

## SmartGauge Quick installation guide

This installation guide assumes SmartGauge is being installed for the first time. If this is not the case, refer to the main owners manual as the power up sequence will be different.

1. By reference to the diagram below run a cable (1 mm sq minimum) from the battery negative post to the terminal marked GND in the diagram. This cable **MUST** go to the battery post. **NOT** to bus bars, isolation switches, fuse panels, current shunts etc.
2. Run a 1 mm sq cable from the B1 terminal on SmartGauge to the battery positive post of the auxiliary battery bank. This cable must have a fuse rated at 3 amps fitted as close to the battery as possible (but not inside the battery compartment) This cable **MUST** go to the battery post, **NOT** to bus bars, isolator switches, fuse panels, shunts or distribution panels.
3. If a second battery is to be monitored for voltage run another 1 mm sq cable from the B2 terminal on SmartGauge to the positive battery post of the second battery bank.. This cable must have a fuse fitted rated at 3 amps as close to the battery as possible (but not inside the battery compartment)

After first displaying the software and battery model revision SmartGauge will then show “**bt 1**” in the display and the PGM/Batt 2 LED will be flashing. Use the Status/Select button to scroll this value up to the battery type that corresponds with the battery type of the auxiliary battery bank according to the following:-

Number-Battery type

- 1 Deep cycle, wet cell, antimony lead acid
- 2 Gel Cell lead acid (a type of VRLA – Valve Regulated Lead Acid)
- 3 AGM – Absorbed Glass Matt (another type of VRLA)
- 4 Hybrid – calcium/antimony (usually marked as dual purpose or “leisure”) lead acid
- 5 Carbon Fibre lead acid
- 6 Maintenance free (wet cells but no way to top up the electrolyte) lead acid

**NOTE** There are actually two very distinct types of AGM batteries with very different operational characteristics. In one type the only real difference is that the electrolyte is held in a glass matt. This type usually have charge voltages very similar to flooded wet cell batteries. The off load terminal voltages will also be very similar to flooded wet cell batteries. If your AGM batteries are of this type then SmartGauge should be set to battery type 1

The other type of AGM has additional chemicals in the battery (similar to gel cell batteries) and this type usually require lower charge voltages and the off load terminal voltages will be similar to gel cells. This type require SmartGauge to be set to battery type 3

When the required type is in the display, simply press **Volts** (set) or **Batt 2** (exit)

The display will now be showing the battery voltage, pressing **Batt 2** will display the voltage on the second battery and the PGM/Batt 2 LED will be lit.

Pressing the **Status** button will display the charge status as a percentage from 0 to 100. This will initially be showing 75% which may or may not be correct. If you know what the charge status of the battery is you can manually set this to correspond (see the main owners manual) with the batteries. Alternatively, if you are currently using the batteries (i.e. regularly discharging and charging them) you may simply leave SmartGauge to synchronise itself. This will typically take 2 or 3 discharge and recharge cycles. SmartGauge *can* synchronise itself in one discharge and recharge cycle but in order to do so the discharge has to go below 75% (actual, not displayed) and the charge has to exceed 95% (actual, not displayed). Once either of the these conditions has been met, SmartGauge will synchronise itself and track the battery state

of charge from that time onwards. Synchronisation is not an instant effect. It is gradual over a period of time.

If a SmartBank is being installed (or is already installed) and connected to SmartGauge, simply plug the RJ11 communications cable into the SmartBank socket on SmartGauge and into the remote socket on SmartBank. SmartGauge will autodetect the correct type of SmartBank and display “**Sb S**” for SmartBank Standard or “**Sb A**” for SmartBank Advanced.

That completes installation and initial setup of SmartGauge. For operation and details of further functions such as alarms, error codes, SmartBank options, etc refer to the main owners manual.

