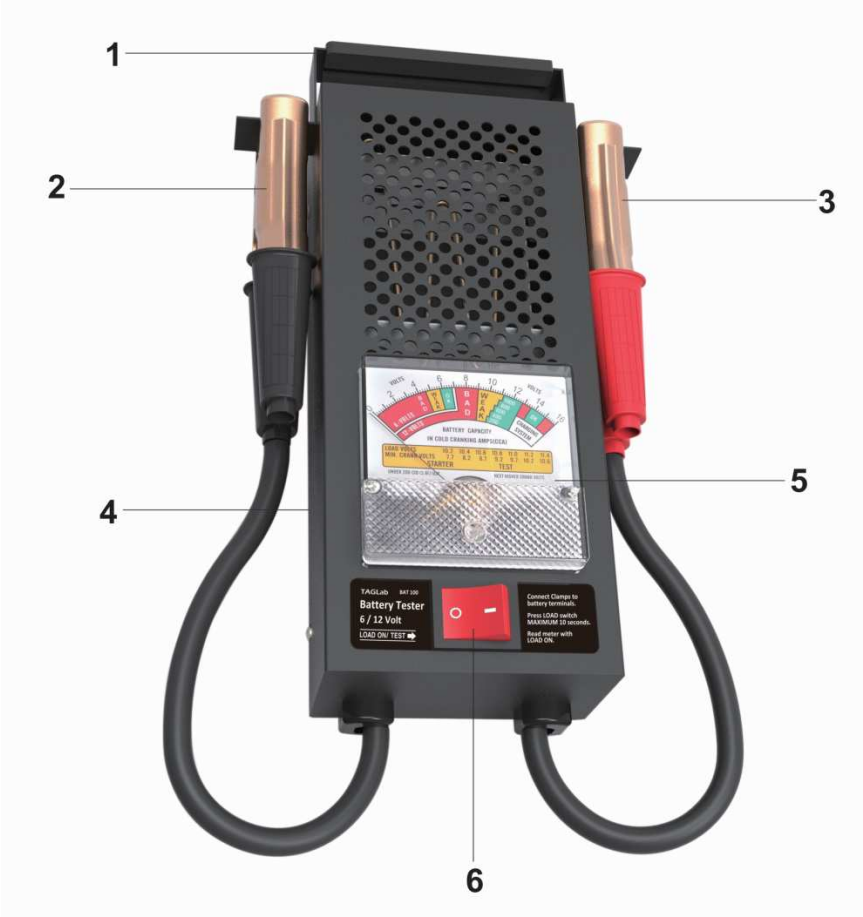
BAT 100

Battery Tester

User Manual

TAGLab

Battery Tester User Manual



1 **Safety Handle**

2 **Terminal connection cable (-) with clamp (black)**

3 **Terminal connection cable (+) with clamp (red)**

4 **Battery Analysis label (on back of tester)**

5 **Clear View Display Meter**

6 **Rocker Load Switch**

Contents

Introduction

- Explanation of symbols and pictograms used in this user manual and/or the device:

You must follow these instructions prior to each use of the device

Follow warnings and safety instructions

Warning : Hot Surface. DO NOT TOUCH.

Never dispose the electrical equipment with daily waste

- Carefully study the user manual. The user manual should be kept in a safe place and submitted together with the device in the event of this changing hands.
- Thank you for purchasing **TAGLab BAT 100 Battery Tester**.
- The TAGLab BAT 100 is suitable for testing open and a variety of closed, maintenance-free lead-acid batteries as found in bike, cars, boats, and other vehicles, e.g.
    - WET batteries (Wet) Lead-acid batteries (liquid electrolyte)
    - GEL batteries (gel-type electrolyte)
    - AGM batteries (electrolyte inside absorbed glass matt)
    - Maintenance-free lead-acid batteries (MF)
- The device is designed to test 6V and 12V lead acid batteries.
- This device is not intended for use by children or persons with limited mental capacity or lacking experience and/or lacking expertise. Children should be supervised to ensure they do not play with the device.
- Any other use or modification of the device is considered improper and involves significant risks. The manufacturer assumes no liability for damages due to improper use.
- On initial use of the battery tester, smoke may develop. This is caused by the lubrication burning off the heater coils. This will not affect the performance of the tester and will diminish upon further use.

Scope of Delivery

- Tester
- Terminal Connection Cable with Clamps
- User Manual

Technical Data

Model	**BAT 100**
Battery Type	6V / 12V Lead Acid Batteries
Battery Capacity	~ 1000 CCA
Load Amp	100A
Load Test	100A / 12V 50A / 6V
Voltage Range	0 – 16V
Display Meter	Analog Display with Colour Scale
Accuracy	± 0.2V
Test Cycle	Maximum 10 seconds per test Minimum 1 minute cool down after each test Maximum 3 tests in 5 minutes

Safety

General Safety Guidelines

- Read all safety guidelines and instructions. Non-compliance with safety guidelines and instructions can cause electric shock, fire and / or serious injury. Keep all safety guidelines and instructions for future reference.

Precaution

- Always perform testing in a well-ventilated area.
- Never operate the device if the cable is damaged. It must be repaired or replaced by a qualified technician.
- Make sure that the acid of the battery does not come into contact with the skin or clothing as it may cause burns. However, if this happens then rinse the affected area immediately with water and contact your physician immediately. Never trip the battery as acid may leak. Always wear safety goggles and protective gloves.
- Do not place the battery on top of the tester or vice versa. Do not place other equipment on top of the tester.
- Do not pour liquid on the tester as there is a risk of electrocution. Never cover the tester when the device is in operation. Make sure there is no risk of explosive or flammable substances e.g. gasoline or solvent, being ignited whilst using the tester.
- Do not expose to heat or an excessive source of light. Keep the tester away from naked flames, hot surfaces and sparks. Do not smoke or have open flames near the battery.
- Never disassemble the tester or attempt to repair the device. For inspection and repair, take it to a qualified technician. Remove all device cables from the battery before attempting to drive your vehicle.
- Do not drop the Battery Tester as it may affect proper operation.

Warning

Life-threatening danger to infants and children! Never leave children unsupervised with the packing material as this can cause suffocation. Do not allow children to play with cables – strangulation hazard.

The manufacturer is not responsible for damages caused by:

- Improper connection and / or operation. Any type of modification to the device.
- Exterior force, damage to the device and / or damage to parts of the device caused by mechanical impact or overload. Moisture and / or insufficient ventilation.
- Use of the device for purposes that are not described in this instruction manual.
- Consequential damages caused by non-intended and / or improper use, and / or defective batteries.
- The unauthorised opening of the device.
- This will void the Warranty.

Product Description

- TAGLab BAT 100 is designed for performing battery test, starter test and charging system test for wide range of lead acid batteries used for passenger cars, commercial vehicles, motorcycles and certain other vehicles – e. g. WET batteries (with liquid electro-lyte), GEL batteries (with electrolyte in gel form) or AGM (absorbent glass mat) batteries.
- It can test 6V and 12V lead acid batteries.
- It can deliver a maximum 100A load.

Operation

Before use

- Make sure the terminals are clean, if required clean them with a brush and apply special grease to protect the terminals.
- Refer to the user manual of the battery being tested for testing instructions and precautions prior to using the tester.
- Do not allow the two clamps from the testing cable to touch each other. Only touch the insulated part of the clamps.
- Do not connect the clamps or the battery poles through conductive tools or objects.
- Do not connect the tester to the battery while the engine is running. Turn the engine off before connecting.
- Undercharged lead-acid batteries will freeze during cold weather. Do not test or charge a frozen battery.
- Do not smoke or have open flames near the battery.
- Never remove tester clamps while testing.
- Never touch the clamps and the terminals with wet hands.
- Do not pull the clamps from the terminals by pulling on the clamp cables.
- Do not touch the cooling vents on the tester during or immediately after testing the battery. They become very HOT.
- When placing the tester in the vehicle's engine compartment, take special care that the metal housing of the tester does not come in contact with either terminal of the battery or other electrical connections.
- First check if the needle of the tester points to zero position, if not, adjust the zero adjuster accordingly.
- After connecting the clamps, the needle should move to the right side, if it doesn't move or moves in the other direction, check the clamps for reverse connection or loose connection.

Battery Test

- Connect the red (+) terminal connector cable to the positive (+) terminal of the battery.
- Connect the black (-) terminal connector cable to the negative (-) terminal of the battery.
- With both the battery clamps connected, the tester's display meter will show the battery's current state of charge.
- Engine and al electrical accessories must be off when testing battery.
- If it is less than 12V, disconnect the battery and recharge before re-testing.
- If recharging will not bring the reading above 12V, the battery is defective.
- Press and hold the load switch "ON" for 10 seconds to apply the load to the battery.
- Keep the load switch "ON" till the needle is steady. However do not exceed 10 seconds.
- Read meter with load switch "ON".
- Release the battery load switch and remove the battery clamps from the battery.
- Refer to the battery analysis table on back of tester or in user manual

Cold Temperature Effects

- A battery will test lower when cold than when warm. For more accurate results, please reduce the battery's nominal rating by 200 CCA (one step on meter scale) for each 10°C drop below +5°C. If display meter CCA rating is 800 and battery temperature is -5°C, read the same as 600 CCA (i.e. 1 step down).

Temperature Compensation

Battery Temperature	-5°C	-15°C	-25°C
Decrease Rating by	1 Step	2 Step	3 Step

1 Step = 200 CCA

BATTERY ANALYSIS

(Read Meter with LOAD Switch ON for MAXIMUM 10 Seconds)

LOAD TEST	BATTERY CONDITION
Good (Green)	Battery capacity is OK. Battery may or may not be fully charged. Check specific gravity of battery to determine state of charge. If specific gravity is less than full charge, check for electrical drain or possible charging system trouble. Recharge battery to full level.
Weak or Bad, but Needle remains Steady (Yellow or Red)	Battery capacity is not satisfactory. Battery may be either defective or not fully charged. Check specific gravity to determine which condition exists. If charging does not bring specific gravity to full charge level, battery should be replaced.
Weak or Bad, but Needle remains Failing (Yellow or Red)	Battery may be defective or very run down. Release load switch and note volt meter reaction. Voltage recovery to 12 volt or above within seconds indicates defective battery. Slow voltage recovery indicates run down condition. For best results, check specific gravity.
Charging System (White)	If the display meter needle reads OK, charging system is functional. If it falls on the low red or high red areas, charging system may be malfunctioning.

Starter Test

- Connect the red (+) terminal connector cable to the positive (+) terminal of the battery.
- Connect the black (-) terminal connector cable to the negative (-) terminal of the battery.
- Perform the battery test and note the exact voltage (Load Volts) with the load test on.
- If voltage continues to fall after 10 seconds, this test cannot be preformed.
- Do not press the rocker load switch during the following test.
- Disable the ignition system so the engine will not start,
- Crank the engine and note the exact voltage during cranking.
- Now refer the noted Load Volts and cranking voltage in the following starter test table.
- If cranking voltage is below the min. crank volts in following starter test table, the starter current draw is excessive.
- Excessive starter current draw makes starting difficult and shortens the battery life. If starter cranks slowly, check for high resistance or poor connections.

LOAD VOLTS	10.2	10.4	10.6	10.8	11.0	11.2	11.4
MIN. CRANK VOLTS	7.7	8.2	8.7	9.2	9.7	10.2	10.6
STARTER TEST							

(Use the next higher Min. Crank Volts for the engine of less than 200 CID)

Charging System Test

- Do not press the rocker load switch during this test.
- Connect the red (+) terminal connector cable to the positive (+) terminal of the battery.
- Connect the black (-) terminal connector cable to the negative (-) terminal of the battery.
- Operate the engine at fast idle. e.g. 1200 - 1500 rpm.
- View the display meter and read the “charging system” scale located on the far right side of the display meter.
- Note meter reading with all electrical accessories off. It should be in green area in “charging system” scale.
- With headlights and blower motor on high, meter should remain in green area.
- If display meter needle falls in red area or outside the charging system area, then “charging system“ is malfunctioning.

Information

Care

- This device has been designed for a long service life with minimum maintenance. Regular cleaning and maintenance is however advised.
- Clean the device from time to time with a damp cloth. Do not use abrasive products or solvents or liquids.
- Clean the connection clamps after each use and remove any battery liquid to prevent corrosion.
- Store the device in a clean, dry place.
- This device is only to be repaired by qualified technician using genuine spare parts so as to maintain operating reliability.

Disposal

- The product must not be disposed of in the household waste but suitably recycled.
- Do not throw electrical appliances in with domestic waste.
- Illustrations may vary slightly from the product itself. We reserve the right to modify the product in accordance with technical advances. Additional accessories shown in illustrations are not included.

Warranty

- This device is supplied with a limited 06 months warranty as of the date of purchase.
- It is manufactured with due care and checked diligently prior to delivery.
- Please retain the Purchase Invoice.
- This warranty is only valid for the initial purchaser and is not transferable.
- The warranty applies only to material defects or manufacturing errors and not to wearing parts or damage to fragile components, e. g. switches, cables.
- The warranty is rendered invalid by incorrect, inexpert handling, the application of force and tampering with the device.

**** End ****

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