MADE IN INDIA

SU-MAK SOLAR

GEL BATTERY

SEALED MAINTENANCE FREE BATTERY

100Ah

DEEP
DISCHARGE
TECHNOLOGY

www.sumaksolar.com

All lead-acid batteries release hydrogen from the negative plate and oxygen from the positive plate during charging. VRLA batteries have one-way, pressure-relief valves. Without the ability to retain pressure within the cells, hydrogen and oxygen would be lost to the atmosphere, eventually drying out the electrolyte and separators.

Voltage is electrical pressure (energy per unit of charge). Charge (ampere-hours) is a quantity of electricity. Current (amperes) is electrical flow (charging speed). A battery can only store a certain quantity of electricity. The closer it gets to being fully charged, the slower it must be charged.

Temperature also affects charging. If the right voltage is used for the temperature, a battery will accept charge at its ideal rate. If too much voltage is used, charge will be forced through the battery faster than it can be stored.

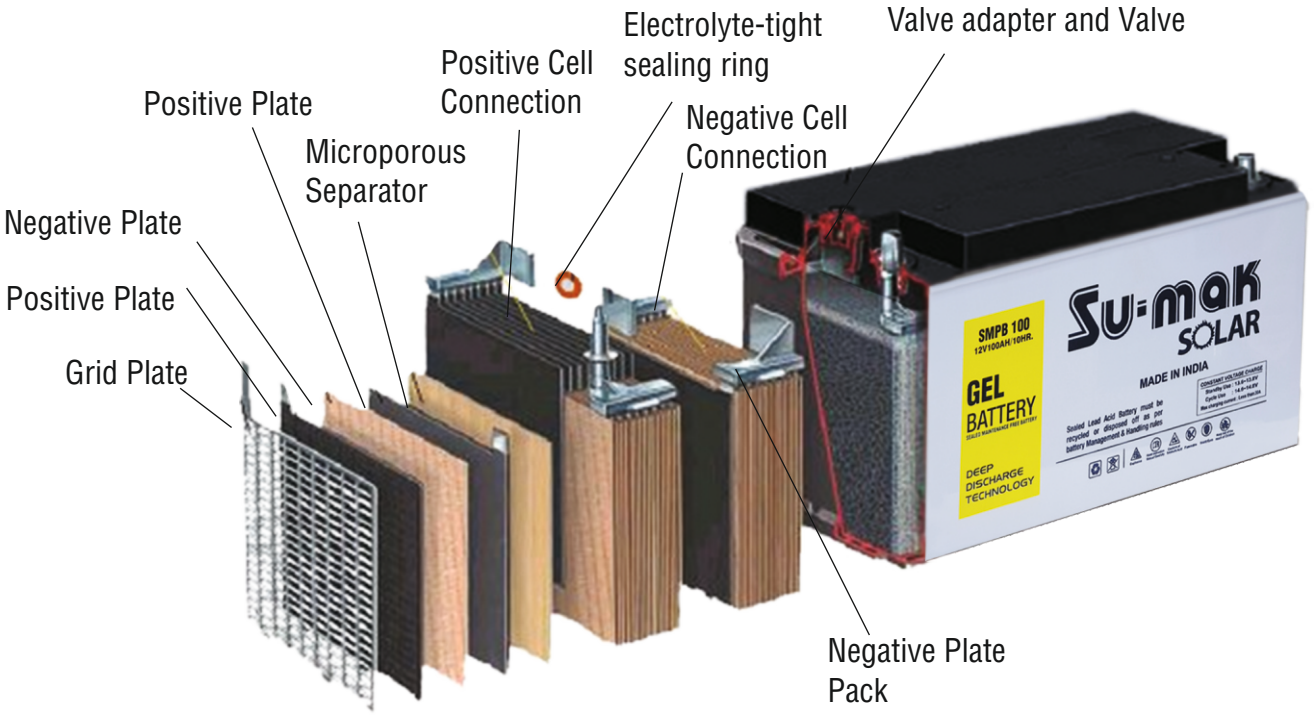
Advantages

- Maintenance free
- Moderate life on float service
- High rate capability
- High charge efficiency
- Available from small single cell unit (2V) to large 48V batteries.

Applications

The major application of the VRLA battery is used in emergency lighting or uninterruptible power supplies (UPS) for individual computers or work stations to high-power UPS in telecommunications facilities. A continuous supply of power is also critical in areas such as banking, stock exchanges, hospitals, air traffic control centers etc. where brief interruptions pose the risk of loss of critical data or hazards to health and safety.

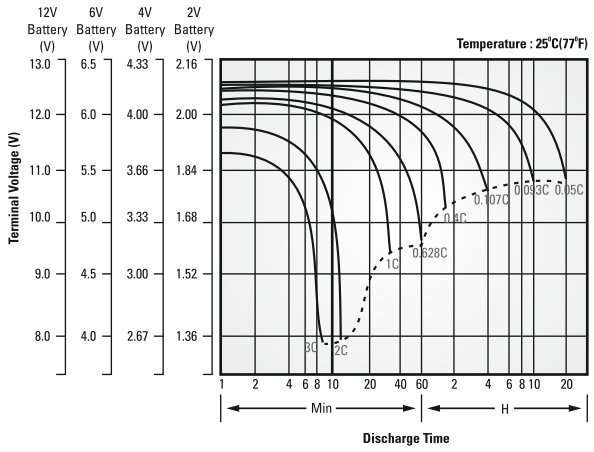
Cross Section view of VRLA GEL BATTERY



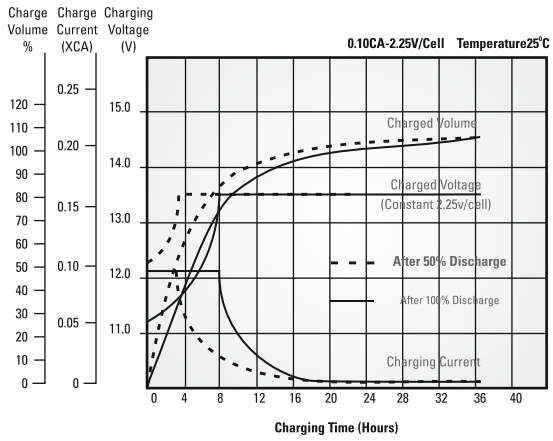
Su-mak has come up with their latest power bank series of Sealed Maintenance Free (SMF) batteries that are specially designed for optimum performance, very long life and high reliability. These are eminently suitable for a wide range of applications. SMF batteries do not emit corrosive gases and are leak proof. They have stable and reliable capacity. SMF batteries guarantee a long service life in standby or cyclic service. The computer-aided design and the manufacturing expertise of Su-mak, ensure the best quality products in the industry. Su-mak's SMF batteries are the perfect match for your inverter or UPS; they can perform under extreme conditions and can withstand deep discharge and overcharge as well.

Electrical Performance

Discharge Characteristics

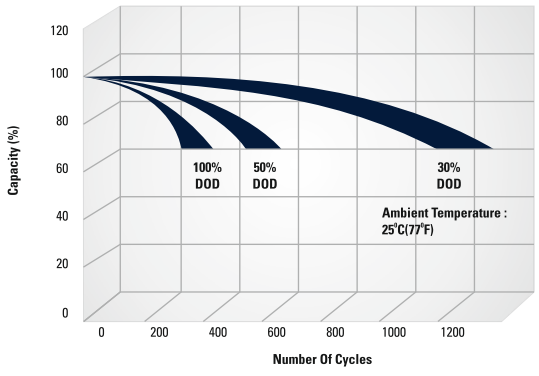


Float Charging Characteristics

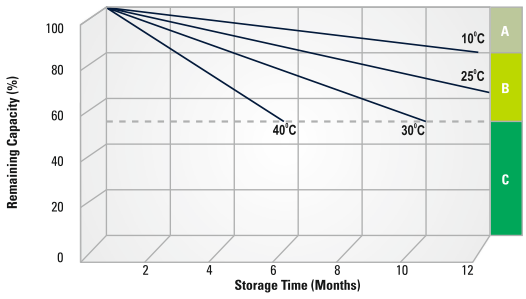


Cycle Life in Relation to Depth of Discharge

Testing Condition
Temperature : 25°C.
Discharging : 3.4 x I_{20} for 3 hours.
Charging : 6 x I_{20} for 16 hours at 14.1V.



Self Discharge Characteristics



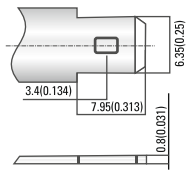
A No Supplementary Charge required
(Carry out supplementary charge before use if 100% capacity is required)

B Supplementary Charge required before use. Optional charging way as below :
1. Charge for 16~20 hours at 0.065C_{20} at constant voltage 2.3 V/Cell
2. Charge for 30~36 hours at 0.05C_{20} at constant voltage 2.35 V/Cell

C Supplementary Charge may often fail to recover the capacity
The battery should never be left standing till this is reached

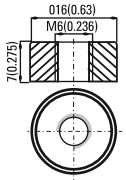
Battery Terminal Options

Terminal Type : F2



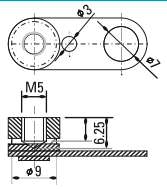
Faston Type (Brass) Quick Disconnect Tabs; Silver Coating For Better Conductivity.

Terminal Type : T6



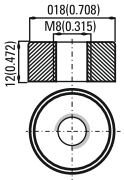
Brass Coated With Tin.
Threaded Insert
6mm Stud.
Torque : 5.2 N*m

Terminal Type : T4



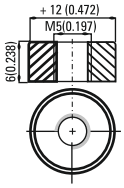
Brass Coated With Tin.
Threaded Insert
Torque : 3.0 N*m

Terminal Type : T8



Brass Coated With Tin.
Threaded Insert
8mm Stud.
Torque : 12.5 N*m

Terminal Type : T5



Brass Coated With Tin.
Threaded Insert
5mm Stud.
Torque : 3.0 N*m

Gel Battery Specifications

Volts	12V	
Capacity(25°C)	10 hours rate (10A)	100Ah
Discharge Current Testing (25°C)	1 hours rate (55A)	59Ah
	3 hours rate (75A)	79Ah
Internal Resistance	Full Charged Battery 25°C	4.2mΩ
Capacity Affected By Temperature	40°C	104%
	25°C	100%
	0°C	83%
	-15°C	65%
	Capacity After 3 Months Storage	91%
Residual Capacity (25°C)	Capacity After 6 Months Storage	82%
	Capacity After 12 Months Storage	65%
Charge (Constant Voltage)	Cycle (25°C)	Initial Charging Current Less Than 30A Voltage 14.5-14.9V
	Float (25°C)	Charge Voltage 13.6-13.8V
Weight (Approx)		31.2Kg

*The above are average and data obtained from the firer 3 charge/discharge cycles. These are not minimum values.

Marketed By.: Su-mak Power Systems Ltd.

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