AUTO CHARGE 1200
Battery Charger Troubleshooting

Kussmaul Electronics
Troubleshooting Steps

- Checking the charger wiring
- AC input voltage
- DC output voltage
- Charger output
- Charger Indicators
Checking Charger Wiring

12VDC
To battery

120 VAC
Input

Battery Positive

Battery Negative

AC connections
Black = L
White = N
Green = Ground
Checking A.C. Input Voltage
Checking A.C. Input

If your “POWER” LED is on you have 120VAC installed correctly
Checking A.C. Input

If your “POWER” LED is off. Use a volt meter and check the “INPUT” terminal strip for 120VAC

Meter reading 120 VAC
Checking A.C. Input

If your “POWER” LED is off, and you have 120VAC at the “INPUT” terminal strip, check the input circuit breaker.

[Images of circuit breaker in different states: ok and opened]

If your “POWER” LED is off, and you have 120VAC at the “INPUT” terminal strip, and circuit breaker is ok, then send charger back for repair.
Checking DC connections
Checking D.C.

If your “BATTERY CONNECTED” LED is on you have 12VDC installed correctly
Checking D.C.

If your “BATTERY CONNECTED” LED is off. Use a volt meter and check the “OUTPUT” terminal strip for 12Volts DC.
Checking D.C.

If your “BATTERY CONNECTED” LED is off, and there is no voltage at the “OUTPUT” terminal strip. Then check the battery connections for 12Volts DC.
Checking Charger Output
Checking Charger Output

Is the fan running?

“Fan On” LED should turn on when the fan is running. If LED is on and the fan is not running there is a problem with the fan.

- Fan turns on when the output current is > 8 amps
- Fan turns off when the output current tapers to < 5 amps
Checking Charger Output Current

The easiest way is to use a DC clamp on meter to see if there is current flowing from the charger to the battery.
Checking Charger Output

Checking for high resistance connection

- Measure and record the voltage at the charger.
- Measure and record the voltage at the battery.
- Voltage at the charger should be higher or equal to the battery. If higher then 0.75volts there could be a poor connection, or wire gauge is to small.
- Voltage at the battery should NOT be higher than the voltage at the charger.
Checking Charger Output

- A fully charged battery should read 13.25 volts at the battery.

Indicator showing Charger Output current < 1 amp

Meter reading 13.25 volts at battery
Checking Charger Output

Does the indicator illuminate?

**Showing Output**
Charger supplying current to battery or load

**Not Showing Output**
Battery not connected, not charging, or charger in current limit (low battery)
Indicator Outputs

- Charger Output current < 1 amp
- Charger Output current 10-15 amps
- Charger Output current 20-30 amps
- Inoperative or charger has reached its current-limit (40 amps)
Indicator Wiring

1. Power 18 to 25volts DC
2. Ground
3. Approx. 6volts DC (1/2 the battery voltage)
4. 0-7volts DC (7volts = 40amps output)
5. Not connected (pin 5 on indicator only)
New Deluxe Indicator

This indicator shows you a lot of information and is very helpful in troubleshooting.
The End