

## Lear Charger Quick-Start Guide

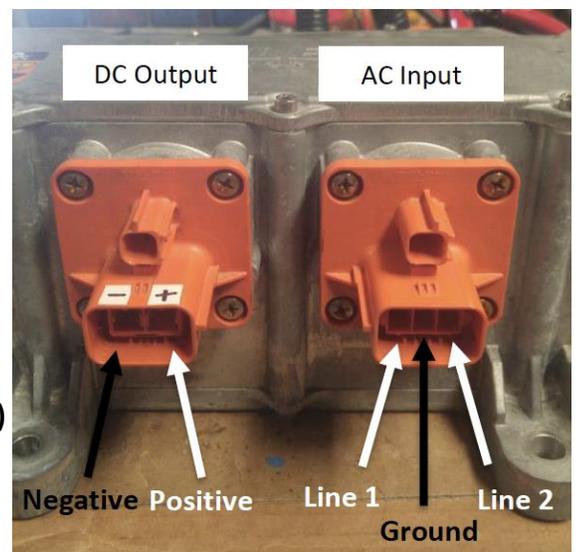
The Lear High Voltage Charger is a CAN-controlled charger that can charge battery packs of 200 to 420 VDC with 120VAC or 240VAC. It has a maximum output current of 11A and maximum power output of 3300W and is liquid-cooled. The Lear charger may be controlled using the ThunderStruck EVCC (Electric Vehicle Charger Controller).



The EVCC CAN wires are included in the kit along with a 120 ohm resistor if tests show it is needed for CAN functionality. Note that the Lear charger has a CAN data rate of 500kbps. The EVCC can be configured with this setting. If using a CAN enabled BMS, it must be configured for a 500kbps data rate.

### Connections required for installation

- 1) 12V Connections (multipin connector)**  
Connect Pin A to +12V power  
Connect Pin F to +12V power  
Connect Pin G to 12V ground
- 2) EVCC CAN Connection (multipin connector)**  
Pin B , CANH  
Pin C , CANL  
120 ohm resistor across CANH and CANL  
near connector if needed
- 3) 120VAC or 240VAC Input Power (3-wire connector)**  
(Connector: Orange Delphi 13861587)  
Facing the connector on the charger in figure:  
Ground is the middle pin; other wires are Line
- 4) 200-420VDC Output (2-wire connector)**  
(Connector: Orange Delphi 13861585)  
Facing the connector on the charger in figure:  
Right-hand side: positive, left-hand side: negative



## Configuring EVCC for Lear Charger

To configure the EVCC, a device with terminal software must be used. To find the software, go to <https://www.thunderstruck-ev.com/evcc-charge-controller.html>. On this page, you can find the complete manual, as well as software download links and a link to the EVCC Driver Install Guide with instructions detailing how to use the computer software. A detailed list of parameters is shown below, and more information on how to configure the EVCC can be found in the EVCC manual.

**Charger Type:** Use the command *set charger lear*

**Canbus Data Rate:** To set the data rate, use the command *set canbr 500*

**Maximum Voltage:** Set your maximum charging voltage here. For example, type *set maxv 380* to set the maximum charging voltage to 380V.

**Maximum Current:** The Lear charger can only output maximum current, relative to what is available from the AC input. The EVCC will disregard the *maxc*, so the value of *maxc* is not important.

**Line Current:** The line current must be manually set. If using J1772, type *set linec j1772* to get the maximum line current that the charging handle can supply. Otherwise, line current can manually be set. For example, if you want to set the line current to 15A, type *set linec 15*.

**Line Voltage:** Line voltage can also be manually set by typing *set linev 120* or *set linev 240* (see the online manual). This is not needed if using J1772.

**Battery Management System:** BMS can be configured for *bmsc*, *none*, *loop* or *loop and bmsc*. If you are not using a BMS, type *set bms none*. See the complete EVCC manual for more information on configuring for BMS.