

Installation Instructions for 81955 & 81956

Smart Trickle Charger & Battery Maintainer

2 Amp/Bank For 6V & 12V Lead-Acid Batteries

We congratulate you have chosen a high quality product. The instructions for use are part of the product. They contain important information concerning safety, use and disposal. Before using the product, please familiarize yourself with all of the safety information and instructions for use. Only use the unit as described and for the specified applications. If you pass the product on to anyone else, please ensure that you also pass on all the documentation with it.

Product Description

This series of Multi-bank charger (later called the charger) is a multistep car battery charger for charging and charge retention of 6V or 12V lead batteries. These may be the types AGM-Ca/Ca-GEL-MF-VRLA with electrolyte solution or gel. The charger is a 6V or 12V per circuit charger, perfect for automotive, motorcycle and marine repair and maintenance shops. The charger has four-stage charging profile to charge, improve, and float the battery so it is ready when you are. Constant current charging and regulated voltage patterns allow the battery to be recharged fully and safely without the fear of overcharging. The lights above each station indicate the stage of charge so there is no guesswork in the shop. The charger is used in battery rotation, when a battery is removed from service during repair or in preparing batteries for sale.

The charger is designed for use by commercial and serious vehicle enthusiasts who need the ability to fully charge up two/three/four/five 6-volt or 12-volt batteries simultaneously and maintain each at its proper storage voltage without the damaging effects caused by some trickle chargers. Compatible with all AGM (absorbed glass mat), sealed maintenance free and flooded batteries commonly found in everything from some automotive/farm equipment to motorcycles, ATV's, and personal watercraft, this lightweight, microprocessor controlled unit provides safe, constant, 4-step charging current for every vehicle stored in your shop.

The first fully automatic, constant-current battery charger designed to charge and/or maintain up 6-volt/12-volt batteries simultaneously at 1.5AJ2A15A, the charger utilizes a 4-step charging program (initialization, bulk charge, absorption mode and float mode), that allows users to connect the charger to up to three/four/five batteries, either in or out of a vehicle, with the confidence that all are being maintained at optimal performance levels. This makes it extremely useful for battery rotation, where a battery is removed from service during repair or in preparing batteries for sale. It is also safe for your batteries, with the built-in ability to automatically switch its output voltage to storage or float level that eliminates the need to worry about the damaging effects of overcharging, and the resulting need to check on the condition of a charging battery. If or when the battery voltage drops too far under load, this same smart technology resumes output power and the charging cycle begins again.

IMPORTANT SAFETY INSTRUCTIONS

WARNING - BURST HAZARD

Do not use the unit for charging dry-cell batteries that are commonly used with home appliances. These batteries may burst and cause injury to persons and damage Use the unit for charging/boosting a LEAD-ACID battery only.

WARNING - SHOCK HAZARD

- Do not operate unit with damaged cord or plug; or if the unit has received a sharp blow, been dropped, or otherwise damaged in any way. Do not disassemble the unit; incorrect reassembly may result in a risk-of electric shock or fire.
- NEVER submerge this unit in water, do not expose it to rain, snow or use when wet.
- To reduce risk of electric shock, disconnect the unit from any power source before attempting maintenance or cleaning.

WARNING - RISK OF EXPLOSIVE GASES

- Working in the vicinity of a lead acid battery is dangerous. Batteries generate explosive gases during normal battery operation. For this reason, it is of the utmost importance that each time before using the charger you read this manual and follow instructions exactly.
- To reduce the risk of battery explosion, follow these instructions and those published by the battery manufacturer and manufacturer of any equipment you intend to use in the vicinity of the battery.



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BATTERY CONNECTIONS

- a) Positive (+) lead alligator clip/ring terminal of charger to positive (+) battery post.
- b) Negative (-) lead alligator clip/ring terminal of charger to negative (-) battery post.

Note: If the electrical connections are not correct, then POWER LIGHT will flash quickly.

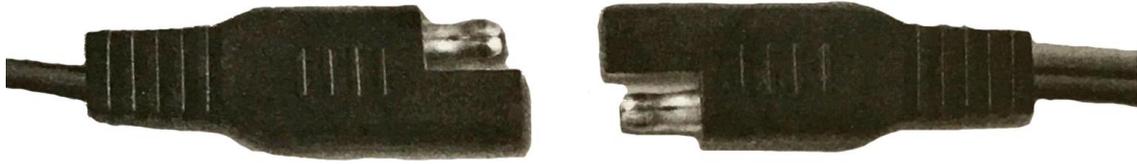
CHARGING STATUS LIGHT (TWO-COLORED STATUS INDICATOR LIGHT) - When the red light is on it indicates that the battery is correctly connected and the Bank charger is charging it. The charger will deliver its full rated current until this light turns from red to green.

When the battery is fully charged, the charging status indicator light will turn to green and the charger will switch to a storage/maintenance charge mode. The charger will automatically monitor and maintain the battery with 0.8A charging current.

OPERATING INSTRUCTIONS

Check polarity of battery posts. A positive (pos, p, +) battery post may have a larger diameter than a negative (neg, n, -) post;

1. Connect the battery lead plastic plug to the charger / maintainer plastic plug.

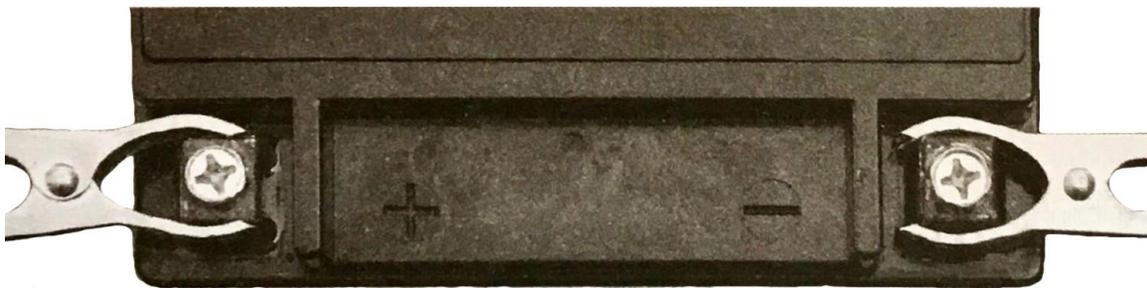


2. Proceed to plug the AC power cord into a nearby 120V AC GFCL (Ground Fault Circuit Interrupter) protected outlet. If needed, connect a heavy duty U.L. approved extension cord to the charger. After connecting the extension cord to the charger, proceed to plug the extension cord to a nearby 120V AC GFCL (Ground Fault Circuit Interrupter) protected outlet. The POWER ON indicator will turn RED.

3. Open all battery compartments and ventilate for at least 15 minutes before applying AC power to your charger. While charging your batteries, make sure to keep your battery compartment open allowing for free air ventilation.

4. Follow battery manufacturer's recommendation for battery cell caps (loosen caps if applicable).

5. Connect the battery lead terminal rings or alligator clips directly to the corresponding battery posts. Position the RED terminal ring or alligator clip on the POSITIVE post connector. Position the BLACK terminal ring or alligator clip on the NEGATIVE post connector. Make sure all battery connections are tight and clean. The POWER ON indicator will turn off. If the battery voltage is more than 7.5V, the charger will charge the batteries according to 12V mode, the 12V LED LIGHT will turn RED. If the battery voltage is less than 7.5V, the charger will charge the batteries according to 6V mode, the 6V LED LIGHT will turn RED.



6. The charger begins charging with 0.8A low current to recover the batteries automatically if the batteries are not full.

7. Observe the CHARGING STATUS LED LIGHT (TWO-COLORED STATUS INDICATOR LIGHT), when the red light is on it indicates that the battery is correctly connected and the charger is charging it. The charger will deliver its full rated current until this light turns from red to green. When the battery is fully charged, the CHARGING STATUS INDICATOR LIGHT will turn to green and the charger will switch to a storage/maintenance charge mode. The charger will automatically monitor and maintain the battery with 0.8A charging current.

8. When you are ready to use your vehicle, unplug the AC power cord or extension cord (if used) from the 120VAC power outlet followed by unplugging your battery terminal lead from the charger.

9. The battery lead with terminals may be left attached to the battery. Use care to safely stow the battery lead away from heat sources, sharp edges and avoid pinching or crushing. The battery lead with alligator clips should be removed before installing or using the battery.

IMPORTANT -- If the battery is totally dead (below 4 volts) the Bank charger will not start. This is due to its internal safety circuit. The charger safety circuit must sense more than 4 volts before it will allow the charger to turn on. If the battery voltage is below 4 volts, the charger will not operate and the lights will not turn on. Have the battery checked by a dealer if the battery voltage is very low. Most 12 volt lead acid batteries are likely to be defective if their voltage is below 9 volts.

CHARGING TIME

The charger delivers 1.5/2/5 amps per output (see below TECHNICAL DATA sheet) during the bulk charge period. For each hour of operation, that means the charger delivers 1.5/2/5 amps to the battery. For example if you have a 15 amp hour capacity battery that is fully discharged, then it would take approximately 10/7.5 hours to fully recharge.

(Amps x Hours = Amp Hours)

or stated another way:

(Charge Current x Time on Charge = Capacity Returned to the Battery)

Whenever time permits, we recommend that you let the charger finish charging the battery, indicated when the green light comes on and does not flash. We make this recommendation even though the total time required by this Bank charger to turn on the green light may be longer than you expect. Historically, the results of laboratory and field testing have shown that this is better for the battery and that it helps the battery achieve longer service life.

TECHNICAL DATA

Input Voltage:	105-125VAC, 60Hz							
Output Voltage:	6V & 12V (auto-select)							
Efficiency:	>75%							
Charging Voltage:	14.4V±0.25V (for 12V battery) or 7.2V±0.20V (for 6V battery)							
Charging Current:	TE4-0260	E4-0260	TE4-0261	555-81956	TE4-0262	TE4-0262U	555-81955	TE4-0264
	1.5A	1.5A	2A	2A	2A	2A	2A	5A
With 2 USB ports	N	Y	N	Y	N	Y	N	N
Bank QTY	5	5	4	4	3	3	2	2
Ambient Temp:	-10° C to +40° C							
Battery Types:	6V & 12V lead-acid batteries (WET, MF, ACM and GEL)							
Housing Protection:	IP65 (Dust and Splash proof)							



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DISPOSAL

The packaging is wholly composed of environmentally-friendly materials that can be disposed of at a local recycling center.

Do not dispose of electrical appliances in household waste.

In accordance with European Directive 2002/96/EC on used electrical and electronic appliances and its implementation in national law, used power tools must be collected separately and recycled in an ecologically compatible manner. Please return the tool via the available collection facilities. Information on options for disposing of electrical appliances after their useful life can be obtained from your local or city council.

- This equipment employs parts that produce arcs or sparks. Therefore, if used in a garage or enclosed area, the unit **MUST** be placed not less than 18 inches above the floor.

- **THIS UNIT IS NOT FOR USE BY CHILDREN AND SHOULD ONLY BE OPERATED BY ADULTS.**

CAUTION - TO REDUCE THE RISK OF INJURY OR PROPERTY DAMAGE:

- **NEVER ATTEMPT TO JUMP-START OR CHARGE A FROZEN BATTERY**
- When working with lead acid batteries, always make sure immediate assistance is available in case of accident or emergency.
- Always have protective eyewear when using this product: contact with battery acid may cause blindness and/or severe burns. Be aware of first aid procedures in case of accidental contact with battery acid.
- Have plenty of fresh water and soap nearby in case battery acid contacts skin.
- If battery acid contacts skin or clothing, wash immediately with soap and water for at least 10 minutes and get medical attention immediately.
- Never smoke or allow a spark or flame in vicinity of vehicle battery, engine or battery charger.
- Remove personal metal items such as rings, bracelets, necklaces and watches when working with a lead acid battery. A lead acid battery can produce a short circuit current high enough to weld a ring, or the like of a metal, causing a severe burn.
- Never allow battery acid to come in contact with this unit.
- Do not operate this unit in a closed area or restrict ventilation in any way.

FIRST AID - SKIN:

If battery acid comes in contact with skin, rinse immediately with water, and then wash thoroughly with soap and water. If redness, pain, or irritation occurs, seek immediate medical attention.

FIRST AID -EYES:

If battery acid comes in contact with eyes, flush eyes immediately, for a minimum of 15 minutes and seek immediate medical attention.

PRODUCT FEATURES

- Simultaneously charges and/or maintains up to four 6V or 12V lead acid batteries (WET, MF, AGM and GEL); 6V or 12V, 1.5N2N5A per charging bank (see the technical data) ;
- Charging voltage auto select;
- No risk of over-charging;
- Spark proof;
- Over heat protection;
- Full protected against short circuit and wrong connections; With LED indicators;
- Battery recovery — For 12V batteries voltage lower than $11V \pm 0.5V$, or 6V batteries voltage lower than $5.5V \pm 0.5V$, the charger could recover the battery. It is very easy to operate.
 1. Plug in the AC power,
 2. Now connect the output clamps/terminal rings with the battery correctly;
 3. This charger begins charging with 0.8A low current to recover the batteries automatically;

AUTOMATIC CHARGING AND BATTERY STATUS MONITORING: The charger is completely automatic and may be left connected to both AC power and to the battery that it is charging for long periods of time. The charger output power, voltage, and current depends on the condition of the battery it is charging. The chargers have indicator lights that provide a visual means to determine the operating mode of the charger and hence the condition of the battery connected to the charger.

POWER LIGHT - This is the POWER ON indicator, will turn RED when the charger is plugged into AC 110 Volt wall power (105-125VAC, 60Hz), but not connect with the batteries. When reverse connection protection or short circuit protection starts, the POWER LIGHT will flash quickly.

6V/12V LIGHTS - This is the 6V or 12V battery indicator that turns on when the charger identify the battery voltage is 6V or 12V automatically.



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