

HBL POWER SYSTEMS LIMITED
General Technical Particulars – Tubular Gel VRLA Battery

S.No.	Parameters	12V – 40 Ah Battery Details
1	Battery type	Maintenance Free Tubular Gel VRLA Battery
2	Model offered	12 TGI 40
3	Capacity rated at	10 hour rate to 1.80 ECV at 25°C
4	12V Bloc Dimensions & Weight	410 ± 5 x 174 ± 5 x 221 ± 5 mm; 27 ± 5% Kg.
5	Applicable standards	IEC 60896 – 2, IEC 61427
6	Ah Efficiency	Min 95%
7	Wh Efficiency	Min 85%
8	Self discharge	< 2% per month at 25°C
9	Design float life	16 years at 25°C on float under recommended charging
10	Design cycle life	1200 cycles at 80% DOD 3500 cycles at 20% DOD
11	Recommended charging for standby float duty	Constant potential with current limited to 0.2 C10 Amps (max.) Float charging: 2.25 ± 0.005V/Cell at 25°C Boost charging: 2.30 ± 0.005V/Cell at 25°C
12	Charge controller settings for SPV application	<p><u>On/Off Type</u></p> <ul style="list-style-type: none"> ▪ Over Voltage disconnect: 2.37±0.005 V/ Cell at 25°C ▪ Array Reconnection Voltage: 2.25±0.005 V/ Cell at 25°C ▪ Low Voltage disconnect: 1.85±0.005 V/ Cell at 25°C ▪ Load Reconnect Voltage: 2.08±0.005 V/ Cell at 25°C <p><u>Pulse width modulation (CV Controller) Type</u></p> <ul style="list-style-type: none"> ▪ Regulation Voltage: 2.35±0.005 V/ Cell at 25°C ▪ Load Reconnection Voltage: 2.08±0.005 V/ Cell at 25°C ▪ Low Voltage disconnect: 1.85±0.005 V/ Cell at 25°C
13	Positive Plate	Tubular Plate with woven polyester gauntlet and Lead-Calcium-Tin alloy spine gird
14	Negative Plate	Flat plate with Lead-Calcium alloy grid and long –life expander material
15	Separator	Micro porous synthetic separator
16	Electrolyte	Sulfuric acid, immobilized as Gel
17	Container & Lid Material	Flame retardant ABS
18	Container to lid sealing method	Heat Sealing (Fusion welding)
19	Safety vent	Self resealing, Pressure Regulating Valve with Flame arrestor
20	Terminals	Lead plated brass threaded insert
21	Termination	Bolted type
22	Ventilation	Natural ventilation is sufficient
23	Battery shipment condition	Filled and charged. Ready to use

For HBL Power Systems Limited