

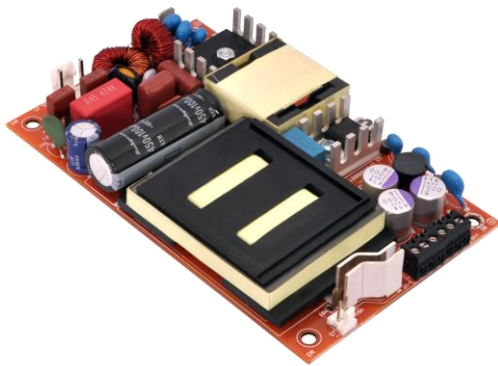
ABC275 Series

Ultra Low Profile Open Frame Power Supplies

The ABC275 Series of ultra low profile open frame power supplies feature a wide universal AC input range of 80 – 264 VAC, offering output power 275 W with 13 CFM forced air cooling, or up to 160 W with convection cooling. The power supplies are available in 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 broad range of telecom, datacom, industrial equipment and other applications.



Key Features & Benefits

- 5 x 3 x 0.75 Inches form factor
- 275 Watts with Forced Air Cooling
- Efficiencies up to 92%
- -40 to 70°C degree operating temperature
- 12 V / 0.5 A Fan Output, Thermal Shut-Down feature
- 3.37 million Hours, Telcordia -SR332-issue 3 MTBF
- Standby Power < 0.5 W

Applications

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

1. MODEL SELECTION

MODEL NUMBER	CONNECTOR	VOLTAGE	MAX. LOAD (CONVECTION) 152 W @ 50°C	MAX. LOAD (CONVECTION) 160 W @ 40°C	MAX. LOAD (13 CFM)	MIN. LOAD	RIPPLE & NOISE ¹
ABC275-1T12L	Screw Terminal	12 V	12.5 A	13.33 A	22.92 A	0.0 A	2%
ABC275-1012L	Molex Connector						
ABC275-1T15L	Screw Terminal	15 V	10 A	10.66 A	18.33 A	0.0 A	2%
ABC275-1015L	Molex Connector						
ABC275-1T24L	Screw Terminal	24 V	6.25 A	6.67 A	11.46 A	0.0 A	1%
ABC275-1024L	Molex Connector						
ABC275-1T30L	Screw Terminal	30 V	5 A	5.33 A	9.17 A	0.0 A	1%
ABC275-1030L	Molex Connector						
ABC275-1T48L	Screw Terminal	48 V	3.12 A	3.33 A	5.73 A	0.0 A	1%
ABC275-1048L	Molex Connector						
ABC275-1T58L	Screw Terminal	58 V	2.58 A	2.76 A	4.74 A	0.0 A	1%
ABC275-1058L	Molex Connector						
COVER-275-XBC ²	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 100% at 100 VAC to 72% for forced cooling and 69% for convection cooling at 80 VAC)	80-264 VAC / 390 VDC
Input Frequency		47-63 Hz
Input Current	115 VAC: 230 VAC:	2.6 A max. 1.3 A max.
No Load Power	Typical for ABC275-1XXX Typical for ABC275-1XXX-PGPF	< 0.5 W < 0.85 W
Inrush Current	115 VAC: 230 VAC: 264 VAC:	25 A 45 A 75 A
Leakage Current	Typical (N.A. For Class II Option - without input Earth pin) Touch current	300 µA < 100 µA
Power Factor	At full load	> 0.95
Switching Frequency	PFC PWM	70 to 130 kHz 50 to 80 kHz

¹ 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.

² When used in Cover Kit, de-rate output power to 70 % under all operating conditions.

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power ³	With 13 CFM forced air cooling With natural convection cooling at 100 to 264 VAC	275 W up to 160 W
Efficiency (typical @ 230 VAC full load)	48 V, 58 V: 24 V, 30 V: 12 V, 15 V:	92% 90% 88%
Hold-up Time	At 275 W: At 160 W:	8 ms 16 ms
Line Regulation		+/-0.5%
Load Regulation		+/-1%
Transient Response	25% step load change, at 0.1 A/ μ s slew rate, 50% duty cycle, 50 Hz = 4%	recovery time < 5 ms
Voltage Adjustment ⁴		+/-3%
Rise Time	Typical	55 ms
Set Point Tolerance ⁵		+/-1%
Over Current Protection		> 110%
Over Voltage Protection		110 to 140%
Short Circuit Protection	Hiccup mode	

4. ENVIRONMENTAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Operating Temperature ⁶	Startup guaranteed with spec. deviation	-40 to +70°C -40 to 0°C
Storage Temperature		-40 to +85°C
Relative Humidity	Non-condensing	5% to 95%
Altitude	Operating: Non-operating:	16,000 ft. 40,000 ft.
MTBF	Telcordia -SR332-issue 3	3.37 million hours

5. 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

³ Combined output power of main output, fan supply shall not exceed max. Power rating.

⁴ Adjustment potentiometer is located on the SMT side of the PCB.

⁵ Fan supply output voltage tolerance including set point accuracy, line & load regulation is +/-10% and Ripple & noise is less than 10%.

⁶ Output ripple can be more than 10% of the output voltage.

6. SAFETY SPECIFICATIONS

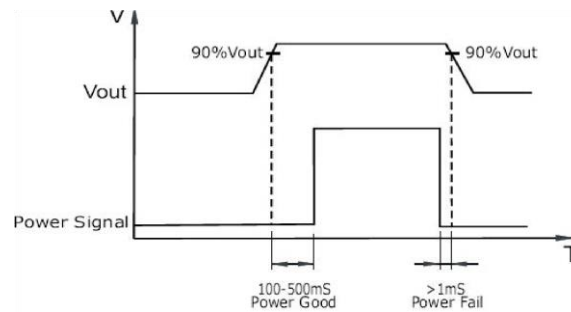
PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Isolation Voltage	Input to Output: (for ITE applications) Input to GND: (Not Applicable for Class II Option*)	3000 VAC 1500 VAC
Safety Standard(s)	Approved to the latest edition of the following standards: CSA/UL60950-1, EN60950-1 and IEC60950-1. Class1 SELV	
Agency Approvals	Nemko, UL, C-UL	
CE mark	Complies with LVD Directive	

* Class II Option means without input Earth pin.

7. 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	Molex: 26-60-4030 Mating: 09-50-3031; Pins: 08-50-0106
DC Output Connector	J2	Pin 1, 2, 3 V1 +VE Pin 4, 5, 6 V1 -VE	Option 1 (Screw Terminal): Molex: 39357 Series or equivalent Option 2 (Molex Connector): Molex: 26-60-4060 Mating: 09-50-3061; Pins: 08-50-0106
Aux (Fan) Output	J3	Pin 1 FAN +VE Pin 2 FAN -VE	AMP: 640456-2 Mating: 640440-2
Signal Output ⁷	J4	Pin 1 Vs Pin 2 PGPF Pin 3 GDN	AMP :640456-3 Mating: 640440-3

Fusing on neutral for ITE model is optional.



Power good / AC fail signal specs

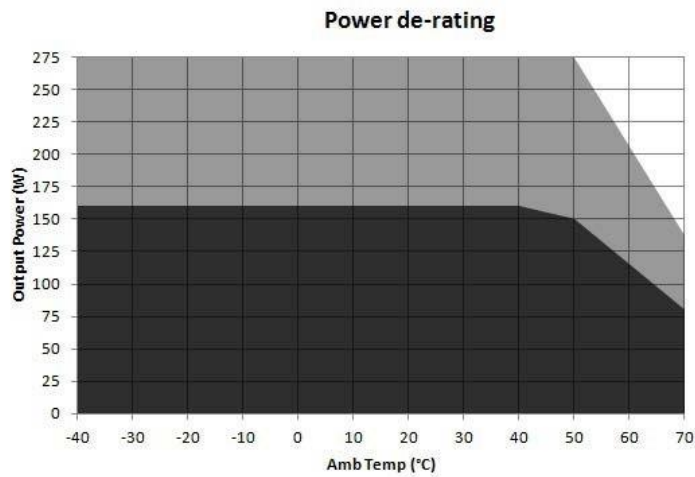
8. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION
Weight	approx. 200 g
Dimensions	127 x 76.2 x 19.05 mm (5 x 3 x 0.75 inches)
Cooling ⁸	275 W with 13 CFM forced air cooling (refer to Mechanical Drawing) Up to 160 W with natural convection cooling (refer to Derating Curve)

⁷ A TTL signal is available at pin 2 of J4 which goes high 100-500 ms after output voltage reaches 90% of set value. It goes low a minimum of 1 ms before output falls below 90% of the set value, when input AC is switched off.

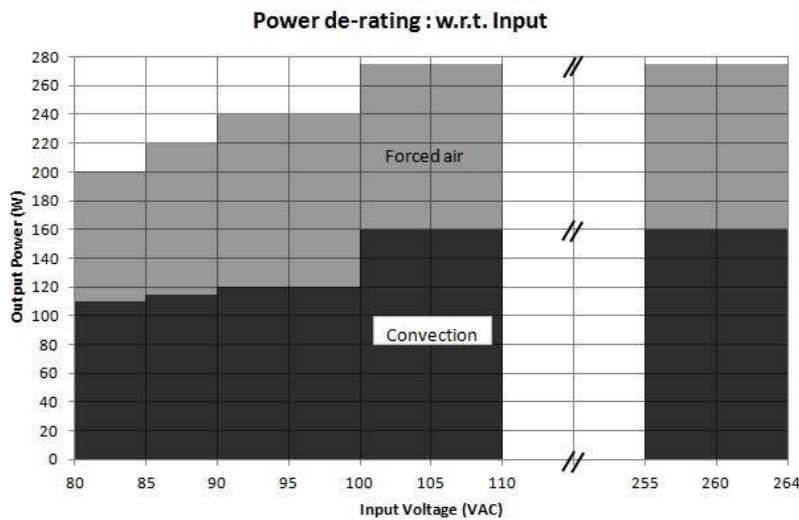
⁸ 275 W with 13CFM forced air cooling and 160 W with natural convection cooling at 100 to 264 VAC.

DERATING CURVES



Convection load: 160 W up to 40 °C
 De-rate between 40-50 °C @ 0.625% per °C
 De-rate above 50 °C @ 2.33% per °C

Forced air cooled load: 275 W up to 50°C
 De-rate above 50 °C @ 2.5% per °C



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.



Asia-Pacific
 +86 755 298 85888

Europe, Middle East
 +353 61 225 977

North America
 +1 408 785 5200