ABC40 Series

AC-DC Open Frame Power Supplies

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Please refer to exact equivalent product series
WLT40



The ABC40 Series of open-frame power supplies, with its wide universal 90 – 264 VAC input range and high power density, is available at 40 W of output power and a variety of single and multiple output voltages.

The high efficiency and high power density of the ABC family ensures minimal power loss in end-use equipment, thereby facilitating higher reliability, easier thermal management and meets regulatory approvals for environmentally-friendly end products.

These power supplies are ideal for telecom, datacom, industrial equipment and other applications.

RoHS Compliant

Key Features & Benefits

- 4 x 2 x 1.2 Inch Form Factor
- 40 W convection-cooled rating
- Single to Triple Outputs
- High Efficiency > 85%
- Low conducted and radiated noise
- No Load Power < 0.3 W
- IEC / EN / UL 62368-1 compliant
- IEC Protection Class Options:
  - Class I: Earth pin J4 (no suffix)
  - Class II: No Earth pin (-2 suffix)
- RoHS Compliant
- Cover Kit Accessory Available

Applications

- Lighting
- Industrial Processing
- Applied Computing
- Instrumentation
- Automation Controls
- Robotics
- Wireless Communication
- Test and Measurement

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Please read our datasheet & drawing disclaimer here.

1. MODEL SELECTION

MODEL [1]	VOLTAGE	MAX LOAD [2]	MIN LOAD [3]	RIPPLE [4]	POWER
ABC40-1005G	5.1 V	8.0 A	0.0 A	1%	40 W
ABC40-1012G	12 V	3.5 A	0.0 A	1%	40 W
ABC40-1015G	15 V	2.7 A	0.0 A	1%	40 W
ABC40-1024G	24 V	1.7 A	0.0 A	1%	40 W
ABC40-1048G	48 V	0.83 A	0.0 A	1%	40 W
ABC40-3000G	V_1 = 5.2 V V_2 = 12.5 V V_3 = -12.8 V	6.0 A 2.0 A 0.5 A	0.5 A 0.1 A 0.0 A	1.5% 1% 1%	40 W
ABC40-3001G	V_1 = 5.2 V V_2 = 24 V V_3 = -12.8 V	6.0 A 1.0 A 0.5 A	0.5 A 0.1 A 0.0 A	1.5% 1% 1%	40 W
ABC40-3002G	V_1 = 5.2 V V_2 = 15 V V_3 = -15 V	6.0 A 1.5 A 0.5 A	0.5 A 0.1 A 0.0 A	1.5% 1% 1%	40 W
ABC40-3003G	V_1 = 3.3 V V_2 = 5 V V_3 = -12.8 V	6.0 A 3.0 A 0.5 A	1.0 A 0.1 A 0.0 A	1.5% 1.5% 1%	40 W
COVER-40-XBC [5]	Metal cover kit accessory				

1 Class II version available. Add suffix "-2" at the end of the Model Number
2 Maximum current per output channel. Do not exceed total output power rating.
3 Min Load specified to meet cross regulation.
4 Ripple is peak to peak with 20 MHz bandwidth and 10 µF (Electrolytic capacitor) in parallel with a 0.1 µF capacitor at rated line voltage and load ranges.
5 When used in Cover Kit, de-rate output power to 70 % under all operating conditions.

2. INPUT SPECIFICATIONS

Specifications are for nominal input voltage, 25°C unless otherwise stated.

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input Voltage	Universal	90 - 264 VAC
Input Frequency [6]		47 to 400 Hz
Input Current	120 VAC: 230 VAC:	0.85 A max. 0.45 A max.
No Load Power	Single output models Multi output models	< 0.3 W < 0.5 W
Inrush Current	120 VAC: 230 VAC:	30 A max. 60 A max.
Leakage Current	120 VAC: 230 VAC:	< 500 µA <1000 µA
Switching Frequency	Typical	67 kHz

6 Safety approved: 47 to 63 Hz

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3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Efficiency [7]	Typical	85%
Hold Up Time	@ 120 VAC typical	>10 ms
Output Power [8]		40 W
Line Regulation		± 0.3%
Load Regulation	V1: V2 & V3:	± 0.5% ± 5%
Transient Response	50% to 100% load change, 50/60 Hz, 50% duty cycle, 0.1 A/µs	< 10%, recovery time < 5 ms
Rise Time		< 100 ms
Set Point Tolerance	V1: V2 & V3:	± 3% ± 5%
Output Voltage Adjustment	V1	± 10%
Over Current Protection	Typical, above rating	130%
Over Voltage Protection	Typical, for V1 only	130%
Short Circuit Protection	Short term, autorecovery	
Cooling	Convection	

[7] For ABC40-3003G efficiency is 75% typical
[8] Derate output power linearly to 80% from 90 VAC to 80 VAC input.

4. ENVIRONMENTAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Operating Temperature	Refer to derating curve, Fig. 1 -20 to 0°C start-up is guaranteed	-20 to 70°C
Storage Temperature		-40 to +70°C
Relative Humidity	Non Condensing	95%
Altitude	Operating: Non-Operating:	10,000 ft. 40,000 ft.
Reliability	MTBF according to Telcordia -SR332-Issue 3	1.87 million hours

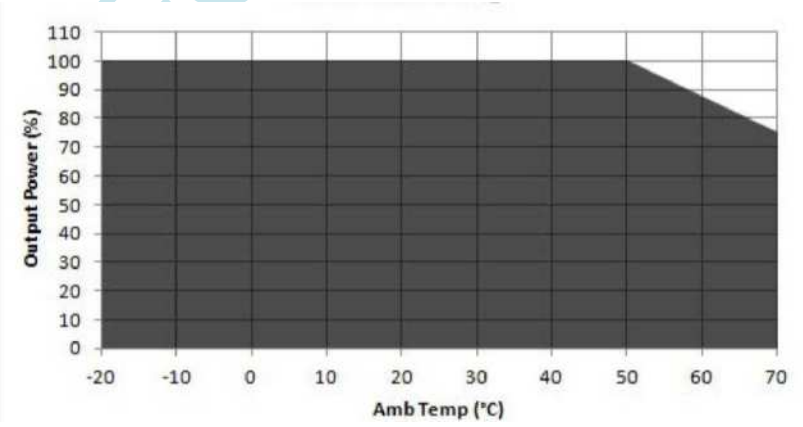


Figure 1. Derating Curve

De-rate linearly from 100% at 50°C to 75% at 70°C

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5. EMC SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Conducted Emissions	EN 55032-B, CISPR22-B, FCC PART15-B	Pass
Radiated Emissions	EN 55032 B	Pass
Input Current Harmonics	EN 61000-3-2	Class A
Voltage Fluctuation and Flicker	EN 61000-3-3	Pass
ESD Immunity	EN 61000-4-2	Level 3, Criterion A
Radiated Field Immunity	EN 61000-4-3	Level 3, Criterion A
Electrical Fast Transient Immunity	EN 61000-4-4	Level 3, Criterion A
Surge Immunity	EN 61000-4-5	Level 3, Criterion A
Conducted Immunity	EN 61000-4-6	Level 3, Criterion A
Magnetic Field Immunity	EN 61000-4-8	Level 3, Criterion A
Voltage Dips, Interruptions	EN 61000-4-11	Criterion A & B

6. SAFETY SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Isolation Voltage	Input to Output	4000 VAC / VDC
Safety Standards	IEC60950-1(ed.2), EN 60950-1, UL60950-1 (2nd Edition), CSA C22.2 No. 60950-1 (2nd Edition), UL 62368-1, 2nd Ed, 2014-12-01 CAN/CSA C22.2 No. 62368-1-14, (2nd Edition), Class1 SELV IEC 62368-1:2014, EN 62368-1:2014 ;A11	
Agency Approvals	Nemko, UL, C-UL	
CE mark	Complies with LVD Directive	

7. CONNECTOR & PIN DESCRIPTION

CONNECTOR	PIN	DESCRIPTION / CONDITION		MANUFACTURER / PN
AC Input Connector	J1	Pin 1 Pin 2	AC Line AC Neutral	Molex: 26-60-4030 or equivalent Mating: 09-50-3031; Pins: 08-50-0106
DC Output Connector	J2	Pin 1,2 Pin 3,4 Pin 5 Pin 6	V1 RTN V3 V2	Tyco: 640445-6 or equivalent Mating: 647402-6; Pins: 3-647409-1
Signal Connector	J3	Pin 1 Pin 2	+V1 Sense -V1 Sense	Molex: 22-23-2021 or equivalent Mating: 22-01-2021
Earth (Spade Connector)	J4			Molex: 19705-4301 Mating: 190030001

8. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION
Weight	150 g (0.33 lbs.)
Dimensions	101.6 x 50.8 x 30.48 mm (4 x 2 x 1.2 inch)

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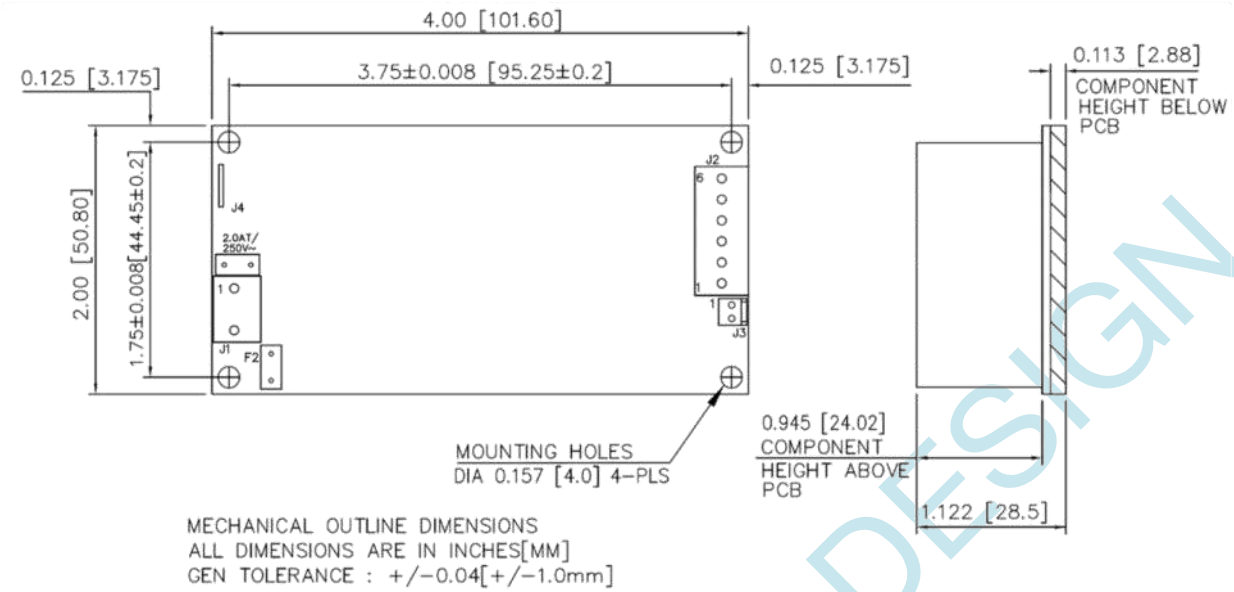


Figure 2. Mechanical Drawing ABC40-1xxxG

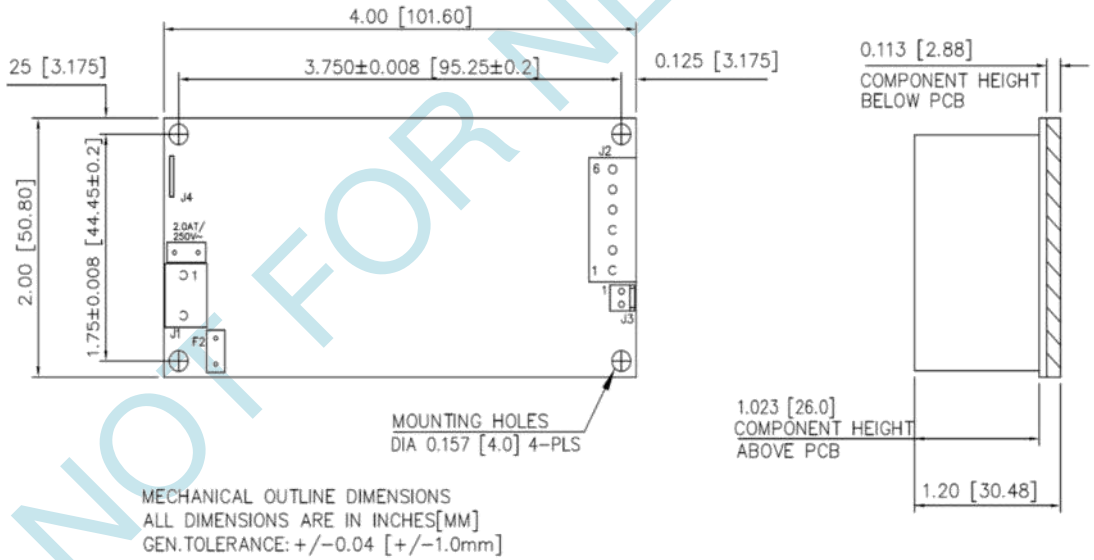


Figure 3. Mechanical Drawing ABC40-3xxxG

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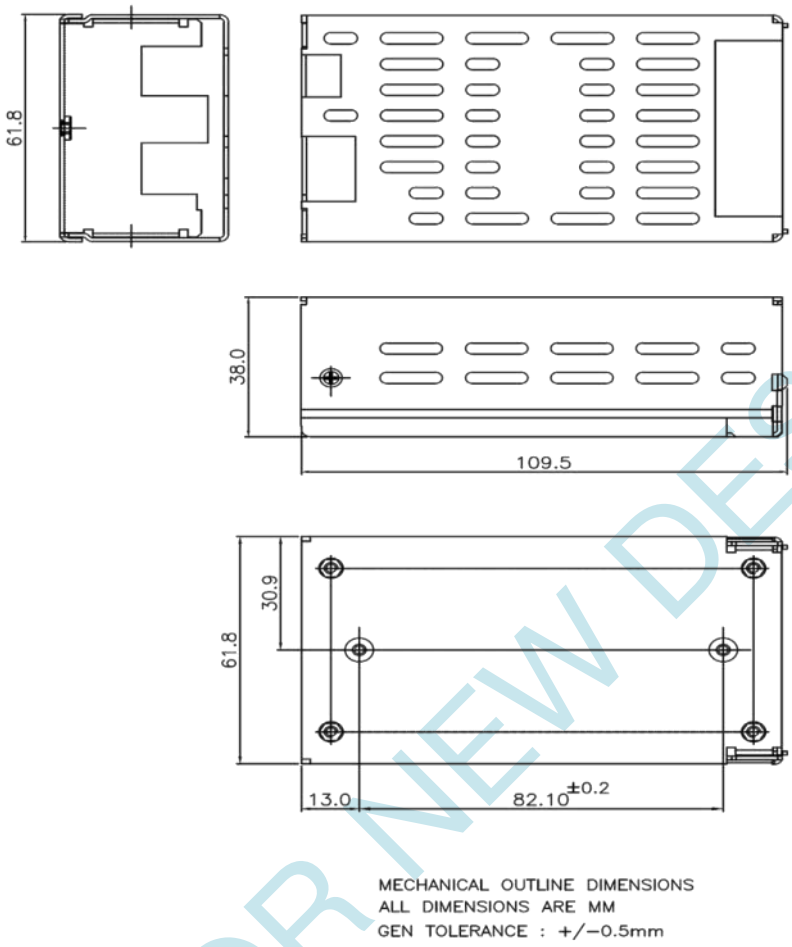


Figure 4. Mechanical Drawing with Cover Kit

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NOTES: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following:

1 Stand off, used to mount PCB has OD of 5.4 mm max.
2 Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
3 Washer, if used, to have dia of 6.5 mm max.

For more information on these products consult: tech.support@psbel.com

NUCLEAR AND MEDICAL APPLICATIONS - Products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.
TECHNICAL REVISIONS - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.