



# ABC75 Series

## Low Profile Open Frame Power Supplies

The ABC75 Series of open frame power supplies feature a wide universal AC input range of 85 V – 264 VAC, offering 75 W of output power in a compact 3 x 2 x 1 inch 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.

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



### Key Features & Benefits

- 3 x 2 x 1 Inch Form Factor
- 75 Watts with Convection Cooling
- Efficiency up to 93%
- -40 to 70°C Operating Temperature
- Thermal Shut-Down Feature
- 2 Million Hours, Telcordia -SR332-Issue 3
- Standby Power < 0.3 W
- RoHS Compliant
- CE Marked

### Applications

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

## 1. MODEL SELECTION

MODEL NUMBER	DESCRIPTION	VOLTAGE	MAX. LOAD (CONVECTION)	MIN. LOAD	RIPPLE & NOISE <sup>1</sup>
ABC75-1T12L ABC75-1012L	Screw Terminal Molex Header	12 V	6.25 A	0.0 A	1%
ABC75-1T15L ABC75-1015L	Screw Terminal Molex Header	15 V	5.00 A	0.0 A	1%
ABC75-1T24L ABC75-1024L	Screw Terminal Molex Header	24 V	3.12 A	0.0 A	1%
ABC75-1T30L ABC75-1030L	Screw Terminal Molex Header	30 V	2.50 A	0.0 A	1%
ABC75-1T48L ABC75-1048L	Screw Terminal Molex Header	48 V	1.56 A	0.0 A	1%
ABC75-1T58L ABC75-1058L	Screw Terminal Molex Header	58 V	1.29 A	0.0 A	1%
COVER-120-XBC <sup>2</sup>	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 (Derate from 75 W @ 100 VAC to 65 W @ 85 VAC)	85-264 VAC / 390 VDC <sup>3</sup>
Input Frequency		47-63 Hz
Input Current	115 VAC: 230 VAC:	1 A max. 0.5 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

<sup>1</sup> 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.

<sup>2</sup> When used in Cover Kit, de-rate output power to 70 % under all operating conditions

<sup>3</sup> Functional, not approved.

### 3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power	Convection cooled	75 W
Efficiency	48 V, 58 V: 24 V, 30 V: 12 V, 15 V:	93% 91% 90%
Hold-up Time	Typical	>16 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	

### 4. EMC SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Conducted Emissions	EN55032-B, CISPR22-B, FCC PART15-B	Pass
Radiated Emissions	EN 55032 A; with external core (King core K5B RC 25x12x15-M in input cable)	Pass Level B
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

### 5. SAFETY SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Isolation Voltage	Input to Output: (For ITE application) Input to GND:	3000 VAC 1500 VAC
Safety Standard(s)	Approved to the latest edition of the following standards: CSA/UL60950-1, EN60950-1 and IEC60950-1.	
Agency Approvals	Nemko, UL, C-UL, CCC	
CE mark	Complies with LVD Directive	

## 6. ENVIRONMENTAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Operating Temperature <sup>4</sup>	Startup guaranteed with spec deviation, see Fig 1.	-40 to +70°C -40 to 0°C
Storage Temperature		-40 to +85°C
Cooling	With natural convection cooling at 100 to 264 VAC	75 W
Relative Humidity	Noncondensing	5% to 95%
Altitude	Operating: Nonoperating:	16,000 ft 40,000 ft.
Reliability	MTBF according to Telcordia -SR332-Issue 3	2.00 million hours

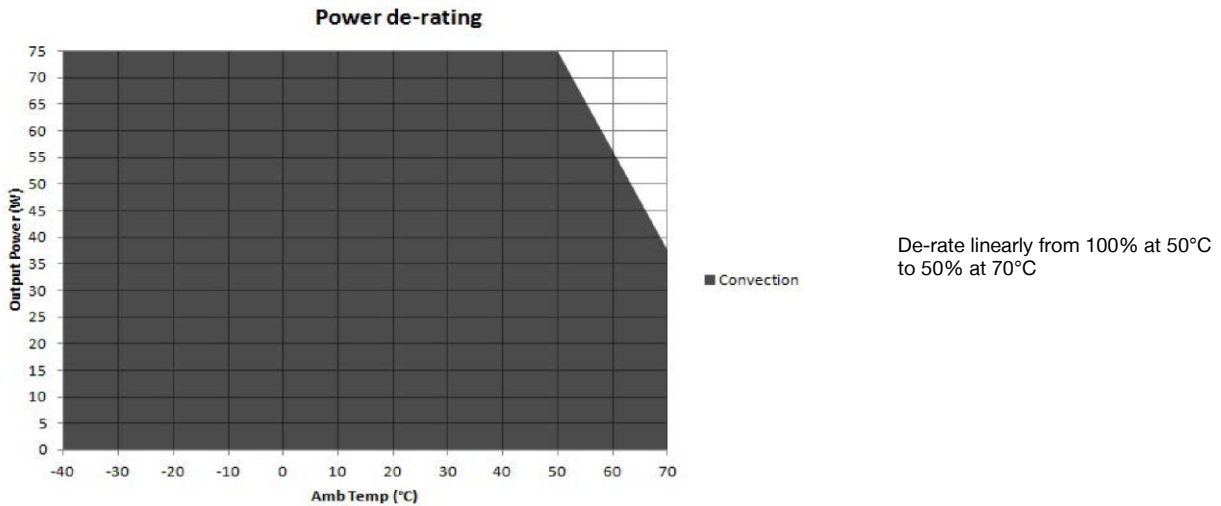


Figure 1. Derating Curve

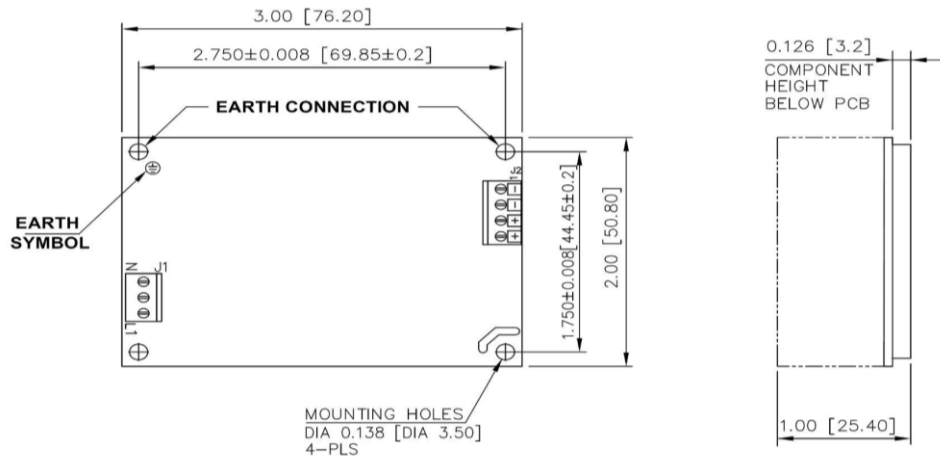
## 7. CONNECTOR & PIN DESCRIPTIONS

CONNECTOR	PIN	DESCRIPTION / CONDITION	MANUFACTURER / PN		
AC Input Connector	J1	Pin 1	AC Line	Screw Terminal (Option 1)	Molex: 39357-0003
		Pin 2	Not Fitted		Tyco-2-1776112-3
		Pin 3	AC Neutral	Molex Header (Option 2)	Molex: 1722861103 (Mating conn: Molex 1722561003)
DC Output Connector	J2	Pin 1, 2	V1 -VE	Screw Terminal (Option 1)	Molex: 39357-0004
		Pin 3, 4	V1 +VE	Molex Header (Option 2)	Tyco-2-1776112-4 Molex: 1722861104 (Mating conn: Molex 1722561004)

## 8. MECHANICAL SPECIFICATIONS

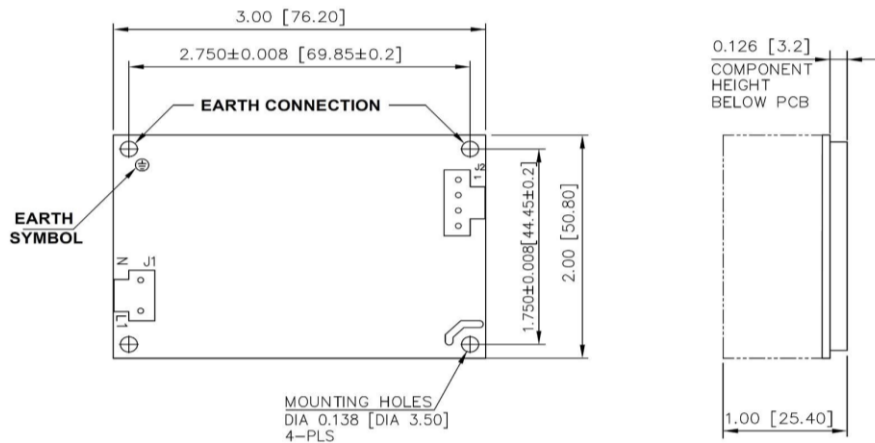
PARAMETER	DESCRIPTION / CONDITION
Weight	150 g
Dimensions	76.2 x 50.8 x 25.4 mm (3 x 2 x 1 inch)
Cooling	75 W with natural convection cooling at 100 to 264 VAC

<sup>4</sup> Output ripple can be more than 10% of the output voltage.



MECHANICAL OUTLINE DIMENSIONS  
 ALL DIMENSIONS ARE IN INCHES[MM]  
 GEN TOLERANCE: ±0.06

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



MECHANICAL OUTLINE DIMENSIONS  
 ALL DIMENSIONS ARE IN INCHES[MM]  
 GEN TOLERANCE: ±0.06

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

**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](mailto: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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