

Defence Chargers



Power is, the backbone for effective communication either in peace or forward areas, vital in operational requirements. The revolutionary growth in the telecommunication industry resulted in the various types of power requirements. In its endeavors to meet the ever increasing demand of Defence, Railways, C- Dot etc., HBL, Hyderabad has developed various types of secondary batteries and battery chargers to National and International Standards at short notices.



1 KW

The 1 kW battery charger is capable of working with an ac input of 220V/240V either from ac mains or from 1kVA of 220V/240V, 0.8pf, and single phase, 50Hz Gen Set conforming to COAL Specification COAL/604.

The salient features of our chargers are: -

- The SMPS technology which eliminates the use of bulky transformer thereby reducing losses and increasing the efficiency.
- Natural cooling facilitates to work in humid and dusty environments.
- Light weight hence easy to carry.
- The built in protections like Over Voltage, Under Voltage, Output Over Voltage, Short Circuits and Reverse polarity make it practically maintenance free.



The 2 kW battery charger is capable of working with an ac input of 220V/240V either from ac mains or from 4 kVA ac 220V/240V, 0.8pf, single phase, 50Hz Gen Set conforming to COAL Specification COAL/607. The charger is capable of operating from mains / Gen Set up to 66 A. The salient features of our chargers are: -

- The SMPS technology, which eliminates the use of bulky transformer thereby reducing losses and increasing the efficiency.
- Natural cooling facilitates to work in humid and dusty environments.
- Light weight hence easy to carry.
- The built in protections like Over Voltage, Under Voltage, Output Over Voltage, Short Circuits and reverse polarity make it practically hassle free maintenance.

2 KW



TECHNICAL SPECIFICATIONS

	1 KW	2 KW	
Technology	MOSFETs SMPS Technology	MOSFETs SMPS Technology	
Governing Specifications	CQAL/612	CQAL/613	
Input	AC input of 220V/240V either from ac mains or from 1 KVA Genset of 220V/240V, 0.8 p.f, single phase, 50 Hz. (Conforms to CQAL/604)		
DC Output	4 independent channels to charge batteries as below		
	Circuit	Load Condition	Mode of operation
	A	24V, 17.5A	Constant Potential
	B	6V, 12V, 18V & 24V, 17.5A	Constant Potential
	C	6V, 12V, 18V & 24V, 3 A	Constant Current
	D	2 to 24 V variable, 1A	Constant Current
DC Output	6 independent channels to charge batteries as below		
	Circuit	Load Condition	Mode of operation
	A	24V, 17.5A	Constant Potential
	B	24V, 17.5A	Constant Potential
	C	24V, 17.5A	Constant Potential
	D	6V, 12V, 18V & 24V, 17.5A	Constant Potential
	E	6V, 12V, 18V & 24V, 3A	Constant Current
F	2 to 24V variable, 1A	Constant Current	
Output Voltage Regulations	$\pm 1\%$	$\pm 1\%$	
Output Current Limit	120%	120%	
Power Conversations	Input ac rectified to DC followed by DC-DC converter and suitable filter circuits		
Protection	a) Input side common circuit breaker b) Output side circuit breaker for each output c) AC input under voltage/over voltage d) Input surge protection e) DC output high protection f) Output over load/short circuit protection g) Soft start facility		
Indications	4 LEDs to indicate for battery reverse; 4 LEDs for short/over load of each channel		
Adjustments	Potentiometers for adjusting output currents		
Weight and Dimensions	Weight : 25 Kgs (Appx) Length : 400 mm Width : 350 mm Height : 370 mm		
Accessories	1 No	a) Input power cable 3core, 110/0.45mm TRS insulated 230 V, 20 A rating 5m long fitted with Nippon type 3 pole 15 A, 500V rated socket at one end and other end free	1 No
	4 Pairs	b) Battery charging leads+and - TRS insulated 20 A rating, 6m long provided with lead plated crocodile clip at one end and spade lug terminal at the other end (1 pair for each of the output circuits)	6 Pairs
	16 Nos	c) Inter connecting leads 0.6 mm long with cable as indicated in (b) above fitted with lead plated crocodile clips at either end	20 Nos
	1 No	d) Cover canvas for the battery charger with suitable pouches to accommodate accessories and spares	1 No
Climate Conditions	a) Ambient Operating Temperature: 0° to 45°C b) Relative Humidity : 90% to 95%		
Final Product			

CHARGER BATTERY UNIVERSAL

The Charger Battery Universal is designed developed and manufactured by HBL, to meet the stringent Defence specifications, is capable of working with an ac input of 230V \pm 10% either from ac mains or 15 36 V DC, conforming to DEFENCE Specification No.TCA/LRDE/TS/2383B. The salient features of our chargers are :

- a) The SMPS technology which eliminates the use of bulky transformer thereby reducing losses and increasing the efficiency.
- b) Natural cooling facilitates to work in humid and dusty environments.
- c) Light weight hence easy to carry.
- d) The built in protections like Over Voltage, Under Voltage, Output Over Voltage, Short Circuits and Reverse polarity make it practically hassle free maintenance.



TECHNICAL SPECIFICATIONS

Technology	MOSFETs SMPS Technology
Governing Specifications	TCA/LRDE/TS/2383B
Input	ac input of 230V \pm 10% single phase either from ac mains or 15-36 V DC
Frequency	50 Hz \pm 2 Hz
DC Output	a) Charge Modules : 2 independent Channels to charge 5 types of Nickel Cadmium batteries in LOW, NORMAL, FAST. b) Discharge Module: One

Charging

S.No	Battery to be charged	Charging current in mA		
		Low	Normal	Fast
1	24V, 3.5 Ah	400	700	1400
2	24V, 5.5 Ah	700	1400	2800
3	18V, 6 Ah	800	1100	2200
4	24V, 4 Ah	400	700	1400
5	12V, 7 Ah	700	1400	2800

Load Voltage Tolerance	\pm 0.5 V
Current Regulation	The output current available under any mode of charging with permissible variation of input voltage/output load shall be within \pm 50 mA
Heat run Test	15 Hours
Connection	Irreversible connections at Input & output side
Protection	a) Input over voltage b) Input under voltage c) Input over current d) Input reverse polarity protection e) Reverse current protection
Functional Indication	a) Input AC ON b) AC Under/Over Voltage c) Input DC ON d) DC under / Over Voltage
Temperature	a) Operation : - 20° C to + 55° C b) Storage : - 40° C to + 75° C
Metre	0-40 V DC / 0-3 A dual range Hermetically sealed analog meter (for output measurements)
Dimensions	290 mm (Height) x 240 mm (Width) x 300 mm (Length)
Weight	13 kg (Max)
Accessories	Input and Output Cables



HBL Power Systems Limited

Road # 10, Banjara Hills, Hyderabad - 500 034. INDIA
E-mail: contact@hbl.in
www.hbl.in