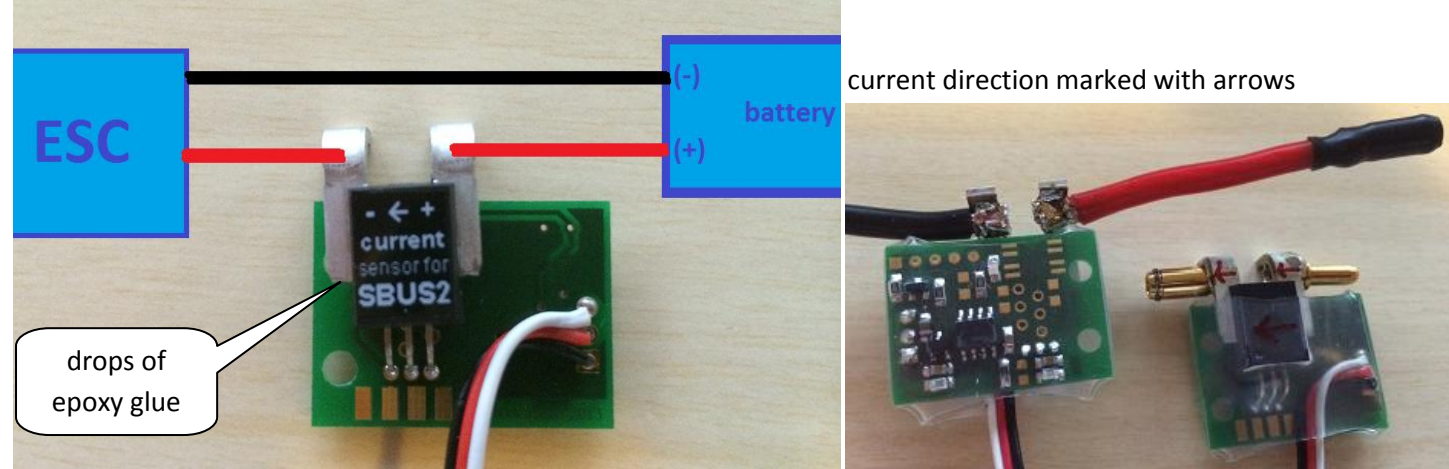


# Electronic fuel gauge (200A) Telemetry Sensor for SBUS2

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## Connections & Use

- Register sensor to your transmitter - Refer to Transmitter's manual for details:
  - Connect Servo cable to SBUS2 connector of your Futaba transmitter. (with 14SG & 18MZ you also need to connect receiver battery with Y-lead to the transmitter's SBUS2 connector!)
  - Go to *SENSOR* -menu and call *REGISTER* -method.  
(*Change Slot / SET SLOT* -method also supported to initiate calibration & for manual slot selection as needed. *Reload & Relocate* -methods not functional / not needed)  
→ Sensor appears to TX's slot list as **CURR-1678** sensor
- Solder sensor wires as shown below. Make sure **current direction** is as indicated in the sensor: if sensor is reversed it won't work and 0.0A is shown consistently.
  - Use powerful enough electric soldering iron (**DO NOT use gas soldering iron** - excessive heat destroys sensor!)
  - Solder one terminal first and let it cool down. And then solder the second one. Ensure good joint but avoid excessive heating.



- Connect servo cable to SBUS2 connector of your telemetry enabled receiver
- Check the sensor is functional and capable to measure current, then Fix sensor to PCB with drop of **non-conductive** epoxy glue.
- protect sensor with supplied shrink tube & leads with electrical tape as needed.
- 3 Telemetry displays will be enabled and warnings can be set as enabled by your Transmitter (refer to TX manual):
  - Load Current (A) - shows current up to 163.8A  
(due to Futaba TX restrictions: currents 163.9...200A will be indicated as 163.8A but actual true current is measured and shown in the Voltage view and counted in the capacity view as explained below)
  - Voltage - Shows same current(A) but full range up to 200A (but seen as "volts" ie fex 195V means 195A actual current)
  - Capacity - Indicates cumulative capacity in mAh. Value is reset to zero when receiver power is cycled!
  - Blinking led indicates valid SBUS2 sync has been achieved and sensor is sending data.

## Disclaimer

Manufacturer or seller of the sensor assumes no responsibility for possible damages or malfunctions caused directly or indirectly by the use of the sensor. Seller has no opportunity to ensure correct use of the sensor and sufficient testing before use. Also compatibility of other devices possibly used simultaneously in the same system cannot be verified by the seller or manufacturer.

Sbus2 is trademark of Robbe/Futaba.

## Technical specifications

- Voltage range: 3.5V - 10V (2S LiPo OK)
- Potential free measurement of
  - load current (A)
  - cumulative capacity (mAh)
- High accuracy current sensor: 0...200A
- Max over-current: 1200A 1% duty cycle, 25°C
- Sensor accuracy ~ +/- 1% over full measurement area.
- Weight: ~11g. incl. 30cm SBUS2 cable
- Size: ~27x27x11mm
- Tested with Futaba SBUS2 receivers: R7008SB & R7003SB
- Tested with Futaba 18MZ (SW 2.4.0) & 14SG (SW v.4)
- Compatible with Futaba & Robbe sensors

## WARNING! Failure to comply may cause permanent damage:

- EXTREME** caution needed while soldering power wires/connectors:
  - Make sure no solder drops / bridges / short-circuits are created to PCB of the sensor.
  - Power wires **MUST** not touch PCB! Use electric tape to insulate as needed.
  - Failure in soldering phase could destroy Receiver sub-system due to excessive voltage**
  - DO NOT** use gas soldering iron!
- If other sensors connected to SBUS2 make sure sensor slot numbers are not conflicting. Select free slots before connecting other sensors.
- Do not apply forces to PCB. Fix the sensor by fixing power wires and sensor chip.
- Connect only to Telemetry capable **SBUS2** receiver slot. **DO NOT** connect to SBUS!

## Calibration

- The sensor is pre-calibrated but it may need re-calibration after soldering wires.
- If sensor indicates non-zero value when current is not present calibration is needed. Big temperature changes might cause small false readings.
- Use Transmitter's sensor slot setting menu to change the slot temporarily to whatever new slot. Calibration is performed when SLOT WRITE method is activated. Make sure no current is present while sensor is connected to Transmitter's SBUS connector. Remember to re-assign valid slot number.