



PSBC-MIL 2400-48 AC/DC POWER SUPPLY / CHARGER

The input current of PSBC-MIL 2400 AC/DC is power factor corrected and designed for optimum utilization of weak power sources such as portable generators. The efficiency is very high due to soft switching technology.

The RS-485 bus can be used for control, monitoring and setup. Detailed status and statistics can be retrieved. The bus is also used for interconnecting multiple units in a redundant or parallel system. The signal connectors provide several signals in addition to the RS-485 bus: alarm relay outputs and input for battery temperature sensor.

Temperature compensated charging ensures full battery capacity over the entire temperature range. PSBC-MIL 2400 AC/DC can be configured to charge different battery technologies such as Li-Ion, LiPo, lithium iron phosphate and lead-acid.

PSBC-MIL 2400 AC/DC can be software configured according to customer specification. The firmware is user upgradeable for future battery technologies and facilities.

PSBC-MIL 2400 AC/DC is protected from overvoltage, overcurrent, short circuit, reversed polarity and over temperature.

FUNCTIONS

Over temperature

The unit is protected from over temperature by derating the output current. It shuts down if the temperature continues to rise. The unit automatically starts up again when the temperature drops.

Input circuit breaker

The input circuit breaker is for failure protection and is also used as ON/OFF switch.

Display

The display can be toggled between output voltage, output current and alarm/error codes.

Input voltage

When the input voltage is below the safe operating range, the converter is shut off. When the voltage returns, the converter is turned on again.

Grounding

Available in the front and back

Acoustic noise

At ambient temperatures below 45°C the acoustic noise is 45dBA.

Cooling

Forced air by temperature controlled fan

FEATURES

- Output voltage 48VDC
- PFC
- RS-485 bus
- Active load sharing
- Battery temperature compensated charging
- Alarm relay outputs
- Environmentally Tolerant
- IP67
- RoHS compliant

SPECIFICATIONS

Electrical data	
Input voltage	99 - 276 VAC / 45 - 430 Hz
Power Factor (PF) load: $\geq 50\%$, Vin: 50/60 Hz	Typical 0.99
Input current Load: 2400 W Vin: 50/60 Hz	$\leq 29\text{ A @ }99\text{ VAC}$ $\leq 23\text{ A @ }120\text{ VAC}$ $\leq 12\text{ A @ }230\text{ VAC}$
Total Harmonic Distortion (THD) Load: 2400 W, Vin: 115/230 VAC, 50/60 Hz	$\leq 6\%$
Efficiency Load: 56 VDC, 40 A	$\geq 88\% \text{ @ }120\text{ VAC}$ $\geq 90\% \text{ @ }230\text{ VAC}$
Nominal output voltage	48 VDC
Adjustable output voltage	20.0 - 65.0 VDC
Default output current limit	42 A
Adjustable current limit	3 – 42 Amps
Short circuit current	\leq setting of current limiter +1 A
Load sharing	≤ 2 Amps deviation
Output voltage ripple and noise	$\leq 300\text{ mV p-p}$, 20 MHz bandwidth
Load regulation	Typical: 50 mV
Line regulation	Negligible

Standards	
Electromagnetic Interference	The power supply is designed to meet MIL-STD-461E and F: CE101, CE102, RE101, RE102, RS103, CS101, CS114, CS115 and CS116
Electrostatic discharge	The power supply is designed to meet the requirements of EN 61000-4-2 for ESD
Safety	CE marked

Environmental	
High temperature	Operation MIL-STD-810G: Method 501.5, Procedure II, +60°C Storage MIL-STD-810G: Method 501.5, Procedure I, +71°C
Low temperature	Operation MIL-STD-810G: Method 502.5, Procedure II, - 40°C Storage MIL-STD-810G: Method 502.5, Procedure I, -51°C
Temperature shock	MIL-STD-810G: Method 503.5, -51°C - +71°C non-operational
Humidity	MIL-STD-810G: Method 507.5, Procedure II, operational
Vibration	MIL-STD-810G, Method 514.6C Table 514.6C-VI. Composite wheeled vehicle vibration exposures figure 514.6C-3 . MIL-STD-810G: Method 514.6D, Category 20, Ground Vehicles, Wheeled/Tracked/Trailer, Procedure I
Shock	MIL-STD-810G, Method 516.6, Procedure I, functional Shock, 40g 11ms
Fungus	MIL-HDBK-454: Analysis of the degree of inertness to fungus growth of the components
Salt Fog	MIL-STD 810G: Method 509.5, 24 h spray, 24 h dry, 2 times
Altitude	Operational MIL-STD-810G: Method 500.5, Procedure II, 4572 m (15000 ft) at 57.2 kPa Storage MIL-STD-810G: Method 500.5, Procedure I, 12192 m (40000 ft) at 18.8 kPa
Encapsulation	The power supply is designed to meet the requirements of IP67 and has been tested by immersion in 1 m water for 30 minutes.

Dimensions, Weight and Connectors	
W x D x H	220 x 420 x 88 mm
Weight	11.1 kg
Mounting	Any direction
AC input	97B-3102E-16-10P or equivalent. Bayonet, RoHS
DC output	97B-3102E-22-22S or equivalent. Bayonet, RoHS
Alarm 1	Binder 09-0404-30-02
Alarm 2	Binder 09-0412-30-04
NTC/COM	2 pieces Binder 09-0416-30-05

