

TECHNICAL SPECIFICATIONS FOR BATTERY CHARGER SYSTEM 110V DC SYSTEM		
S.No	Parameters	Detailed Specifications
01	TYPE OF UNIT	110 V, 40 A, Single Float cum Boost Charger with Integral DCDB.
02	AC INPUT VOLTAGE	230V AC, 1- Ph, 2 wire, permissible variation $\pm 10\%$
03	AC INPUT FREQUENCY	50 HZ. Permissible Variation: $\pm 5\%$.
04	DC OUTPUT VOLTAGE SETTINGS	
	Nominal	110 Volts (55 Cells of VRLA Battery)
	Float	123.75 Volts (Adj.) 2.25 V/Cell
	Boost	126.5 Volts (Adj.) 2.30 V/Cell
	Max O/P voltage at load	126.5V
05	OUTPUT CURRENT LIMIT	40 Amps
06	POWER CONVERSION	AC to DC by means of Single phase full Wave Controlled bridge rectifier Consisting of thyristors and diodes.
07	VOLTAGE REGULATION AT BRIDGE OUTPUT	$\pm 1\%$ of set value for $\pm 10\%$ input voltage variations, 10-100% load variation.
08	RIPPLE VOLTAGE	<5 % RMS without Battery connected
09	SWITCHGEAR & PROTECTION	
	A. Input Side	Input on/off MCB
	B. Output Side	Output on/off MCCB
	C. Battery side (fuse box)	MCCB
	D. Protection	Current limit protection Battery reverse polarity Soft start feature Surge suppressor Fuses at rectifier input Blocking diode
10	Meters	(LCD Display) AC Voltmeter AC Ammeter DC Voltmeter DC Ammeter Center Zero Battery Ammeters. Each outgoing feeder load current.
11	Indications	Power ON LED. Output ON lamp. Charger ON Float LED. Charger ON Boost LED.

12	Alarms	AC input Mains fail. Rectifier Fuse Fail DC over voltage DC Under voltage Charger Failure Earth Fault (+Ve, -Ve)
	*All the alarms should be provided through LED card. Audio alarm through buzzer, visual indication, and alarm ack. / reset and test provision is through push buttons. One pair of potential free summary contact has to provide for remote annunciation.	
13	OPERATING AMBIENT TEMP SURROUNDING THE PANEL	0°C. -- 50°C.
14	PANEL	
	a. Protection grade	IP-42
	b. Cooling	Natural air Cooling
	c. Paint shade – Internal & External	RAL 7032
15	MAGNETICS	
	a. Average winding Tempe. Rise	90°C. (Above ambient)
	b. Insulation class	F
	c. Insulation break down voltage	2 kV for 1 Min.
16	CABLES: 650V/1100V Grade PVC insulated copper cable and Ferrules have to be provided for Identification of connection by supplier.	
17	DCDB: DCDB shall be integral part of the charger. (Feeders are 10 No's) Incomer: 63A, 2P, MCB---01 No. Outgoing Feeders: 16A, 2P, MCB---10 No's.	

Technical Specifications for 55 No's, 110 V Battery Bank.		
S.No	Parameters	Detailed Specifications.
01.	Battery Rating.	110V-100Ah at C10 to 1.75ECV at 27° C.
02.	Battery makes.	Amara Raja Quanta / Emerson / Exide / HBL.
03.	Type of Battery.	Maintenance free valve regulated Lead Acid Battery.
04.	Cell capacity.	100 Ah at 10 hour rate to 1.75 ECV at 27° C.
05.	No .of cells.	55 Cells. (Each Battery Voltage – 2V).
06.	Applicable standards.	IEC 60896-21 & 22 ; IS 15549:2005 TEC GR/BAT-01/03 March 2004.
07.	AH Efficiency.	Min 95%.
08.	WH Efficiency.	Min 85%.
09.	Self discharge.	<0.5% per week at 27° C.
10.	Design floats life.	20 years at 27oC on float under recommended charging.
11.	Design cycle life.	Design cycle life 1200cycles at 80% DOD at 27oC 4000cycles at 20% DOD at 27°C.
12.	Recommended max. Period of storage	6 months at 27°C.
13.	Operating temperature range	-20°C to 55°C.
14.	Grid Alloy	Lead alloy with special additives.
15.	Container & Lid	Material Poly propylene co-polymer.
16.	Sealing Method	Heat sealing.
17.	Safety Vent	Self resealing, pressure Regulating Valve with Flame arrestor.
18.	Ventilation	Normal ventilation is required.
19.	Plate Type	Flat pasted.
20.	Separator	Absorbent Glass Mat (AGM).
21.	Terminals & ICC	Lead plated brass & copper ICC's with PVC Sleeves.
22.	Cell enclosure	Steel enclosures with Acid Resistance Epoxy powder Coating.
23.	Mounting.	Mounting channel with acid resistance coating.