

ROLLS GOLF & LIGHT EV LFP BATTERY SOC MONITOR INSTALLATION GUIDE

Rolls

BATTERY ENGINEERING



Installation instructions for Rolls Golf & Light EV LFP lithium batteries equipped with CAN port and supplied SOC monitor.



VERSION HISTORY/CHANGELOG

Rev.	Changelog	Author/Editor	Date
1.0	Release Version	Jordan Torrealba	2024/02/06
1.1	Added Installation of In-Line Power Switch	Jordan Torrealba	2025/09/22

OVERVIEW

This document provides installation and operating instructions for the state of charge (SOC) monitor supplied with select Rolls golf and light EV LFP lithium batteries equipped with CAN a output port. This SOC display uses CAN bus communication to relay state of charge and error data in a small footprint with integrated TFT display.

ROLLS LFP REFERENCE DOCUMENTS

- Rolls R-Series & S-Series Drop-in LFP Battery Operating Manual

Refer to **Rolls R-Series & S-Series Drop-In LFP Battery Operating Manual** for battery safety and operating instructions before installing the SOC meter.



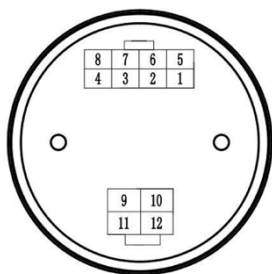
PHYSICAL DESCRIPTION

The supplied SOC monitor operates by connecting the supplied RJ45 cable to the CAN bus port on the battery and the MOLEX connector on the SOC monitor. The SOC monitor is designed to be easily mounted in the dash of the cart or light EV in a drilled **52mm** hole.

The display on the SOC indicator will change colour based on the SOC estimate and error indication provided by the BMS:

	Green Display 70-100% SOC		Red Display 0-20% SOC
	Yellow Display 20-70% SOC		ERRORS: Red wrench: Controller failure Yellow wrench: BMS comms failure

PINOUT



PIN	PIN DEFINITION
1	Debug/not used
2	Key Switch
3	NC Relay Positive (Red)
4	NC Relay Negative (Black)
5	Power Negative
6	Hour Meter Trigger
7	Power Positive
8	Power Negative
9	CAN – L (Yellow)
10	CAN – H (Green)
11	N/C
12	CAN - R

NC Relay will trigger on reported SOC of 0 and can support a current of up to 1A.

INSTALLATION OF THE SOC MONITOR

Installing and connecting the SOC monitor is a simple procedure.

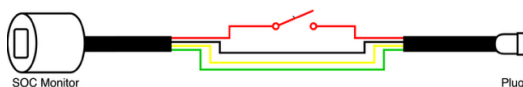
1. Choose the desired location on the dash of the golf cart or light EV vehicle. Ensure there are no obstructions or wiring in the area, and the location allows sufficient space for the monitor and cabling to be installed.
2. Drill a hole (52mm) where the SOC monitor will be installed.
3. Remove the two screws holding the mounting brace on the back of the SOC monitor. Insert the SOC monitor into the drilled hole and reattach the mounting brace with the two arms facing forward, firmly securing it against the rear of the mounting surface.

***Note:** as the thickness of the mounting surface (dash) may vary, the two arms of the mounting brace may be adjusted or bent outward slightly to securely fasten the SOC monitor in place.*

4. Connect the two pin connectors on the supplied RJ45 cable to the rear of the SOC monitor and the CAN port of the battery.
5. Power on the battery.

INSTALLATION OF AN IN-LINE POWER SWITCH

When installing the SOC monitor supplied with select Rolls golf & light EV LFP lithium batteries, users may prefer to also install an in-line power switch to conveniently disconnect power to the SOC monitor. This will avoid any latent draws on the battery when the cart sits idle or is in storage.



Installation and connection of the in-line switch can be easily accomplished by following the steps outlined below.

To complete the installation, the following tools and supplies will be required:

- Wire stripper
- Utility knife
- Terminal crimper/soldering iron/Screw terminal
- Heat shrink/electrical tape/adhesive

INSTRUCTIONS

Note: Complete the following installation steps with the wiring to the battery **disconnected**. Wiring on the battery contains live 51.2V DC voltage. Although a shock would not be harmful, it may damage equipment or cause discomfort.

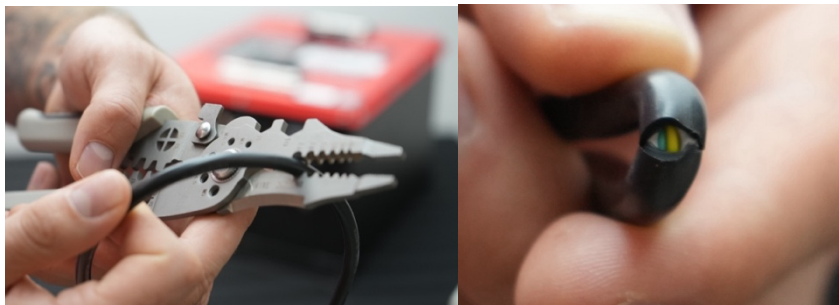
1. The first step in the installation process is to choose the desired location to install the SOC monitor and the in-line switch on the vehicle.
2. Drill a hole (52mm) in the desired location for the SOC monitor. Do not place the SOC monitor in the hole until all wiring has been completed.

Reminder: Ensure there are no obstructions or wiring in the area, and the location allows sufficient space for the monitor and cabling to be installed.

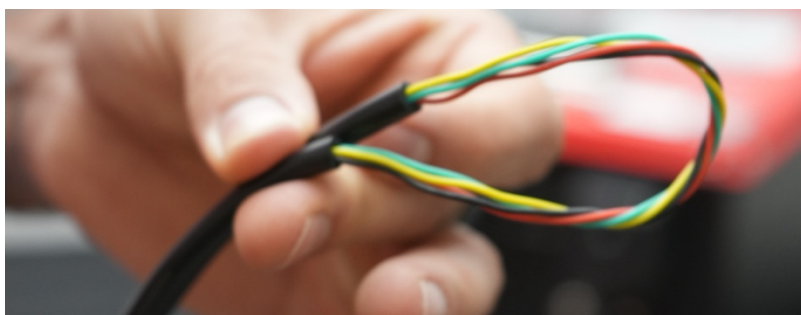
3. After choosing an installation location for the SOC monitor, run the cable from the battery compartment to the desired location. Near the hole, locate and mark a point on the cable where the in-line switch will be installed. This will be the point where you make a cut into the insulation of the wiring.

Choosing a point that allows ample wire into the switch, without extending the internal wires, will make for the quickest job with least opportunity for error.

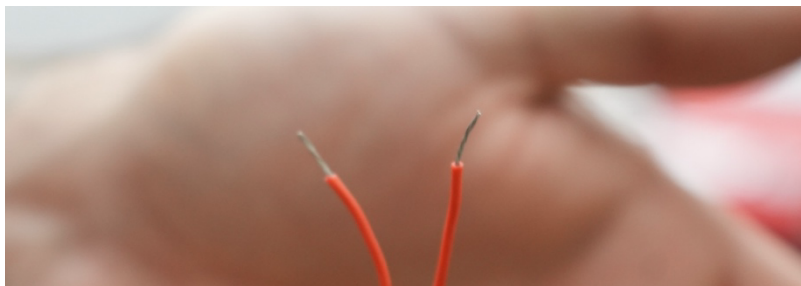
4. Remove the external jacket from the cable using wire strippers with a 2.6mm (approximate) opening. Be especially careful not to cut the internal wiring or puncture the insulating material.



5. At the approximate location where you will be installing the switch, make two cuts in the using the wire strippers (2.6 mm) approximately 10cm apart on the black insulation of the cable, again, ensuring not to cut the internal wiring or puncture the insulating material.
6. If the insulating material is damaged, this may be fixed with electrical tape. However, making another incision further along the cable is best to be able to do this effectively.
7. Separate the black insulation at your cut points by rotating the black insulation against itself to separate the two parts.
8. Set a utility knife to expose approximately 1-2 millimeters of the blade or use snips to carefully cut into the black insulation parallel to the wire. Be sure not to impact the internal wires. Cut about one centimeter of the black insulation along the wire.
9. Separate this with your fingers and pull on the black insulation to continue tearing down until you've reached your second cut and can remove the black insulation.



10. You should now have green, yellow, red, and black wires exposed without any damage to any of coloured insulation.
11. Find the middle of the exposed red wire and cut it. Strip back enough insulation on either side of the red wire to make your connections to your switch.

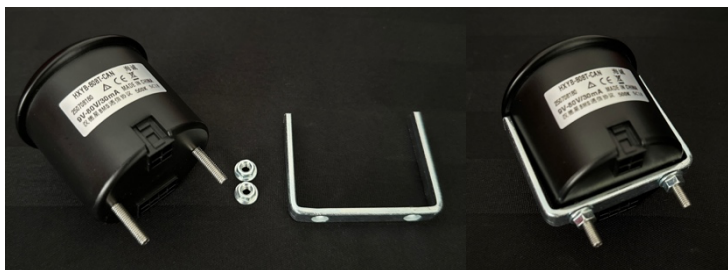


12. Follow the instructions for connecting and installing the chosen in-line switch, connecting the red wires to the switch accordingly. Depending on the type of switch used, it may be necessary to install the switch before connecting the wires.
13. Once the in-line switch has been connected, you may now test the connection and attach the RJ45 cable to the battery and the two pin connectors to the rear of the SOC monitor.



14. Power on the battery and put the switch in the closed (on) position to ensure your SOC monitor turns on. Turn off your switch and check that the SOC monitor also turns off. The test is now complete.
15. Power off the battery, disconnect the RJ45 cable from the battery, and disconnect the two pin connectors from the mount SOC monitor.
16. Remove the two screws holding the mounting brace on the back of the SOC monitor. Position the monitor in the drilled hole and reattach the mounting brace with the two arms facing forward, firmly securing it against the rear of the mounting surface.

Note: as the thickness of the mounting surface (dash) may vary, the two arms of the mounting brace may be adjusted or bent outward slightly to securely hold the monitor in place.



17. Reconnect the two pin connectors in the SOC monitor. Reconnect the RJ45 cable to battery. Power on the battery. The installation is now complete.



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NOTES:

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