



GYT250

BATTERY & ELECTRICAL
SYSTEM TESTER



Specification & quick start guide

GYT250 specifications

Supplied accessories: Carry case, quick start guide, thermal printer paper, 4GB micro SD card with adaptor, USB SD card reader

Cable length: 1.6m

Power requirements: Uses the power of the battery under test

Dimensions

Tester: 245mm (H) x 108mm (W) x 45mm (D)

Box: 262mm (H) x 354mm (W) x 92mm (D)

Weight

Tester: 730g

Packaged: 1.6kg

Memory storage: External SD card

Display: Full colour graphical display with backlight

Housing material: ABS

Printer: Integrated 56mm roll thermal printer

Battery testing

Testing method: Load free microprocessor-controlled conductance test

Applications: Automotive, commercial vehicle, motorcycle, powersport & leisure

Test types: Warranty, health check & stock check

Battery technologies: Conventional, EFB & AGM lead acid

Test range: Up to 2000A (EN) CCA

Input Voltage range: 9V to 36V

Starter, alternator & earth testing

Applications: Automotive & commercial vehicles with 12V or 24V electrical system

Test types: Starter, alternator (diode ripple) & earth test

System technologies: Normal & smart alternators



1. Overview

The GYT250 can perform warranty, health and stock tests on conventional, EFB, AGM and leisure batteries. It can also give a comprehensive overview of a vehicle's starter and charging system health through alternator, starter and earth checks. Results can be printed using the built-in thermal printer or transferred to a computer via the SD card.

2. Connections & controls



The red positive connection (2) should be attached to the battery's positive terminal (+). The black negative connection (3) should be connected to the battery's negative (-) terminal. The unit will then power up.

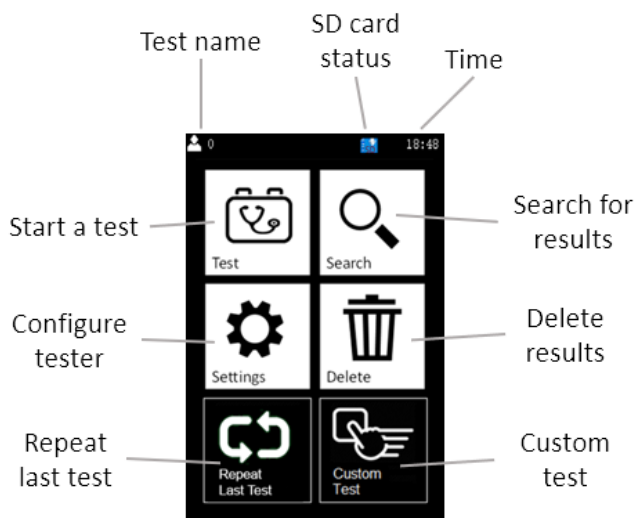
3. Printer paper installation

1. Open the printer cover and insert a roll of thermal printer paper
2. Close the cover making sure the thermal paper is held between the feed rollers
3. When the paper needs replacing the printer paper out indicator (9) will flash



4. Home screen

When the GYT250 is connected to a battery, the home screen will be displayed. From here it is possible to start a test, manage previous results and configure the tester.



5. Settings menu

5.1 Set workshop name & contact details

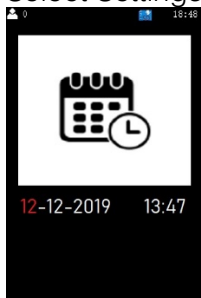
1. Select Settings > Details



2. Use ▲▼◀▶ keys to select a character, then press ENTER ↵
3. To move to another line, select navigation key ⬆ then press ENTER ↵
4. The ⬅➡ character will appear, and the cursor can be moved to next line
5. Select the navigation key again to return to normal edit mode
6. Once all details have been entered select save icon 💾 then press ENTER ↵

5.2 Set time & date

1. Select Settings > Time/Date



2. Use ◀ + ▶ to move between entries, then use ▲ + ▼ to set the time and date
3. Press ENTER ↵ to confirm and exit

5.3 Set sound

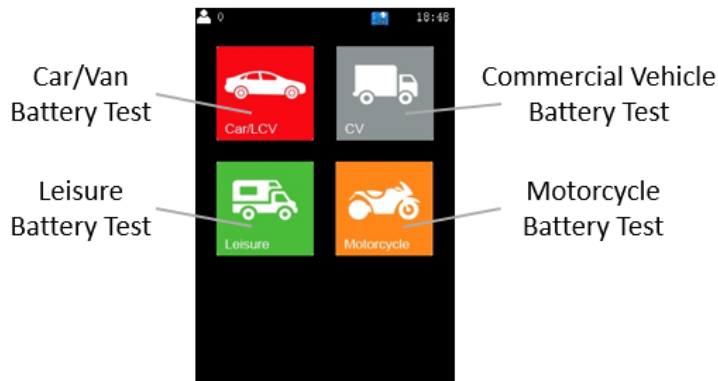
1. Select Settings > Sound
2. Press ◀ to turn sound OFF or ▶ to turn sound ON
3. Press ENTER ↵ to confirm and exit.

6. Starting a new test

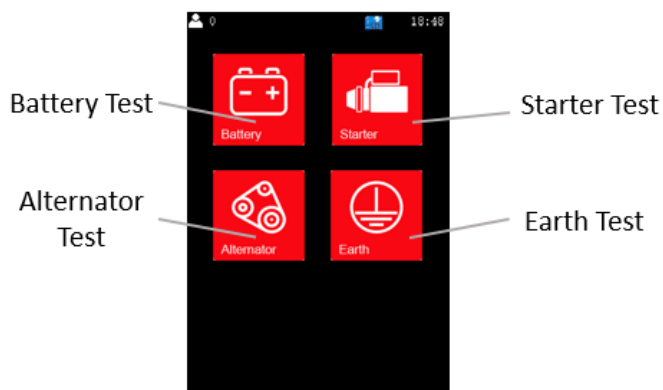
1. To start a new test, first select **Test** from the Home Screen



2. Select the type of vehicle to be tested



3. Select the type of test required



7. Battery Test

The following tests help determine battery health during warranty, in-service or pre-service checks

1. After selecting **Battery Test**, choose type of battery test required



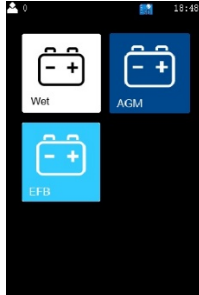
Warranty - For testing of batteries presented for warranty claims

Health Check - Determines the state of health, Voltage & CCA performance of batteries that have been used on a vehicle

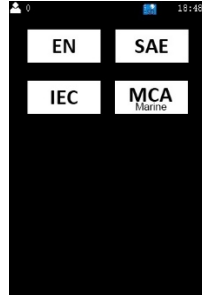
Stock Check - For battery stock management testing of new batteries that are in storage prior to being installed in a vehicle

Note: Depending on the vehicle type selected, not all battery tests will be available

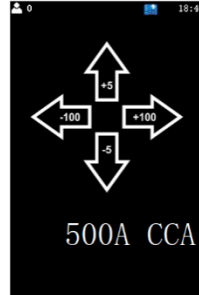
2. Follow the sequence below to enter battery details



Enter type >



Enter test standard>

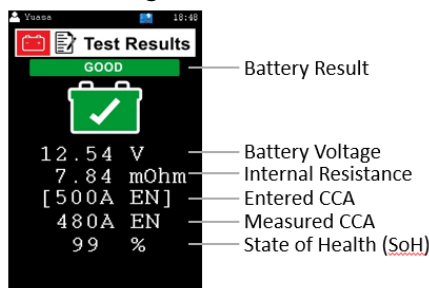


Set battery rating >



Testing starts


3. After testing, the results will be displayed

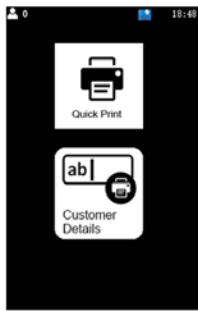


Note: Depending on the test type selected presentation of results will differ

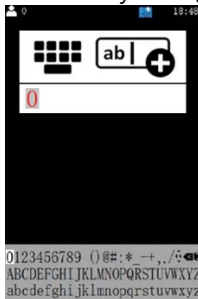
	Result / action	Note
	Battery is OK No action required	
	Battery is OK But a recharge is recommended	
	Battery is discharged Re-charge before testing again	
	Battery is Weak Replacement recommended	Service-related failure (rejected claim under warranty test)
	Bad Cell detected Replacement recommended	Manufacturing defect (accepted claim under warranty test)

7.1 Print results

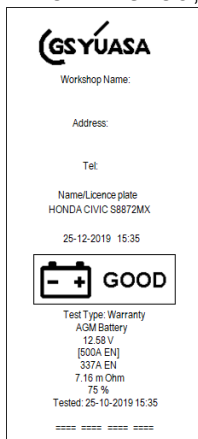
1. Press PRINT  button (8) then select required print option



2. If **Quick Print** is selected, results are printed without adding a customer reference
3. If **Customer Details** are selected then a reference (e.g. vehicle registration) can be added by navigating the keyboard



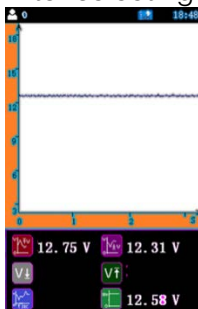
4. When finished, select the save icon  to exit and results will be printed



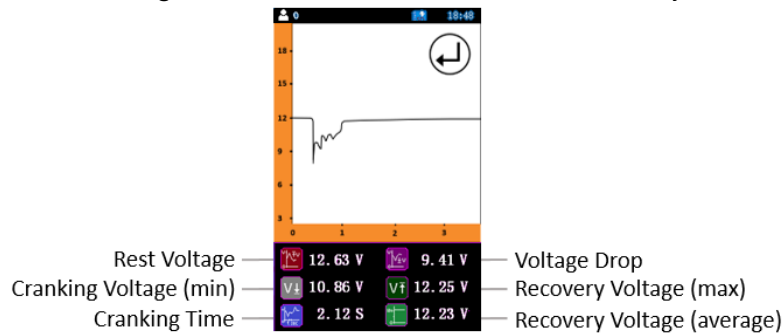
8. Starter Test

This test helps determine the condition of the starter motor and battery during engine cranking. The drop of battery Voltage during the starting process is measured. This can indicate if the battery has aged or the starter motor has a problem.



1. After selecting **Starter Test** the Voltage trace will be displayed



2. Start the engine and the results will be automatically recorded



3. After analysis results will be displayed

	Result / action
	Battery Volt drop is OK No action required
	Battery Volt drop too high Check battery, starter & connections

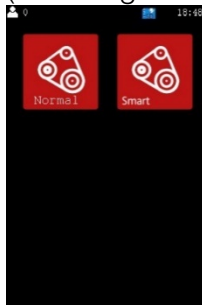
4. Results can now be printed (see section 7.1)

9. Alternator Test

This test confirms if the alternator charging Voltage is within the correct limits to avoid under or overcharging of the battery. There are three parts to the test:

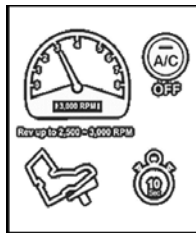
- **Unloaded (Upper Voltage) check** – High engine revs with accessories OFF
- **Loaded (Lower Voltage) check** – Low engine revs with accessories ON
- **Diode Ripple check** – Idle engine revs with headlights ON

1. After selecting **Alternator Test** choose the alternator type which matches the vehicle. If in doubt choose **Normal**. Next generation vehicles with micro-hybrid technology (including Start-Stop and regenerative braking) would typically have a smart alternator.

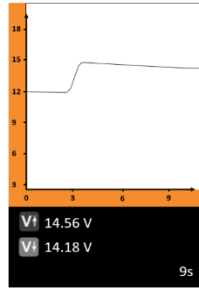


9.1 Unloaded (Upper Voltage) Test

1. Ensure all vehicle accessories are switched OFF
2. Rev the engine to 3000rpm, press ENTER ↵ then hold revs for 10 seconds



Press ENTER

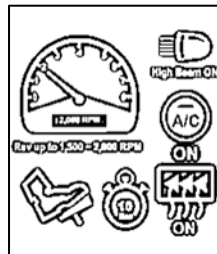


> Hold for 10 secs

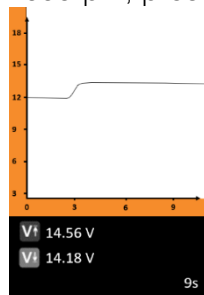
3. The analyser will automatically move to the next step

9.2 Loaded (Lower Voltage) Test

1. Ensure all vehicle accessories are switched ON e.g. lights, heater, demister
2. Rev the engine to 2000rpm, press ENTER ↵ then hold revs for 10 seconds



Press ENTER

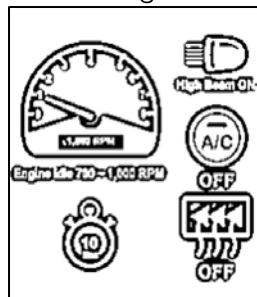


> Hold for 10secs

3. The analyser will automatically move to the next step

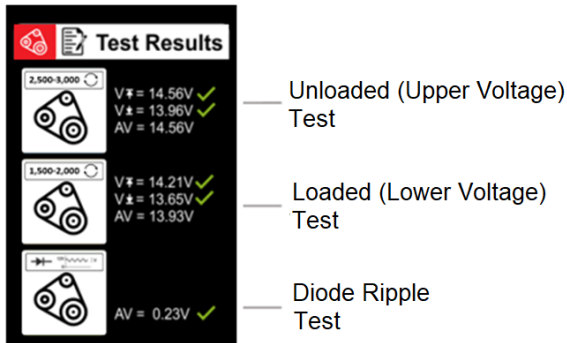
9.3 Diode ripple Test

1. Ensure that only the vehicle lights are switched ON
2. Set the engine at idle revs (700-1000rpm), press ENTER ↵ then wait for 10 seconds



9.4 Alternator results summary

1. After analysis results will be displayed



Results can now be printed (see section 7.1)

The tables below show the acceptable Voltage ranges for each type of vehicle and alternator. Any values outside of these ranges will be highlighted in the results.

Normal alternators	12V vehicles		24V vehicles	
	MIN Voltage	MAX Voltage	MIN Voltage	MAX Voltage
Unloaded (Upper Voltage) Test	> 13.3V	< 15.0V	> 26.6V	< 30.0V
Loaded (Lower Voltage) Test	> 12.6V	> 13.8V	> 25.2V	> 27.6V

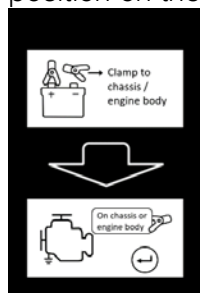
Smart alternators	12V vehicles		24V vehicles	
	MIN Voltage	MAX Voltage	MIN Voltage	MAX Voltage
Unloaded (Upper Voltage) Test	> 12.4V	< 16.2V	> 24.8V	< 33.0V
Loaded (Lower Voltage) Test	> 12.0V	> 12.4V	> 24.0V	> 24.8V

10. Earth Test

This test checks that the earth connections between battery, engine and vehicle chassis are in good condition. A high resistance caused by loose or corroded connections can lead to poor starting.

10.1 Test procedure

1. First select **Earth Test** then press ENTER ↵
2. Move the GYT250 black clamp from the battery negative terminal (-) to a suitable position on the vehicle chassis and press ENTER ↵ for analysis to take place

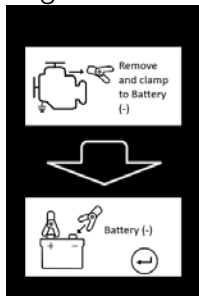


Press ENTER



> Analysis

3. Within 15 seconds, move the black clamp from the vehicle chassis back to the battery negative terminal (-)






Press ENTER



> Analysis

4. After analysis results will be displayed

	Result / Action
	Earth connection is OK No action required
	High resistance detected Check for loose or corroded connections
	Earth not detected Check contacts & repeat procedure

Note:- The test can be repeated to check the earth between battery and engine. This time move the clamp from the battery negative terminal (-) to a suitable metal part on the engine.

5. Results can now be printed (see section 7.1)