ABC201 Series AC-DC Open Frame Power Supplies

The ABC201 Series of open-frame power supplies, with its wide universal 90-264 VAC input range and high power density, is available at 200 W of output power and a variety of single 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

- 160 W Convection Cooled
- 90-264 VAC Input
- -20 to 50°C Full Load Operation
- 5.0 x 3.0 x 1.5 inch (127.0 x 76.2 x 38.1 mm)
- No Minimum Load Required
- 12 V Fan & 5 V Standby Outputs
- Inhibit, Power Good and Fail Signals
- IEC Protection Class Options:
    - Class I: Earthing Tab J4 (no suffix)
    - Class II: No Earthing Tab (**-2** suffix)
- Conducted EMI EN 55022-B, FCC Part 15 Level B
- ITE Safety Agency Approvals
- RoHS Compliant
- CE Marked

Applications

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

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Model Selection

MODEL	OUTPUT VOLTAGE (VDC)	MAX LOAD CONVECTION [1]	MAX LOAD 300 LFM [1,2]	MINIMUM LOAD (A)	RIPPLE & NOISE [3]	CONNECTOR	TOTAL REGULATION
ABC201-1005G	5	26.0 A	26.0 A	0.0	1%	JST	± 2.5%
ABC201-1T05G	5	26.0 A	35.0 A	0.0	1%	Screw Terminal	± 2.5%
ABC201-1012G	12	13.33 A	16.67 A	0.0	1%	JST	± 2.5%
ABC201-1T12G	12	13.33 A	16.67 A	0.0	1%	Screw Terminal	± 2.5%
ABC201-1015G	15	10.67 A	13.33 A	0.0	1%	JST	± 2.5%
ABC201-1T15G	15	10.67 A	13.33 A	0.0	1%	Screw Terminal	± 2.5%
ABC201-1024G	24	6.67 A	8.33 A	0.0	1%	JST	± 2.5%
ABC201-1T24G	24	6.67 A	8.33 A	0.0	1%	Screw Terminal	± 2.5%
ABC201-1030G	30	5.33 A	6.67 A	0.0	1%	JST	± 2.5%
ABC201-1T30G	30	5.33 A	6.67 A	0.0	1%	Screw Terminal	± 2.5%
ABC201-1048G	48	3.33 A	4.17 A	0.0	1%	JST	± 2.5%
ABC201-1T48G	48	3.33 A	4.17 A	0.0	1%	Screw Terminal	± 2.5%
Vfan (all models)	**12**	**0.5 A**	**0.5 A**	0.0			**± 20%**
V s/b (all models)	**5**	**1.0 A**	**1.0 A**	0.0			**± 5%**

Warranty 2 years.

NOTES:

1. Combined power from main output, Vfan and Vs/b should not exceed total power rating.
2. 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.
3. 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.

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TECHNICAL PARAMETERS

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

Input Specifications

PARAMETER	DESCRIPTION / CONDITION	CRITERION
Input Voltage	Universal	90-264 VAC / 120-390 VDC
Input Frequency		47 to 63 Hz
Input Current	120 VAC: 230 VAC:	2.4 A max. 1.2 A max.
Inrush Current	120 VAC: 230 VAC:	35 A max. 65 A max.
Leakage Current	120 VAC: 230 VAC:	< 150 µA < 300 µA
Power Factor	120 VAC: 230 VAC:	0.99 0.95

Output Specifications

PARAMETER	DESCRIPTION / CONDITION	CRITERION
Efficiency	120 VAC: 230 VAC:	84% typical 86% typical
Hold Up Time	120 / 230 VAC	10 ms
Output Power	Peak Power 250 W for 0.2 s	160 W to 200 W
Line Regulation		+/-0.5%
Load Regulation		+/-2.0%
Transient Response	Main output 50 to 100% load change, 50 Hz, 50% duty cycle, 0.1A / uSec	< 10%, recovery time < 5 ms
Rise Time		< 100 ms
Set Point Accuracy		± 1%
Voltage Adjustment	V1	± 3 %
Over Voltage Protection	V1 only	110 to 150 %
Over Current Protection		110% typical above rating
Short Circuit Protection	Short term, auto recovery	

Other Specifications

PARAMETER	DESCRIPTION / CONDITION		CRITERION
Isolation Voltage	Input to Output:		Min. 4242 VDC
Switching Frequency	PFC converter (variable) Resonant converter (variable)		35 to 250 kHz, 90 kHz typical 35 to 250 kHz, 90 kHz typical
Reliability	MTBF according to Telcordia -SR332-Issue 3		1.6 million hours
Operating Temperature	Refer to derating curve (*Figure 1*) Start-up is guaranteed		-20 to 70°C -20 to 0°C
Storage Temperature			-40 to 70° C
Cooling	5 V model	Convection: 300 LFM:	130 W 175 W
	Other models	Convection: 300 LFM:	160 W 200 W

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Environmental

PARAMETER	DESCRIPTION / CONDITION	CRITERION
Conducted Emissions	EN55022-B, CISPR22-B, FCC PART15	Class B
Radiated Emissions	EN55022-B, CISPR22-B, FCC PART15-B	To be controlled in end system
Harmonic Current	EN61000-3-2	Class D
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
Humidity	Non Condensing	95%
Altitude	Operating: Non-Operating:	10,000 ft. 40,000 ft.

Safety Approvals

PARAMETER	DESCRIPTION / CONDITION
Agency Approvals	Approved to the latest edition of the following standards: CSA/UL60950-1, EN60950-1 and IEC60950-1
CE mark	Complies with LVD Directive

Signals

PARAMETER	DESCRIPTION / CONDITION
Power Good Signal	TTL signal goes high after main output is in regulation band. Delay is 0.1 to 0.3 sec.
Power Fail Signal	TTL signal goes low 1 ms advance before output goes out of regulation due to mains failure
Remote ON / OFF	To turn-on power supply short J3 pin 4 to pin 6 (PSU is shipped in this configuration)
Remote Sense	Compensates for 200 mV cable drop

Connector & Pin Description

CONNECTOR	PIN	DESCRIPTION / CONDITION		MANUFACTURER / PN
AC Input Connector	J1	Pin 1 Pin 2	AC Neutral AC Line	Molex: 26-60-4030 or equivalent; Mating: 09-50-3031; Pins: 08-50-0106
DC Output Connector	J2	Pin 1,2,3 Pin 4,5,6	RTN Vout	Option 1: Tyco: 2-1776112-3 or equivalent Mating: 13 AWG wire Option 2: JST: B6P-VH-B (LF) (SN) or B6P-VH (LF) (SN) or equivalent Mating: VHR-6M; Pins: SVH-41T-P1.1
Signals & Aux Power	J3	Pin 1 Pin 2 Pin 3 Pin 4 Pin 5 Pin 6 Pin 7 Pin 8	+VE Remote Sense VFAN (+12 V/0.5 A) -VE Remote Sense Remote ON/OFF VSTBY (+5 V/1 A, +/-5%) RTN (Signal) Power Fail Power Good	Molex: 22-23-2081 or equivalent Mating: 22-01-2087, Pins: 08-50-0113
Earthing Tab	J4			Molex: 19705-4301 or equivalent Mating: 190030001

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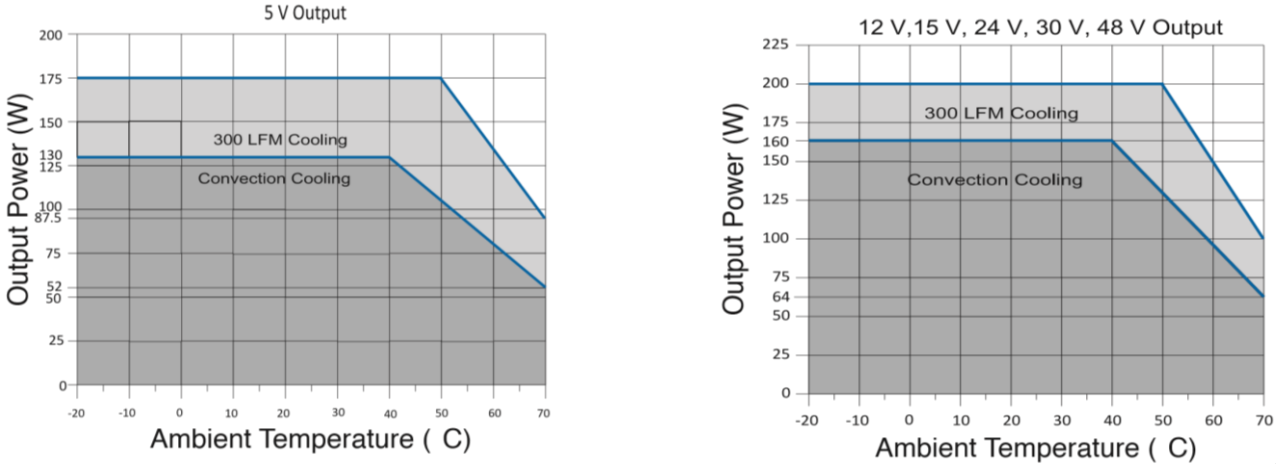
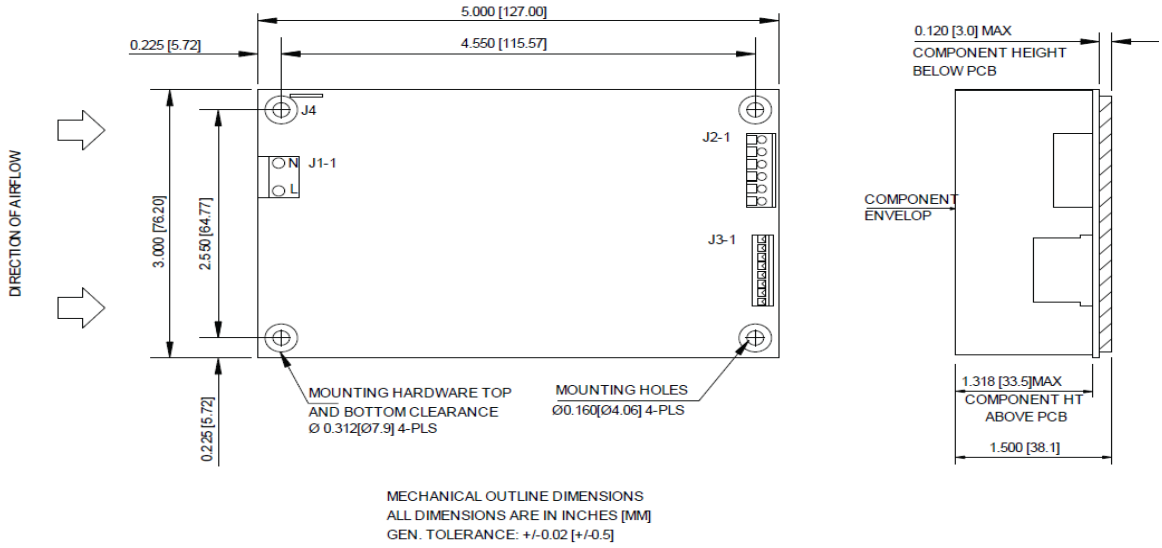
Figure 1 - Output Power Vs. Temperature



Mechanical

PARAMETER	DESCRIPTION/CONDITION
Weight	325 g (0.72 lbs.)
Dimensions	127.0 x 76.2 x 38.1 mm (5 x 3 x 1.5 inch)

Figure 2 - Mechanical Drawing



NOTE: Air flow over length of supply recommended (either direction) for forced air rating.

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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