

# Charge Current Sensor

The Charge Current Sensor is designed to help the Battery Monitor make correct state of charge (SOC) and time to discharge (TTD) calculation when a charging device is active and the motor system is on. Without this device, the motor can't monitor current flow from the charging device(s). As such, it will see a rise in the battery voltage and interpret it as a higher charge state than actually exists.

By adding the Charge Current Sensor, the Battery Monitor can sense how much current is flowing out of the batteries to the motor AND how much is coming in from charging devices. The charging devices can include battery chargers, wind generators, solar panels and/or dc generators.

With this information, the Battery Monitor can make a much more accurate SOC and TTD calculation, as it has an accurate measure of the energy coming into and out of the battery.

In addition, it displays the sum of the current going into and out of the battery. This is displayed in the upper right corner of the screen in units of amps (A). If there is a "+" in front of the number, there is a net current flow into the battery, indicating a net charge. If there is no symbol, there is a net flow out of the battery, indicating a net discharge. This is also indicated in the power (kW) reading shown on the middle left side of the screen.

Any time there is a net charge into the battery, the TTD (lower left corner of screen) will read 99.9 hours. If there is a net discharge, it will display the remaining time to full discharge at the current discharge rate.

With a Charge Current Sensor in the charge circuit connection, the SOC reading will provide the most accurate SOC estimate possible regardless of the rate of charge or discharge.

