



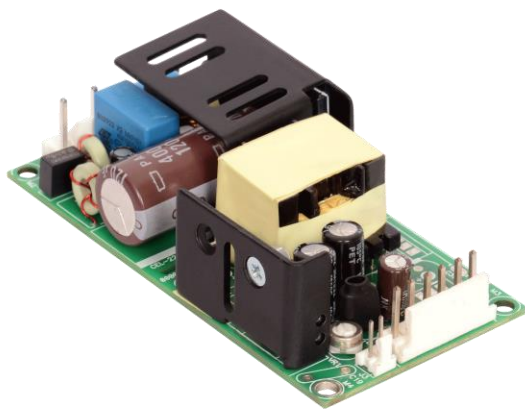
ABC60 Series

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 | • Renewable Energy |
| • Lighting | • Test and Measurement |
| • Industrial Applications | • Robotics |
| • Applied Computing | • Wireless Communication |



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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 ⁵ | Metal cover kit accessory | | | | |

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: | 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 kHz |

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.

⁵ When used in Cover Kit, de-rate output power to 70 % under all operating conditions.

⁶ Safety Approved: 47 to 63 Hz

3. OUTPUT SPECIFICATIONS

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|---------------------------|---|--------------------------------|
| Efficiency ⁷ | Typical | 85% |
| Hold Up Time | @ 120 VAC typical | >10 ms |
| Output Power ⁸ | | 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 | |

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. Derating Curve

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

⁷ For ABC60-3003G efficiency is 75% typical.

⁸ Derate output power linearly to 80% from 90 VAC to 80 VAC input.



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5. EMC SPECIFICATIONS

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|------------------------------------|------------------------------------|----------------------|
| Conducted Emissions | EN55032-B, CISPR22-B, FCC PART15-B | Pass |
| Radiated Emissions | EN 55032 B | Pass |
| Input Current Harmonics | EN 61000-3-2 | Class D |
| 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: | 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 Line |
| | | Pin 2 | AC Neutral |
| DC Output Connector | J2 | Pin 1,2 | V1 |
| | | Pin 3,4 | RTN |
| | | Pin 5 | V3 |
| | | Pin 6 | V2 |
| Signal Connector | J3 | Pin 1 | +V1 Sense |
| | | Pin 2 | -V1 Sense |
| 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) |

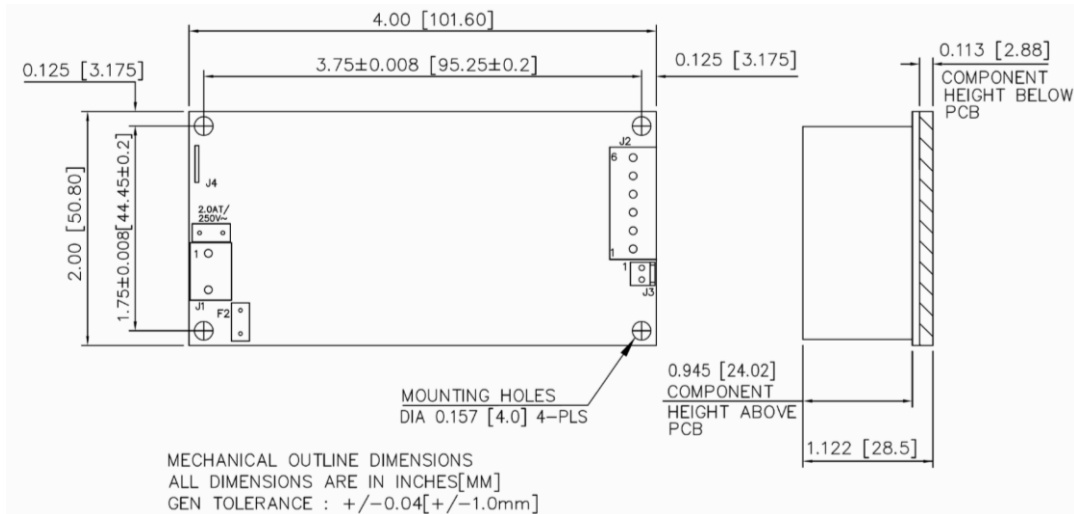


Figure 2. Mechanical Drawing ABC60-1xxxG

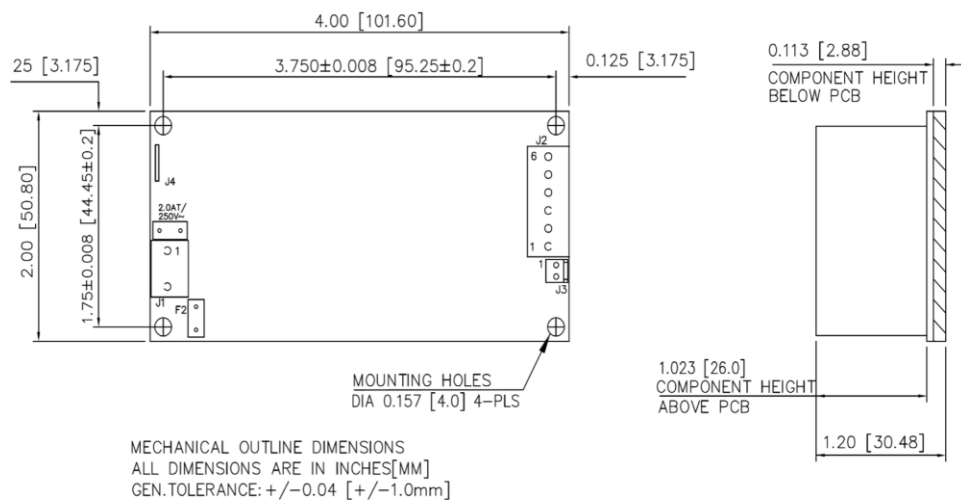


Figure 3. Mechanical Drawing ABC60-3xxxG

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.



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Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

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