

## Battery Capacity Tester

# USER MANUAL

by Christen Monberg chr@monberg.com

The tester measures the remaining capacity of a 12V battery. Any type of 12V battery can be tested: Flooded, Sealed, AGM, GEL, VRLA, or Lithium.

The basis for the measurement is the ISO standard, which specifies that the capacity shall be measured at 1/20 of the rated Ah (unless otherwise stated on the battery, e.g., 10 hours), at an ambient temperature of 25°C.

Use:

The instrument has a display, an adjustment knob and a push-button. The button cycles you through menus; the knob is used to adjust settings.

Apart from the instrument and the battery, a battery charger is needed. The tester will not run if a charger is not connected.

Before testing, make sure the battery is fully charged. This implies that the Bulk and Absorption phases are completed. If in doubt, leave the charger on for 24 hours. The test must be carried out in a well-ventilated room, as all the battery's energy is dissipated as heat.

1. Disconnect the charger
2. Connect the instrument Minus to both battery and charger minus
3. Connect the Chrg+ terminal to the charger's plus terminal
4. Connect the Batt+ terminal to the battery plus.
5. The display will show the latest measured Ah.
6. Press the button until **Set Battery Size** appears. Adjust until the rated Ah shows. Press again for **Set Test Time** and adjust duration (for most tests, select 20 hours). Press again for **Set End Voltage** to set the final voltage. For most lead batteries, this can be set to 10.5 Volts.
7. A final press will initiate the test, and the fan will start.

You can now leave the tester running. When reaching the final voltage, the test is finished, and the measured Ah and % capacity remaining will be displayed. Also, the charger is connected to the battery to prevent damage caused by sulphation.

The result is calculated based on the length of time it takes to discharge the battery, compared to the rated time (20 hours). This means, that if the data has been input correctly, a measurement will take at most 20 hours.