

How the Liftgate Charger Charges Batteries

Here is a brief explanation of how the lift gate battery charger charges batteries. When the batteries are dead, the charger will supply 20A to 35A depending on the model. Once the batteries get some charge back in them, the charging voltage will be between 13.9v and 15.4v for AGM and between 14.4v and 15.8v for Flooded Lead Acid batteries. Once the batteries are almost fully charged, then a charging voltage of 14.4-14.5 will be applied till they are completely charged.

Keep in mind, we lower output current if input voltage is too low. This protects the wiring and connections.

We also adjust for battery temperature to keep from boiling the batteries which is why there is a range of voltages when charging rather than a standard 14.2v.

When the battery extender is turned on, the lift gate battery charger will continue to charge even after the vehicle is turned off. It has a cutoff voltage of 12.5v to ensure the user will always be able to start the vehicle. If the extender is turned off, the lift gate battery charger will stop charging at about the same time as the vehicle is turned off.

As far as input cables, we use a 10 AWG for the 20A version and 8 AWG for the 35A version. However, the input cable size on the customer's truck isn't a huge deal. Clearly, the bigger the cable the better it will work, but our unit dynamically adjusts output current based on input voltage. As you know, customers use a lot of different cable sizes on the connectors, but our device will never burn up a harness. If a small cable is used, there is a higher voltage drop from the vehicle batteries to the Liftgate battery charger than if they were using a larger cable. We are able to sense that voltage drop and adjust output current to make sure things don't get too hot. Keep in mind, this is a dynamic current adjustment based on input voltage, not a temperature sensor. Now, what does all of this mean? Basically, we will never hinder the situation on the trailer. We can only make it better.