



## Receiving, Installation and Maintenance Instructions FOR VRLA VALVE REGULATED LEAD ACID BATTERIES

### “s” Series Battery Owner Instructions

#### **Receiving**

Upon receipt of shipment all cartons should be inspected and matched against packing list. Any shortages of batteries, cables or hardware should be immediately reported to SBS. Any damages upon receipt of shipment should be claimed as freight damage to the shipper. No replacement will be made unless missing or damaged items are properly noted on receiving documents before customer signature.

#### **Storage**

All batteries are shipped in a charged condition. If batteries are not installed immediately they should be stored in a cool, clean and dry area. These batteries should ideally be stored on a float charge. If not, then batteries should be recharged when open circuit voltage falls to 2.07 volts per cell, and/or every 6 months, whichever occurs first (see charging section for specifications).

#### **Installation**

Before proceeding with installation, review battery system drawings and assemble according to provided instructions. Normal battery operating temperatures are between 68°F (20°C) and 77°F (25°C). Cabinet enclosed battery systems are shipped fully assembled

#### **Maintenance**

The following minimum maintenance procedures must be followed and recorded to insure full service life from any battery system. Insufficient records and/or failure to perform maintenance on the battery system may conditionally void the warranty.

#### **Monthly Inspections:**

- 1- General inspection of batteries, rack, or cabinets.
- 2- Check charger voltage and current operation.
- 3- Measure float charge voltage at battery terminals.
- 4- Measure float charge current.
- 5- Check battery environment and ambient temperatures.

#### **Semi-Annual:** (perform monthly inspection plus)

- 1- Spot check individual battery temperatures.
- 2- Measure individual battery float voltages.

#### **Annual:** (perform semi-annual inspection plus:)

- 1- Detailed visual inspection of individual batteries.
- 2- Inspected all connections for cleanliness, corrosion, etc.
- 3- Measure micro OHM meter value of all

and internally pre-wired. Internal battery connections should be retorqued annually. Install cabinet(s) in a cool, clean and dry area.

### **Charging**

Batteries are shipped from SBS at approximately 95% capacity, and will attain 100% capacity after 6 months on float charge. Batteries must be maintained on float charge and should be fully recharged within 24hrs after any discharge. A high rate charge may be used to speed up the charging process, but only after a discharge. High rate charging should last for 6-8 hrs. maximum, then all batteries should be put back on float charge. All charging must be at fixed voltage.

### **Recommended Charging Parameters:**

Float voltage: 2.25 - 2.30 volts/cells  
High-charge voltage: 2.31 - 2.35 volts/cells  
=> Above 2.37 volts/cell batteries may emit hydrogen gas  
=> Average ambient temperature : 77 °F (25°C)

**Note:** These batteries will emit no gasses under normal charging conditions.

terminal connections.

- 4- Restore all connections as required.
- 5- Retorque all connections to recommended values.
- 6- Perform general system maintenance, clean batteries, racks.

### **Bi-Annual:** (perform annual inspection plus:)

- 1- Perform discharge test at rated capacity monitoring parameters continuously.

**Note:** Some larger and/or custom designed battery systems may require more frequent specialized maintenance inspections.

### **Safety tips:**

- 1- Limit access to authorized personnel only.
- 2- Read all instructions and specifications prior to performing work on the batteries.
- 3- Do not smoke, light matches or cause sparks near any storage battery.
- 4- Remove rings and metal watchbands and jewelry before working on batteries.
- 5- Do not place tools or metal objects on battery.
- 6- Use insulated tools when working on battery.
- 7- Make sure installation is in accordance with engineering instructions prior to battery start-up.
- 8- Review all battery specifications from instructions.
- 9- Perform routine maintenance from instructions.