



BT410

Battery Tester

User's Manual



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The information, specifications, and illustrations in this manual are based on the latest information available at the time of printing.

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1. Safety Precautions

Personal Protection

Always wear insulated gloves and safety goggles when handling batteries.

To prevent short circuits, remove metallic accessories like rings and watches.

Battery Connection

Confirm correct polarity (RED to positive [+], BLACK to negative [-]).

Never reverse connections to avoid equipment damage or battery explosion.

Environment Requirements

Operate in a well-ventilated, dry area away from flammable materials.

Short Circuit Prevention

Ensure test leads do NOT contact each other or metal surfaces during testing.

Disconnect the tester immediately if the battery emits smoke/odor.

Prohibited Actions

Do NOT test leaking, swollen, or physically damaged batteries.

2. Compatibility

Please note that the battery type and CCA values (Cold Cranking Amps) are marked on the battery label. Refer to them before using the tester.

This battery tester supports the following types:

1. Regular Flooded
2. AGM/GEL/EFB/Lithium-Ion

3. Specifications

Display: 2.4" TFT color display (320*240pixels)

Cable Reach: 800 mm (31.5 inches)

Operating Temperature: 0°C to 60°C
(32°F to 140°F)

Storage Temperature: -20°C to 70°C
(-4°F to 158°F)

4. Pre-Test Preparation

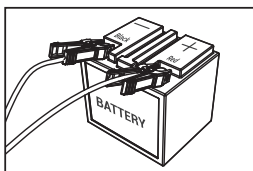
The engine and all other accessory loads must be turned OFF during the test to ensure accurate results. If the battery has just been fully charged, turn on the vehicle's headlamps for 2–3 minutes to allow the battery voltage to stabilize at a normal value.

5. Procedure for Connecting Battery Clamps

Step 1: Ensure the battery and clamps are clean and free of corrosion.

Step 2: Connect the red clamp to the positive (+) terminal of the battery.

Step 3: Connect the black clamp to the negative (-) terminal of the battery.



6. Battery Tester Functions

6.1 Battery Test

First, connect to the battery terminals. Then, select the battery type and settings (e.g., Standard/AGM, CCA rating). Finally, start the test.

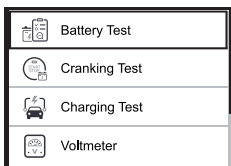


Figure 1

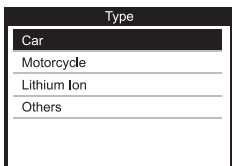


Figure 2

Battery Type
Regular Flooded
AGM Flat Plate
AGM Spiral
GEL
EFB

Figure 3

Battery Standard
CCA
EN
SAE
CA
DIN
JIS

Figure 4

Hold the **UP** or **DOWN** button to select the battery rating values (as listed on the battery label). After setting the rating, read the test results.

Setting Rate
500A CCA
[▲] \ [▼]: Adjust battery rating Long press [▲] \ [▼] to adjust continuously Press [ENTER] to start the test

Figure 5

Battery Test		
Health:	318A	40%
Charge:	13.33V	100%
Internal R=	9.21	mΩ
Rated:	500A	CCA
REPLACE		

Figure 6

Notes:

In the battery test, select the corresponding data according to the actual situation of the battery, and finally get the health status of the battery.

When selecting the battery current size, press the UP button once to adjust the 5A current upward, and press the DOWN button once to adjust the 5A current downward. You can adjust the current according to the actual situation of the battery.

Battery Test Results

Decision	Interpretation
GOOD BATTERY	Return the battery to service.
GOOD-RECHARGE	Fully charge the battery and return it to service.
CHARGE & RETEST	Fully charge the battery and retest. Failure to fully charge the battery before retesting may cause inaccurate result. If "CHARGE & RETEST" appears again after you fully charge the battery, replace the battery.
REPLACE BATTERY	Replace the battery and retest. A "REPLACE BATTERY" result may also mean a poor connection between the battery cables and the battery. After disconnecting the battery cables, retest the battery using the out-of-vehicle test before replacing it.
BAD CELL-REPLACE	Replace the battery and retest

6.2 Cranking Test

Select the cranking test menu to perform the test and view the results.

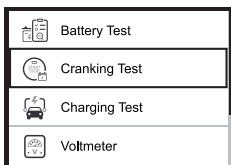


Figure 1

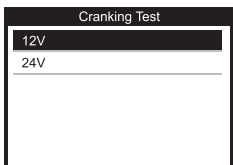


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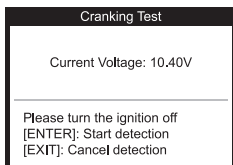


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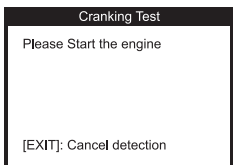


Figure 4

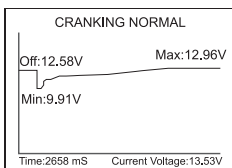


Figure 5

6.3 Charging Test

Select the charging test menu to perform the test and view the results.

During the charging test, please follow the device prompts.

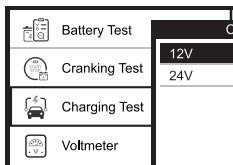


Figure 1

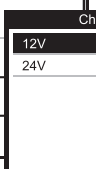


Figure 2

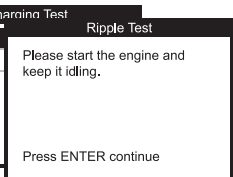


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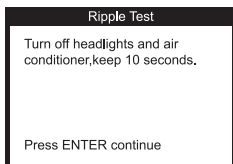


Figure 4

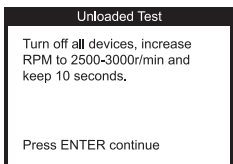


Figure 5

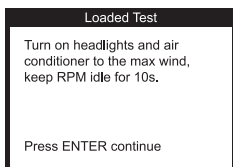


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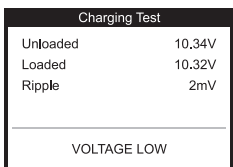


Figure 7

6.4 Voltmeter

A voltmeter is used to measure the voltage of a battery.

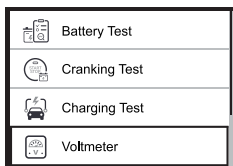


Figure 1

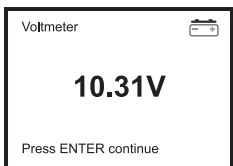


Figure 2

6.5 Review Data

View on device

View saved battery test reports directly on this device.

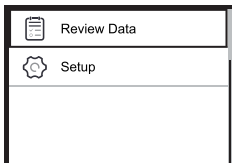


Figure 1

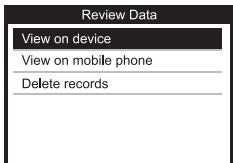


Figure 2

View on mobile phone

Scan the QR code with your smartphone to view/download the report.

Save the report to your computer and print directly.

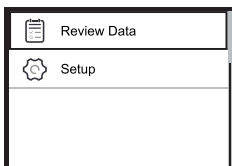


Figure 1

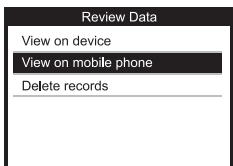


Figure 2

Delete records

Remove stored battery test reports.

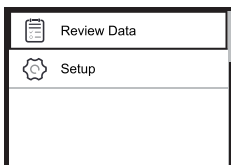


Figure 1

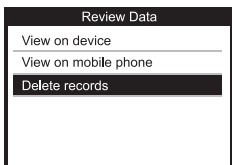


Figure 2

“(i)” This button allows you to quickly retrieve the battery test report.

7. Setup Menu

7.1 Language

The language function lets users select and set their preferred language.

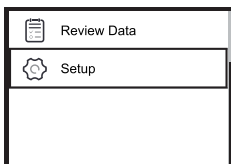


Figure 1

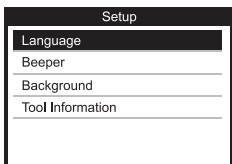


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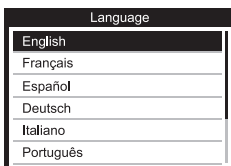


Figure 3



Figure 4

7.2 Beeper

Turn the button sound on/off in Beeper Settings.

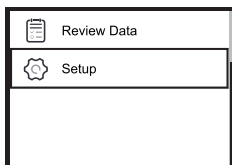


Figure 1

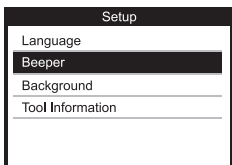


Figure 2

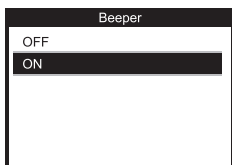


Figure 3

7.3 Background

Adjust the background color via the device settings.

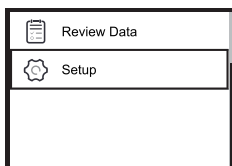


Figure 1

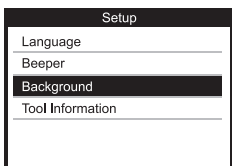


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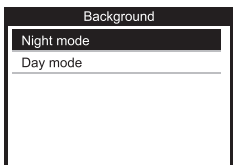


Figure 3

7.4 Tool Information

The Tool Information section provides information about the device.

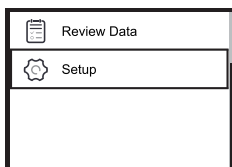


Figure 1

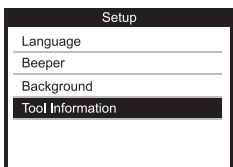


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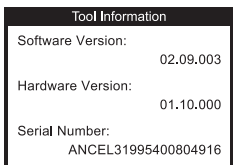


Figure 3

8. Battery System Standard Description

The battery tester analyzer will test each battery according to the selected system and rating.

CCA	Cold Cranking Amps, specified by SAE & BCI, most frequently used value for starting battery at 0°F (-17.8°C).
BCI	Battery Council International standard.
CA	Cranking Amps standard, effective starting current value at 0 °C.
MCA	Marine Cranking Amps standard, effective starting current value at 0°C.
JIS	Japan Industrial Standard, displayed on the battery as combination of the numbers and letters (e.g., 55D23, 80D26).
DIN	German Auto Industry Committee Standard.
IEC	International Electrotechnical Commission Standard.
EN	European Automobile Industry Association Standard.
SAE	Society of Automotive Engineers Standard.
GB	China National Standard.

9. Measuring Range

The Battery Tester can perform tests on batteries rated within 100–2000 CCA or 30 Ah–220 Ah.

Measure Standard	Measure Range
CCA	100-2000
BCI	100-2000
CA	100-2000
MCA	100-2000
JIS	26A17-245H52
DIN	100-2000
EN	100-2000
SAE	100-2000
IEC	100-2000
GB	30 Ah-220 Ah

10. Warranty

(1) This warranty is limited to the original purchaser of ANCEL products.

(2) ANCEL products are warranted against defects in materials and workmanship for a period of one year (12 months) from the date of shipment to the user.