

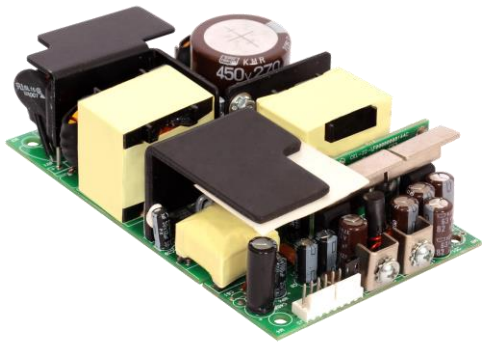
ABC300 Series

AC-DC Open Frame Power Supplies

The ABC300 Series of open-frame power supplies, with its wide universal 90-264 VAC input range and high power density, is available at 300 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

- 5 x 3 x 1.5 inch form factor
- 200 W convection cooled
- -20 to 50°C full load operation
- No minimum load required
- 12 V fan & 5 V standby outputs
- Inhibit & Power Good signals
- IEC Protection Class Options:
 - Class I: Earth pin J4 (no suffix)
 - Class II: No Earth pin (-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



bel POWER
SOLUTIONS &
PROTECTION

a bel group

belfuse.com/power-solutions

1. MODEL SELECTION

MODEL	CONNECTOR	OUTPUT VOLTAGE	MAX LOAD CONVECTION ^{1,2,3}	MAX LOAD 300 LFM ^{1,2,3}	MINIMUM LOAD	RIPPLE & NOISE ⁴	TOTAL REGULATION
ABC300-1T05G	Screw Terminal	5 VDC	28.0 A	40.0 A	0.0 A	2%	± 2.5%
ABC300-1T12G	Screw Terminal	12 VDC	16.67 A	25.0 A	0.0 A	2%	± 2.5%
ABC300-1T15G	Screw Terminal	15 VDC	13.33 A	20.0 A	0.0 A	2%	± 2.5%
ABC300-1T24G	Screw Terminal	24 VDC	7.5 A	13.54 A	0.0 A	2%	± 2.5%
ABC300-1T30G	Screw Terminal	30 VDC	6.0 A	10.83 A	0.0 A	2%	± 2.5%
ABC300-1T48G	Screw Terminal	48 VDC	3.75 A	6.77 A	0.0 A	2%	± 2.5%
Cover-300-XCB ⁵	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	90-264 VAC / 120-390 VDC
Input Frequency		47 to 63 Hz
Input Current	120 VAC 230 VAC	3.2 A max 1.65 A max
No Load Power		0.8 W
Inrush Current	120 VAC 230 VAC	35 A max 65 A max
Leakage Current	120 VAC 230 VAC	< 150 µA < 300 µA
Switching Frequency	PFC converter (fixed) Resonant converter (variable)	80 kHz typical 35 to 250 kHz, 90 kHz typical

¹ Peak current rating on main output is 120% of max., lasting < 30 s with a maximum 10% duty cycle.

² Combined output power of main output, fan supply and standby supply shall not exceed max. power rating.

³ Derate output power linearly to 80% from 90 VAC to 80 VAC input.

⁴ 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.

⁵ When used in Cover Kit, de-rate output power to 70 % under all operating conditions.

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power ^{6,7}	Derate linearly to 80% from 90 VAC to 80 VAC input.	200 to 325 W
Efficiency	120 VAC 230 VAC	88% typical 92% typical
Hold Up Time	120 / 230 VAC	10 ms
Power Factor	120 VAC 230 VAC	0.98 0.95
Line Regulation		+/-0.5%
Load Regulation		+/-2%
Transient Response	50% to 100% load change, 50 Hz, 50% duty cycle, 0.1 A/ μ s,	< 10%, recovery time < 5 ms
Rise Time		< 100 ms
Set Point Tolerance ⁸		\pm 1%
Voltage Output Adjustment		\pm 3 %
Over Voltage Protection	Automatic recovery	110 to 150 %
Over Current Protection		110 to 150 %
Short Circuit Protection	Short term, automatic recovery	
Over Temperature Protection	Automatic Recovery	110° C primary heat sink

4. SIGNALS

PARAMETER	DESCRIPTION / CONDITION
Power Good ⁹	TTL signal goes high after main output is within regulation band, delay is 0.1 to 0.3 s
Remote On/ Off	To turn on PSU short remote pin to ground
Remote Sense	Compensates for 200 mV cable drop

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

⁶ Fan supply output voltage tolerance including set point accuracy, line and load regulation is +/-30% and needs min. 1% load on main output to be within regulation band. Ripple and noise is less than 10%.

⁷ The de-rating curves are valid for input voltages of 115VAC to 264 VAC. Below 115 VAC to 90 VAC the convection rating is 180 W max.

⁸ Standby output voltage tolerance including set point accuracy, line and load regulation is +/-10%. Ripple and noise is less than 5%.

⁹ Power good signal cannot be used as a current source. Internal pull up resistor from PG signal to 5 V is 10K.
It is recommended to use external transistor if intended to source current.

6. ENVIRONMENTAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Operating Temperature	Refer to de-rating curves (Fig. 1) to determine output power over the entire operating temperature range. Start-up is guaranteed	-20 to 70°C -20 to 0°C
Storage Temperature		-40 to 85° C
Cooling	Convection:	5 V model 140 W max 12 V, 15 V, 24 V, 30 V & 48 V models 200 W max
	With 300LFM:	5 V model 200 W max 12 V and 15 V models 300 W max 24 V, 30V and 48 V models 325 W max
Relative Humidity	Non Condensing	95% Rh
Altitude	Operating:	10,000 ft.
	Non-Operating:	40,000 ft.
Reliability	MTBF according to Telcordia –SR332-issue 3	1.77 million hours

7. SAFETY SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Isolation Voltage	Input to Output:	4242 VDC min
Safety Standards	Approved to the latest edition of the following standards: CSA/UL60950-1, EN60950-1 and IEC60950-1	
Agency Approvals	Nemko, Nemko-CCL	
CE mark	Complies with LVD Directive	

8. CONNECTOR & PIN DESCRIPTION

CONNECTOR	PIN	DESCRIPTION / CONDITION	MANUFACTURER / PN
AC Input Connector	J1	Pin 1 AC LINE	Molex: 26-60-4030 Mating: 09-50-3031; Pins: 08-50-0106 6-32 inches Screw Pan HD Mating: Designed to accept Ring Tongue Terminal AMP : 8-31886-1, wherein one 16 AWG (max) wire can be crimped. Note: One Ring Tongue Terminal with 16 AWG is recommended for current up to 11 A only. Use multiple tongue terminals with wire for more current.
		Pin 2 AC NEUTRAL	
DC Output Connector	J2	Pin 1 RTN	
		Pin 2 V1	
Signals & Aux Power ¹⁰	J3	Pin 1 REMOTE ON/OFF	Molex: 22-23-2081 Mating: 22-01-2087; Pins: 08-50-0113
		Pin 2 RTN	
		Pin 3 VFAN (+12 V/0.5 A)	
		Pin 4 -VE REMOTE SENSE	
		Pin 5 VSTBY (+5 V/2 A, +/-5%)	
		Pin 6 +VE REMOTE SENSE	
Earth	J4	Pin 7 RTN	Molex: 19705-4301 Mating: 190030001
		Pin 8 POWER GOOD Spade Connector (Class I product only)	

9. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION
Weight	450 g (0.99 lbs)
Dimensions	127.0 x 76.2 x 38.1 mm (5.0 x 3.0 x 1.5 inch)

¹⁰ PSU is supplied with J3 housing, pin-1 and pin-2 shorted to enable main output without remote on/off feature.



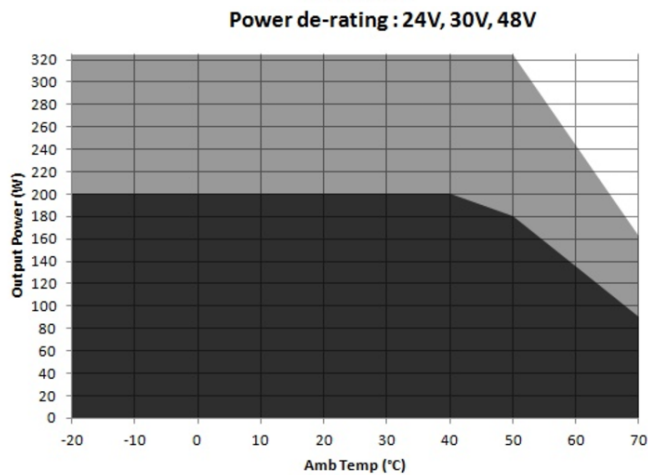
Convection load: 140 W up to 40 °C
De-rate above 40 °C @ 1.67% per °C

Forced air cooled load: 200 W up to 40°C
De-rate above 40 °C @ 1.67% per °C



Convection load: 200 W up to 40 °C
De-rate between 40-50 °C @ 1% per °C
De-rate above 50 °C @ 2.5% per °C

Forced air cooled load: 300 W up to 50°C
De-rate above 50 °C @ 2.5% per °C



Convection load: 200 W up to 40 °C
De-rate between 40-50 °C @ 1% per °C
De-rate above 50 °C @ 2.5% per °C

Forced air cooled load: 325 W up to 50°C
De-rate above 50 °C @ 2.5% per °C

Figure 1. Derating Curves

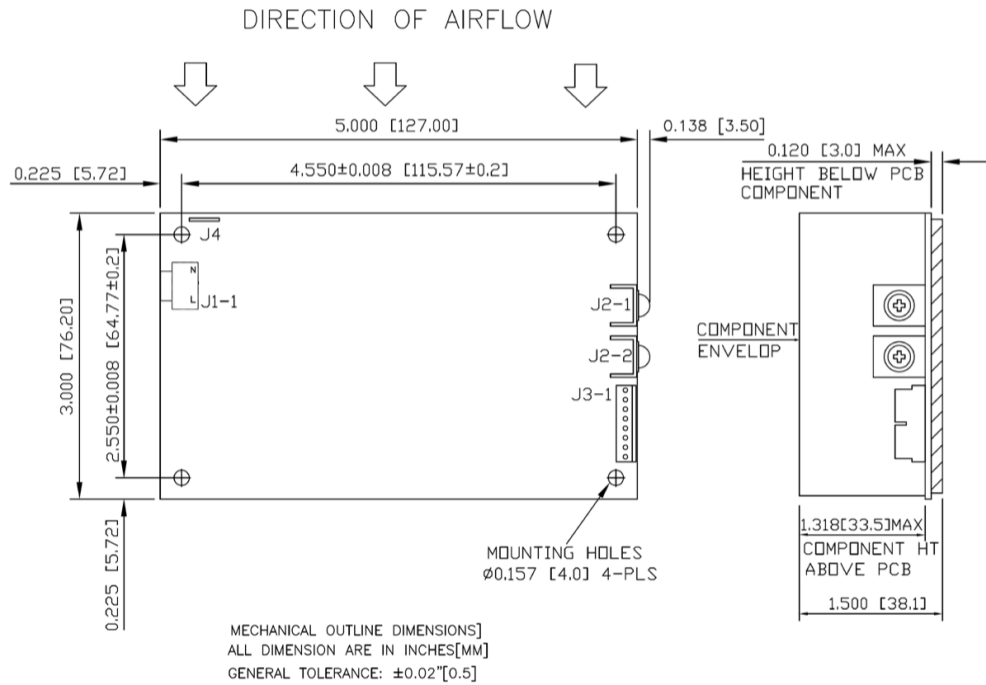


Figure 2. Mechanical Drawing

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

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.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкуренеспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru