

ABC120 Series Low Profile Open Frame Power Supplies



Key Features & Benefits

- 3 x 2 Footprint
- 120 Watts with Forced Air Cooling
- Efficiencies up to 93%
- -40 to 70 Degree Operating Temperature
- Thermal Shut-Down Feature
- 3.00 Million Hours, Telcordia -SR332-Issue 3
- Standby Power < 0.3 W
- RoHS Compliant
- CE Marked

The ABC120 Series of open frame power supplies feature a wide universal AC input range of 85 V – 264 VAC, offering 120 W of output power in a compact footprint, with a variety of isolated 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.

Applications

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

North America

+1-866.513.2839

Asia-Pacific

+86.755.29885888

Europe, Middle East

+353 61 225 977

tech.support@psbel.com
belpowersolutions.com

ABC120 Series

Model Selection

MODEL NUMBER	DESCRIPTION	VOLTAGE	MAX. LOAD (CONVECTION)	MAX. LOAD (200 LMF)	MIN. LOAD	RIPPLE & NOISE ¹
ABC120-1T12L ABC120-1012L	Screw Terminal Molex Header	12 V	8.33 A	10.0 A	0.0 A	1%
ABC120-1T15L ABC120-1015L	Screw Terminal Molex Header	15 V	6.66 A	8.0 A	0.0 A	1%
ABC120-1T24L ABC120-1024L	Screw Terminal Molex Header	24 V	4.16 A	5.0 A	0.0 A	1%
ABC120-1T30L ABC120-1030L	Screw Terminal Molex Header	30 V	3.33 A	4.0 A	0.0 A	1%
ABC120-1T48L ABC120-1048L	Screw Terminal Molex Header	48 V	2.08 A	2.5 A	0.0 A	1%
ABC120-1T58L ABC120-1058L	Screw Terminal Molex Header	58 V	1.72 A	2.07 A	0.0 A	1%
COVER-120-XBC	metal cover kit accessory					

¹ Ripple is peak to peak with 20 MHz bandwidth and 10 μ F (Tantalum capacitor) in parallel with a 0.1 μ F capacitor at rated line voltage and load ranges.

ABC120 Series

TECHNICAL PARAMETERS

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

Input Specifications

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input Voltage	Universal (see derating under output power)	85-264 VAC / 390 VDC ²
Input Frequency		47-63 Hz
Input Current	115 VAC: 230 VAC:	1.2 A max. 0.65 A max.
No Load Power	Typical	< 0.3 W
Inrush Current	115 VAC: 230 VAC: 264 VAC:	25 A 45 A 75 A
Power Factor	@ Full Load	> 0.95
Switching Frequency	Typical	60 kHz

² Functional, not approved.

Output Specifications

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power	Forced cooling: Convection cooling:	120 W 100 W
Efficiency	48 V, 58 V: 24 V, 30 V: 12 V, 15 V:	93% 91% 90%
Hold-up Time	Typical	>10 ms
Line Regulation		+/-0.5%
Load Regulation		+/-1%
Transient Response	25% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50 Hz = 4%	recovery time < 5 ms
Voltage Adjustment		+/-3%
Rise Time	Typical	55 ms
Set Point Tolerance		+/-1%
Over Current Protection		> 110%
Over Voltage Protection	Latch type (AC recycling required)	110 to 140%
Short Circuit Protection	Hiccup mode	

Environmental Specifications

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Operating Temperature	Startup guaranteed, derate linearly above 50°C to 70°C as per Fig 1.	-40 to +70°C -40 to 0°C
Storage Temperature		-40 to +85°C
Cooling	Forced: with 300LFM (refer mechanical drawing) Convection: for input 100-264 VAC (derate linearly to 80W @ 85VAC)	120 W 100 W
Relative Humidity	Noncondensing	5% to 95%
Altitude	Operating: Nonoperating:	16,000 ft 40,000 ft.
Reliability	MTBF according to Telcordia -SR332-Issue 3	3.00 million hours

866.513.2839

tech.support@psbel.com

belpowersolutions.com

ABC120 Series

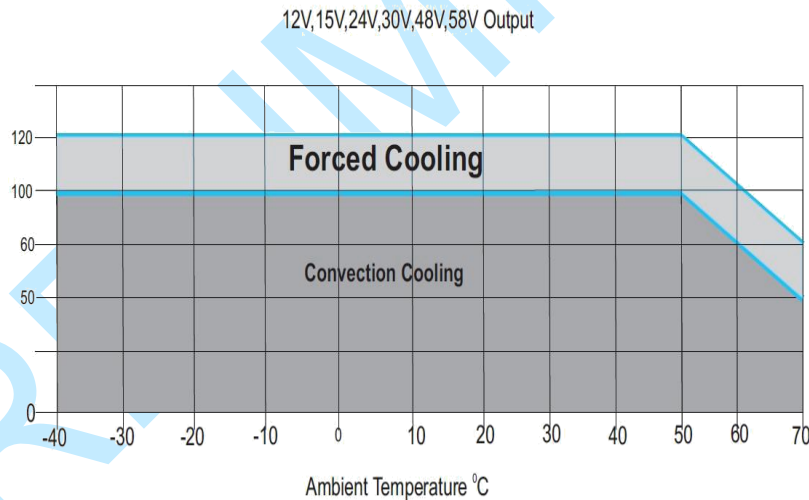
EMC Specifications

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Conducted Emissions	EN55022-B, CISPR22-B, FCC PART15-B	
Static Discharge	EN61000-4-2:	Level-3
RF Field Susceptibility	EN61000-4-3:	Level-3
Fast Transients/Bursts	EN61000-4-4:	Level-3
Radiated Emissions	Radiated:	Level A
	Radiated with external core: (King core K5B RC 25x12x15-M in input cable with 5 Turns)	Level B
Surge Susceptibility	EN61000-4-5:	Level-3
Harmonic Current	EN61000-3-2:	Class D

Safety Specifications

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Isolation Voltage	Input to Output: (For ITE application)	3000 VAC
	Input to GND:	1500 VAC
Safety Standard(s)	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	

Figure 1 – Derating Curve



Connector & Pin Description

CONNECTOR	PIN	DESCRIPTION / CONDITION	MANUFACTURER / PN	
AC Input Connector	J1	Pin 1	AC Line	
		Pin 2	Not Fitted	
		Pin 3	AC Neutral	
DC Output Connector	J2	Pin 1, 2	V1 +VE	
			V1 - VE	
		Pin 3, 4	Screw Terminal (Option 1)	Molex: 39357-0003 Tyco-2-1776112-3
			Molex Header (Option 2)	Molex: 1722861103 (Mating conn: Molex 1722561003)

866.513.2839

tech.support@psbel.com

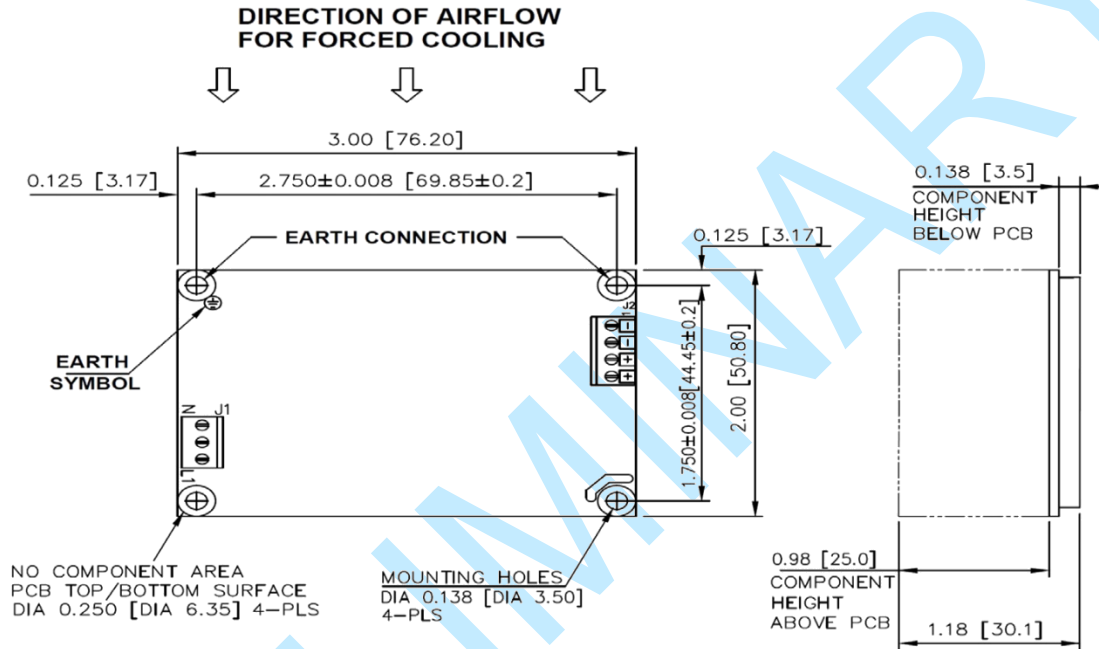
belpowersolutions.com

ABC120 Series

Mechanical Specifications

PARAMETER	DESCRIPTION / CONDITION
Weight	150 g
Dimensions	76.2 x 50.8 x 30.1 mm (3 x 2 x 1.18 inch)

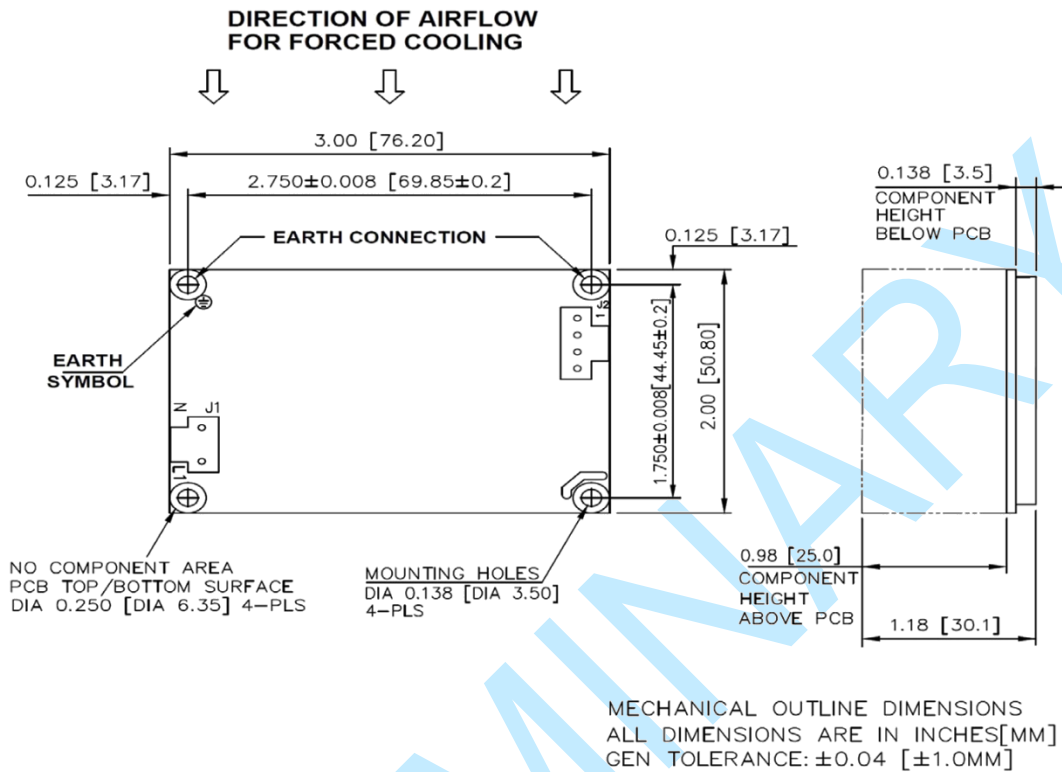
Figure 2 - Mechanical Drawing - Screw Terminal (Option 1)



MECHANICAL OUTLINE DIMENSIONS
ALL DIMENSIONS ARE IN INCHES[MM]
GEN TOLERANCE: ±0.04 [±1.0MM]

ABC120 Series

Figure 3 - Mechanical Drawing - Molex Header (Option 2)



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.