

Multiple Charging Station, Shop Charger:
Models: 5 Bank & 10 Bank 12V2.0A

GENERAL DESCRIPTION:

The Multiple Charging Station, Shop Charger uses either 5 or 10 independent Battery Tender® Plus battery charger circuits in a single enclosure. Each circuit is a linear power converter that has a true DC output at a maximum power level of approximately 29 watts. Both models have a maximum output charging current of 2.0 amps. This is a higher current output than the stand-alone Battery Tender® Plus battery charger circuits because each shop charger has an internal fan to provide forced air cooling of all active, semiconductor components.



OUTPUT CABLE

CONNECTIONS: Each of the 5 or 10 channels of the shop charger has DC output cables with a black, molded, quick disconnect plug on one end, and a white connector on the end that plugs into the charger console. The ring terminal, alligator clip, and cigarette adapter output cable accessories all contain the mating, black quick disconnect plug.

STATUS INDICATOR LIGHTS: The indicator lights behave very much like the Battery Tender® Plus, except that the RED light does not flash. The following describes the operation of the status indicator lights:

- **AMBER** - When the amber light is on, it indicates that the **AC POWER IS ON**, either 110 or 220 VAC, depending on the factory setting.
- **RED** - When the red light is on, the battery charger is in the process of fully charging the battery. In order to properly charge large capacity batteries, the charger may remain in this mode for several hours or even days.
- **GREEN FLASHING** - When the green light is flashing, and the red light is on, the battery is greater than 80% charged and may be removed from the charger and used if necessary. Leave the battery on charge until the green light is solid whenever possible. Once the green light begins to flash, it will remain flashing until either the battery charger output current drops below 0.1 amp, or until 8 hours has elapsed.
- **GREEN** - When the green light is lit, the battery charger is in the storage mode of charge. In this mode the charger will maintain the battery at full charge.

TROUBLESHOOTING INFORMATION:



BATTERY MANAGEMENT SYSTEMS (Multiple Output Shop Chargers, Gang Tenders) PRODUCT INFORMATION

- 1) **72 HOUR SAFETY TIMER:** 72 hours after the charger is turned on, if the battery voltage does not increase to the absorption level (14.75 Volts), then the charger will automatically switch to maintenance mode (float level = 13.2 Volts). When this happens, both the green and red lights will illuminate. The GREEN light will be SOLID and the RED light will be FLASHING at a high rate. Check the battery condition. It may indicate that a very large, good battery is not fully charged, or that a smaller size battery is defective, or that there is some problem with the electrical connections.

- 2) **BATTERY LOW VOLTAGE MONITOR:** If the battery is totally dead (below 2 volts) the Battery Tender[®] charging circuit will not start and the lights will not turn on. The internal charger safety circuit must sense more than 2 volts before it will allow the charger to turn on. **Note:** Most 12-volt lead acid batteries are likely to be defective if their voltage is below 9 volts.

- 3) **FAN OPERATION:** The fan only runs whenever a charger is connected to a battery, and the charger is plugged into AC power. The fan ensures proper ambient temperature for the charger circuitry throughout the entire charge cycle. To avoid unnecessary risk of temperature related problems; please ensure that there is at least a 2-inch OPEN SPACE on both sides of the charger housing. This is to provide a clear airflow path for both the fan and the vent.

- 4) **CHARGER DOES NOT TURN ON:** Turn off the power switch and then remove the charger AC plug from the power outlet. Then check the fuse located in a fuse-holder on the front panel of the charger. If the fuse is defective, then replace it with one of the proper physical size and electrical current rating. Both the 5-Bank and 10-Bank Shop Chargers use the same fuse. 10 Amp, 250 Volt, Cartridge, 0.25 inch by 1.25 inch, Ceramic, Fast Blow, for example: Bussman part number: ABC-10.



BATTERY MANAGEMENT SYSTEMS
 (Multiple Output Shop Chargers, Gang Tenders)
PRODUCT INFORMATION

5 Bank Battery Tender® Battery Management System				
Charger Specification Summary				
SOFTWARE:	Sealed/VRLA/GRT/AGM			
Deltran Part Number:	021-0133	021-0146-2	021-0146-3	021-0146-4
Nominal Output: Per Bank (5 Separate Outputs)				
Voltage:	12 Volts			
Current:	2.0 Amps			
Input Voltage:	115 VAC	220 VAC	230 VAC	240 VAC
Input Frequency:	60 Hz	50 Hz	50 Hz	50 Hz
Total Max Input Current:	2.9 Arms	1.6	1.55	1.5
Nominal Efficiency:	55%	55%	55%	55%
Nominal Power Factor:	0.8	0.8	0.8	0.8
Charger Output: Per Bank:				
Maximum Power: @ 25 °C	29 Watts (+/- 2%) Watts			
Maximum Current: During Bulk Charge	2.0 Amps (+/- 2%)			
Absorption Voltage:	14.75 VDC = (2.46 vpc)			
Absorption to Float Transition:	Charge Current drops to below 0.1 Amps. OR 8 hours elapse.			
Equalization Voltage:	NA			
Float Voltage:	13.5 VDC = (2.4 vpc)			
Charge Reset: Battery Voltage Threshold:	12 to 12.5 VDC (2 to 2.08 vpc)			
Output Regulation:				
Line (Typical):	Less than 1%			
Electrical Isolation:				
Input / Output:	2500 VAC			
Input / Chassis:	2500 VAC			
Output / Chassis:	500 VAC			
Operating Temp:	-20°C to 50°C			
Dimensions:	12.125 in (308 mm)L x 7.875 in (200 mm)W x 7.875 in (200 mm)H			
Weight:	16 lbs.			
Shipping Carton	18 in (458 mm)L x 12 in (305 mm)W x 12 in (305 mm)H			
Shipping Weight:	20 lbs.			
Enclosure:	Powder Coated Aluminum			
Special Features:				
Short Circuit Protection:	YES			
Reverse Polarity Protection:	YES			
Spark Proof:	YES			
Temperature Compensation:	YES			
Agency Listings: UL, ETL, CSA, etc.	The Battery Tender® Battery Management System is designed to meet both UL-1236 and CSA 22.2 Contact the office in DeLand, FL for information on agency listings. Phone: 386-736-7900			

Table 1 Spec Sheet: 5 Bank Battery Tender® Battery Mgmt System



BATTERY MANAGEMENT SYSTEMS
 (Multiple Output Shop Chargers, Gang Tenders)
PRODUCT INFORMATION

10 Bank Battery Tender® Battery Management System				
Charger Specification Summary				
SOFTWARE:	Sealed/VRLA/GRT/AGM			
Deltran Part Number:	021-0134	021-0147-2	021-0147-3	021-0147-4
Nominal Output: Per Bank (10 Separate Outputs)				
Voltage:	12 Volts			
Current:	2.0 Amps			
Input Voltage:	115 VAC	220 VAC	230 VAC	240 VAC
Input Frequency:	60 Hz	50 Hz	50 Hz	50 Hz
Total Max Input Current:	5.8 Arms	3.2	3.1	3.0
Nominal Efficiency:	55%	55%	55%	55%
Nominal Power Factor:	0.8	0.8	0.8	0.8
Charger Output: Per Bank:				
Maximum Power: @ 25 °C	29 Watts (+/- 2%) Watts			
Maximum Current: During Bulk Charge	2.0 Amps (+/- 2%)			
Absorption Voltage:	14.75 VDC = (2.46 vpc)			
Absorption to Float Transition:	Charge Current drops to below 0.1 Amps. OR 8 hours elapse.			
Equalization Voltage:	NA			
Float Voltage:	13.5 VDC = (2.4 vpc)			
Charge Reset: Battery Voltage Threshold:	12 to 12.5 VDC (2 to 2.08 vpc)			
Output Regulation:				
Line (Typical):	Less than 1%			
Electrical Isolation:				
Input / Output:	2500 VAC			
Input / Chassis:	2500 VAC			
Output / Chassis:	500 VAC			
Operating Temp:	-20°C to 50°C			
Dimensions:	16.25 in (413 mm)L x 7.875 in (200 mm)W x 7.875 in (200 mm)H			
Weight:	22 lbs.			
Shipping Carton	18 in (458 mm)L x 12 in (305 mm)W x 12 in (305 mm)H			
Shipping Weight:	27 lbs.			
Enclosure:	Powder Coated Aluminum			
Special Features:				
Short Circuit Protection:	YES			
Reverse Polarity Protection:	YES			
Spark Proof:	YES			
Temperature Compensation:	YES			
Agency Listings: UL, ETL, CSA, etc.	The Battery Tender® Battery Management System is designed to meet both UL-1236 and CSA 22.2 Contact the office in DeLand, FL for information on agency listings. Phone: 386-736-7900			

Table 2 Spec Sheet: 10 Bank Battery Tender® Battery Mgmt System

