

# CTEK

## ***BATTERY CHARGER FAQ'S***

*CTX BATTERY SENSE*

PART NUMBER: 40-149



## **How should I connect Battery Sense?**

Connect the red positive (+) cable to the battery's positive pole, and the black negative (-) cable to a ground point on the chassis. Check the vehicle's user manual for information about what is recommended for your vehicle.

## **What diameter are the eyelets on Battery Sense?**

Battery Sense has M6 eyelets, i.e. 6 mm (1/4") diameter.

## **Can I connect my charger to Battery Sense?**

No, you cannot. You need a CTEK accessory – for more information see <http://smartercharger.com/accessories/>

CTEK chargers include one set of eyelets and one set of clamps. 25-Amp chargers are hardwired with clamps only.

## **How often does Battery Sense gather information from the battery?**

Battery Sense measures the battery's voltage every five minutes and calculates its state of charge.

## **When does the information update in the app?**

It collects data every 60 minutes when you are within 30 feet of the sender and have the app open.

## **Can I force Battery Sense to update?**

Yes, you can use the "Pull to refresh" function in the app, which gives you the latest measured values.

("Pull to refresh" = Swipe your finger downwards over the screen in list mode)

## **How should the negative cable be connected?**

The black negative cable should be connected to a solid ground on the vehicle chassis (see your vehicle's user manual).

## **Will fitting the Battery sense affect the battery management system of the vehicle?**

Connecting the BATTERY SENSE to a vehicle with a battery management system (Start Stop) will not cause any issues, as the BATTERY SENSE has a back current drain of 1mA which is less than the batteries self-discharge.

### **How much battery power does Battery Sense use?**

It uses about 1 mA, equivalent to about 1 Ah per month. The normal rate of discharge from a battery is about 10 mA. Nearly all late model vehicles have a constant battery discharge from the electronics. We recommend regular use of your CTEK charger on vehicles parked for extended periods.

### **Can I place Battery Sense anywhere in the engine compartment?**

You should place it so that it does not come into contact with moving, sharp, hot or otherwise unsuitable surfaces.

### **Which operating systems does Battery Sense work on?**

It works on Android OS 4.4 or higher.

iPhone iOS 7 or higher, installed on iPhone 4S or later models.

### **How do I know whether I have Bluetooth 4.0?**

This is not always obvious on your mobile phone. Check with your mobile phone retailer.

### **Why can't I find the app on Google Play? I have an Android mobile phone.**

If you have an Android mobile phone that doesn't support OS 4.4 or higher, the app won't be shown on Google Play.

### **Why can't I find the app on Apple Store? I have an iPhone 4.**

If you have an iPhone that doesn't support iOS 7 or higher, the app won't be shown on App Store.

### **Where can I find more information than what's shown in the manual?**

For more information, see <http://smartercharger.com/products/accessories-cat/ctek-ctx-battery-sense/>

## **Can I connect more than one mobile phone to Battery Sense?**

Yes, you can connect up to 10 mobile phones to the same sender.

## **Can I connect my mobile phone to more than one Battery Sense?**

Yes. The number of Battery Sense units you can connect to is only limited by your mobile phone's memory.

## **Can I connect even if I've forgotten my serial number?**

Yes – you must disconnect the sender from the battery for at least 30 seconds and then reconnect. Follow the "lost code" guide in the app.

## **Why doesn't Battery Sense show 100% when charging is complete?**

Battery Sense measures the battery's voltage and calculates its state of charge (SOC). The calculation takes account of charging and discharging, and also makes assumptions about the battery's characteristics.

## **How can the battery's state of charge (SOC) increase even though I'm not charging or driving my vehicle?**

Battery Sense adapts to the battery's resting voltage, which can increase when the battery is not under load.

## **How close to my vehicle should I be for the app to update?**

The app will work within 30 feet of your vehicle. The effective range may be less if there is an obstruction – for example a wall – in the way.

## **What does background updating involve?**

Measurements are sent to your mobile phone even when the app isn't active.

## **Why does background updating not work?**

The app can be shut down if your mobile phone is low on memory, for example. It's a good idea to activate the function in the app that notifies you if it hasn't been able to update during the last seven days.

## **Can I update manually?**

Yes, you can update manually by using "Pull to refresh".  
("Pull to refresh" = Swipe your finger downwards over the screen in list mode.)

## **Can I be notified when the battery is fully charged again (green)?**

No, you only get notifications when the battery's status changes as it discharges, to yellow or red.

## **What levels do the color indications change at?**

The status changes from green to yellow when the battery's state of charge drops below 58%, and from yellow to red when it goes below 35%.

## **Why doesn't the panel with a figure disappear from the Battery Sense icon?**

The panel (iPhone) shows how many senders have yellow or red status or haven't been updated in the last seven days. The panel will disappear when the app has updated and/or the state of charge has changed to green.

## **Why doesn't Battery Sense work on older mobile phones?**

Bluetooth Low Energy is a relatively new technology which is not available on older mobile phones. For iOS you need an iPhone 4S or newer and iOS 7 or later. For Android you need version 4.4 (KitKat).

## **Does Battery Sense work on my tablet?**

Battery Sense has not been developed specifically for tablets, but it should work if the OS version and hardware support Bluetooth 4.0 (BLE). The app is only shown among iPhone apps, not iPad apps.

## **There are three Bluetooth classes. Which does Battery Sense belong to?**

Battery Sense is Class 2.

## **What is AGM?**

AGM stands for Absorbed Glass Mat and differs from a standard Flooded battery in that the electrolyte is held on a fibre glass mat and pressed against the active

plate area, instead of being allowed to flood around the plates. This type of battery has a low internal resistance and can accept charge very quickly making it ideal for the modern start stop systems. If the battery casing should become damaged the electrolyte will not leak out.

### **What is EFB or ECM?**

EFB stands for Enhanced Flooded Battery, ECM stands for enhanced cyclic mat, two different names for the same type of battery and both are similar in set up to a standard Flooded battery. There are some design changes with this technology, active plate material is more dense, anti-corrosion treatment for negative and positive grid and lower specific gravity to improve charge acceptance are just some of the differences. The EFB battery provides a more cost-effective battery solution over more expensive AGM type batteries.

### **What is CA/CA?**

Calcium/Calcium batteries are a flooded low maintenance or maintenance free battery usually VRLA type. During construction some of the Antimony used in the construction is replaced by Calcium (2% approx.). The benefits are a more robust grid, low water loss and longer shelf life.

### **What is WET/ FLOODED?**

The Flooded battery consists of a series of negative plates (sponge lead) and positive plates (Lead Dioxide) separator material and an Electrolyte solution which is approx. 65% water 35% Sulphuric acid. The flooded type of battery can be vented (which can be topped up) or VRLA which is sealed.

### **What is MF/VRLA?**

MF or Maintenance free also known as a VRLA or Valve Regulated Battery type battery is a flooded battery with the addition of Calcium / Silver to the grid material to reduce gassing and water loss. The battery becomes a small pressure vessel by the addition of a pressure valve (instead of the vents in a standard battery) designed to retain gasses created during charging process - Hydrogen and Oxygen within the battery long enough to recombine into water, which replenishes the electrolyte level. Because of this process these batteries are also called recombination batteries.

### **What is GEL?**

The Gel battery differs from any other lead acid battery because the electrolyte is no longer a fluid, Silica is added to create an electrolyte Gel which is applied to the active surface area of the plate. If the battery casing should become damaged the electrolyte will not leak out.

## **What is SPIRAL CELL?**

A very distinctive looking battery, and very similar internally to the AGM battery. But instead of the plates being flat they are wound together very tightly into a cylindrical shape, which gives the battery its name Spiral cell. If the battery casing should become damaged the electrolyte will not leak out.

## **What is LiFePO<sub>4</sub>?**

The lithium iron phosphate (LiFePO<sub>4</sub>) battery is a totally different technology from all the lead acid types mentioned previously. Due to its low weight and high-power output, it has become very popular in weight critical environments such as Powersports etc. The replacement cost of the unit at present makes its application restricted.

## **What is STRATIFICATION?**

In a deeply discharged flooded battery or a flooded battery that has not been used for several weeks the acid in the electrolyte begins to sink to the bottom of the battery - since the acid is heavier than water. Because the acid in the electrolyte is no longer evenly distributed across the whole of the active plate area, the performance of the battery is reduced. The top of the plates in the battery with a very low acid content perform poorly when compared to the lower part of the plates where the acid concentration is higher. This leads to several problems - Increased corrosion, Increased erosion, sulphation and a poorly performing battery are just a few.

## **What does SoC mean?**

SoC means State of Charge and gives the state of charge as a percentage. A battery that has 11.65V (or less) is flat and has SoC 0. A battery with 12.76V (or more) is fully charged and has SoC 100.

## **What charger is suitable for my vehicle?**

Choosing the right charger can be determined by the Ah size of your battery. The more amps the charger can deliver, the larger the battery capacity it will charge. The website will give ideal battery size range for each charger in their technical specification or use our Charger Selection Chart for recommendations.

## **What aspects should I think about when choosing a charger?**

You should think about 3 things when choosing a charger:

1. How large the battery you want to charge is.
2. How discharged it will be before you get a chance to recharge it.
3. How quickly you need the battery to fully recharge.

If the battery is large, completely flat and must be charged quickly! Then you should choose a powerful charger such as the MXS 25 or M300.

If you instead want to be sure that your motorcycle battery is charged and is kept charged no matter whether you are going to use it tomorrow or in 6 months, then time is not so important and a small charger will work well.



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