

1. SAFETY PRECAUTIONS

1.1 Read before Installation

Observe the following Precautions at all times.

- Keep Batteries upright.
- Do not allow metal objects to rest on the battery or across the terminals.
- Do not keep any heating equipment's like heaters, Lamps, candles etc. on the batteries. It may cause the melting of the battery cover & container.
- Do not smoke or permit open flames near batteries or do anything to cause sparks.
- Avoid loose connections and check the polarity of the batteries during installation.

2. UNPACKING & INSPECTION

Upon receiving a shipment of batteries, it is advised to unload and open the shipping material and carefully check the batteries & hardware against packing list. Examine for possible damage caused in transit. It is essential that filled and charged batteries be placed on charge within 90 days from the date of shipment. This is to prevent irreversible sulfation of the plates and permanent loss of battery capacity.



3. INITIAL STORAGE

Do not locate the batteries in places exposed to direct sun light, rain dust, storm etc. Such exposures will cause damage to plastic components and will reduce battery life drastically. If the battery is not to be installed at the time of receipt, it is recommended that it should be stored indoors at a temperature between 25°C to 35°C, a freshening charge will have to be applied once in 3 months.

4. INSTALLATION

It is recommended that the battery unit be installed in a clean, cool & dry location. Floor should be reasonably level and able to support the battery weight. A location having an ambient temperature of 27°C will result in optimum battery life and performance. Average ambient temperatures above 30°C will result in reduction of battery life. Continuous operation above 50°C is not recommended.

4.1 Electrical Installation

Check parts received against the packing note. Study the battery arrangement drawing for cabinet / rack assembly, Place module in rack so that the positive (+) of one unit connected to the Negative (-) of the next unit in accordance with the battery arrangement drawings. Refer Table-1 to assembly of battery connection if the batteries received in the mounted racks, may follow the instructions from fig – 5 onwards.

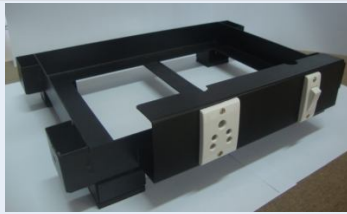
Table-01


Fig-1



Fig-2



Fig-3



Fig-4



Fig-5



Fig-6



Fig-7



Fig-8

5. CHARGING

The Modules shall be charged as per manufacturer recommendations as per Table-02

Table-02

CHARGE SETTINGS @ 27°C + 2°C	
Nominal charging voltage	Fixed Charging Voltage : 13.80 volts per module(55.2V for 48V system)
Charging Current	3.6Amps to 4.8Amps
Cut off Voltages	Over Voltage cut off :14.0V /per module (56.0V for 48V System)
	Under Voltage cut off : 11.8V/ per module (47.2V for 48V system)

6. CABLE SIZE & CABLE LENGTH

Inter module and battery output cables size selection should be adequate to get lowest voltage drop Possible between the battery system and operating equipment. The maximum voltage drop in the cable Between the System and operating equipment should not be more than 0.03V per meter length.

7. DO'S

- ❖ Clean the batteries as and when dust accumulates.
- ❖ Torque the battery Terminals with 11NM.
- ❖ Provide sufficient ventilation, if the batteries are placed in cubicle.
- ❖ The charger should have protection against over charge and discharge beyond prescribed end voltages.
- ❖ Charge the batteries immediately after full discharge.
- ❖ Avoid to install the solar panels under tree shadows.

8. DON'T'S

- ❖ Do not add water or acid.
- ❖ Do not mix the batteries of different capacities or makes.
- ❖ Do not attempt to reverse charge the battery.
- ❖ Do not allow to deep discharge the batteries above the recommended levels.

9. Service Support:

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