

Battery safety warnings

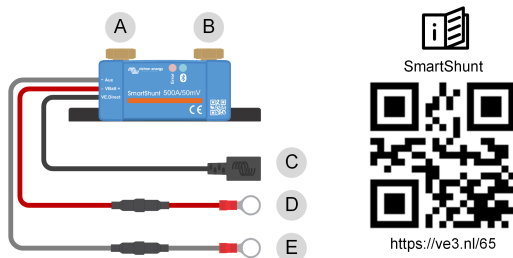


- Working in the vicinity of a lead-acid battery is dangerous. Batteries can generate explosive gasses during operation. Never smoke or allow a spark or flame in the vicinity of a battery. Provide sufficient ventilation around the battery.
- Wear eye and clothing protection.
- Avoid touching eyes while working near batteries. Wash your hands when done.
- If battery acid contacts skin or clothing, wash them immediately with soap and water. If acid enters an eye, immediately flood the eye with running cold water for at least 15 minutes and get medical attention immediately.
- Be careful when using metal tools in the vicinity of batteries. Dropping a metal tool onto a battery might cause a short circuit and possibly an explosion.
- Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a battery. A battery can produce a short circuit current high enough to melt objects such as rings, causing severe burns.

1 - Introduction

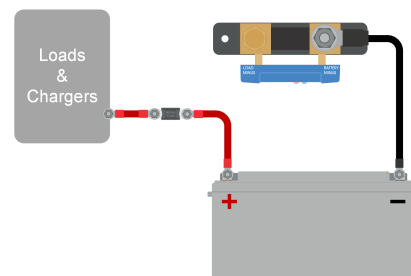
- Familiarize yourself with the SmartShunt.
- The full manual is available online. Scan below QR code or navigate to: <https://ve3.nl/65>.

#	Connection	Terminal type
A	LOAD MINUS	M10 bolt
B	BATTERY MINUS	M10 bolt
C	VE.Direct (black wire)	VE.Direct plug
D	VBatt+ (red wire)	M10 ring terminal
E	Aux (grey wire)	M10 ring terminal



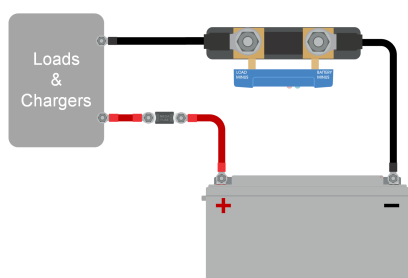
2 - Battery negative

- Connect the negative battery terminal to the SmartShunt "BATTERY MINUS" terminal (B).



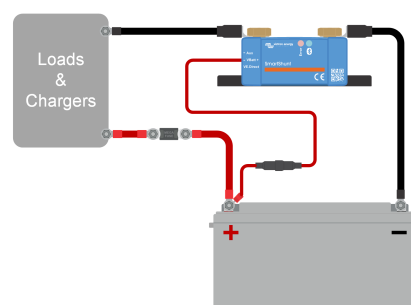
3 - DC system negative

- Connect the negative terminal of the DC electrical system to the SmartShunt "LOAD MINUS" terminal (A).



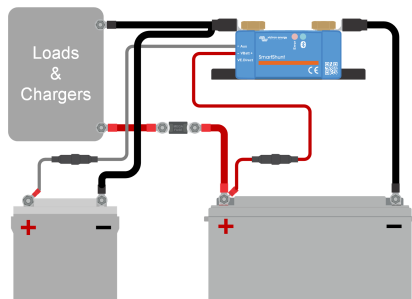
4 - Power

- Connect the red SmartShunt "VBatt +" wire (D) to the positive battery terminal.



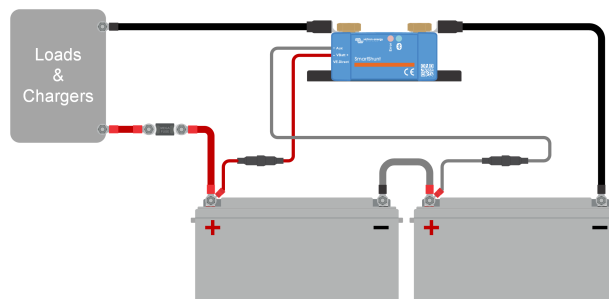
5A - Second battery (option A)

- Connect the grey SmartShunt "Aux" wire (E) to the positive battery terminal of the second battery.
- Make sure that the negative terminal of the second battery is connected to the "LOAD MINUS" side of the SmartShunt.



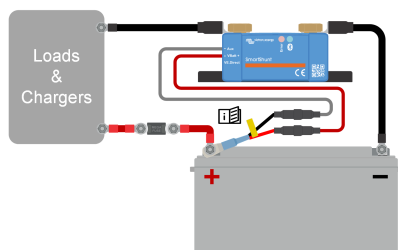
5B - Battery midpoint (option B)

- Connect the grey SmartShunt "Aux" wire (E) to the battery bank midpoint.



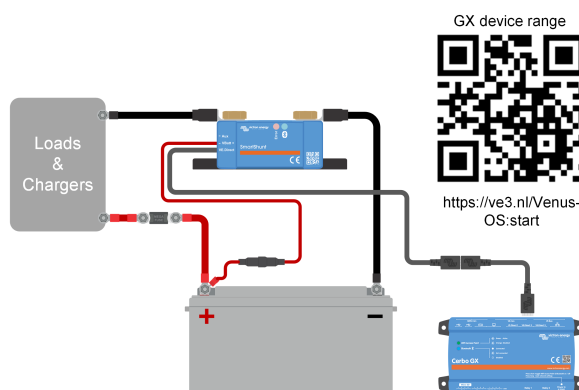
5C - Temperature sensor (option C)

- Use a (not included) "Temperature sensor for BMW". For more info, scan below QR code or navigate to: <https://ve3.nl/53>.
- For additional instructions consult the SmartShunt manual.
- Connect the red SmartShunt "VBatt +" wire (D) to the red wire of the temperature sensor.
- Connect the grey SmartShunt "Aux" wire (E) to the black wire of the temperature sensor.
- Connect the temperature sensor to the positive terminal of the battery.



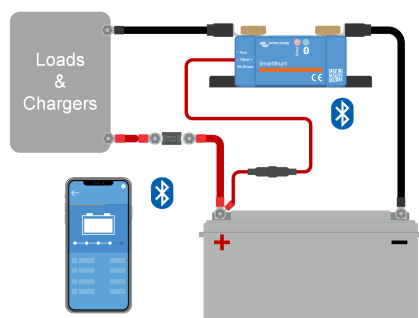
6 - GX device (optional)

- Connect the VE.Direct cable socket (C) to one of the VE.Direct ports on the GX device via a VE.Direct cable.
- For an overview of all GX devices scan below QR code or navigate to: <https://ve3.nl/Venus-OS:start>.



7 - VictronConnect app

- Download the VictronConnect app.
- For more information about the VictronConnect app scan below QR code or navigate to: <https://ve3.nl/6z>.
- Connect with the VictronConnect app to the SmartShunt.



8 - VictronConnect settings

- Set the battery capacity.
- Set the functionality of the auxiliary input (if used).
- Set the charged voltage parameter as per below table.

System voltage	Charged voltage setting
12V	13.2V
24V	26.4V
36V	39.6V
48V	52.8V

Additional settings for lithium batteries:

- Set the charge efficiency at 99%.
- Set the Peukert exponent at 1.05.