



Morse Part # 391-P Battery Charger	
Model	AC 1212 Amp
Input Voltage (Vac)	115V +/- 10%
	IMPORTANT: For 220/230V see page 2
Input Frequency	50 / 60 Hz
Output Current	12 Amp
Output Equalizer Voltage	14.7 Vdc +/- 0.2 V
Output Float Voltage	13.5 Vdc +/- 0.2 V
Transfer Current	1.4 Amp
Battery Application	Lead Acid Battery
Dimensions (L x W x H)	7.32" x 3.46" x 1.87" (186 x 88 x 47.5 mm)
Weight	1.76 Lb. (0.8 kg)

Troubleshooting

Problem and Symptoms	Possible Reason	Solution
If power LED indicator is off and there is no output voltage when charger is plugged into socket.	1. No AC input 2. Charger malfunction	1. Check AC power source 2. Notify service center
If commercial power is normal, but charging indicator LED (equalizer) is off when charging.	1. The polarity connection may be reversed 2. The output connection may be short or open 3. Output DC fuse loose 4. Charger malfunction	1. Check output cable 2. Check output cable 3. Check output DC fuse 4. Notify service center
If commercial power is normal, but charging indicator LED (equalizer) is lit for a long time.	1. Battery malfunction 2. Charger malfunction	1. The battery can't charge normally. Please stop charging and have battery replaced. 2. Notify service center
If the charging indicator turns immediately from OFF to ON (fully charged).	3. Battery is fully charged 4. Battery malfunction	Battery is not fully charged, it may be defective. Please have battery replaced.

Operating Instructions

Caution

- Before using the battery charger, please read all instructions and cautionary markings.
- Use the battery charger in a well ventilated area - for indoor use only.
- To avoid the risk of injury, charge only lead-acid or gel cell type rechargeable batteries.
- Beware incorrect polarity.
- Beware slight heat on the exterior while charging.
- Avoid exposure to heat.
- Remove the plug from AC power outlet after charging.

Charging Procedure Instructions

- Connect correct polarized clips to battery terminals.
- Connect to power supply and switch on. Then charging starts, indicated by Orange LED light.
- When green light turns on, keep charging for a couple more hours to ensure complete charge.
- When charging is finished (Green LED), disconnect from power supply and remove clips from battery.
- Charging can continue in "Float stage" without harming the battery.

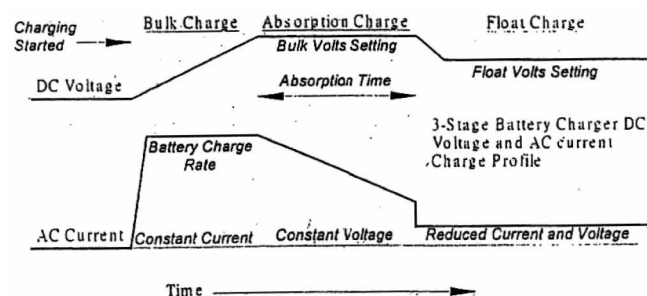
LED Indication

- LED1 RED = Power on
- LED2 ORANGE = Charging
- LED3 GREEN = Fully charged

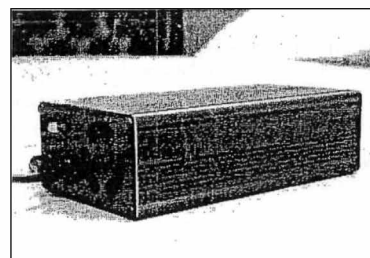
Fan Control

- Fan of fast speed (Bulk / Absorption Charge)
- Fan on slow speed (Float Charge)

Charging Curve



Case Drawing



3A - 12A Charger

Convert 115 VAC Charger to 230 VAC

CAUTION! If charger is connected to 230 volts AC power before conversion is completed, the AC fuse that is soldered on the circuit board will blow rendering the unit inoperable.

The charger is factory designed to operate on 115 volts AC. The charger is convertible to 230 volts AC. The charger can either be 115 VAC or 230 VAC compatible, but not both at the same time. Once the 230 VAC conversion had been completed, the charger will remain 230 VAC compatible. It is suggested to label charger as 230 VAC.

How to convert charger AC input operation from 115 VAC to 230 VAC:

On the AC input end of the circuit board there is a jumper wire located inside a white lined box labeled "115 Jump". (see fig. 2)

1. Remove the 4 screws from the AC input endplate.
2. Tilt open the endplate and locate the "115 Jump" wire (see fig. 1).
3. Cut and separate the wire so the two ends of the wire are not touching. The unit has been converted to 230 VAC operation.
4. Replace the end panel and 4 screws.
5. Label charger for 230 VAC operation.

fig. 1

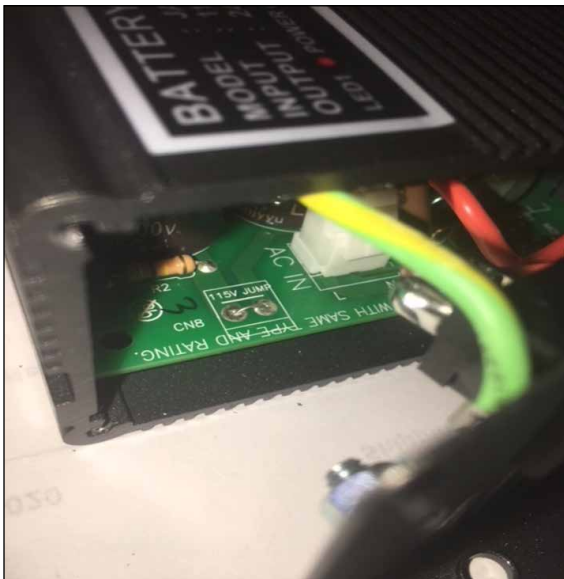


fig. 2



SCHAUER

3210 Wasson Rd.

Cincinnati, OH 45209

Phone: (513) 791-3030

Fax: (513) 791-7192

Schauer Battery Charger Warranty:

If you have a defective battery charger, you must return it to us (you pay freight to us). We will evaluate the charger and fix the battery charger or replace the battery charger, if the charger is still in the warranty period.

You should check the fuse in the battery charger before sending the charger to us. If you return the battery charger to us and nothing is wrong with the charger or nothing is wrong other than a blown fuse, we reserve the right to bill you for checking the battery charger and you will be responsible for return freight.

- If we would determine that the customer did something to the battery charger to cause damage, we would notify the customer that warranty is void. Listed are a few things that would void the warranty.
- If the customer would modify the battery charger (if you open the charger and change it, you could void the warranty).
- If the customer would get the inside of the battery charger wet.
- If the customer damages the battery charger such as running over the charger causes damage to the outside of the charger.
- The charger must get proper air flow and should not be put in an enclosed area.

If the customer would not apply the charger correctly. This could be putting a connector on incorrectly or trying to charge too large a battery with the charger or using it for something that it was not intended. A battery charger's DC current rating should be between 10% to 20% of the amp hour ratings of your battery. If your batteries are connected in series you only consider the amp hour rating of one battery. If your batteries are in parallel you add the amp hour rating of all your batteries to determine the DC current rating of your charger.

When checking the setting on our battery chargers, you must use an electronic load that has been calibrated within the past year.

If you have any questions, please call (513) 791-3030 or email us at: ken@battery-chargers.com before using the battery charger.

Fuses for the battery charger can be found at any electronic house. You want a 5mm by 20mm glass fuse, which is FAST ACTING, NOT slow blow. For a 12 amp charger, you need a 15 amp 250 volt fuse. There are many national distributors that handle these (we do not endorse any) such as:

- Allied (800) 433-5700
- Digi-Key (800) 344-4539
- Newark (800) 463-9275
- Mouser (800) 346-6873

. . .or simply put the type of fuse you need into an internet search engine to find several distributors.