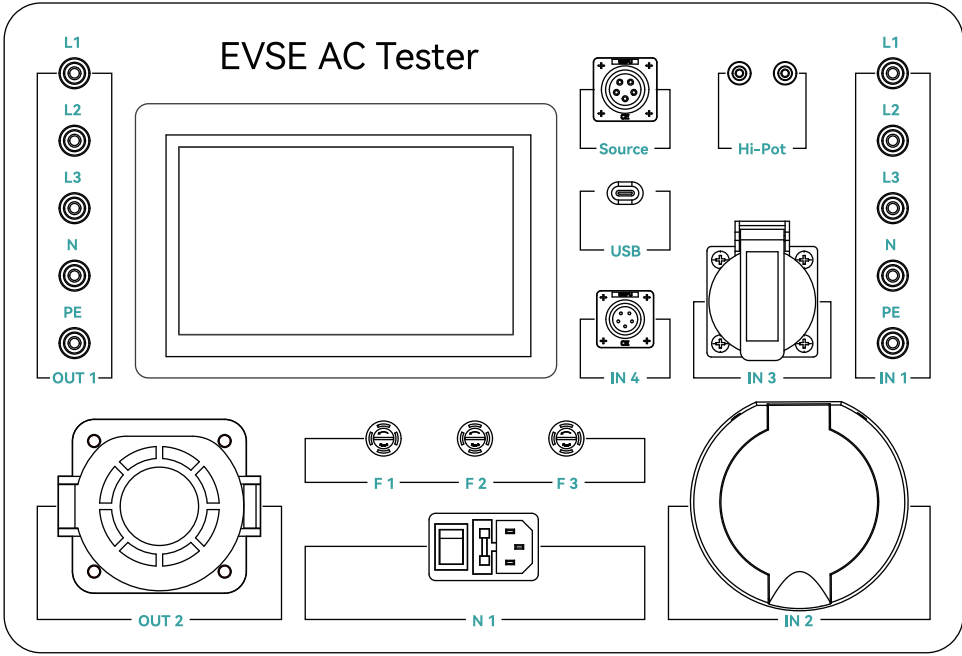


01 | Product overview

| Intended use

The EVSE AC tester is a comprehensive testing device designed for EV chargers, which is also applicable to dual-head charging cables (Type 2 to Type 2). It has various functions, including but not limited to unit tests, integration tests, system settings and log management, to fully detect the performance of EV chargers and charging cables. This ensures their safe, stable, and reliable operation, catering to diverse charging needs

| Exterior view



N 1

Aux-AC power input interface for the

USB (Type-C)

Aux-DC power input/Software update/Log export interface

Source

Mains power input interface

F 1/F 2/F 3

Fuses for the mains power input

IN 1

Reserved interfaces for RCD test

IN 2

EV socket-outlet interface (only applicable for dual-head charging cable tests)

IN 3

Power supply interface for single-phase

IN 4

Power supply interface for three-phase

Hi-Pot

Interface for insulation resistance test

OUT 1

Reserved interfaces for RCD test

OUT 2

Type 2 vehicle inlet

LCD display

Touch screen, HMI interface

| Scope of delivery



EVSE and dual-head charging cable tester



Mains power input cable



Power supply cable for three-phase EV



Aux-AC power input cable

NOTE: When connecting the mains power input cable to the mains power, or connecting the power supply cable to the EV charger, connect yellow, green, red, blue, and yellow-green cables to phases A, B, C, neutral line N, and PE respectively.

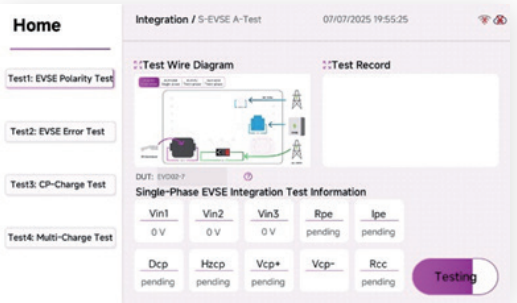
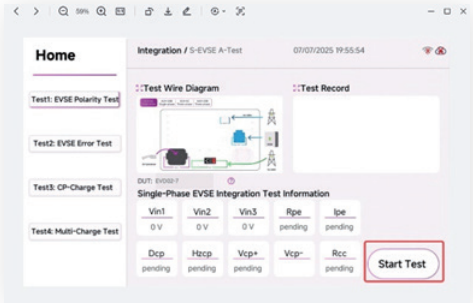
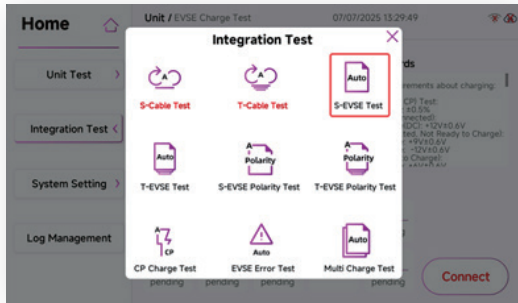
02 | Preparation before tests

| Aux-power supply

The EVSE tester can be powered by either AC or DC.
For AC power supply, connect the tester's N 1 interface to the mains power (rated 220/230/240V AC, 50/60Hz) using the attached Aux-AC power input cable.
For DC power supply, connect the tester's USB (Type-C) interface to a USB power source (rated 12V DC, 2A).

| How to conduct a test

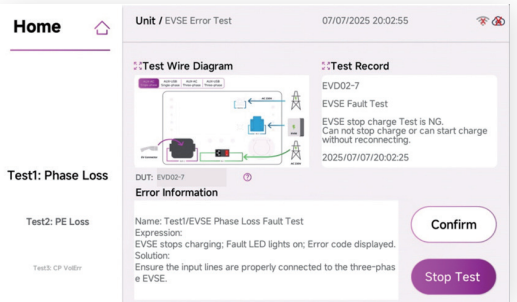
When the EVSE tester is powered on and the DUT (device under test) is connected, users can start a test right now. Below is an example of conducting single-phase EV charger integration tests.



| Power supply

Connect the EVSE tester's Source interface to the mains power (rated 380/400/415V AC, 50/60Hz) using the attached mains power input cable.

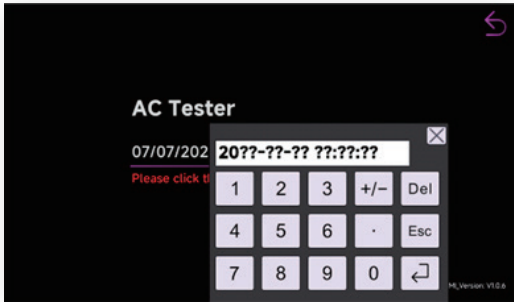
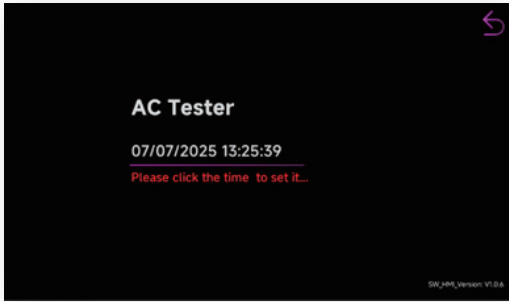
When a test is done, if the user wants to save the test record as an item in the log, click the confirm button, otherwise, click the stop test button, and the test record will not be saved, as shown below.



| LCD display screen

Powered on screen

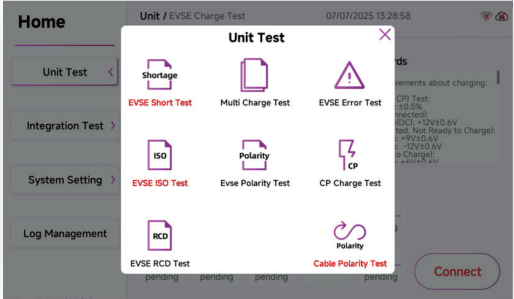
When powered on, if the system time of the EVSE tester is not correct, you can set it yourself right now, or later automatically set once connected to the Smart Life App via Wi-Fi.



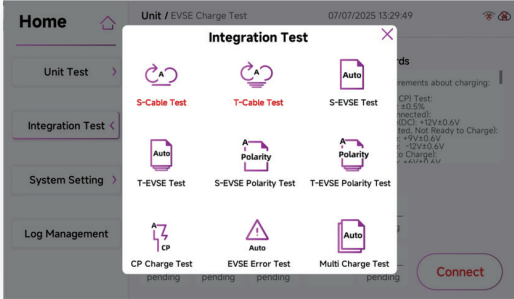
NOTE:

tap the back button at the top right to exit the time - setting mode and return to the homepage.

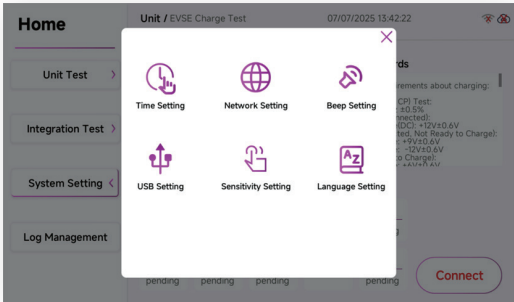
Unit tests screen



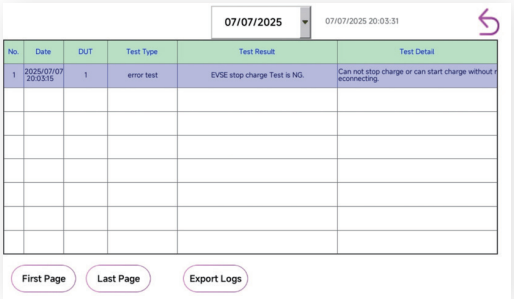
Integration tests screen



System setting screen

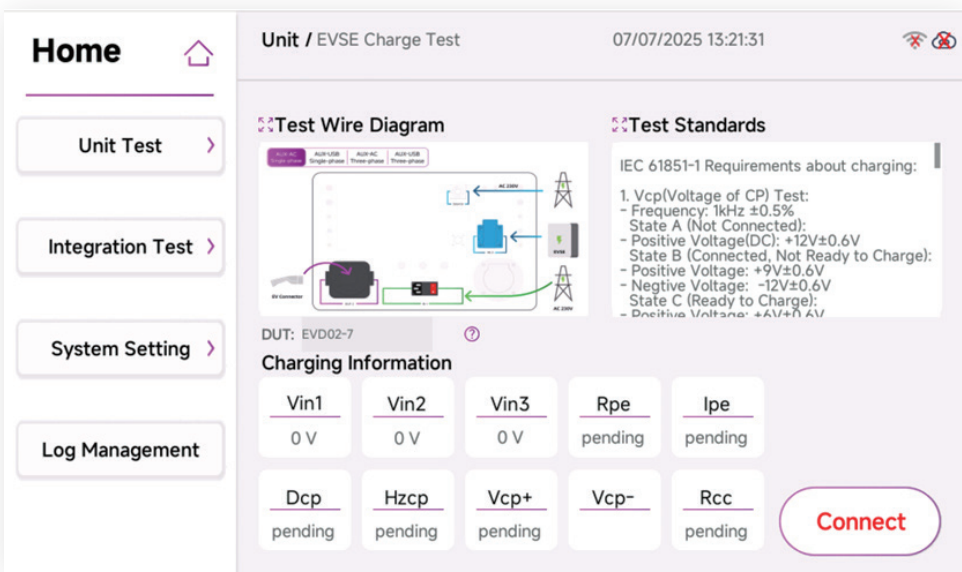


Log management screen



Home screen

The Home screen allows you to set the DUT (Device Under Test) name, launch unit or integration tests, access system settings or log management, and view charging details information. You can also click to access test wiring diagrams and test standards on this page.



DUT: Users can set the name of the device under test.

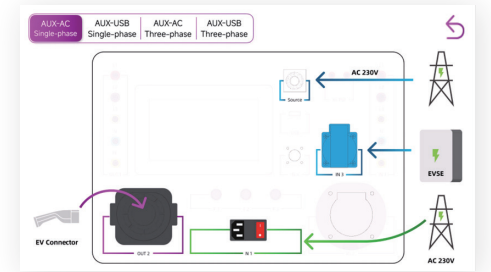
Home: on any screen without an ongoing test, users can press the Home button to return to the homepage.

Charging information

Vin1, Vin2, Vin3: real-time voltage information of the power supply.
Rpe: protective conductor resistance of the DUT.
Ipe: protective conductor current of the DUT.
Dcp, Hzcp, Vcp+, Vcp-: duty cycle, frequency, voltage values of the positive and negative half-cycles of the PWM waveform.
Rcc: CC resistance of the vehicle connector.

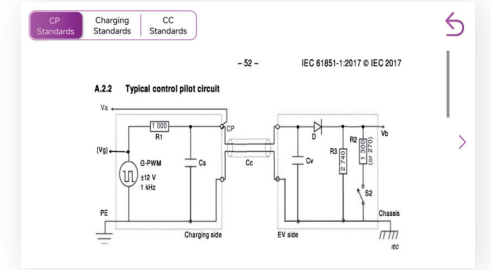
Test wiring diagrams

Users can view the test wire diagrams to get information on how to power on the EVSE tester and how to connect the device under test.



Test standards

Users can view relevant test standards and criteria to better comprehend the testing process and results.



03 | EV charger tests

| Connect EV charger to the EVSE tester

For three-phase EV charger, connect its input terminals to the EVSE tester's IN 4 interface using the attached power supply cable, and connect its vehicle connector (for socket version EV charger, you need a dual-head charging cable) to the EVSE tester's OUT 2 interface.
For single-phase EV charger, connect its power plug to the EVSE tester's IN 3 interface, and connect its vehicle connector (for socket version EV charger, you need a dual-head charging cable) to the EVSE tester's OUT 2 interface.

| Unit tests

Shortage



Multi-scenario charging tests



Fault simulation tests



Insulation resistance tests



Polarity and continuity tests



Control pilot circuit tests



RCD tests

| Integration tests

Auto

Single-phase EV charger integration tests

Auto

Three-phase EV charger integration tests

A Polarity

Single-phase EV charger's polarity and continuity integration tests

A Polarity

Three-phase EV charger's polarity and continuity integration tests

A Polarity

Control pilot circuit integration tests

Auto

Fault simulation integration tests

Auto

Multi-scenarios integration tests

04 | Dual-head charging cable tests

Connect dual-head charging cable to the EVSE tester

Connect its EV plug to the EVSE tester’s IN 2 interface, and connect its vehicle

Unit tests

Polarity and continuity tests

Test purpose:
Inspection for common assembly issues and wiring faults in dual-head charging cable.

Test description:
1. Single-phase dual-head charging cable: connectivity test (check for open circuits between input and output of each cable assembly).
2. Single-phase dual-head charging cable: polarity test (check for short circuits or reverse phase between each pair of cables).
3. Three-phase dual-head charging cable: connectivity test (check for open circuits between input and output of each cable assembly).
4. Three-phase dual-head charging cable: polarity test (check for short circuits or reverse phase between each pair of cables).
5. Dual-head charging cable: CC resistance test (confirm that the resistance value error of the EV plug and vehicle connector’s resistors are within ±3%).

Integration tests

Single-phase dual-head charging cable integration tests

Test purpose:
With just one click, the EVSE testers runs all applicable unit tests (3 items in total) to evaluate the single – phase dual-head charging cable’s performance.

Test description:
One-click automatic testing

Three-phase dual-head charging cable integration tests

Test purpose:
With just one click, the EVSE testers runs all applicable unit tests (3 items in total) to evaluate the single – phase dual-head charging cable’s performance.

Test description:
One-click automatic testing

06 | Precautions

- 1-The EVSE tester should only be operated by professionals.
- 2-Carefully read the manual before operation and strictly follow the instructions.
- 3-In case of emergencies during testing, immediately stop the test and cut off the power.
- 4-Avoid plugging or unplugging connection cables while the device is powered.
- 5-Do not disassemble the device for repairs, contact after-sales service if faults occur.
- 6-Use accessories that meet the device’s requirements for tests needing additional equipment.

05 | Other functions

System settings

Time setting
Users can set the system time of the EVSE tester and confirm

Network setting
Users can connect the EVSE tester to a Smart Life App via Wi-Fi by Reset Network.

Beep setting
Users can turn on or turn off the beep.

USB setting
Users can use the USB to power the EVSE tester, update software of the LCD display, or update the software of the relay control board.

Touch screen sensitivity setting

Language setting

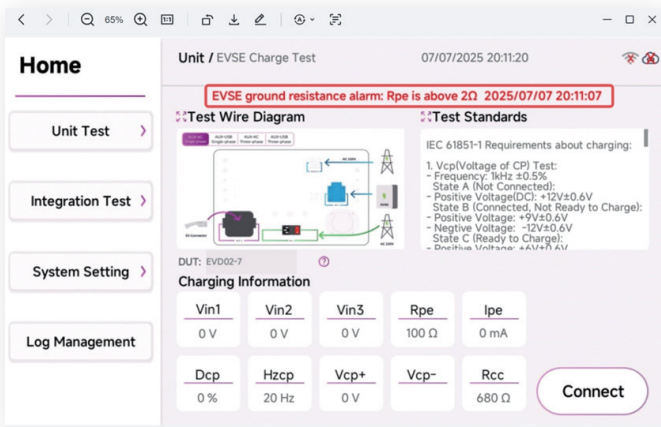
Log management

The EVSE tester will automatically record test data and information, allowing users to query, analyze, and export test logs.

Alarms and protections

The EVSE tester will trigger alarms and warnings (as shown in below picture) upon detecting abnormalities to ensure normal and safe operation, including:

- 1-EVSE ground resistance alarm: Rpe exceeds 2Ω
- 2-EVSE protective earth leakage current alarm: Ipe exceeds 3.5mA
- 3-EV CC resistor test timed out!
- 4-Relay control board communication failed!
- 5-EVSE output short – circuited!
- 6-EVSE CC resistor test timed out!



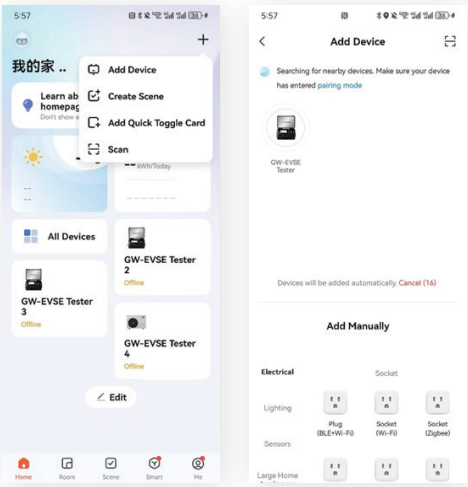
OTA upgrade via Smart Life App

Download Smart Life App
Download "Smart Life" APP, register user account & log in.

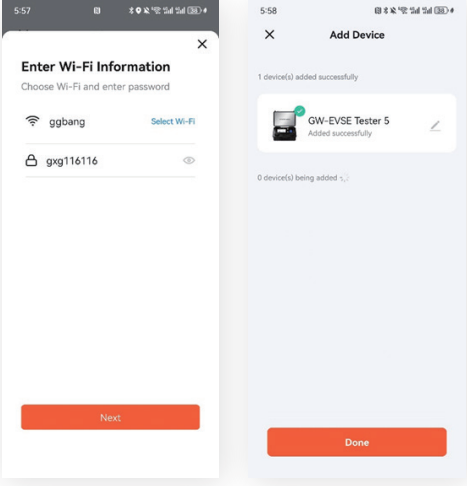


Connecting to Smart Life App

Power on the EVSE tester, open “Smart Life” App and add device (EVSE tester is named GW-EVSE Tester by default).

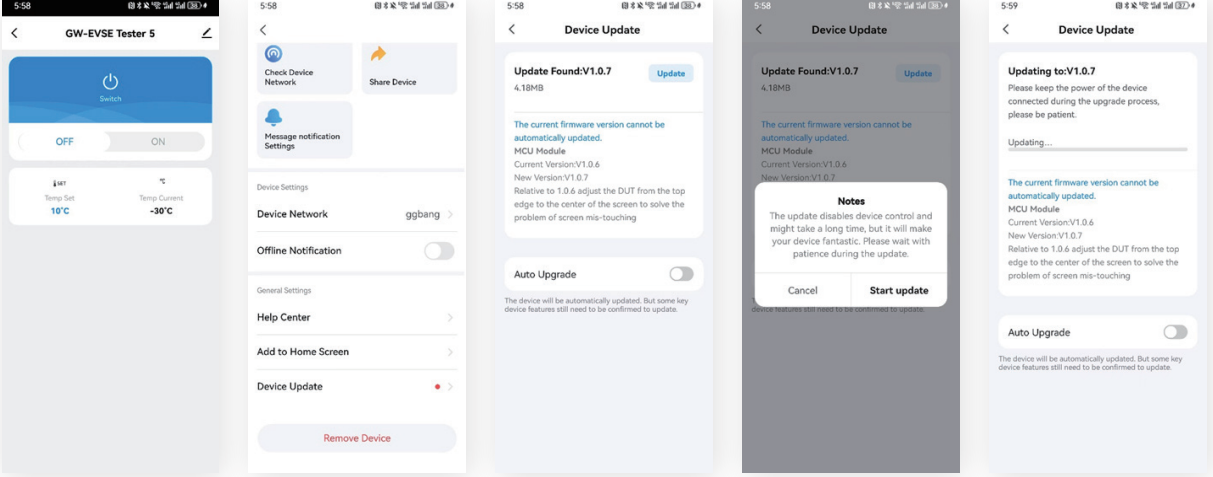


Enter the SSID and password of your Wi-Fi network, click Next and Done button to finish adding the device.

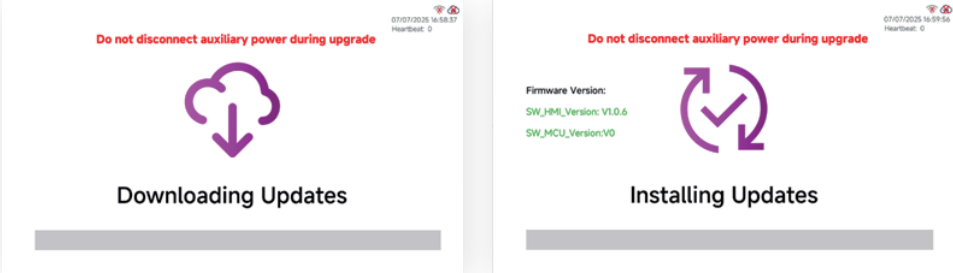


OTA upgrade

On your “Smart Life” App, follow steps in pictures above to upgrade firmware of the EVSE tester.



LCD screen of the EVSE tester when upgrade is shown above. The upgrade involves two automatic steps: downloading first, then installing, with no manual input needed.



07 | Frequently Asked Questions (FAQs)

Q1: Why do test results show abnormalities when the EV charger operates normally?
A: This could be due to environmental factors affecting test accuracy or device errors. Retest under different conditions. If the issue remains, contact the supplier for repair.

Q2: Why can't some test items be executed during a one-click test?
A: This might be due to software version limitations or the EV charger's status not meeting test conditions. Update the software or check the EV charger's status.

Q3: How to update the software of the EVSE tester?
A: Software updates can be performed via Smart Life App or USB device.

Q4: What to do if the touchscreen is unresponsive or has touch deviations?
A: Recalibrate the touchscreen. If the issue persists, contact after-sales service for repair or replacement.

Q5: Why can't test logs be exported or the exported files are corrupted?
A: Check the storage medium and export operation. Try re-exporting with a different storage device. If the problem continues, contact the supplier for technical support.

Q6: Why are Language settings unavailable?
A: Currently, only English is supported, other languages are under development.

Q7: How to obtain technical support and after-sales service?
A: Contact the supplier via phone, email, or online customer service. Provide device details and issue descriptions for prompt assistance.