

INNOVA[®]

BA201

Battery Tester



POWERED BY



HELLO...

On behalf of everyone at INNOVA, we want to welcome you and thank you for purchasing the **INNOVA® BA201 Battery Tester Tablet!** Every automotive diagnostic scan tool we make includes tons of pro-level features designed to help maximize, and simplify, your diagnostic routine. In this manual, we will guide you on how to access your battery tool's intuitive functions including:

- ✓ *Battery Health Check*
- ✓ *Repair Tip*
- ✓ *Starter System Test*
- ✓ *Charging System Analysis*
- ✓ *Electrical System Test*
- ✓ *Voltmeter (12 V)*
- ✓ *Battery Status LED Indicators*
- ✓ *Battery Standard: CCA, CA, JIS, EN, DIN, SAE, and IEC*
- ✓ *Battery Type: Flooded, AGM, and GEL batteries*
- ✓ *Test Range: 12V Lead-acid Battery, 100 - 2000 CCA*
- ✓ *Save/Print/Share Reports*
- ✓ *And much more...*

Plus, gain the benefit of having unlimited access to real world solutions on your mobile device:

Enjoy using your INNOVA Battery Tester!

Yours sincerely,

The Innova Technical Team

P.S.: Connect with us to see what we're up to...



LEGAL INFORMATION	1
FCC Compliance Statement	1
Trademarks	1
Patents	2
Firmware Version	2
California Product Warnings	2
SAFETY PRECAUTIONS	3
Safety First!	3
Safety Alert Icons	4
Glossary	5
Additional Terminology & Acronyms	5
INTRODUCTION	6
Battery Tester Controls and Indicators	6
Home Screen	7
Technical Specifications	8
The RepairSolutionsPRO® App	8
The RSPRO® App Offers...	.8
Hardware Requirements	.9
Download the RSPRO® App.	.9
Register And Login.	.9
Connecting The Battery Tester With RSPRO® App	.9
Battery Replacement For Battery Tester	11
USING THE BATTERY TESTER.	12
Initial Setup.	12



Battery Health Check	12
Battery Standard.	12
Battery Type	13
In Vehicle Test	13
Out Of Vehicle Test.	15
Starter System Test	18
Charging System Analysis	20
Electrical System Test	22
Voltmeter (12 V)	24
Previous Vehicles	25
Settings	25
Date/Time	26
Wi-Fi Setting	26
Adjusting Display Brightness	27
Enabling/Disabling the Audible Tone	27
Selecting the Display Language	28
Setting the Unit of Measurement	28
Viewing The RSPRO® App QR Code	29
Setting The QR RSPRO® App Mode	29
Setting Store Information	29
Viewing Product Support	30
Viewing Version Information	31
Check for Update	31
Factory Reset	32
WARRANTY & CUSTOMER SERVICE	33
Limited Warranty	33
Customer Service	33

LEGAL INFORMATION

FCC COMPLIANCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

- The transmitters within this device must not be co-located or operating in conjunction with any other antenna or transmitter.
- This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. Please follow the operation instructions as documented in this manual to fulfill IC RF exposure compliance requirements.

TRADEMARKS

Title, ownership rights, and intellectual property rights in the Products and Services shall remain in Innova and/or its licensors and other suppliers. Licensee and End Users acknowledge such ownership, confidential information, and intellectual property rights and will not take any action to jeopardize, limit or interfere in any manner with Innova's or its licensors' or other suppliers' ownership of or rights with respect to the Products and Services. The Products and Services may be protected by Patent, Trademark, Copyright and/or other intellectual property laws and by international treaties. All trademarks used in connection with the Products and Services are owned by Innova, its affiliates or its licensors and other suppliers, and no license to use any such trademarks is provided hereunder. Licensee and End Users agree that Innova may use in any manner and without limitation all comments, suggestions, complaints and other feedback Licensee and End Users provide relating to the Products and Services. For more information and current listing of trademarks, please visit <https://www.innova.com/pages/trademarks>.

PATENTS

Innova Electronics Corp. protects its intellectual property with numerous U.S. patents, which were used to research, design and manufacture this product. Please visit <https://www.innova.com/pages/patents> for additional information.

FIRMWARE VERSION

Please note that the images and functions in this manual may differ based on the current **Firmware Version** you have. To check your battery tester's current version and to check for updates, please see the **SETTINGS** tab under the **Version Information** section. [[See page 31](#)]

CALIFORNIA PRODUCT WARNINGS

WARNING

This product can expose you to chemicals including DiNP, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SAFETY PRECAUTIONS

SAFETY FIRST!

It is important that every user of this product read all instructions and warnings included in this manual to ensure their safety, the safety of others, and to prevent damage to this product and the vehicle being diagnosed and repaired. This manual describes common test procedures used by experienced service technicians. It is assumed that the user has a good understanding of vehicle systems before using this product.

Many test procedures require precautions to avoid accidents that can result in personal injury, and/or damage to your vehicle or test equipment. At a minimum, the following safety standards should be followed whenever using this product, or whenever working on a vehicle.

- ❑ When an engine is running, it produces carbon monoxide, a toxic and poisonous gas. To prevent serious injury or death from carbon monoxide poisoning, **operate the vehicle ONLY in a well-ventilated area.**
- ❑ To protect your eyes from propelled objects as well as hot or caustic liquids, **always wear approved safety eye protection.**
- ❑ When an engine is running, many parts (such as the coolant fan, pulleys, fan belt, etc.) turn at high speed. To avoid serious injury, **always be aware of moving parts.** Keep a safe distance from these parts as well as other potentially moving objects.
- ❑ Engine parts become very hot when the engine is running. To prevent severe burns, **avoid contact with hot engine parts.**
- ❑ Before starting an engine for testing or troubleshooting, make sure the parking brake is engaged. **Put the transmission in park** (for automatic transmission) **or neutral** (for manual transmission). **Block the drive wheels** with suitable tire blocks.
- ❑ Connecting or disconnecting test equipment when the ignition is ON can damage test equipment and the vehicle's electronic components. **Turn the ignition OFF before connecting the battery tester to or disconnecting the battery tester from the battery terminals under the hood.**
- ❑ To **prevent damage to the on-board computer** when taking vehicle electrical measurements, always use a digital multimeter with at least 10 Megohms of impedance.
- ❑ Fuel and battery vapors are highly flammable. To prevent an explosion, keep all sparks, heated items, and open flames away from the battery and fuel vapors. **DO NOT SMOKE NEAR THE VEHICLE DURING TESTING.**
- ❑ **Don't wear loose clothing or jewelry when working on an engine.** Loose clothing can become caught in the fan, pulleys, belts, etc. Jewelry is highly conductive and can cause a severe burn if it makes contact between a power source and ground.

SAFETY ALERT ICONS

As you read this manual, color-coded icons are used throughout to identify safety alerts and warnings. These are provided to help prevent serious injury to you, injury to bystanders, and damage to property or equipment. The meanings of these icons are as follows:



Yellow Icon – Indicates a **"NOTE"** statement that offers special information or tips on what is being instructed.



Orange Icon – Indicates a potential hazardous situation. Provides a **"WARNING"** statement on how to proceed to avoid serious injury to the user or bystanders, and/or damage to equipment.

GLOSSARY

ADDITIONAL TERMINOLOGY & ACRONYMS

- **DMM** = Digital Multimeter
- **DC** = Direct Current
- **AC** = Alternating Current
- **TSBs** = Technical Service Bulletins

INTRODUCTION

BATTERY TESTER CONTROLS AND INDICATORS

See Figure 1 for the locations of items 1 through 11, below.



Figure 1. Controls and Indicators

1. **4.3-inch LCD Screen** - Color LCD display shows menus and sub-menus, test results, battery tester functions and battery status information.
2. **Removable Battery Cable** - Flexible 3-meter cable.
3. **Type C port** - Supports updating the battery tester.
4. **GREEN LED** - Lights to indicate that the test result is **GOOD** condition.
5. **YELLOW LED** - Lights to indicate that the test result is **WARNING** condition.
6. **RED LED** - Lights to indicate that the test result is **BAD** condition.
7. **Home Button** - Press from any screen (except screens in test mode) to return to the Home screen.
8. **OK Button** - Confirms the selected option or value.
9. **Left / Right Button** - Moves selection cursor left or right, or helps scroll through pages when more than one page is displayed.
10. **Up / Down Button** - Scrolls up/down through the menu options or displays additional data on the screen.
11. **Back Button** - Exits the current function or returns to the previous screen.

HOME SCREEN

The  **Home Screen** provides access to all the battery tester's primary functions.

See Figure 2 for the explanation of items 1 through 10, below:

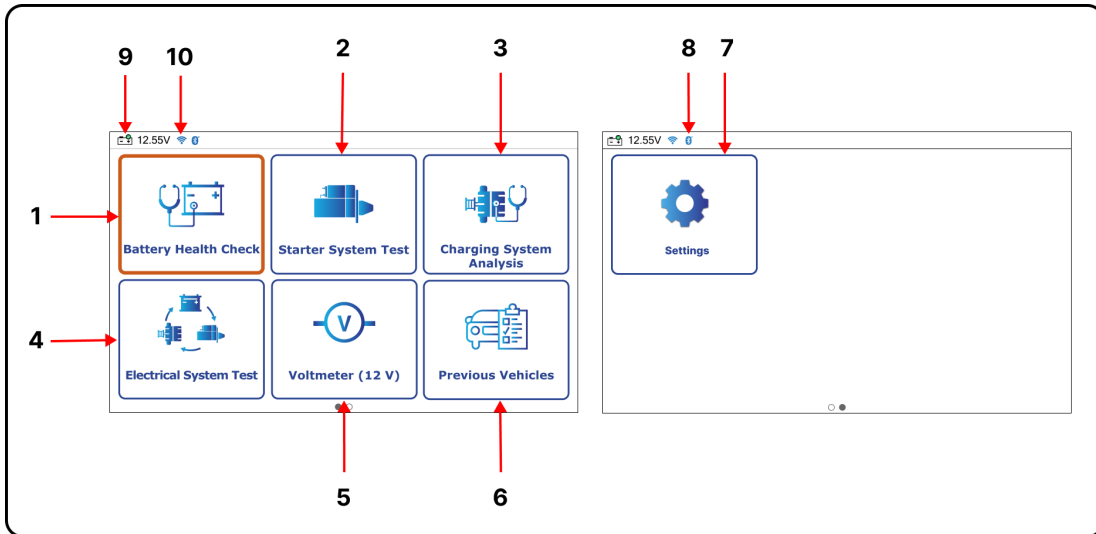


Figure 2. Home Screen

1. **Battery Health Check** - Evaluates the condition of a vehicle's battery by examining its parameters, offering a conclusion on its status. This process includes Out-of-vehicle and In-vehicle tests. [\[See page 12\]](#)
2. **Starter System Test** - Determines the status of the vehicle's starter system, including the starter and battery, by evaluating the cranking voltage. [\[See page 18\]](#)
3. **Charging System Analysis** - Performs a deep test of the output voltage and AC ripple voltage generated by the alternator/generator of the vehicle across multiple usage scenarios, such as with electrical load/no load - high/ idle revving. [\[See page 20\]](#)
4. **Electrical System Test** - Evaluates the health of the Starting and Charging systems in a vehicle based on the results of three tests: Battery Health Check, Starter System Test, and Charging System Analysis. [\[See page 22\]](#)
5. **Voltmeter (12 V)** - Works as DC voltage measurement of a digital multimeter (DMM). It continuously measures the voltage of the vehicles's battery. [\[See page 24\]](#)
6. **Previous Vehicles** - Provides a platform to review and share reports for previously conducted tests. [\[See page 25\]](#)
7. **Settings** - Configure the battery tester's settings, including Wi-Fi, check for updates, and adjust other personal settings. [\[See page 25\]](#)
8.  **Bluetooth Icon** - The Bluetooth icon is ON when the RSPRO app is connected to the tablet.
9.  **Wi-Fi icon** - Displays ON or OFF depending on the battery tester's Wi-Fi network connection status. [\[See page 26\]](#)
10.   **icons** - When the  Battery icon is displayed, it indicates that the battery tester is connected to the battery, and the current voltage of the battery is shown alongside (Ex:  12.55V). When the  Battery icon is displayed, it indicates that the battery tester is not connected to the battery, and no voltage value is shown.

TECHNICAL SPECIFICATIONS

The following table provides the battery tester's current technical specifications:*

Display Type	4.3 Inch Panel
Input Voltage	6 - 24V (DC)
Battery Cable	DB15 Detachable
Communication	Wireless: Bluetooth (RSPRO app) & Wi-Fi (2.4 GHz)
Operating Temperature	23°F to 122°F (-5°C to 50°C)
Memory	16MB
Dimension (L x W x H)	186 x 113 x 42 (mm)

*Manufacturer reserves the right to change technical specifications at any time.

THE RepairSolutionsPRO® APP

Innova's **RepairSolutionsPRO® (RSPRO®)** app is a web-based service created to assist Professional technicians to simplify and augment their vehicle diagnostic process.

In essence, it helps you decode the diagnostic data collected by your INNOVA® OBD II tablet to arrive at a most likely fix. At its core, the app uses a database of millions of real-world verified fixes -collected over the last 25 years by ASE Master Technicians across the U.S.- that is cross-referenced to your specific vehicle's problem to instantly arrive at a verified fix. Think of it as a second opinion from your most trusted peers to help you diagnose and repair more vehicles.



THE RSPRO® APP OFFERS...

- **Verified Fixes** - Find the most likely fixes reported and verified by ASE Technicians for the retrieved DTCs. Plus, quickly purchase the exact parts you need right from the app.
- **Predicted Repairs** - With millions of verified repair solutions, get a statistical probability of what repairs the vehicle may need within the next 12 months.
- **TSBs & Recalls** - Learn if there are any special NHTSA safety recalls or Technical Service Bulletins (TSBs) issued by the vehicle's manufacturer.
- **Upcoming Maintenance** - View the vehicle manufacturer's recommended maintenance intervals. Plus, conveniently order the correct maintenance parts right from the app.
- And much more...

HARDWARE REQUIREMENTS

- Innova Diagnostic Tools with Bluetooth/Wi-Fi connectivity.
- Android or iOS Mobile Device.

DOWNLOAD THE RSPRO® APP

- Available for Apple iOS & Android Devices (Scan QR Code)



REGISTER AND LOGIN

1. Download and install the **RSPRO®** app (see above).
2. Launch the app and log in to your account.
 - If you have not yet established an account, you must register for a FREE account before proceeding.
3. Select your Technician Profile:
 - Choose your ASE Certification(s).
 - Specify Areas of Expertise
 - Indicate Job Positions.
 - Optionally, set your Labor Rate.
 - Select the Automobile Makes you specialize in.
4. Once all information is complete, tap **Continue**.
5. Enter the code sent to your email for verification.
6. Once the account is successfully verified, tap **Confirm** to finish the process.

CONNECTING THE BATTERY TESTER WITH RSPRO® APP

For The First-Time User

1. Open the RSPRO® app.
 - Follow the **Register and Login** steps (see above) to create an account.
2. Follow the on-screen prompts to pair your INNOVA Battery Tester.
 - Turn On Bluetooth® on your mobile device.
 - Turn the battery tester On.
 - Be sure your mobile device is connected to an available Wi-Fi network.
3. From the instruction screen, tap **Continue** to begin the connection process with the battery tester:
4. On the "Searching for a tool..." screen, select your identified battery tester.

- The Pairing screen will display during this process.
- 5. After successfully pairing the battery tester, a “notification” screen displays.
- 6. Tap **Continue** to finish the connectivity process.
- 7. Once paired, the data from your tablet is automatically transferred to the app to create a report.



NOTE: If the data does not automatically transfer, simply keep the app and the battery tester paired and perform test again.

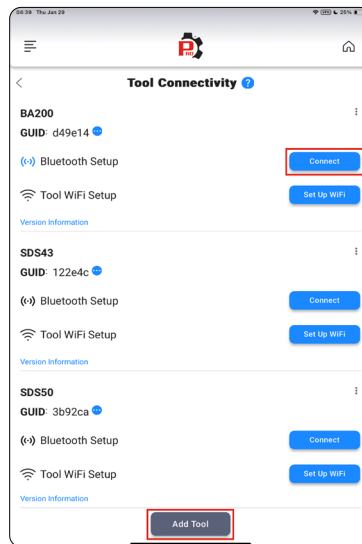
For Registered Users

1. Open the RSPRO® app.



NOTE: The RSPRO® app will automatically connect to the previously paired battery tester if the device is detected nearby.

2. The Tool Connectivity screen displays, including all the diagnostic tools registered with your **RSPRO®** account.
 - Turn On Bluetooth® on your mobile device.
 - Turn the battery tester On.
 - Be sure your mobile device is connected to an available Wi-Fi network.
3. From the instruction screen, tap **Continue** to begin the connection process with the battery tester:
4. Tap the **Connect** button and follow the on-screen prompts to connect your battery tester.
 - The Pairing screen will display during this process.



- Once your battery tester is successfully connected to the battery and linked to the app, a “notification” screen displays.
- Tap the **Continue** button to finish the connectivity process.

5. Tap the **Add Tool** button to connect a new tool or if no tool was previously connected.
 - Follow the on-screen instructions to connect the new battery tester.
6. Once paired, the data from your battery tester is automatically transferred to the app to create a report.



NOTE: In cases where the RSPRO® app doesn't have a Wi-Fi connection, it switches to offline mode. In this mode, the app connects via Bluetooth to the previously paired battery tester if it is nearby. Users can still submit new reports and access up to five previously viewed online reports without an internet connection.



NOTE: These offline reports are stored locally for up to 30 days. After that, they are automatically deleted from the app.

BATTERY REPLACEMENT FOR BATTERY TESTER

Replace batteries when the external voltage of the battery tester is below 3.3V. A “warning” message displays on the screen when the voltage drops below this limit.

1. Locate the battery cover on the back of the battery tester.
2. Open the battery cover using a screwdriver.
3. Replace the batteries with three AA-size batteries (for longer life, use Alkaline-type batteries).
4. Reinstall the battery cover on the back of the battery tester.

USING THE BATTERY TESTER

INITIAL SETUP

For the initial use of the battery tester, complete the tool setup by following these steps:

1. Ensure the vehicle under test meets the following conditions:
 - Ensure the ignition, all accessories, and loads are turned off.
 - Verify that the battery terminals are clean, use a wire brush for cleaning if necessary.
2. Attach the red battery clamp to the (+) positive battery terminal, and attach the black battery clamp to the (-) negative battery terminal. Ensure the clamps are securely attached to the correct terminals.
 - Once the battery tester is properly connected, the device will power on.
3. Select the desired display **language** (English, Spanish, French) and press **OK**.
4. Select the desired **unit of measurement** (U.S Standard or Metric) and press **OK**.
5. **Enjoy your INNOVA Battery Tester!**

BATTERY HEALTH CHECK

The **Battery Health Check** helps to determine the condition of your vehicle's battery by measuring different parameters. The report provides detailed results to help pinpoint problems and find the most suitable solutions. This function can be performed with the battery installed in your vehicle (**In Vehicle Test**) or removed from your vehicle (**Out of Vehicle Test**).

BATTERY STANDARD

No.	Standard	Description	Range
1	CCA	CCA (Cold Cranking Amps) measures the starting performance of the battery at 0°F (-18°C)	100 - 2000
2	CA	CA (Cranking Amps) measures the starting performance of the battery at 32°F (0°C)	100 - 2000
3	JIS	Japan Industrial Standard	26A17 - 245H52
4	EN	European Norm	100 - 2000
5	DIN	German Industrial Standard	100 - 1000
6	SAE	Society of Automotive Engineers Standard	100 - 2000
7	IEC	International Electrotechnical Commission Standard	100 - 1000

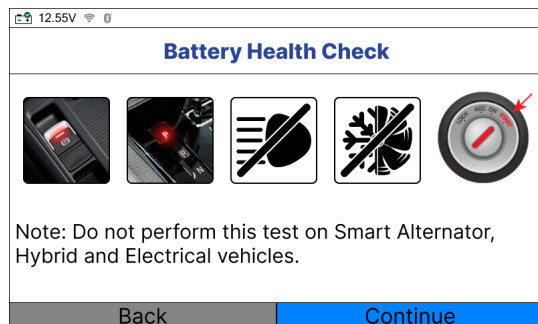
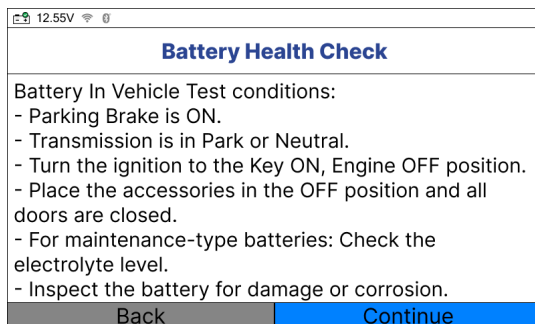
BATTERY TYPE

No.	Type	Description
1	Flooded	Flooded Lead Acid Battery
2	AGM	Absorbent Glass Mat Battery
3	GEL	Gel Lead Acid Battery

IN VEHICLE TEST

This test is performed with the battery installed in your vehicle and connected to the electrical systems.

- From the Home screen, select **Battery Health Check**.
- The Test Location screen displays. Select **In Vehicle Test**.
- An “instructional” screen displays directing you to input the Battery Information.
 - Select the **Type**, **Standard**, and **Value** of the vehicle's battery.
- Select **Battery Type**, then press **OK**.
- The screen displays a list of Battery Standards. Select the desired option, then press **OK**.
- Enter the value for the Battery Standard you previously selected.
 - Use the ▲ **Up**/ ▼ **Down** buttons to choose the desired value.
 - Use the ◀ **Left**/ ▶ **Right** buttons to change the next digit.
- The screen displays the test conditions required before starting the test.



NOTE: Make sure the connection between the test clamps and the battery terminals is good so that test results are correct.

NOTE: If the battery voltage is less than 11.8V, the message “Charge the battery and retest” displays, indicating that the battery needs to be charged before performing the test.

8. Prepare the vehicle for the test:

- Set the parking brake.
- Place the transmission in **Park** or **Neutral**.
- Turn the ignition to the **Key ON, Engine OFF** position.
- Place all accessories in the **OFF** position and close all doors.
- For maintenance-type batteries: Check the electrolyte level.
- Inspect the battery for damage or corrosion.



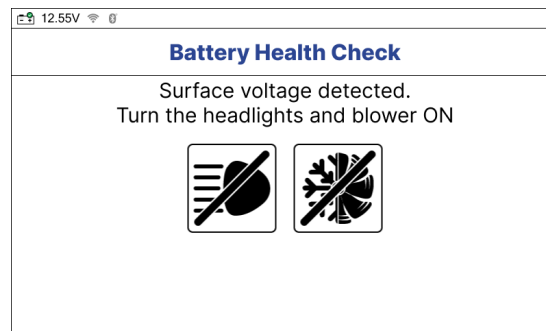
WARNING: Do not perform this test on Smart Alternator, Hybrid or Electric vehicles.

9. Confirm that all conditions are met, then select **Continue**.

NOTE: If your battery is wet cell (maintenance-type), you must check its electrolyte level, which is the level of the mixture inside batteries. This mixture transmits electricity between the terminals of a battery.

10. The battery tester checks for the presence of surface voltage.

- If there is no surface voltage, proceed to **step 11**.
- If there is surface voltage, an “instructional” screen displays. Follow the instructions to clear surface voltage.



11. The screen displays the requirement to start the engine within 30 seconds while performing the test.

12. Start the vehicle's engine when prompted.

- An “instructional” screen displays requiring you to turn the engine and all vehicle accessories OFF.

13. Tap **Continue** to complete the test. The Battery Result screen displays.

- Select **Complete** and press **OK**. The battery tester returns to the Home screen.
- Select **Report** and press **OK** to access the Previous Vehicles function. [[See page 25](#)]

OUT OF VEHICLE TEST

This test is performed with the battery removed from your vehicle and disconnected from the electrical systems.

1. From the Home screen, select **Battery Health Check**.
2. The Test Location screen displays. Select **Out of Vehicle Test**.



NOTE: Make sure the connection between the test clamps and the battery terminals is good so that test results are correct.



NOTE: If the battery voltage is less than 11.8V, the message “Charge the battery and retest” displays, indicating that the battery needs to be charged before performing the test.



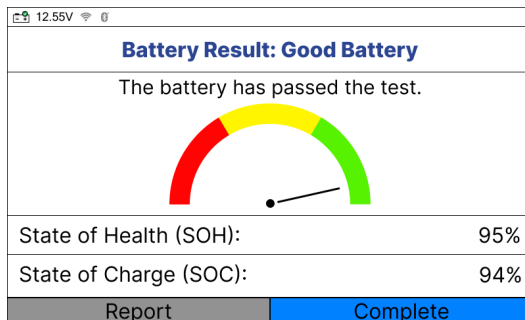
NOTE: If your battery is wet cell (maintenance-type), you must check its electrolyte level, which is the level of the mixture inside batteries. This mixture transmits electricity between the terminals of a battery.

3. An “instructional” screen displays directing you to input the Battery Information.
 - Select the **Type**, **Standard**, and **Value** of the vehicle’s battery.
4. Select **Battery Type**, then press **OK**.
5. The screen displays a list of Battery Standards. Select the desired option, then press **OK**.
6. Enter the value for the Battery Standard you previously selected.
 - Use the **▲Up/▼Down** buttons to choose the desired value.
 - Use the **◀Left/▶Right** buttons to change the next digit.
7. The Battery Result screen displays.
 - Select **Complete** and press **OK**. The battery tester returns to the Home screen.
 - Select **Report** and press **OK** to access the Previous Vehicles function. [[See page 25](#)]

Test Result Explanation

There are four types of result when you perform **Battery Health Check**: Good Battery, Good - Recharge, Charge - Retest, Replace Battery. The type of result is shown at the beginning of each report, which also includes relevant parameters to help you further understand the condition of your battery. The REPAIR TIP at the end of the test results is provided to advise what you should do with your battery.

- **Good Battery:** This result means the battery is in good condition. Additionally, battery tests should be carried out every 90 days.



12.55V

Battery Result: Good Battery

Measured:	730 CCA
Internal Resistance:	4.21 mΩ
Rating:	850 CCA
Battery Type:	Flooded
Battery Voltage:	12.55V
Battery Temperature:	41°C

Report Complete

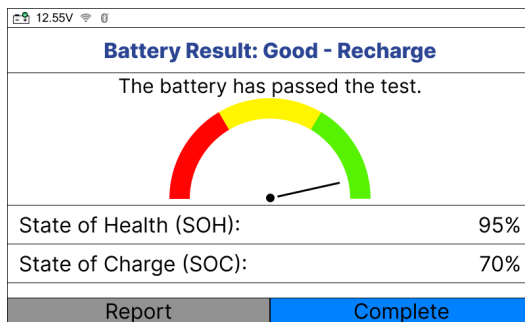
12.55V

Battery Result: Good Battery

REPAIR TIP:
The battery is in good condition. Please test it again in 90 days.

Report Complete

- **Good - Recharge:** Indicates the battery is in good condition but not fully charged, and you should recharge it.



12.55V

Battery Result: Good - Recharge

Measured:	730 CCA
Internal Resistance:	4.21 mΩ
Rating:	850 CCA
Battery Type:	Flooded
Battery Voltage:	12.36V
Battery Temperature:	41°C

Report Complete

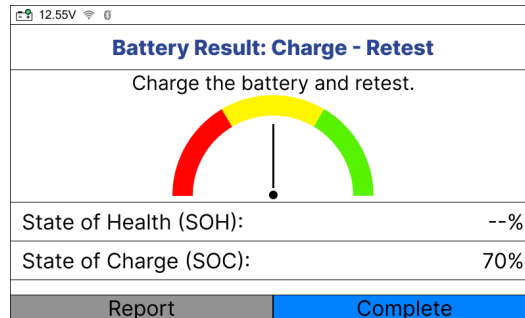
12.55V

Battery Result: Good - Recharge

REPAIR TIP:
The battery is in normal condition but isn't fully charged. Please recharge the battery.

Report Complete

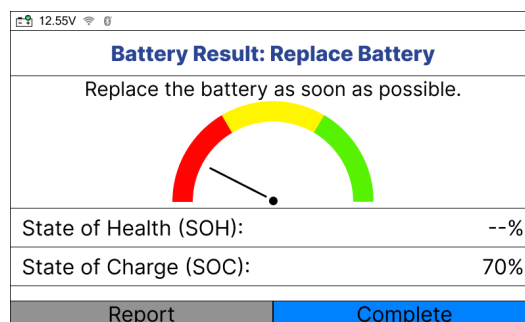
- **Charge - Retest:** Indicates the battery should be recharged because performing tests in the current battery condition may provide inaccurate results. If you still receive this result after the battery has been fully charged, consider replacing it.



Battery Result: Charge - Retest	
Measured:	550 CCA
Internal Resistance:	5.5 mΩ
Rating:	850 CCA
Battery Type:	Flooded
Battery Voltage:	12.36V
Battery Temperature:	41°C
Report	Complete

Battery Result: Charge - Retest	
REPAIR TIP: To ensure accurate results, fully charge the battery before performing this test. If the "CHARGE - RETEST" status remains after the battery is fully charged, replace the battery as soon as possible.	
Report	Complete

- **Replace Battery:** Indicates the battery should be replaced. However, before replacing, check the connection between the battery terminals and the tester clamps, as it may have affected the test results. Then, perform an **Out of Vehicle Test** on the battery to be sure of the result.



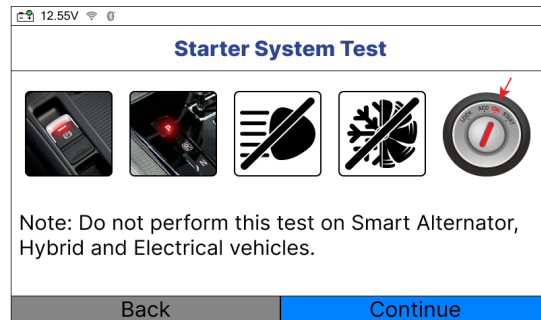
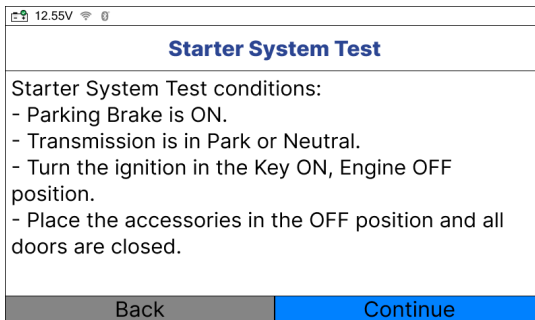
Battery Result: Replace Battery	
Measured:	520 CCA
Internal Resistance:	5.62 mΩ
Rating:	850 CCA
Battery Type:	Flooded
Battery Voltage:	12.36V
Battery Temperature:	41°C
Report	Complete

Battery Result: Replace Battery	
REPAIR TIP: Replace the battery and retest. In some cases, a poor connection between the battery terminal and the tester clamp may affect test results. After disconnecting the battery cables, conduct an out-of-vehicle test before proceeding with the battery replacement.	
Report	Complete

STARTER SYSTEM TEST

The **Starter System Test** function is designed to accurately evaluate your vehicle's starter system performance by determining its status through an assessment of the starter's cranking voltage.

- From the Home screen, select **Starter System Test** then press **OK**.
 - The screen displays the test conditions required before starting the test.



NOTE: Make sure the connection between the test clamps and the battery terminals is good so that test results are correct.



NOTE: If the battery voltage is less than 11.8V, the message "Charge the battery and retest" displays, indicating that the battery must be charged before performing the test.

- Prepare the vehicle for the test:
 - Set the parking brake.
 - Place the transmission in **Park** or **Neutral**.
 - Turn the ignition to the **Key ON, Engine OFF** position.
 - Place all accessories in the **OFF** position and close all doors.



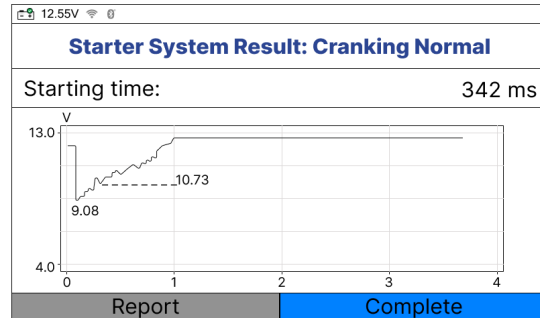
WARNING: Do not perform this test on Smart Alternator, Hybrid or Electric vehicles.

- Confirm that all conditions are met, then press **Continue** to proceed.
 - The screen displays the requirement to start the engine within 30 seconds while performing the test.
- Start the vehicle's engine when prompted.
 - The Starter System result screen displays.
- There are four result types when you perform the Starter System Test: Cranking Normal, Charge Battery, Low Voltage, and No Start.
 - Select **Complete** and press **OK**. The battery tester returns to the Home screen.
 - Select **Report** and press **OK** to access the Previous Vehicles function. [\[See page 25\]](#)

Test Result Explanation

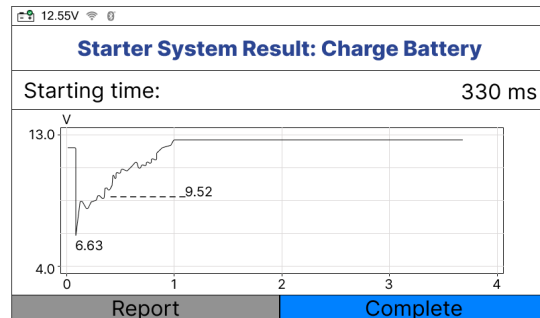
- **Cranking Normal:** Indicates the starter operation is normal.

12.55V	
Starter System Result: Cranking Normal	
Starter operation is normal.	
Drop voltage:	9.08 V
Cranking voltage:	10.73 V
Starting time:	342 ms
Report	Complete



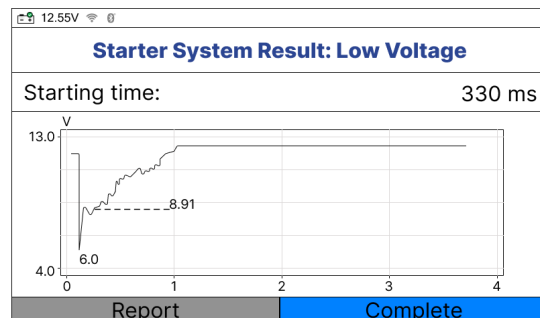
- **Charge Battery:** Indicates the starter voltage is low and the battery is not fully charged.

12.55V	
Starter System Result: Charge Battery	
The starter voltage is low and the battery is not fully charged.	
Drop voltage:	6.63 V
Cranking voltage:	9.52 V
Starting time:	330 ms
Report	Complete



- **Low Voltage:** Indicates the starter voltage is too low.

12.55V	
Starter System Result: Low Voltage	
Starter operation is normal.	
Drop voltage:	6.0 V
Cranking voltage:	8.91 V
Starting time:	330 ms
Report	Complete



- **No Start:** Indicates the battery tester did not detect the engine starting in **step 4**.

12.55V	
Starter System Result: No Start	
Not detect start engine.	
Drop voltage:	--- V
Cranking voltage:	--- V
Starting time:	--- ms
Report	Complete

CHARGING SYSTEM ANALYSIS

The **Charging System Analysis** feature is used to perform comprehensive testing of the output voltage and ripple voltage produced by the alternator/generator of the vehicle under various usage scenarios. These scenarios include operating with electrical loads or no loads, as well as at high or idle RPM conditions.

1. From the Home screen, select **Charging System Analysis**, then press **OK**.

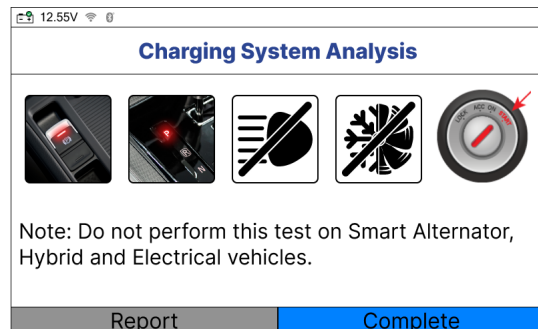
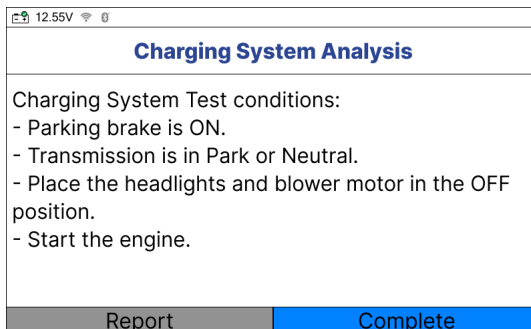
- The screen displays the test conditions required before starting the test.



NOTE: Make sure the connection between the test clamps and the battery terminals is good so that test results are correct.



NOTE: If the battery voltage is less than 11.8V, the message “Charge the battery and retest” displays, indicating that the battery must be charged before performing the test.



2. Prepare the vehicle for the test:
 - Set the parking brake.
 - Place the transmission in **Park** or **Neutral**.
 - Place the headlights and blower motor in the **OFF** position.
 - Start the engine.



WARNING: Do not perform this test on Smart Alternator, Hybrid or Electric vehicles.

3. Confirm that all conditions are met, then press **Continue** to proceed.
 - One or more “instructional” messages display.
4. Follow the on-screen instructions to perform the test. Press **Continue**, as necessary, to proceed to the next step.
5. When the Charging System Analysis is complete, the Charging System Report result screen displays.
6. There are five result types when you perform the Charging System Analysis: Good, Output too high, Output too low, Excessive ripple, and No output.

7. Once you have finish viewing the results.

- Select **Complete** and press **OK**. The battery tester returns to the Home screen.
- Select **Report** and press **OK** to access the Previous Vehicles. [\[See page 25\]](#)

Test Result Explanation

- **Good:** Indicates charging voltage is within specification.

12.55V	
Charging System Result: GOOD	
The charging system is good.	
LOAD:	14.5 V
NO LOAD:	14.5 V
AC Ripple Voltage:	4 mV
REPAIR TIP: Charging voltage is within specification.	
Report	Complete

- **Output too high:** Indicates charging voltage exceeds the acceptable limit.

12.55V	
Charging System Result: Output Too High	
The charging voltage is above the acceptable limit.	
LOAD:	15.5 V
NO LOAD:	15.5 V
AC Ripple Voltage:	4 mV
Report	Complete

12.55V	
Charging System Result: Output Too High	
REPAIR TIP: Make sure the ground connections are secure and there are no loose connections. If everything is properly connected, replace the voltage regulator, or if the alternator has an integrated regulator, replace the entire alternator.	
Report	Complete

- **Output too low:** Indicates the alternator is not providing sufficient current to charge the battery and power the vehicle's electrical systems.

12.55V	
Charging System Result: Output Too Low	
Alternator not providing sufficient current to charge the battery and power the vehicle's electrical systems.	
LOAD:	13.2 V
NO LOAD:	13.2 V
AC Ripple Voltage:	4 mV
Report	Complete

12.55V	
Charging System Result: Output Too Low	
REPAIR TIP: Inspect the condition of the alternator drive belts and confirm that the alternator rotates while the engine is running. Replace any belts that are worn or slipping, then retest. Check all connections in the charging system, paying special attention to the cable connection to the battery. Clean the cable if necessary, and replace it if it's damaged.	
Report	Complete

- **Excessive ripple:** Indicates an excessive amount of AC ripple voltage has been detected.

12.55V	
Charging System Result: Excessive Ripple	
An excessive amount of AC ripple voltage has been detected.	
LOAD:	14.5 V
NO LOAD:	14.5 V
AC Ripple Voltage:	150 mV
Report	Complete

12.55V	
Charging System Result: Excessive Ripple	
REPAIR TIP: The alternator diodes are defective or damaged, or possibly a defective stator.	
Report	Complete

- **No output:** Indicates no alternator output is detected.

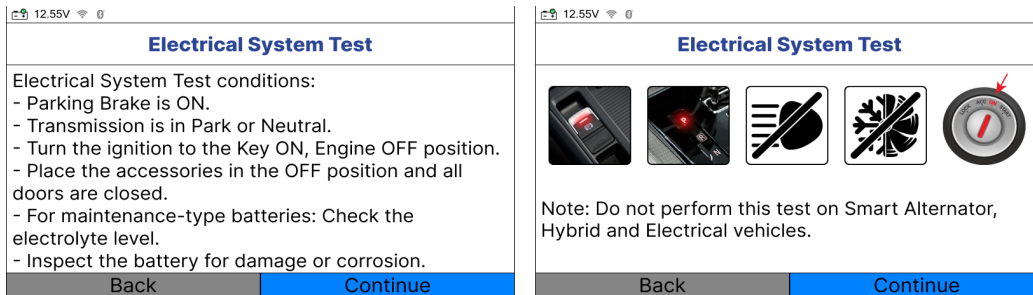
12.55V	
Charging System Result: No Output	
No alternator output detected.	
LOAD:	12.4 V
NO LOAD:	12.4 V
AC Ripple Voltage:	4 mV
Report	Complete

12.55V	
Charging System Result: No Output	
REPAIR TIP: Examine all charging system connections, with special focus on the cable connection at the battery terminal. Clean the cable as needed. If the cable is damaged, replace it and then retest the system.	
Report	Complete

ELECTRICAL SYSTEM TEST

This function is designed to test the electrical systems of your vehicle by combining three tests: **Battery Health Check**, **Starter System Test**, **Charging System Analysis**. It is useful and time-saving when you want to know the overall condition of the electrical systems.

1. From the Home screen, select **Electrical System Test**.
2. An "instructional" screen displays directing you to input the Battery Information.
 - Select the **Type**, **Standard**, and **Value** of the vehicle's battery.
3. Select **Battery Type**, then press **OK**.
4. The screen displays a list of Battery Standards. Select the desired option, then press **OK**.
5. Enter the value for the Battery Standard you previously selected.
 - Use the **▲Up/▼Down** buttons to choose the desired value.
 - Use the **◀Left/▶Right** buttons to change the next digit.
6. The screen displays the Electrical System Test conditions required before starting the test.



NOTE: Make sure the connection between the test clamps and the battery terminals is good so that test results are correct.

NOTE: If the battery voltage is less than 11.8V, the message “Charge the battery and retest” displays, indicating that the battery must be charged before performing the test.

7. Prepare the vehicle for the test:

- Set the parking brake
- Place the transmission in **Park** or **Neutral**.
- Turn the ignition to the **Key ON, Engine OFF** position.
- Place all accessories in the **OFF** position and close all doors.
- For maintenance-type batteries: Check the electrolyte level.
- Inspect the battery for damage or corrosion.

WARNING: Do not perform this test on Smart Alternator, Hybrid or Electric vehicles.

NOTE: If your battery is wet cell (maintenance-type), you must check its electrolyte level, which is the level of the mixture inside batteries. This mixture transmits electricity between the terminals of a battery.

8. Confirm that all conditions are met, then select **Continue**.

9. The battery tester checks for the presence of surface voltage.

- If there is no surface voltage, proceed to **step 10**.
- If there is surface voltage, an “instructional” screen displays. Follow the instructions to clear surface voltage.

10. The battery tester will automatically proceed with the Battery Health Check.

- If the Battery Health Check result is “Replace Battery” or “Charge - Retest,” the Electrical System Test concludes and displays only the Battery Health Check result. Refer to the Battery Health Check. [\[See page 12\]](#)
- If the Battery Health Check result is “Good Battery” or “Good - Recharge,” the battery tester allows you to perform the next test. Proceed to **step 11**.

11. The screen displays the requirement to start the engine within 30 seconds while performing the test.
12. Start the vehicle's engine when prompted to begin the Starter System Test.
 - One or more "instructional" messages display. Follow the on-screen instructions to perform the test.
13. Once the Starter System Test is completed, select **Continue** to proceed to the Charging System Analysis.
 - One or more "instructional" messages display. Follow the on-screen instructions to perform the test. Press **Continue**, as necessary, to proceed to the next step.
14. When all instructions are finished, an **Electrical System Test** report is generated. This includes the Battery Health Check result, Starter System Test result, and Charging System Analysis result.
 - The first result screen shows the Battery Health Check report. Refer to the Battery Health Check. [\[See page 12\]](#)
15. Select **Next** to view the next report.
 - The Starter System report displays. Refer to the Starter System Test. [\[See page 18\]](#)
16. Select **Next** to view the final report.
 - The Charging System report displays. Refer to the Charging System Analysis. [\[See page 20\]](#)
17. Once you have finished viewing the results:
 - Select **Complete** and press **OK** to finish the test and return to the Home screen.
 - Select **Report** and press **OK** to access the Previous Vehicles function. [\[See page 25\]](#)

VOLTMETER (12 V)

The **Voltmeter (12 V)** functions similar to the DC voltage measurement of a digital multimeter (DMM). It continuously measures the voltage of the vehicle's battery and electrical system.



NOTE: Connect the test clamps to the battery terminals to begin the test.

1. From the Home screen, select **Voltmeter (12 V)**, then press **OK**.

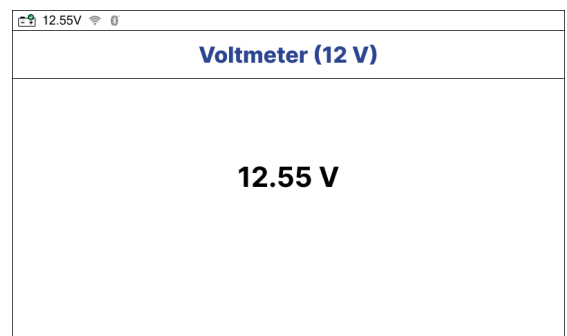


NOTE: If there are problems with the connection of the test clamps to the battery, an "advisory" message displays, indicating that the connection needs to be rechecked before trying again.



NOTE: The voltage measurement range is from 6V to 24V (DC). To ensure the device operates correctly, do not exceed this range.

- The measured DC voltage value displays.



2. Once you have finished viewing the results, select **Exit** and press **OK** to finish the test and return to the Home screen.

PREVIOUS VEHICLES

The **Previous Vehicles** function can store the 15 most recent test reports. It allows you to retrieve these historical test records and view them as needed.

1. From the Home screen, select **Previous Vehicles**, then press **OK**.

■ The screen displays a list of available tests.

2. Select the report you wish to view.

■ The screen displays the report, showing all information from previous tests.

3. Select **Share**, then press **OK** to submit the report to the RSPRO app and share it.



NOTE: The battery tester must be connected to a Wi-Fi network (for first-time users) or via Bluetooth (for registered users), and paired with the RSPRO app while submitting reports. [\[See page 26\]](#)

4. After submitting the report on the RSPRO® app, you can share it.

12.55V	
Previous Vehicles	
1/8	
1 Starter System Test 03/07/2025 14:09	
2 Battery Health Check 02/12/2024 9:20	
3 Charging System Analysis 10/07/2024 9:10	
4 Charging System Analysis 09/07/2024 17:00	
5 Starter System Test 07/07/2024 14:09	
6 Battery Health Check 05/07/2024 9:20	

SETTINGS

The battery tester lets you make several adjustments and settings to configure the tool to suit your particular needs. The following functions can be performed:

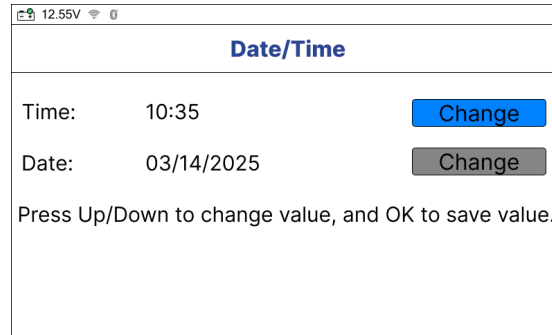
- ☐ Date/Time
- ☐ Wi-Fi Setting
- ☐ Adjust Brightness
- ☐ Audible Tone
- ☐ Language Selection
- ☐ Unit of Measurement
- ☐ QR RSPRO® App
- ☐ QR RSPRO® App Setting
- ☐ Product Support
- ☐ Store Information
- ☐ Version Information
- ☐ Check For Update
- ☐ Factory Reset

12.55V	
Settings	
1/13	
Date/Time	
Wi-Fi Setting	
Adjust Brightness	
Audible Tone	
Language Selection	
Unit of Measurement	

DATE/TIME

1. Select **Date/Time** in the Settings menu, then press **OK**.

- The Date/Time screen displays.



Date/Time

Time: 10:35 Change

Date: 03/14/2025 Change

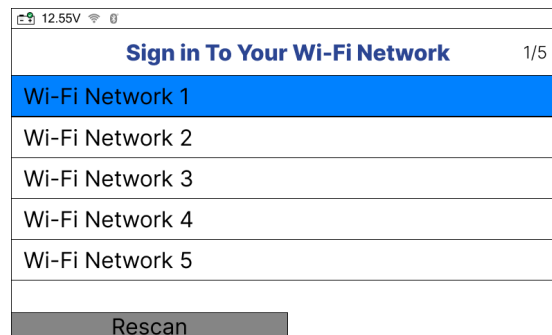
Press Up/Down to change value, and OK to save value.

2. To set the current date:
 - Tap the **Change** button in the Time field.
 - Press **▲ Up** and **▼ Down** to adjust the values for “hour”, and “minute” individually. Press **OK** to save your changes.
3. To set the current time:
 - Tap the **Change** button in the Date field.
 - Press **▲ Up** and **▼ Down** to adjust the values for “month”, “day”, and “year” individually. Press **OK** to save your changes.
4. When the date and time have been adjusted as desired, press the **↶ Back** button to return to the Setting menu.

WI-FI SETTING

1. Select **Wi-Fi Setting** in the Settings menu, then press **OK**.

- The screen shows a list of all available Wi-Fi networks by **Network Name**.
- If you don't see your Wi-Fi on the list, select **Rescan** to update it with the most recent networks.



Sign in To Your Wi-Fi Network 1/5

Wi-Fi Network 1

Wi-Fi Network 2

Wi-Fi Network 3

Wi-Fi Network 4

Wi-Fi Network 5

Rescan

2. To connect to a Network or to change your Network connection, select the desired **Network Name**, then press **OK**.
 - The **Sign in To Your Wi-Fi Network** dialog displays.

3. Use the keyboard to enter the Wi-Fi Network password, then press the ✓ button to save your changes and complete your connection.
 - To select a different network, press ↩ **Back** to cancel your changes and return to the **Sign in To Your Wi-Fi Network** screen.

ADJUSTING DISPLAY BRIGHTNESS

1. Select **Adjust Brightness** in the Settings menu, then press **OK**.
 - The Brightness screen displays. The Brightness field shows the current brightness setting, from 1/4 to 4/4.

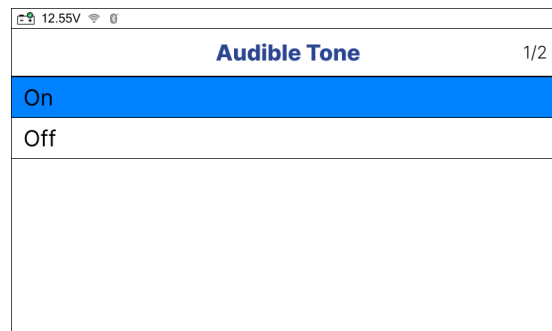


2. Press ▲ **Up** and ▼ **Down** to make the display brighter or darker.

 **NOTE:** To return to the Settings menu without making changes, press the ↩ **Back** button.

ENABLING/DISABLING THE AUDIBLE TONE

1. Select **Audible Tone** in the Settings menu, then press **OK**.
 - The Audible Tone screen displays.



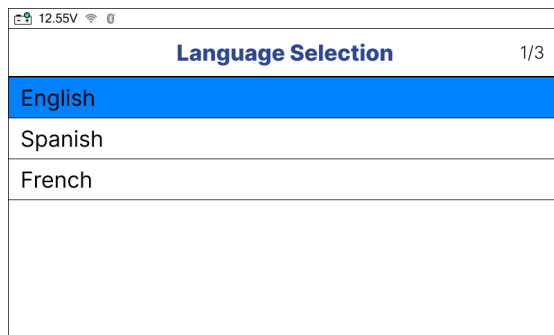
2. Select **On** or **Off** as desired, the battery tester automatically saves your changes.

 **NOTE:** To return to the Settings menu without making changes, press the ↩ **Back** button.

SELECTING THE DISPLAY LANGUAGE

1. Select **Language Selection** in the Settings menu, then press **OK**.

- The Language Selection screen displays.



2. Select the desired display language (English, Spanish, French), the battery tester automatically saves your changes.

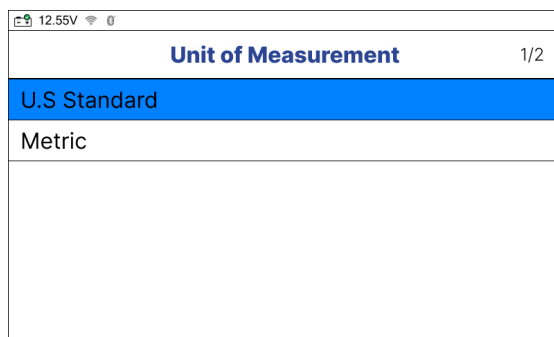


NOTE: To return to the Settings menu without making changes, press the  **Back** button.

SETTING THE UNIT OF MEASUREMENT

1. Select **Unit of Measurement** in the Settings menu, then press **OK**.

- The Unit of Measurement screen displays.



2. Select the desired unit of measurement (U.S Standard or Metric), the battery tester automatically saves your changes.

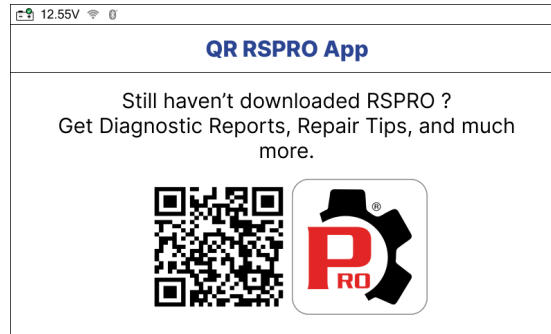


NOTE: To return to the Settings menu without making changes, press the  **Back** button.

VIEWING THE RSPRO® APP QR CODE

1. Select **QR RSPRO® App** in the Settings menu, then press **OK**.

- The QR RSPRO® App screen displays.

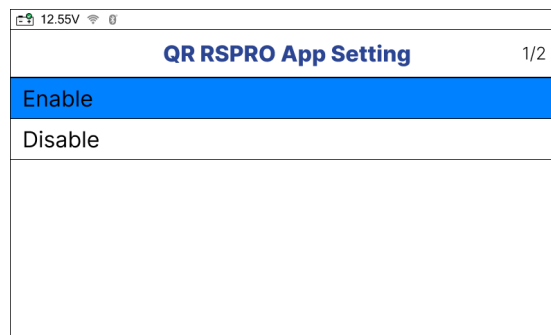


2. Press **▲ Up** and **▼ Down** to navigate through the options.
 - Using a mobile device, scan the QR Code to download the RSPRO® App.
3. Press **↩ Back** to return to the Settings menu.

SETTING THE QR RSPRO® APP MODE

1. Select **QR RSPRO® App Setting** in the Settings menu, then press **OK**.

- The QR RSPRO® App Setting screen displays.



2. Press **Enable** and **Disable** to navigate through the options.



NOTE: To return to the Settings menu without making changes, press the **↩ Back** button.

SETTING STORE INFORMATION

1. Select **Store Information** in Settings menu, then press **OK**.

- The Store Information screen displays various details for the store, including the **Workshop Name**, **Tel** (telephone number), **Technician**, **Mail** (email address), **State/Province**, **City**, **Address**, and **Zip Code**.

12.55V	
Store Information 1/8	
Workshop Name: DD Garage	
Tel: 800-543-6536	
Technician: Marry	
Mail: Marry@gmail.com	
State/Province: California	
City: Los Angeles	

- To enter or edit store information, select the desired field then press **OK**.
 - The Store Information dialog displays.
- Use the keyboard to enter or edit the information, then press the **✓** button to save your changes and return to the Store Information menu.
 - To return to the Store Information menu without making changes, press the **↶** button on the keyboard.
- Press **↶ Back** to return to the Settings menu.

VIEWING PRODUCT SUPPORT

Scan the QR code below to access the landing page and get information about the product, user manual, FAQ, updates and more.

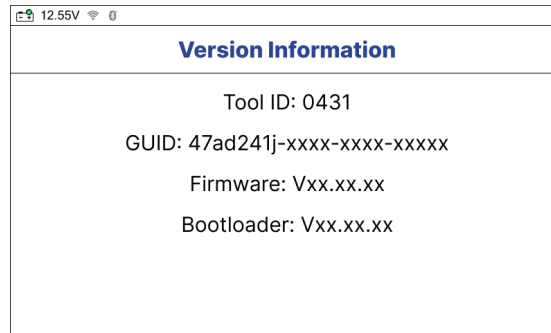
- Select **Product Support** in the Settings menu, then press **OK**.
- Scan the QR code to access the landing page.

12.55V	
Product Support	
For more Information: • Product • Manual • FAQ • Update	

- Press **↶ Back** to return to the Settings menu

VIEWING VERSION INFORMATION

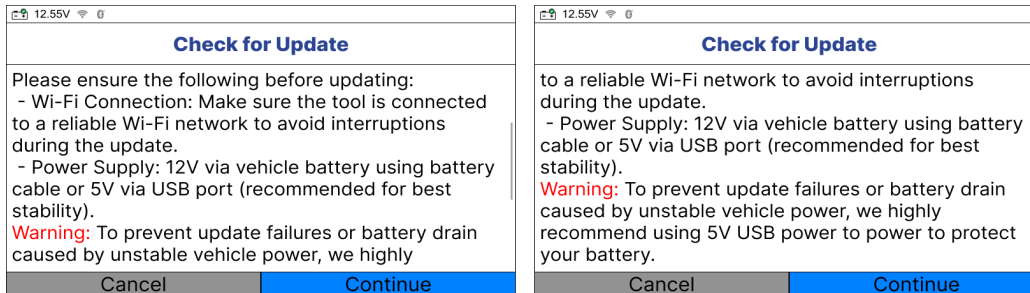
1. Select **Version Information** in the Settings menu, then press **OK**.
 - The Version Information screen displays the **Tool ID**, **GUID**, current **Firmware** version, and **Bootloader** version.



2. Press **Back** to return to the Settings menu.

CHECK FOR UPDATE

1. Select **Check for Update** in the Settings menu, then press **OK**.
 - A “notification” screen displays.



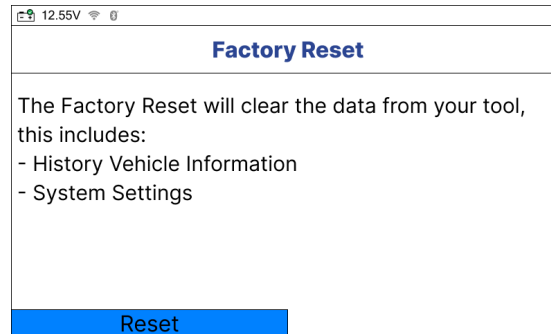
NOTE: Before starting the update, ensure the tool is connected to a stable Wi-Fi network and powered by either 12V via the vehicle battery or 5V via a USB port. For best stability and to prevent update failures or battery drain, using a 5V USB power source is strongly recommended.

2. If an update is available, the battery tester displays the current version along with the new version available for update. Proceed to **step 3**.
 - If no update is available, the message “No update available” displays.
3. Tap the **Update** button to start the update process for the battery tester.
4. If the update is successful, the battery tester automatically restarts to apply the changes.
 - If an error occurs during the update, a warning message displays. Follow the instructions in the message to attempt the update process again.

FACTORY RESET

1. Select **Factory Reset** in the Settings menu, then press **OK**.

- The Factory Reset screen displays.



2. Tap the **Reset** button to continue.

- The battery tester will clear the data, including history reports and system settings.



NOTE: To return to the Settings menu without making changes, press the  **Back** button.

WARRANTY & CUSTOMER SERVICE

LIMITED WARRANTY

The Manufacturer warrants to the original purchaser that this unit is free of defects in materials and workmanship under normal use and maintenance for a period of one (1) year from the date of original purchase.

If the unit fails within the one (1) year period, it will be repaired or replaced, at the Manufacturer's option, at no charge, when returned prepaid to the Service Center with Proof of Purchase. The sales receipt may be used for this purpose. Installation labor is not covered under this warranty. All replacement parts, whether new or remanufactured, assume as their warranty period only the remaining time of this warranty.

This warranty does not apply to damage caused by improper use, accident, abuse, improper voltage, service, fire, flood, lightning, or other acts of God, or if the product was altered or repaired by anyone other than the Manufacturer's Service Center.

The Manufacturer, under no circumstances shall be liable for any consequential damages for breach of any written warranty of this unit. This warranty gives you specific legal rights, and you may also have rights, which vary from state to state. This manual is copyrighted with all rights reserved. No portion of this document may be copied or reproduced by any means without the express written permission of the Manufacturer. **THIS WARRANTY IS NOT TRANSFERABLE.** For service, send via U.P.S. (if possible) prepaid to Manufacturer. Allow 3-4 weeks for service/repair.

CUSTOMER SERVICE

Our ASE Certified technical staff is here to help if you have any questions or require service. For information on UPDATES and OPTIONAL ACCESSORIES, please contact your local store, distributor or Innova's Service Center.

USA & Canada: (800) 544-4124
Monday through Friday: 6:00 AM to 6:00 PM Pacific Time

All others: (714) 241-6802
Monday through Friday: 6:00 AM to 6:00 PM Pacific Time

Web: pro.repairsolutions.com





INNOVA.COM

TECHNICAL ASSISTANCE
1 800 544 4124
HABLAMOS ESPAÑOL • SERVICE IN THE USA
ASE CERTIFIED TECHNICIANS

INNOVA[®]
Innova Electronics Corp.
17352 Von Karman Ave.
Irvine, CA 92614

Copyright © 2026 IEC. All Rights Reserved.
MRP# 97-2196

