

Application:

BC 1500 RM 48V is a compact DC power supply and battery charger with nominal output of 48V 25 Amps. It is designed for the supply of power to sensitive electronics, with or without backup battery.



The BC 1500 RM 48V input current is power factor corrected and designed for optimum adaptation to weak power sources such as portable generators. The efficiency is very high due to the soft switching converter technology. The BC 1500 RM 48V is intended for mounting in 19" rack systems and occupies 2U (88mm) (3.5") height.

The I/O bus provides several signals: Alarm relay outputs, external battery temperature sensing and a bus for interconnection of multiple BC 1500 RM 48V in a redundant system.

BC 1500 RM 48V is optimal for charging of lead acid batteries. Temperature compensated charging ensures full battery capacity over entire temperature range. The internal temperature sensors control the two redundant fans' speed continuously. The unit is protected from over voltage, short circuit, over current and over temperature.

Functions

Under voltage	An alarm is given when the output voltage drops below 40V. The alarm disappears when the voltage rises higher than 43V.
Over voltage	An alarm is activated if output voltage exceeds 64V.
Over temperature	The unit is protected from over temperature.
Output circuit breaker	If an output current higher than approx. 35 Amps occurs, a circuit breaker is released and rectifier is shut off. Alarm is given.
Input circuit breaker	If an input current higher than 25 Amps occurs, a circuit breaker is released and rectifier is shut off.
Alarms	Alarm signals are fed to a common potential free output, and are indicated in separate LED's for: <ul style="list-style-type: none"> • Power OK • Failure • Current limit
Input voltage	When the input voltage decreases to a given level, the rectifier is shut off. When the voltage returns, the rectifier is turned on again.
Connectors	AC: MS3102E16-10P DC: MS3102E22-2S Mon, Par/NTC and Par: Binder 09-0482-00-08
Grounding	Available in front (M5)
Acoustic noise	Max. 55 dBa at 50Hz
Frequency range	45 - 420Hz

BC 1500 RM 48V

Power supply

SPECIFICATION

Electrical data at 50Hz input voltage

Input voltage	99 – 264 VAC
Input current at nominal load	7.3 Amps at 230 VAC 50Hz
Input current at max load	15 Amps at 115V 400Hz
Input current at max load	8.5 Amps at 230V 400Hz
Power Factor (PF)	> 0.95 (typical 0.99)
Efficiency at full load	> 85% at 115 VAC > 88% at 230 VAC
Nominal output voltage	48 VDC (adjustable 31 – 60 VDC)
Nominal output current	25 Amps
Load sharing	Better than 10% deviation with 2 - 10 units in parallel
Output voltage ripple and noise	< 240mV p-p, 20MHz bandwidth
Output voltage regulation	1% zero/max load
Adjustable current limit	5 – 25 Amps
Max input current	17.1 Amps at 99 VAC
Rated input current	14.6 Amps at 115 VAC
Total Harmonic Distortion (THD)	< 8% at full load
Short circuit current	≤ 35 Amps

EMC

TREE: Designed to meet QSTAG 620 (Transient Radiation Effect on Electronics)

Electromagnetic Interference

The power supply meets the requirements of MIL-STD-461D; Ground Army; CE101, CE102, RE102, RS103, CS101, CS114 and CS 116

Electromagnetic Pulse (EMP)

Designed to operate without fault after exposure to EMP levels defined in paragraph A5 of QSTAG 244, edition no 3, amendment no. 1, dated 6 June 1983

Electrostatic discharge

The power supply meets the requirements of MIL-STD-1686 for ESD

Safety

EN 60950

Encapsulation

IP32 (front)

Cooling

Forced air by 2 speed controlled fans

Environmental

High temperature

Operation

MIL-STD-810E: Method 501.3, Procedure II to 60°C

Storage

MIL-STD-810E: Method 501.3, Category A1, hot induced, 71°C

Low temperature

Operation

MIL-STD-810E: Method 502.3, Procedure II, - 40°C

Storage

MIL-STD-810E: Method 502.3, Procedure I, -51°C

Temperature shock

MIL-STD-810E: Method 503.3, -51°C - +48°C. (Non-operational)

Humidity

The power supply operates as specified when exposed to high humidity as per MIL-STD-810E, Method 507.3

Vibration

According to MIL-STD-810F, change note 3. Table 514.5C-VII. Composite wheeled vehicle vibration exposures figure 514.5C-3

Shock

MIL-STD-810E. Method 516.4, Procedure I, functional shock.

Fungus

Analysis of the degree of inertness to fungus growth of the components in accordance with MIL-HDBK-454

Altitude

Designed to meet MIL-STD-810E: Method 500.3, Procedure I (Storage), II (Operational), and III (Rapid decompression), Test altitude is 4750 metres at 57.2Kpa for all tests

Mechanical data

Dimensions W x D x H incl. handles	483 x 391 x 88mm (2U) 19 x 15.4 x 3.5"
Weight	11.5kg (lbs)
Cabinet	Standard 19" rack