



# Deltran Battery Tender<sup>®</sup> HIGH FREQUENCY SuperSmart<sup>™</sup> DAC 12, 24, 36, & 48 Volt

## Single Voltage Output Battery Chargers



**Note:** Battery Tender High Frequency SuperSmart DAC chargers are designed to accommodate the demanding charging requirements of high quality lead-acid batteries and should safely charge all lead acid battery types. Always check with the battery manufacturer to get the most complete charging recommendations that are consistent with your application.

**The best way to eliminate sulfation is to prevent it!**  
**Battery Tender<sup>®</sup> High Frequency SuperSmart DAC chargers will fully charge a battery and maintain it at the proper storage voltage without the damaging effects caused by trickle chargers (especially sulfation).**

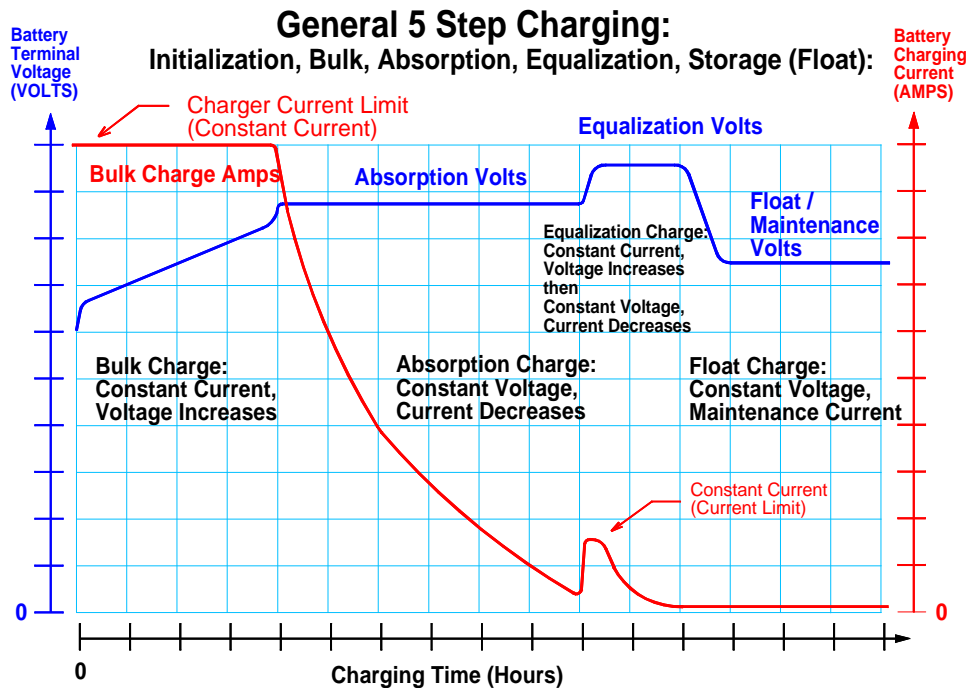
- ◆ **BTP MICROPROCESSOR TECHNOLOGY**
- ◆ **5-STEP CHARGING (Initialization, Bulk, Absorption, Equalization, & Float)**
- ◆ **SHORT CIRCUIT PROTECTED**
- ◆ **REVERSE POLARITY PROTECTED**
- ◆ **IMPROVED SHOCK & VIBRATION RESISTANCE**
- ◆ **2 YEAR WARRANTY (Material & Workmanship Only)**

ORDERING INFORMATION	
Deltran PART NO.	DESCRIPTION
022-0160	12 Volt 20 Amp Output
022-0159	24 Volt 20 Amp Output
022-0151	36 Volt 20 Amp Output
022-0154	48 Volt 20 Amp Output
<b>MSRP \$399.95 U.S.D.</b>	

TECHNICAL SPECIFICATIONS SUMMARY	
Input Voltage & Frequency	120 or 240 VAC, 50 / 60 Hz
DC OUTPUT (Nominal voltage & current values)	
Output Current	<b>20, 20, 15, or 10 Amps</b>
Output Voltage	<b>12, 24, 36, or 48 Volts</b>
Charger Output Voltage Amplitudes throughout the entire charge algorithm, including absorption and float maintenance, are consistent with the optimum charging recommendations of the major lead-acid battery manufacturers.	
Maximum Operating Temperature	50 °C Typical
Charger Case Dimensions: 13.25 in (337 mm) L x 7.75 in (197 mm) W x 3.375 in (86 mm) H Allow an additional 2 in (25.4 mm) on each end of the length dimension for safe bend of AC power cord strain relief and DC output cable harness.	
Shipping Weight with Cable Accessories	Approx: 10.0 lbs (4.6 kg)
<p><b>Declaration of Conformity:</b> These battery charger products are designed to meet or exceed the specific requirements of: UL-1236 and CSA 22.2. Low Voltage Directive 73/23/EEC: EN 60335 Standard for Safety of Household and Similar Electrical Appliances, Electromagnetic Compatibility Directive 89/336/EEC EN50082-1:1992: EMC Generic Immunity Standard. FCC Class B.</p> <p><b>Design Conformance &amp; Revision:</b> All Deltran charger products are 100% inspected and electrically tested prior to shipment. <b>All Deltran battery charger designs are proprietary and subject to change without notice.</b> Deltran makes no specific claims nor does it either make or imply any specific guarantee or warranty with respect to either the physical configuration or performance of any of the battery charger products listed herein, including suitability for purpose or merchantability.</p>	

# Deltran CORPORATION

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**Step 1) Initialization:** Amber Light On: Monitor Circuit verifies appropriate battery voltage levels and good electrical continuity between the battery and the charger DC output.

**Step 2) Bulk Charge:** Amber Light On, Green Light Off: Constant Current at Full Power. Switch to Absorption at 75% - 80% full recharge.

**Step 3) Absorption Charge:** Amber Light On, Green Light Off: Constant Voltage at Absorption Level. This conditions the battery for maximum performance. Adaptive timing transition to equalization.

**Step 4) Equalization Charge:** Amber Light On, Green Light Off: Constant Voltage at Equalization Level. This minimizes battery cell voltage variation. Adaptive timing transition to float maintenance.

**Step 5) Float Charge:** Amber Light Off, Green Light On: Constant Voltage at Float / Maintenance Level. Keeps battery fully charged and maintains optimum specific gravity. Charge reset monitor protects battery against deep discharge from excessive appliance current draw.

## INDICATOR LIGHT OPERATION

- **AMBER (Yellow)** - When the amber light is on, the charger is functioning normally and it is the process of fully charging the battery. The charger will automatically apply the optimum charging voltage and current values to the battery in the proper timing sequence.
- **GREEN** - When the green light is lit, the battery charger is in the storage / float / maintenance mode of operation. In this mode the charger will maintain the battery at full charge.
- **RED FLASHING** - When the red light is flashing, the AC power is applied to the charger and the microprocessor circuitry is functioning properly. There is no battery connected or there is a problem with the connections between the charger and the battery.
- **RED** - When the red light is on and not flashing, there is an internal charger malfunction. If this condition persists, contact technical support for assistance.

## APPLICATION INFORMATION

- ◆ Always operate the charger in a well ventilated area
- ◆ If no indicator lights come on after you plug in the AC cord, then check the AC power receptacle.
- ◆ If the green indicator light comes on too soon, check the battery and the output connections from the charger.
- ◆ It may take a long time for the green light to come on when charging a large battery.