBH07303A	+3.3 V	0.8 A	6 A	3%	+5 V	0.1 A	2 A	5%	+12 V	0 A	0.3 A	4%	30 W
OBH07304A	+5 V	0.5 A	6 A	3%	+3.3 V	0 A	1.5 A	5%	+12 V	0 A	0.3 A	4%	30 W
OBH07316A	+5 V	0.5 A	6 A	3%	+15 V	0.1 A	1.5 A	5%	-15 V	0 A	0.3 A	4%	40 W
OBH07318A	+5 V	0.5 A	6 A	3%	+24 V	0.1 A	1 A	5%	-12 V	0 A	0.3 A	4%	40 W

**Notes:**

1. Safety approvals are for PCB form only. To order unit with cover fitted, change suffix "A" to "C".
2. 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.

3. 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  $\mu$ F tantalum capacitor in parallel with a 0.1  $\mu$ F ceramic capacitor across the output.
4. Option available for fixed installations, fuse in Neutral removed, contact Powerbox for details.

**Mechanical**

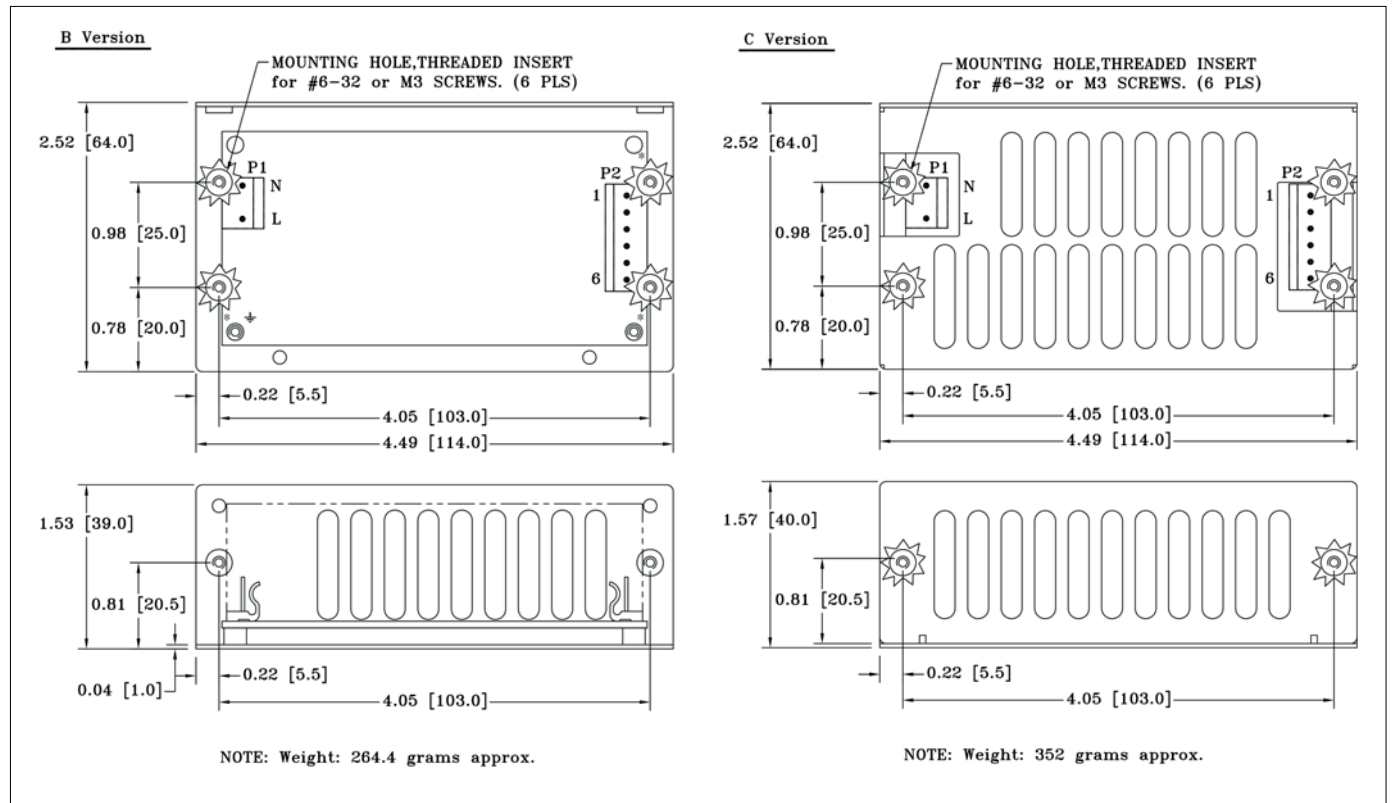


**Pin Connection**

Pin	Connection						
	1	2	3	4	5	6	
OBH07016A	OBH07031A	OBH07037A	+V1	+V1	V1 Return	V1 Return	N.C.
OBH07046A	OBH07070A						
OBH07204A	OBH07210A		V1	V1	Common Return	Common Return	N.C.
OBH07313A	OBH07316A	OBH07304A	V1	V1	Common Return	Common Return	V3
OBH07318A	OBH07303A						V2

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Mechanical



Specifications are subject to change without notice.