Smart Battery Sense Manual

1. Introduction

Smart Battery Sense is a wireless battery voltage-and-temperature sensor for Victron MPPT Solar Chargers.

The Solar Charger uses these measurements to optimize its charge parameters. The accuracy of the data it transmits will improve battery charging efficiency, and prolong battery life.

The connection between *Smart Battery Sense* and one or more Solar Charger(s) is wireless: It uses VE.Smart Network - a wireless technology based on Bluetooth Smart.

Simple to install & configure, *Smart Battery Sense* comes with an inline fuse and pre-crimped eyelets. Revealing the self-adhesive tape on the back allows you to mount it directly on the battery.

System design & component selection

- Check the VE.Smart Networking compatible products list for compatible Solar Chargers.
- The Smart Battery Sense is not needed, nor allowed, in systems that also have a Color Control GX or Venus GX, see FAQ Q6 for more info.
- The Smart Battery Sense is not needed for installations that already have a BMV-712 with its temperature sensor accessory.
- For installations with a BMV-702 + temperature sensor accessory, consider adding a VE.Direct Bluetooth Smart dongle instead of a *Smart Battery Sense*.

2. Installation

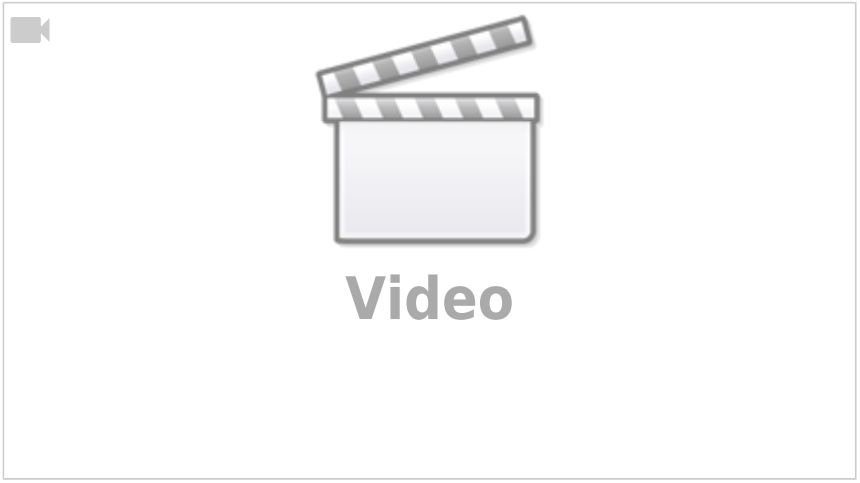
Connect the unit's two eyelets to your battery terminals and attach it directly onto the battery-body using its self-adhesive strip.

For battery banks consisting of multiple individual batteries, connect the Smart Battery Sense unit on any one of the batteries.

In case the supplied bat+ and bat- cables are not long enough, their length can be increased. Make sure to use the same, or thicker, gauge cable.

4. Configuration

See this below video. Also, see the step by step procedure as documented in the ve-smart-networking manual.



5. LED Status codes

The Smart Battery Sense has two LEDs, a Bluetooth status LED (blue), and an error LED (red).

On power-up, the Bluetooth LED will be slow blinking indicating that the device is ready to accept a Bluetooth connection.

When both LEDs stay on, something is wrong with the Smart Battery Sense (hardware error).

When the LEDs are alternating quickly for more than 30 seconds, the Smart Battery Sense is in firmware update mode and needs to be updated before it can be used. After connecting with VictronConnect, a firmware update can be performed.

Blue LED	**Red LED**	**Smart Battery Sense state**	**Connection State**	**Remark**
On	On	Not functional	Disabled	Hardware error. The Smart Battery Sense will not advertise itself so it will not be visible in VictronConnect. Also, it will not participate in any configured VE.Smart Networking anymore.
Slow blinking	Off	Measuring V/T	Not connected	When VE.Smart Networking is configured, the device will be broadcasting the voltage and temperature data in the VE.Smart network.
On	Off	Measuring V/T	Connected	When VE.Smart Networking is configured, the device will be broadcasting the voltage and temperature data in the VE.Smart network.
Fast blinking	Fast blinking	Firmware update	Not connected	Red and Blue LED Alternating
On	Slow blinking	Firmware update	Connected	
On	Faster blinking	Firmware update	Uploading	

Blue LED	Red LED	Smart Battery Sense state	Connection State	Remark
Fast blinking	Off	Firmware update	Programming	

6. Trouble shooting

See both the VictronConnect manual and the VE.Smart Network manual.

7. Technical product specification

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Last update: **2018-03-05 10:00**