

**IMPORTANT SAFETY AND OPERATING INSTRUCTIONS: BEFORE USING THE CHARGER, READ ALL INSTRUCTIONS FOR CHARGER, BATTERY, OR OTHER CONNECTED DEVICES.**

**Important Safety Instructions**

**DANGER** –RISK OF ELECTRIC SHOCK, BURNS, OR FIRE – The battery charger must be connected to the vehicle cigarette lighter and connected to the auxiliary battery through the cables originally supplied with the unit. Never replace, splice, or repair cables or connectors supplied with the charger.

**DANGER** – Lead-Acid batteries can generate explosive gases. Only charge batteries in well-ventilated areas. If charging inside the car, make sure sufficient ventilation is provided.

**DANGER** – Replace the Cigarette Lighter Plug fuse only with a fuse of the same rating.

**CAUTION** – RISK OF ELECTRIC SHOCK – Do not open. No user-serviceable parts inside.

**CAUTION** – RISK FROM HIGH CURRENT ARCS. RISK OF BURNS. Always be sure that the charger is disconnected from the car and battery before handling. Disconnect power directly at the power source; DO NOT rely on the ignition switch to remove power.

**CAUTION** -- Do not expose the charger or cables to rain, water spray, solvents, liquids, or any direct flow of water. Always keep clean and dry.

**CAUTION** – Charge only properly maintained and rechargeable SEALED LEAD ACID BATTERIES of the same voltage that is printed on the charger label. Charge only batteries rated between 7 and 30 Amp-Hours (24V), or 10 and 45 Amp-Hours (12V). Attempting to charge other battery types or voltages, damaged batteries, or improperly maintained batteries may cause them to burst, emit dangerous chemicals, or cause personal injury or damage.

**WARNING** – The charger does not protect against faults, shorting, or overload of external wiring, vehicle wiring, or wiring to the battery being charged. All wiring to the battery must be properly protected against overloads, physical damage, and other failures. The user must ensure that wiring to the charger adheres to the same vehicle wiring standards and safety precautions required for all other vehicle wiring.

**Introduction**

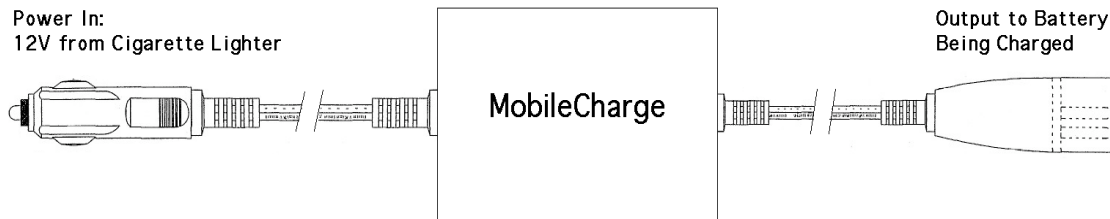
The MobileCharge is the most advanced microprocessor “Smart” charger of its type. It takes power from your car Cigarette Lighter socket and transfers that power to your auxiliary battery. The MobileCharge completely controls charging of your auxiliary battery while it is in your car. The 4-stage charging profile quickly charges your auxiliary battery, then switches to “float” mode to maintain the battery charge.

**Operation in Your Car**

The MobileCharge monitors your car battery and senses whether your car is running or not. When the car is running, the full charging rate is provided. When the car is off, the MobileCharge will continue to charge your auxiliary battery for 2-1/2 hours as long as your car battery voltage is sufficient. A 16-hour timer limits the maximum charging time when the car is running continuously (such as on a long trip).

**Connecting the Charger**

Connect the charger output to the battery to be charged. **Be sure the connector and pins match your battery’s charger socket (see next page).** Insert the Cigarette lighter plug into the car Cigarette Socket. The car Cigarette Socket must be rated for **at least 8 Amps**. NOTE: If the car will not be driven for an extended period of time (more than one month), you should disconnect the charger from the car and from the auxiliary battery.



**Locating the Charger**

The charger should be located where air is free to move around it. The location for the charger should be in an area protected from water, moisture, dirt, and other debris. It should never be operated inside a sealed box, compartment, while covered by any object, or in a hot vehicle. Doing so may result in excess heating and reduced performance.

**Charger Input Protection Fuse**

The charger-input fuse is inside the tip of the Cigarette Plug. It should never blow under normal conditions. However, if it does, it can easily be replaced. Firmly grab the plastic part of the Charger’s Cigarette Lighter Plug and unscrew the metal cap on the tip. Inside is the fuse. If the fuse is blown, replace it with the same type (7 Amp AGC). If the fuse blows repeatedly, return the unit for repair.

**“Resetting” the Charger**

Reset the charger by unplugging either the Cigarette plug or battery connector for 5 seconds. The charger also automatically restarts when the car engine is started. If the charger has overheated due to incorrect operation, it will restart itself after cooling down.

**Specifications**

Operating Input Voltage & Current:	12.1V – 16V DC @ 6.0 Amps Max.
Maximum Charging Current:	4.0 A (MobileCharge 12E), 2.5 A (MobileCharge 24E)
Maximum Charging Voltage:	14.4 V (MobileCharge 12E), 28.8 V (MobileCharge 24E)
Maintenance (Float) Voltage:	13.6 V (MobileCharge 12E), 27.2 V (MobileCharge 24E)
Operating temperature range:	-25C to +70°C (will indicate fault above 70C)

## LED Indicators

There are two “LED” indicators labeled “Charge Done” and “Charging”. These LEDs provide information about the status of the charger, car power, and battery being charged.

LED CONDITION	DESCRIPTION
Alternating between “Charging” and “Charge Done”	<b>No battery</b> is connected to the charger output, or the battery connected is completely dead (less than 1.5 Volts)
“Charging” Flashing Slowly	<b>Pulse Charging and Testing the Battery.</b> (May last up to 5 hours)
“Charging” Solid ON	<b>Fast Charging.</b> Charging the battery at maximum rate
“Charge Done” Solid ON	<b>The battery is charged</b> to near full capacity. The charger is now “topping off” and maintaining the battery (“Float” Mode).
BOTH LEDs are solid ON	<b>See the Troubleshooting table below for “Both LEDs are solid ON”</b>
Brief flash of “Charging” every 7 seconds	<b>The battery charging is incomplete, and</b> The 2-1/2 hour “Car off timer” timed out, or the car battery is low.
Brief flash of “Charge Done” Every 7 seconds	<b>The battery is charged</b> to near full capacity, and The 2-1/2 hour “Car off timer” timed out, or the car battery is low.
Brief flash of BOTH LEDs every 7 seconds	<b>The 2-1/2 hour “Car off timer” timed out</b> when there was a <b>Fault Condition</b> , or the <b>car battery was low</b> when the charger turned on.

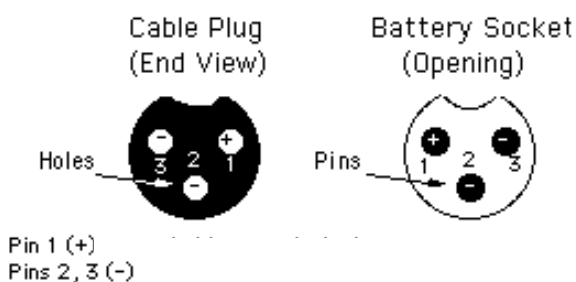
## Troubleshooting

Use this table and the LED table above to determine the MobileCharge status. If there are multiple possible problems, you may need to try each “Resolution” to determine the problem.

Symptom	Possible Problem	Resolution
<b>No LEDs lit on unit</b>	Cigarette lighter socket on your car is turned off when car is off.	Turn ignition key ON
	Charger cigarette plug is not fully inserted into car Cigarette Lighter socket.	Press plug firmly into lighter socket. If socket will not hold plug, replace socket.
	Blown Fuse in Charger Cigarette Lighter Plug	Check charger fuse.
	Car battery dead (less than 7 volts).	Recharge or replace car battery.
	Car circuit has blown fuse in car fuse box.	Check for wiring shorts. Check car Cig. circuit is rated at least 10 Amps
<b>LED(s) flash briefly every 7 seconds</b>	Car battery is low, or charge timeout. See “LED Indicators” for Flash Codes (above).	Start car. Charger should start charging once engine is started
<b>Both LEDs are solid ON</b> (Occurs 10 minutes or more after starting charge)  (Occurs 16 hours after starting charge)  (Occurs 2 secs to 5 hrs after starting charge)	<b>Internal Over-temperature shutdown.</b>	The charger should turn itself back on. Reduce temperature of environment. Uncover charger if covered up.
	<b>Maximum charge time exceeded (16 hrs).</b> Indicates that battery may be defective, or you are trying to charge a battery that is too big.	Check if battery is in good condition and correct size. Replace battery if necessary.
	<b>“Bad “ Battery detected.</b> Battery cannot be recovered and charged.	
<b>“Charge Done” LED comes on, but battery is not charged.</b>	Very old or damaged batteries will fail to take a full charge. This causes the “Charge Done” LED to come on.	Battery unable to take a charge, Battery likely defective. Check and replace battery if necessary.
<b>Battery not charging</b>	Car battery too low	Run car to charge car battery
	Bad auxiliary battery	Replace auxiliary battery
	Bad car wiring or Cigarette socket	Replace defective component or wiring

## Wiring of Standard Connectors

### Female (Microphone) Connector (“EM” Model)



### XLR Connector (“EX” Model)

