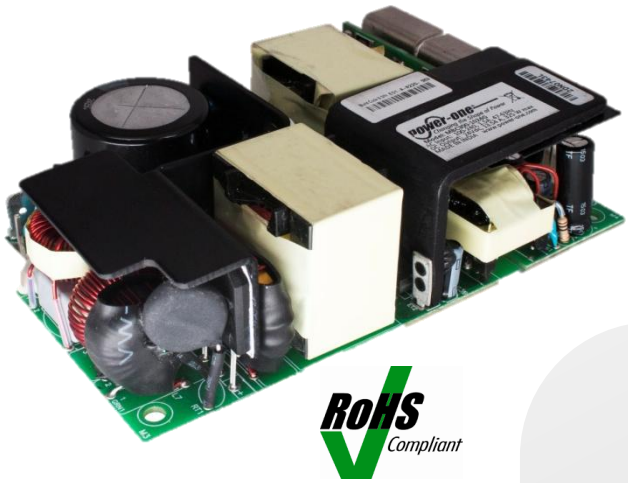
# ABC300 SERIES 300W AC/DC



RoHS Compliant

## FEATURES

- 200 W convection cooled
- -20 to 50 deg C full load operation
- 3” x 5“ x 1.5” (76.2 x 127 x 38.1 mm)
- No minimum load required
- 12 V fan & 5 V standby outputs
- Inhibit and Power Good signals
- Conducted EMI EN 55022-B, FCC Part 15 Level B
- ITE Safety Agency Approvals
- RoHS Compliant

## APPLICATIONS

- Instrumentation
- Lighting
- Industrial Applications
- Test and Measurement
- Robotics
- Renewable Energy
- Data Comm.
- Applied Computing
- Process Control
- Wireless

# TECHNICAL DATA:

## Input

| PARAMETER | DESCRIPTION/CONDITION | |
|---|---|---|
| Input voltage range | Universal Input | 90 - 264 Vac |
| | | 120 – 390 Vdc |
| Input frequency range | 47-63 Hz | |
| Input surge current | 230 Vac (cold start) | 65 A max. |
| Safety ground leakage current | 230 Vac | 300 µA max |
| Input current | 120 Vac @ 200 W<br>230 Vac @ 200 W | 3.2 A<br>1.65 A |

## Output

| PARAMETER | DESCRIPTION/CONDITION | |
|---|---|---|
| Voltage Adjustment | V1 | ± 3% |
| Transient Response | Main output 50 to 100% load change, 50 Hz, 50% duty cycle, 0.1 A / uSec, 50/60 Hz. | < 10%, recovery time < 5 mSec |
| Over Voltage Protection | V1 | 110 to 150% rated max |
| Over Current Protection | Rated output current | 110 to 150% Typical |
| Short Circuit Protection | Automatic recovery | |
| Over Temperature Protection | Automatic recovery | 110° C primary heatsink |
| Set point tolerance | ± 1% | |
| Rise Time | <100 mSec | |

## Ordering Information

| PRODUCT FAMILY | VOLTS (VDC) | MAX LOAD CONVECTION (2) | MAX LOAD 300 LFM (2) | MINIMUM LOAD (A) | RIPPLE & NOISE (4) | CONNECTOR | TOTAL REGULATION |
|---|---|---|---|---|---|---|---|
| ABC300-1T05G | 5 | 28.0 A | 40.0 A | 0 | 2% | Screw Terminal | ± 2.5% |
| ABC300-1T12G | 12 | 15.0 A | 25.0 A | 0 | 2% | Screw Terminal | ± 2.5% |
| ABC300-1T15G | 15 | 12.0 A | 20.0 A | 0 | 2% | Screw Terminal | ± 2.5% |
| ABC300-1T24G | 24 | 7.5 A | 13.54 A | 0 | 2% | Screw Terminal | ± 2.5% |
| ABC300-1T30G | 30 | 6.0 | 10.83 A | 0 | 2% | Screw Terminal | ± 2.5% |
| ABC300-1T48G | 48 | 3.75 A | 6.77 A | 0 | 2% | Screw Terminal | ± 2.5% |
| **Vfan (all models)** | **12** | **0.5 A** | **0.5 A** | **0** | | | **± 20%** |
| **V s/b (all models)** | **5** | **2.0 A** | **2.0 A** | **0** | | | **± 5%** |

**Notes:**

1. Peak current rating of 120% of max, < 30 Sec with max of 10% duty cycle.
2. Combined power from main output, Vfan and Vs/b should not exceed total power rating.
3. Fan output tolerance is ± 20%. When V1 full load, Vfan needs 20 mA load to be within regulation specification. Peak current for fan output is 1 A.
4. Ripple is 2% up to 20% load and less than 1% above 20% load. Output noise measurement is made with a 20 MHz bandwidth using a 6" twisted pair, terminated with a 10 uF tantalum capacitor in parallel with a 0.1 uF ceramic capacitor.
5. Specifications are for nominal input voltage, 25°C and max load unless otherwise stated.

6. Class 1 models have Earthing tab J4. Class 2 models (-2 suffix) have no Earthing tab.
7. Derate power linearly to 80% from 90 Vac to 80 Vac input.
8. Power supply shipped with J3 pin 1 and 2 shorted to enable main output
9. Specifications subject to change without notice.
10. Air flow over long edge (either direction) required for air flow rating. See mechanical drawing below.
11. Warranty 2 years.

## General Specifications

| PARAMETER | DESCRIPTION/CONDITION | |
|---|---|---|
| Hold Up Time | 120 Vac | 10 mSec |
| | 230 Vac | 10 mSec |
| MTBF | >250 khrs | Bellcore TR-332 |
| Switching Frequency | PFC converter 80 kHz typical | Resonant converter: Variable 35 to 250 kHz, 90 kHz typical |
| Isolation Voltage | Min 5900 Vdc | Input to Output |
| Weight | 450 g (0.99 lbs) | |

## Environmental

| PARAMETER | DESCRIPTION/CONDITION | |
|---|---|---|
| Operating Temperature | Operating | -20 to 70°C. See derating charts below. |
| | Storage | -40 to +85°C. |
| Altitude | Operating 10,000 ft. | Non-operation 40,000 ft. |
| Conducted emissions: | EN55022, FCC part 15 Level B | |
| Radiated Emissions | EN55022, FCC part 15 Level B | To be controlled in end system |
| Electromagnetic Susceptibility | EN61000-4 3 | 2, 3, 4, 5 level 3 |
| Harmonic Current | EN61000-3-2, Class D | |

## Signals

| PARAMETER | DESCRIPTION/CONDITION |
|---|---|
| Power Good | TTL signal goes high after main output is within regulation, delay is 0.1 to 0.3 sec |
| Inhibit | To turn on power supply short J3 pin 1 to J3 pin 2 or J3 pin 7 |
| Remote Sense | Compensates for 200 mV drop |

## Safety

| PARAMETER | DESCRIPTION/CONDITION |
|---|---|
| EN / UL / CSA | EN60950-1+A12:2011, IEC60950-1 2nd+A1 2009, CSA-22.2 No 60950-01-07+ A1, UL60950-1-2011 |

*Figure 1 Output Power Vs. Temperature*

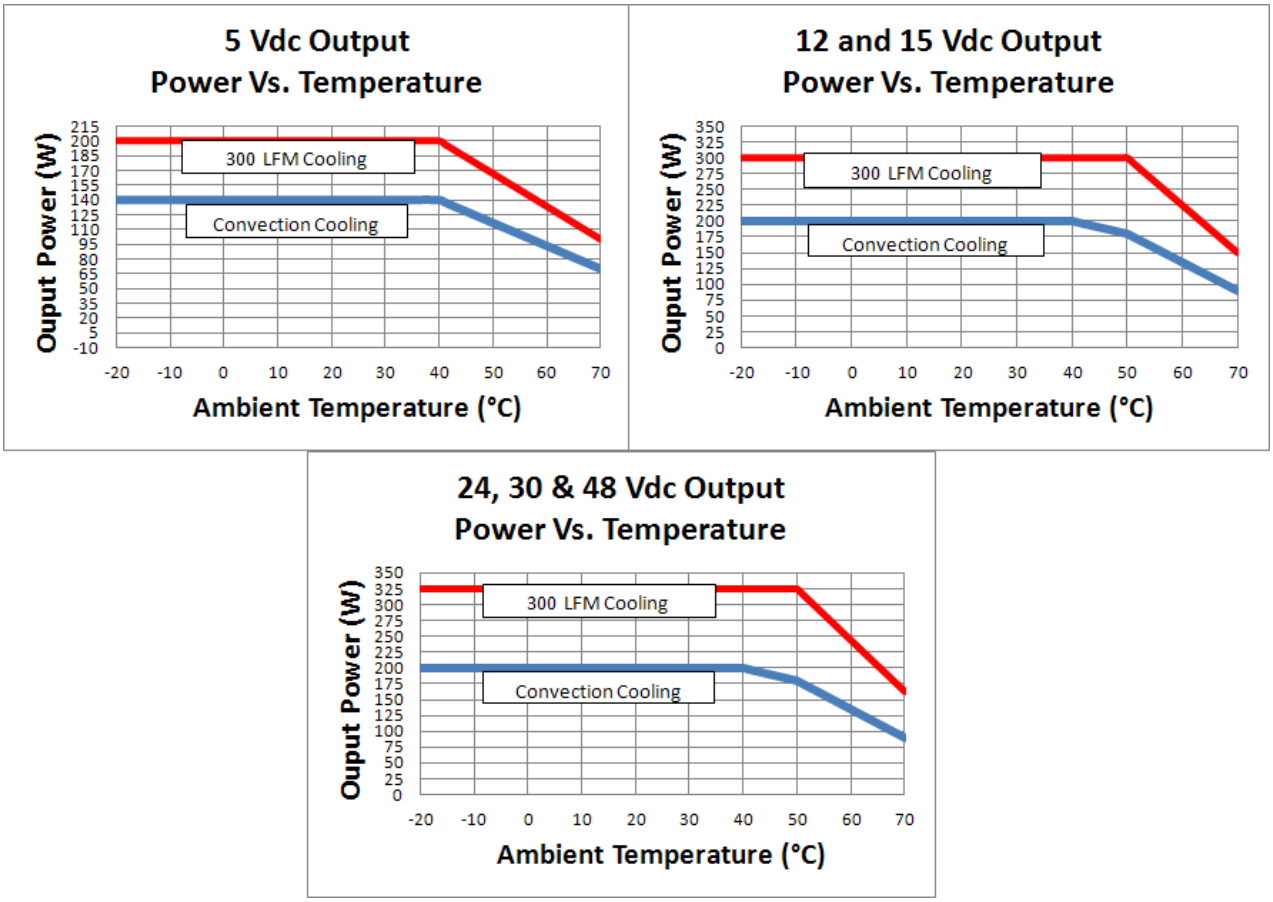
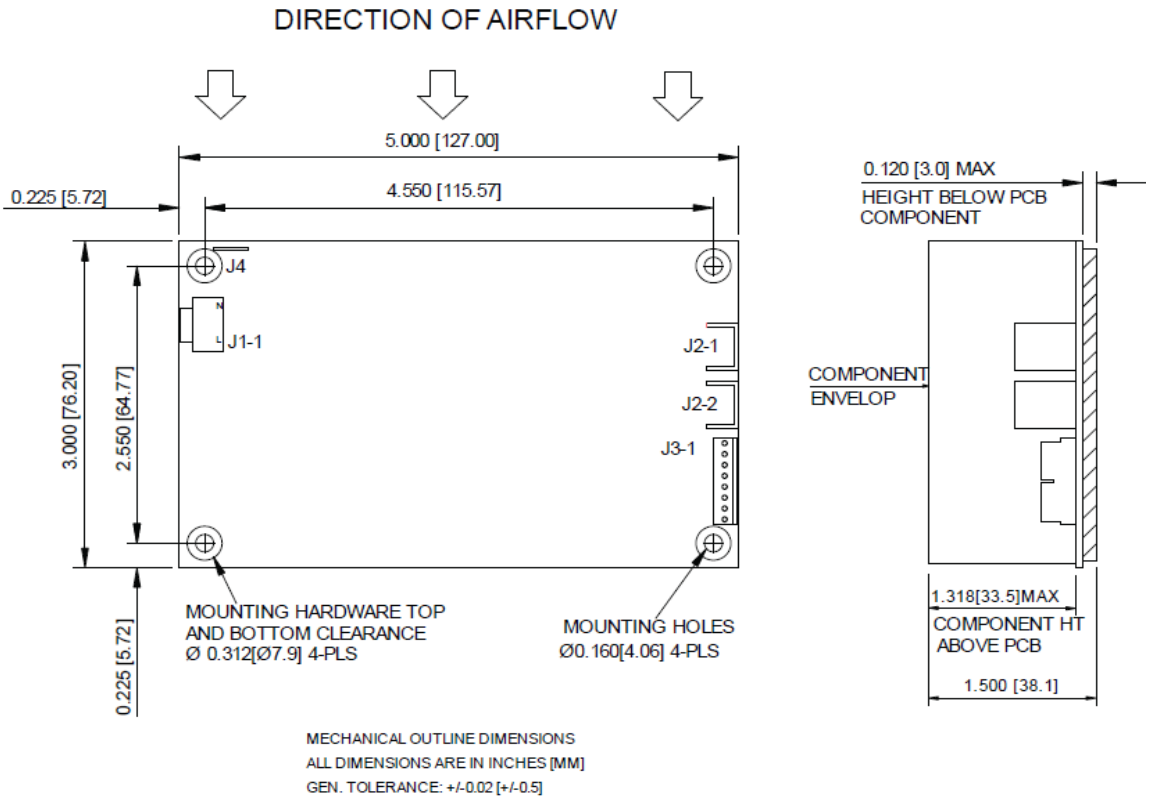



*Figure 2 Dimension Drawing (Top and Side View)*



## *Mechanical*

| INPUT = J1 | EARTHING TAB = J4 | DC OUTPUT = J2 | SIGNALS & AUX POWER= J3 | |
|---|---|---|---|---|
| Pin 1: AC Line<br>Pin 2: AC Neutral | Molex: 19705-4301 | 2 x 6-32 inches pan head screw<br>Pin 1 = RTN<br>Pin 2 = V1 | Pin 1 = Inhibit<br>Pin 2 = Signal Return<br>Pin 3 = Vfan (+12 V)<br>Pin 4 = - Remote Sense | Pin 5 = Vs/b (5 Vdc)<br>Pin 6 = + Remote Sense<br>Pin 7 = Signal Return<br>Pin 8 = Power Good |
| Mating Connector:<br>Molex: 09-50-3031<br>Pins: 08-50-0106 | Mating Connector:<br>Molex: 190030001 | Mating Connector:<br>16 AWG wire crimped to Ring Tongue Terminal.<br>AMP: 8-31886-1 | Mating Connector:<br>Molex: 22-01-2087, Pins: 08-50-0113 | |