



IMPORTANT!

To test the Ampere-hour (Ah) capacity in lead acid batteries used in standby systems precisely, discharge the battery for a few seconds to remove excess charge voltage below 13 volts. Failure to do this may result in low Ah readings being obtained. Test the battery twice to verify the Ah reading.

Award winning
GOLD-IBT Intelligent Battery Tester



Operating Instructions



Battery Testing Tips!

1. Don't buy flat batteries.

Because SLA batteries normally self discharge at 3% per month, it is very important to decipher the date of manufacture code stamped into the battery. This is essential for inventory rotation and to avoid stocking old discharged batteries. If you cannot decipher the date code, contact your supplier or battery manufacturer. Be aware that new batteries can take up to 6 months to ship from China through your distributor to you.

2. Check the voltage.

To avoid potential battery failure problems, it is essential to check the voltage level in new batteries to ensure that they have been sufficiently charged by the manufacturer before leaving the factory. Any battery with less than 12.30Volts should be returned to your supplier as suspect. A new out-of-the box battery should show above 12.60VDC

3. Constant voltage.

In order for SLA batteries to charge up fully, it should be charged at a constant voltage of between 13.2 VDC (min) and 14.4 VDC (max). Optimum charging voltage is normally 13.8 VDC. Time taken to fully charge will vary depending on the Ah size of the battery and the level of current available from the charger.

4. Batteries hate heat.

For maximum life and performance, an SLA battery should be maintained at between 20°C - 25°C (68° - 77°F). At significantly higher or lower temperatures the Ah capacity available could vary by up to 50%. Be aware that SLA batteries hate heat, the hotter the battery the shorter its life.

5: Equal capacity.

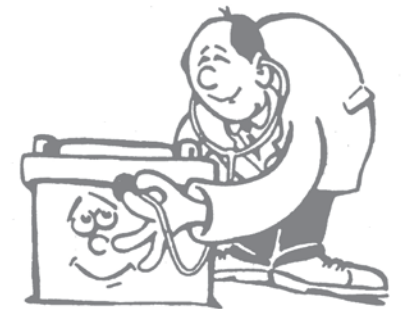
To ensure maximum efficiency and to avoid charging problems, where two or more SLA batteries are connected in parallel or series, make sure that they are the same Ah size and have approximately equal Ah capacity.

6. Keep it charged.

To avoid permanent damage to SLA batteries used in mobility vehicles and golf carts, make sure they are put on charge IMMEDIATELY AFTER USE. Batteries left for long periods in a deep discharged state could be permanently damaged by sulphation reducing the batteries ability to fully recharge. Because SLA battery are designed to be charged continuously they can be left on charge when not in use.

7. Got a question?

Finally, after following these instructions if you have any technical questions regarding the GOLD-IBT or battery testing in general, please give us a call on +44(0)1744 886660 or email batterydoctor@actmeters.com



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WARNING: THE GOLD-IBT IS DESIGNED TO TEST 12VOLT SLA AND CAR BATTERIES FROM 1.2AH - 200AH. DAMAGE OR INJURY MAY RESULT IF CONNECTED TO VOLTAGE ABOVE 15VDC --- ISOLATE BATTERY FROM CHARGE SUPPLY BEFORE TESTING. IF THE GOLD-IBT IS USED IN A MANNER NOT SPECIFIED BY THE MANUFACTURER, THE PROTECTION PROVIDED BY THE EQUIPMENT MAY BE IMPAIRED.

STEP 1: Making the right connection.

STOP: Before using the intelligent battery tester, it is important to be aware of how the GOLD-IBT clips must be connected correctly to clean battery terminals in order to obtain accurate Ah readings.



Observe correct polarity Red+ and Black-



Wrong = loose, high resistance connections will produce low, erratic Ampere hour (Ah) readings.

Right = tight, low resistance connections will produce accurate, consistent Ah readings.

ESSENTIAL: To obtain accurate, consistent Ah readings on batteries with recessed posts as shown above, ACT3532 clamp connectors supplied with GOLD-IBT must be used.

IMPORTANT: THE GOLD-IBT WILL PRODUCE ACCURATE, CONSISTENT AH READINGS ONLY WHEN CONNECTED DIRECTLY TO CLEAN BATTERY TERMINALS AS SHOWN ABOVE. LOW, ERRATIC AH READINGS WILL BE OBTAINED WHEN CONNECTED TO HIGH RESISTANCE BOLTS OR CABLES ATTACHED TO THE BATTERY POSTS.

STEP 2: Test a new battery first.

ESSENTIAL: To verify the Ah accuracy of the GOLD-IBT, first connect to a brand new (out-of-the-box) premium quality 12Volt SLA C20 rated battery as previously described.

IMPORTANT: The Ah capacity specified should be obtainable on a brand new battery provided the voltage is between 12.6 - 13.8VDC --- and the battery temperature is between 20° -25° C (68° -77° F). Be aware that at much higher or lower temperatures or if significantly over or under charged, the Ah capacity in the battery could be up to 50% higher or lower than stated.

STEP 3: How the GOLD-IBT works.

The award-winning GOLD-IBT measures the Ampere-hour (Ah) capacity available in the battery in a similar way that a car fuel gauge measures the volume of fuel in your tank. The Ah capacity available is dependent on battery temperature and condition of charge. The Ah capacity displayed on the GOLD-IBT is calculated by simulating a full 20 hour (C20) battery discharge test in 6 seconds. The patented neural technology employed by the GOLD-IBT achieves this by applying a pulsed frequency load test which accurately measures Ah capacity available.

IMPORTANT: The GOLD-IBT Ah result compares to 12Volt SLA batteries with an Ah capacity specified at C20 hours. If the battery is specified at C10 for example, the Ah capacity displayed will be half, so you will need to double the Ah reading obtained. The majority of SLA batteries are specified at C20 but this information may not be stated on the battery.

STEP 4: Test procedure.

Hold the GOLD-IBT perfectly still during its test procedure. Any slight movement of the clips will cause low or erratic Ah readings to be obtained. If necessary, repeat the test twice to confirm the stability of the Ah reading. Check the Ah reading obtained against the battery table on the side of the tester. Recharge or replace the battery when the available Ah capacity falls below 65%. Record the readings obtained onto a label supplied and attach to the battery for future reference.

Be aware that:-

(a) the Ah capacity available is determined by battery temperature and condition of charge which can be up to 50% higher or lower than stated.

(b) the initial ambient temperature reading is for indication purposes only. When repeat testing, it is normal for the ambient temperature reading to rise caused by heat build-up within the GOLD-IBT. This rise can be ignored as the ambient temperature does not affect the Ah reading obtained.

(c) when 'OVERHEAT' is displayed allow the GOLD-IBT sufficient time to cool down.

(d) if the GOLD-IBT just displays ambient temperature and DC voltage only, there is no Ah capacity left in the battery to measure.

STEP 5: Testing 6Volt SLA batteries.

You can test 6Volt SLA batteries by connecting two in series using a short battery jumper lead. The GOLD-IBT will display the combined voltage and Ah capacity specified. Test two brand new (out-of-the-box) premium quality C20 batteries first to verify Ah accuracy.

STEP 6: Future re-calibration.

The GOLD-IBT has no internal adjustments for re-calibration. Ah accuracy is achieved by use of calibrated test leads. Ah accuracy can be verified by testing in accordance with STEP 2: Test a new battery first. If it produces low or erratic Ah readings caused by worn or damaged test lead resistance, a GOLD-IBT-CALKIT can be purchased from your supplier to fit yourself. The kit comprises; (a) replacement calibrated test leads/ clips, (b) replacement top and side labels, (c) full fitting instructions. A screwdriver and soldering iron will be required to do the work. Alternatively, contact ACT Meters Ltd or visit www.actmeters.com for information about where to send your GOLD-IBT to be re-calibrated.

Technical data.

Model: GOLD-IBT Intelligent Battery Tester
 Operating voltage: 12Volts DC ---
 Reverse polarity protection: Block diode
 Battery types: SLA (Sealed Lead Acid) and car batteries
 Battery sizes: 1.2Ah-200Ah
 Pulse frequency test: 20 hour (C20)
 discharge test to 10.50VDC --- @ 25° C (77° F)
 Display: Back-lit LCD
 Ambient temperature: 0° -100° C (32° -212° F)
 Voltage too high: >15Volts DC ---
 Voltage too low: <10Volts ---
 Low current: <0.5Ah
 No Ah reading: <0.2Ah
 Accuracy: Ambient Temperature and DC --- Volts ± 3%
 Accuracy: Ampere hour (Ah) ± 10%
 (accuracy could vary due to battery design and specification)
 Repeat test before overheat: Up to 10 times
 Overheat warning: 40° C (105° F) ± 10%
 Size: 110L x 55W x 35Dmm (4¼ x 2¼ x 1¾ inches)
 Gross weight: including packaging 400grms (14oz)
 Accessories provided: ACT carry case, ACT3532 essential battery connectors, certificate of conformity, quantity of ACT-BTL battery tested labels
 Manufacturers warranty: 1 year
 NOTE: ACT Meters reserve the right to change specification without prior notice.

GOLD-IBT applications include: fire and burglar alarm systems, motor and mobility vehicles, boats, UPS back-up systems, telecommunications, emergency lighting, medical equipment, solar power, robotics...

