



Galaxy Smart Shunt

(High-Side Model with Multi-Protocol Communication)

USER MANUAL & INSTALLATION GUIDE

1. Introduction

The **Smart Shunt (High-Side)** is a precision measurement device that enables accurate tracking of battery performance parameters such as voltage, current, temperature (optional), and state of charge (SOC). Installed on the **positive terminal**, it continuously measures current flow during charge and discharge, while its internal electronics are powered through a single low-current reference line connected to the battery negative.

The Smart Shunt provides: clear visibility into your battery system's condition via Bluetooth, CAN, LIN, RS232, or UART—making it suitable for solar, marine, RV, and industrial battery monitoring.

2. Technical Specifications

| Parameter | Specification |
|----------------------|--------------------------------------|
| Installation Type | High-Side (Positive terminal) |
| Operating Voltage | 6 – 32 V DC |
| Maximum Current | Up to 600 A Continuous |
| Measurement Accuracy | ±0.4 % of reading |

| Parameter | Specification |
|--------------------------|---|
| Reference Power | Supplied via single negative wire |
| Working Temperature | -10 °C to +50 °C |
| Optional Input | Temperature Sensor (NTC type) |
| Communication Interfaces | Bluetooth, CAN, LIN, RS232, UART |
| CAN Compatibility | Fully compatible with Victron Cerbo GX / Cerbo Box |
| Mounting Orientation | Horizontal or vertical near battery pack |
| Battery Compatibility | Lithium-ion / Lead-acid up to 29.5 V |
| Mobile App | iOS and Android compatible |
| BBLE Range | ≤ 10 m (line-of-sight) |

3. Safety Precautions

Before installation or use:

-  **Disconnect all power sources** before beginning installation.
- Confirm polarity and connection points before tightening any terminal.
- The Smart Shunt is designed for **high-side (positive line)** installation only.
- Use appropriately rated wire gauge and fusing.
- Avoid exposure to moisture, corrosive environments, or direct heat.

4. Installation Guide



Fig-1

LED Status Legend

Blue LED (ON): Bluetooth connection

Green LED (ON): WIFI

4.1 Mounting Location

- Install the Smart Shunt as close as possible to the battery positive terminal with minimal cable length.
- Mount it securely on a firm, dry, **non-flammable**, and preferably **heat-conductive** surface.
- The shunt temperature may reach **up to 120 °C** at full current; ensure surrounding materials are rated accordingly.
- Route power cables separately from signal/communication cables to minimise electrical noise.

4.2 Hardware Wiring Instructions.

4.2.1. Recommended to use M10 cable lugs and correct gauge cables.

| | | |
|----------|--------------------|---------|
| 100 Amps | 60mm ² | 6 AWG |
| 300 Amps | 95mm ² | 3/0 AWG |
| 600 Amps | 120mm ² | 4/0 AWG |

Note: *If you find your cables are getting hot you are probably using wrong cable gauge or your connections to the smart shunt or your battery terminals are not good.*

4.2.2. Fig 1 shows the connection of the negative terminal of the smart shunt. This is the left most pin of the green colour connector. This is to power your smart shunt electronics.

4.2.3. Continue wiring as per Fig 1 to complete your hardware installation.

5. Setup instruction for the APP.

Use QR Code below to find SOC meter App



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1. Connect smart shunt app (SOC Meter) via blue tooth to your smart shunt device using the “Scan” Tab on your APP. Look for “SOC meter” node and select, and set the following parameters in the settings tab after connecting, When connected a blue LED comes on the the Smart Shunt.
2. Select Channel 1 only (blue colour), Ensure all other channel are off(white)
3. Sensor type must set to RES
4. Select Battery Type and Voltage
5. Set the battery capacity you are using
6. Set the resistor value to corresponding smart shunt maximum current value.(100 or 300 or 600)
7. Calibrate the Terminal voltage after all installations is done and the smart shunt is measuring current flow. Measure your terminal battery voltage while under load using a voltmeter and enter the reading in Terminal voltage field. (This is cable current loss compensation).
8. Press Submit button and ensure a message saying “success” is received
9. See measurement on the Monitor Tab
10. To calibrate your SOC run one full cycle, for example, fully charge the 12V lithium battery to above 14.5 V, then discharge it to below 11.8 V. This process will fully calibrate the battery’s state of charge (SOC) on smart shunt.

For any other technical clarifications please contact us on tech@baruch.co.uk

6. Compliance & Warranty

- Designed to comply with **CE**, **FCC**, and **RoHS** standards.
 - Warranty void if device is installed incorrectly or shows signs of tampering.
 - Your Product need to be registered for warranty, please register on Ultramax.co.uk website
 - Hardware Batch B-UMXH52
 - Software version: V1I52
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