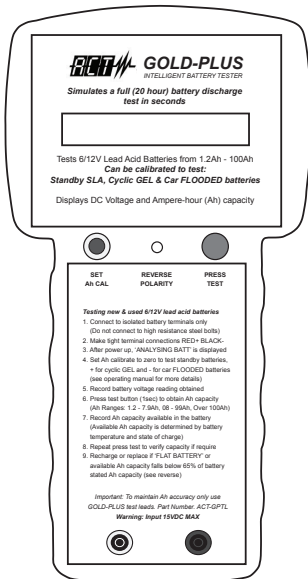


Operating Instructions

GOLD-PLUS

6V/12V Intelligent Battery Tester



WARNING: ISOLATE THE BATTERY BEFORE USE

WARNING: THE GOLD PLUS INTELLIGENT BATTERY TESTER IS DESIGNED TO TEST 6V AND 12V SLA, GEL AND FLOODED BATTERIES FROM 1.2AH TO 100AH. DAMAGE OR INJURY MAY RESULT IF CONNECTED TO VOLTAGE ABOVE 15VDC. ISOLATE BATTERY FROM CHARGE SUPPLY BEFORE TESTING. IF THE GOLD PLUS IS USED IN A MANNER NOT SPECIFIED BY THE MANUFACTURER, THE PROTECTION PROVIDED BY THE EQUIPMENT MAY BE IMPAIRED.

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REF: GOLDPLUS010513

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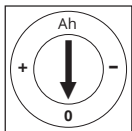
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WARNING: ISOLATE THE BATTERY BEFORE USE

STEP 1 Set the Calibration Control to the Battery Type Under Test

TYPE SLA

Standby SLA (Sealed Lead Acid)

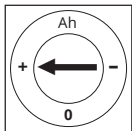


Normally permanently on charge. Used in standby applications: alarm systems, power supplies, stair lifts etc. To measure the Ah capacity available in standby SLA batteries, adjust the Ah calibration control to the 'zero' position as shown.

NB: This position is calibrated to typical standby SLA batteries. If required, Ah adjustment can be made to suit any specific brand.

TYPE GEL

Cyclic GEL (Gelified Electrolyte)

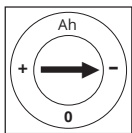


Normally charged then discharged repeatedly. Often used in mobility scooters and golf trolleys etc. These batteries are specified GEL technology. If it doesn't state 'GEL' on the battery, it should be tested as a standby SLA battery as shown. To measure the Ah capacity available in cyclic GEL technology batteries, adjust the Ah calibration control to the '+' position shown above.

NB: This position is calibrated to typical GEL technology batteries. If required, Ah adjustment can be made to suit any specific brand.

TYPE FLOODED

Car FLOODED (Wet Cell)



Commonly used in motor vehicles and have removable caps so that you can visually check that the acid/water level is above the battery plates. To measure the Ah capacity available in car FLOODED batteries, adjust the Ah calibration control to the ' - ' position as shown.

NB: This position is calibrated to typical car FLOODED (WET) batteries. If required, Ah adjustment can be made to suit any specific brand.

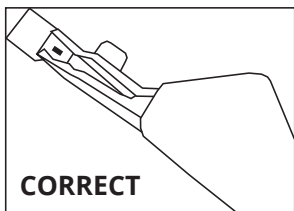
Calibrating to Non Standard Battery Types

Follow the procedure below:

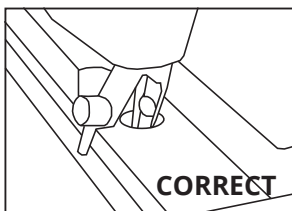
1. Set Ah calibration to zero position
2. Connect to new fully charged battery
3. Make tight connections RED + BLACK -
4. Record battery voltage reading
5. Press test button (1sec) to obtain Ah capacity
6. Adjust Ah calibration as close as possible to match stated Ah capacity
7. Repeat test to verify capacity if required
8. Note Ah position to test these types of batteries

STEP 2 Make the Correct Connection

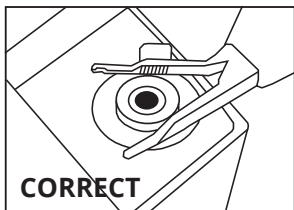
Observing polarity, connect the test lead clips exactly as described for the types of battery terminals shown below, RED+ and BLACK-
WARNING: Maximum input voltage 15VDC



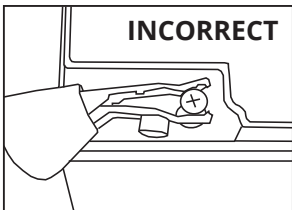
Grip clips tightly around tab terminals



Insert clips fully inside battery terminals

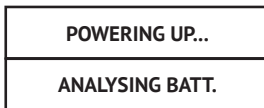


Grip tightly around posts using spikes



DO NOT connect to high resistance bolts

STEP 3



Provided there is sufficient voltage in the battery, the message 'POWERING UP' followed by 'ANALYSING BATT' is displayed. During analysis, a pulsed load removes any excess surface charge.

STEP 4



The message 'SET CALIBRATE' reminds you to check that the Ah Calibration position is adjusted to test a standby SLA, cyclic GEL or car FLOODED battery.

STEP 5



The message 'TESTING VOLTS' followed by 'PLEASE WAIT' indicates that the battery tester is automatically selecting to test a 6V or 12V battery.

STEP 6

12.66 VOLTS

When the battery voltage appears, record it onto a label for future reference.

STEP 7

PRESS TO TEST

When ready, press and hold the test button (approx 1 second) to test the Ah capacity available in the battery.

STEP 8

TESTING AH...

7.2Ah

Record the Ah reading obtained onto a label for future reference.
NOTE: Ah capacity is automatically displayed in three ranges:
1.2Ah - 7.9Ah, 08Ah - 99Ah, then 'OVER 100Ah'.

STEP 9

TEST COMPLETE

If required, press the test button again to verify the Ah reading obtained. NOTE: Ah capacity available is determined by battery temperature and state of charge.

Recharge or replace when Ah capacity available in the battery falls below 65% of the stated battery Ah size. Check results against the table found on the reverse side of the tester to confirm.

FLAT BATTERY

'FLAT BATTERY' indicates low battery voltage or Ah capacity. Recharge or replace the battery and retest.

HIGH VOLTAGE

'HIGH VOLTAGE' indicates that the input voltage exceeds 15V. REMOVE IMMEDIATELY

Annual Calibration

Like most test equipment, it is important for the GOLD PLUS Intelligent Battery Tester to be calibrated to maintain accuracy. We recommend calibration to be carried out every 12 months to ensure general wear and tear does not impair the accuracy of the GOLD PLUS.

As the manufacturer of the GOLD PLUS, it is critical that our battery testers are either sent to us or an approved calibration laboratory for annual calibration. For more information on how to get your GOLD PLUS calibrated, please email technical@actmeters.com or call +44(0)1744 886660. This applies to all customers within the UK, Europe, United States and Canada.

Battery Testing Advice

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 the manufacturer to your distributor.

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 12.30VDC 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 13.2VDC (min) and 14.4VDC (max). Optimum charging voltage is normally 13.8VDC. 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 - 25°C (68 - 77°F). At significantly higher or lower temperatures the Ah capacity available could vary up to 50%. Be aware that SLA batteries hate heat, the hotter the battery the shorter its life.

Operating Voltage	6V and 12V DC
Reverse Polarity Protection	Red LED Indication
Max Input Voltage	15VDC
Battery Types	SLA (AGM), GEL & Flooded (WET)
Battery Sizes	6V (1.2Ah – 12Ah) and 12V (1.2Ah to 100Ah)
Ah Capacity Test	Simulated 20 hour (C20) load test to 10.50VDC
Ah Calibration	Calibrated at 0 (zero) position to brand new fully charged premium brand SLA batteries rated at C20hour at 20C (68° F)
Ah Result	Based on the battery under test temperature and state of charge
Ah Adjustment	Provides ± Ah adjustment to brand new fully charged standby SLA, cyclic GEL and car FLOODED lead acid batteries
Battery Table	Recharge or replace battery when Ah capacity available falls below 65% of the battery's stated capacity
Display Type	Back-lit LCD
Flat Battery Warning	6V <5.30VDC, 12V <10.50VDC
Repeat Test Operation	Can perform repeat tests continuously
DCV Accuracy	± 2% of displayed reading
Ah Accuracy	± 10% Fully charged premium brand C20hour rated SLA batteries at 20 - 25C (68F - 77F)
Applied Pulse Load	6A 1.2Ah - 7Ah, 18A 8Ah - 100Ah
Ah Cal Adjustment	Approx ± 25 dgts
Case Construction	High impact ABS
Size	210(H) x 110(W) x 41(D)mm

EN 61326-1:2006, Class B (Emissions)
EN 55011:2007, A2 Radiated Emissions Only
EN 61326-1:2006, Basic Requirements (Immunity)
EN 61000-4-2: 1995, A1, A2
EN 61000-4-3: 2006, A1
2004/108/EC (Where Applicable)