

ABC60 Series

AC-DC Open Frame Power Supplies

The **ABC60 Series** of AC-DC open-frame power supplies, with its wide universal 90-264 VAC input range and high power density, is available at 60 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.

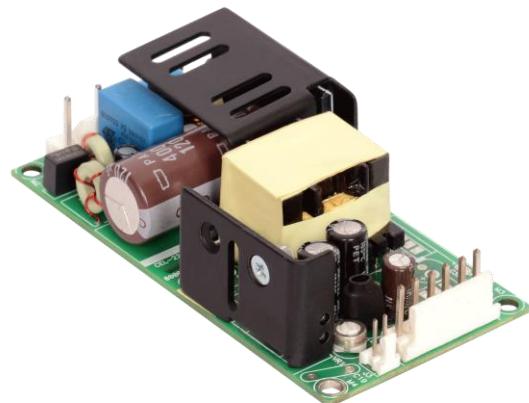
These power supplies are ideal for telecom, datacom, industrial equipment and other applications.

Key Features & Benefits

- 50 - 65 W Convection Cooled
- 90 - 264 VAC Input
- -20 to 50°C Full Load Operation
- Form Factor 4 x 2 x 1.2 inches (101.6 x 50.8 x 30.48 mm)
- Single to Triple Outputs
- No Load Power < 0.3 W
- IEC Protection Class Options:
 - Class I: Earth pin J4 (no suffix)
 - Class II: No Earth pin (-2 suffix)
- Conducted EMI EN 55022-B, FCC Part 15 Level B
- ITE Safety Agency Approvals
- RoHS Compliant
- Cover Kit Accessory Available

Applications

- Instrumentation
- Lighting
- Industrial Applications
- Applied Computing
- Renewable Energy
- Test and Measurement
- Robotics
- Wireless Communication



1. MODEL SELECTION

MODEL ¹	OUTPUT VOLTAGE (VDC) ²	OUTPUT CURRENT MAX (A)	MINIMUM LOAD (A) ³	RIPPLE & NOISE ⁴	TOTAL REGULATION
ABC60-1005G	5.2	10.0	0.0	1.25%	± 0.8%
ABC60-1012G	12	5.4	0.0	1%	± 0.8%
ABC60-1015G	15	4.33	0.0	1%	± 0.8%
ABC60-1024G	24	2.7	0.0	1%	± 0.8%
ABC60-1048G	48	1.35	0.0	1%	± 0.8%
ABC60-3000G	5.2	8.0	0.5	1.25%	± 0.8%
	12.5	3.0	0.1	1%	± 5.3%
	-12.5	0.5	0.0	1%	± 5.3%
ABC60-3001G	5.2	8.0	0.5	1.25%	± 0.8%
	23.8	1.5	0.1	1%	± 5.3%
	-12.5	0.5	0.0	1%	± 5.3%
ABC60-3002G	5.2	8.0	0.5	1.25%	± 0.8%
	14.6	2.5	0.1	1%	± 5.3%
	-16.2	0.5	0.0	1%	± 5.3%
ABC60-3003G	3.3	6.0	1.0	1.5%	± 0.8%
	5.2	3.0	0.1	1%	± 5.3%
	-12.8	0.5	0.0	1%	± 5.3%
Cover-60-XCB	Metal cover kit accessory				

NOTES:

- ¹ Single output models deliver 65 W, except ABC60-1005G (50 W).
Triple output models deliver 60 W, except ABC60-3003G (45 W).
- ² Maximum outputs for each output. Max power rating should not be exceeded.
- ³ Minimum load specified to meet cross regulation.
- ⁴ Ripple is peak to peak with 20 MHz bandwidth and 10 µF (Tantalum capacitor) in parallel with a 0.1 µF capacitor at rated line voltage and load ranges.

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 ⁵		47 to 400 Hz
Input Current	120 VAC: 230 VAC:	1.5 A max. 0.75 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 Hz

- ⁵ Safety Approved: 47 to 63 Hz

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Efficiency ⁶	Typical	85%
Hold Up Time	@ 120 VAC typical	>10 ms
Output Power ⁷		50 - 65 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	

⁶ For ABC60-3003G efficiency is 75% typical.

⁷ 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 Start-up is guaranteed	-20 to 70°C -20 to 0°C
Storage Temperature		-40 to +85°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
Cooling	Convection	

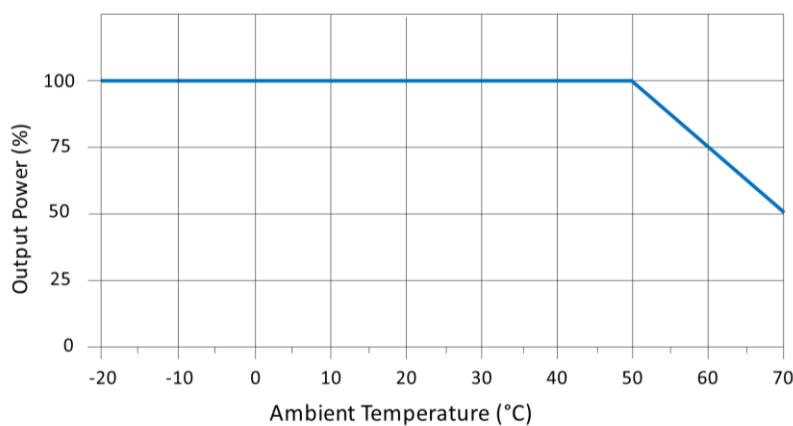


Figure 1. Output Power Vs. Temperature

5. EMC SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Conducted Emissions	EN55022-B, CISPR22-B, FCC PART15-B	
Radiated Emissions	EN55022-B, CISPR22-B, FCC PART15-B	To be controlled in end system
Harmonic Current	EN61000-3-2	Class A
AC Flicker	EN61000-3-3	Pass
Static Discharge	EN61000-4-2	Level 3
RF Field Susceptibility	EN61000-4-3	Level 3
Fast Transients/Bursts	EN61000-4-4	Level 3
Surge Susceptibility	EN61000-4-5	Level 3

6. SAFETY SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Isolation Voltage	Input to Output:	4242 VDC
Safety Standards	Approved to the latest edition of the following standards: CSA/UL60950-1, EN60950-1 and IEC60950-1; Class1 SELV.	
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 AC Neutral Pin 2 AC Line	Molex: 26-60-4030 or equivalent Mating: 09-50-3031; Pins: 08-50-0106
DC Output Connector	J2	Pin 1,2 V1 Pin 3,4 RTN Pin 5 V3 Pin 6 V2	Tyco: 640445-6 or equivalent Mating: 647402-6; Pins: 3-647409-1
Signal Connector	J3	Pin 1 +V1 Sense Pin 2 -V1 Sense	Molex: 22-23-2021 or equivalent Mating: 22-01-2021
Earth	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)

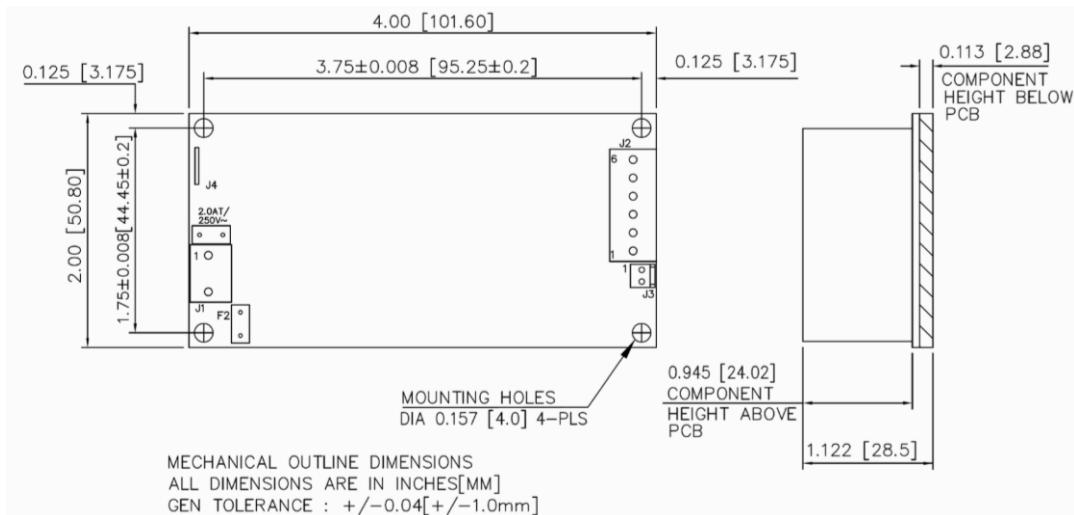


Figure 2. Mechanical Drawing ABC60-1xxxG

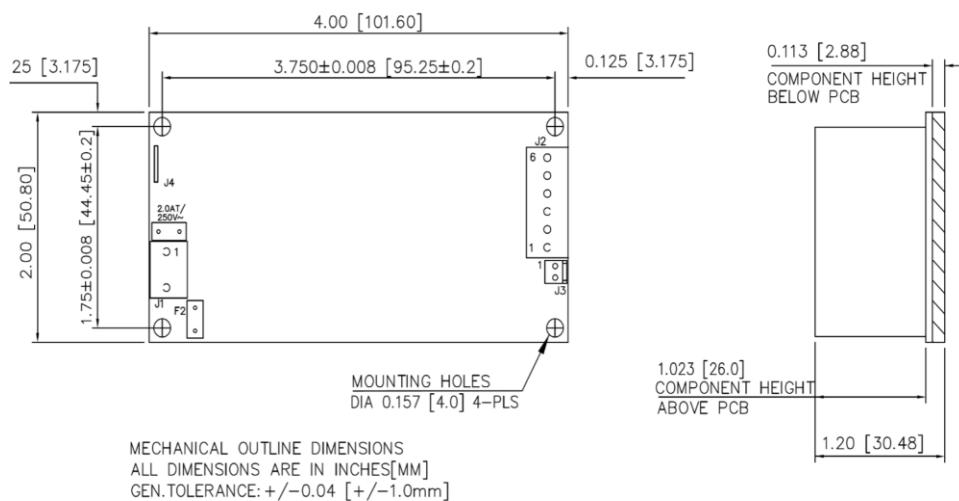


Figure 3. Mechanical Drawing ABC60-3xxxG

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.