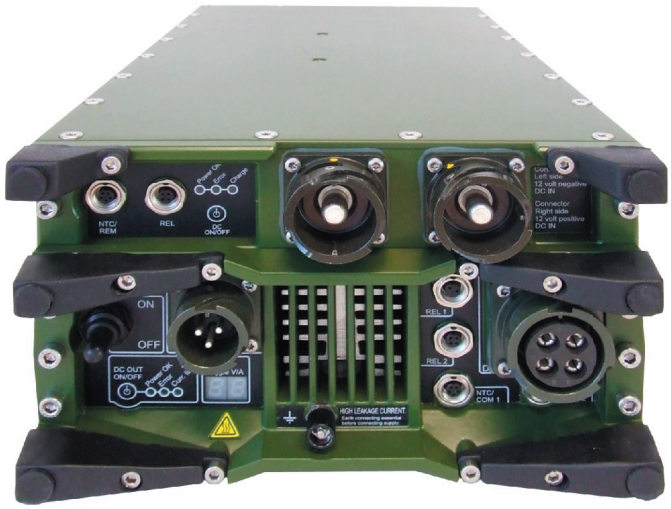
PSBCDI-Mil 1200 Dual Input Power Supply/Charger

Description



PSBCDI-Mil 1200 Dual Input is a compact DC power supply and battery charger with nominal output of 28V/40A. Its dual input capability enables the unit to seamlessly switch between AC and 12V DC power sources, all while maintaining ideal operating condition for 24V equipment or batteries. PSBCDI-Mil 1200 Dual Input is mechanically and electrically built to safely operate from AC and DC power sources with large voltage fluctuations under harsh environmental conditions. It is a high efficiency unit designed to supply power to sensitive electronics, with or without a 24V backup battery.
The AC input current is power factor corrected and designed for optimum utilisation of poor quality power sources such as portable generators. Its 12V input additionally allows it to operate from 12V vehicle power, the dominant power source amongst many armed forces today.
The switching between power sources is automatic and seamless. When powered from an AC source the PSBCDI-Mil 1200 Dual Input additionally will charge any 12V vehicle battery connected to its input, and thus prevent self-discharge and resulting vehicle failure during extended deployments. The PSBCDI-Mil 1200 Dual Input has an RS485 port that can be used for control, monitoring and setup. Detailed status and statistics can be retrieved over this port. The signal connectors provides access to alarm relay outputs, external battery temperature sensing and a bus for interconnection of multiple units in a redundant or parallel system. The PSBCDI-Mil 1200 Dual Input is fully software programmable and can easily be configured to charge different battery technologies. The unit features temperature compensated charging with individual sensors for both the 24V output and the 12V input/output. This ensures full battery capacity over the entire temperature range. The PSBCDI-Mil 1200 Dual Input is protected from over voltage, over current, short circuit, reversed polarity and over temperature. The firmware in the unit is upgradeable for future battery technologies and can be configured according to customer specification.

Functions

AC Input circuit breaker	The input circuit breaker releases if the input current exceeds 30A, in which case the PSBCDI-Mil 1200 Dual Input will swap to the 12V DC source.
Alarms	Status signals are fed to separate potential free outputs, and are indicated in separate LEDs for: **AC and 24 volt DC unit** Power OK Unit alarm Current limit **12 volt DC unit** Power OK Unit alarm 12 V Charge
Display	The display can be toggled between output voltage and output current.
AC & DC Input voltage	When the AC voltage is below the safe operating range, the PSBCDI-Mil 1200 Dual Input will swap to the 12V DC source. When the AC input voltage returns to a safe level, the PSBCDI-Mil 1200 Dual Input will swap back to the AC input.
Connectors	AC input: 97B-3102E-16-10P (Bayonet) DC input: Pos. MG 02R 20-2P-SQF 36 123 LT –003E-RT (Bayonet) Neg. MG 02R 20-2P-SQF 36 126 LT –003E-RT (Bayonet) DC output: 97B-3102E-22-22S (Bayonet) Alarm 1: Binder 09-0404-30-02 Alarm 2: Binder 09-0412-30-04 NTC 24 volt/PAR/COM: 2 pieces. Binder 09-0416-30-05 NTC 12 volt: Binder 09-0416-30-05 Alarm 12 volt: Binder 09-0404-30-02
Grounding	Available in front
Acoustic noise	At ambient temperaturs below 40ºC the acoustic noise is 45 dBA.
Cooling	Forced air by temperature controlled fan

Specifications *(Specifications Subject to Change Without Notice)*

Electrical data

AC input	
AC input voltage	99 — 276VAC
AC input frequency	45 — 430Hz
Power Factor (PF)	Typical 0.99 @ full load
Input current at max load (30V,40A+14,4V,8A) and 50Hz:	15.5A @ 99VAC 13.5A @ 115VAC 7A @ 230VAC
Total Harmonic Distortion (THD) @ 28V/40A 230VAC/50Hz	<12%
Efficiency at max load	>84% @ 115V >85% @ 230C
12VDC input	
Input voltage: Operational Max	9 — 16VDC +25VDC
Charging, 12V DC input:	8A, 3 stage temperature compensated
Input current at max load (30V,40A)	130A @ 11VDC 109A @ 13.2VDC
Efficiency at full load	> 82% @ 13.2VDC
28VDC output	
Nominal output voltage	28VDC
Adjustable output voltage	20.0 — 34.0VDC
Nominal output current	40A
Adjustable current limit	5 – 40 Amps
Short circuit current	≤44.0 Amps
Load sharing	Max 3 Amps deviation
Output voltage ripple and noise	<100mV p-p, 20MHz bandwidth
Output voltage regulation	<1,5% zero/max load

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, Aggravated

Vibration
MIL-STD-810G, Method 514.6, category 20, procedure 1. Excita-tion level: ITOP 1-2-601, Table B-3; Secured Cargo Transportation, Tracked Vehicle, V1-V5, all axes

Shock
MIL-STD-810G, Method 516.6, Procedure I, functional Shock, 40g 11ms

Fungus
In accordance with MIL-HDBK-454 by analysis

Altitude
MIL-STD-810G, Method 500.5, Procedure I (Storage) and II (Operational) Test altitude is 4750m(15000ft) at 57.2Kpa for Operational and 12195m (40000ft.) at 18.8Kpa. for Storage.

Standards

Electromagnetic Interference
The power supply meets the requirements of
MIL-STD-461E and F; Ground Army; CE101, CE102, RE101 RE102, RS103, CS101, CS114, CS115 and CS116

Electrical systems in vehicles
MIL-STD-1275D, DC output

Electrostatic discharge
The power supply meets the requirements of
EN 61000-4-2 for ESD

Safety
Designed to meet EN 60950

Encapsulation
IP67

Mechanical Specifications

Dimensions	
Width	220mm, 8.66“
Depth in rack	390mm, 15.35“
Depth total	420mm, 16.54“
Height	133.4mm, 5.25“ (3U)
Weight	18kg, (39.7lbs)
Mounting	Any direction and in 19“ rack

Available from:

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The power conversion company

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