

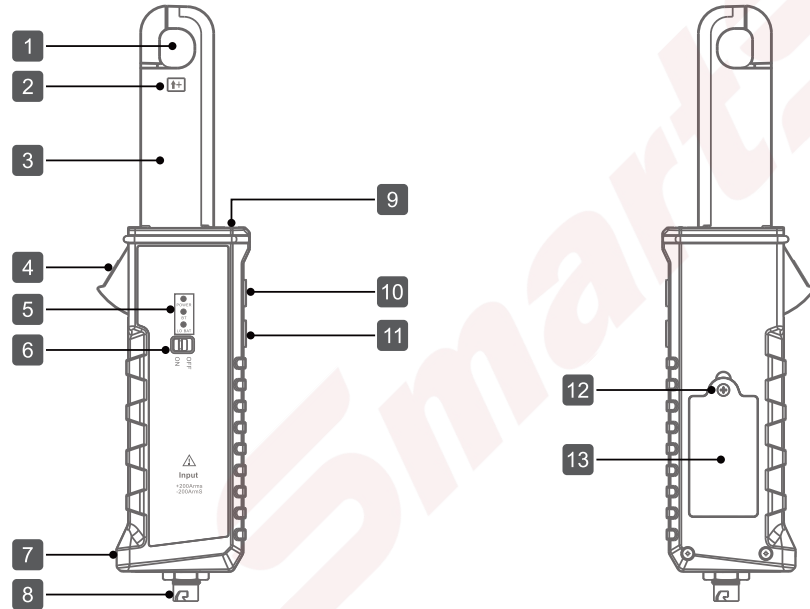
# iSmartEV EC100

# Quick Reference Guide

Statement: Pictures illustrated herein are for reference only, We reserve the right to modify this Quick Reference Guide.

## PRODUCT OVERVIEW

iSmartEV EC100 is a current clamp developed by SMARTSAFE for the detection of new energy vehicles. It needs to be used with detection equipment (such as iSmartEV P01). The current clamp has small volume, high accuracy and stable performance, and supports AC / DC current test and DC voltage test.



### 1. Jaw

φ16mm×18mm

### 2. Direct Current Positive Input Indication

### 3. Clamp Mouth

### 4. Trigger

Control opening and closing of clamp head.

### 5. Indicator

Power: Power Indicator. It illuminates after power-on.

BT: Bluetooth Indicator. It flashes when communicating with diagnostic equipment.

LO BAT: Battery Indicator. It illuminates when the battery is low.

### 6. Power Switch

### 7. Rope Chain Hole

### 8. Aviation Socket

### 9. Illuminating Lamp

### 10. Illuminating Lamp Switch

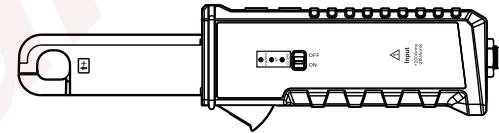
### 11. ZERO Button

When measuring DC current, zero adjustment shall be conducted before measurement.

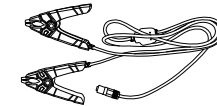
### 12. Battery Cover Fixing Screw

### 13. Battery Cover

## PACKING LIST



Main Unit



Test Clip



9V Square Battery

## TECHNICAL PARAMETERS

Function	AC / DC current test and DC voltage test
Battery	9V dry battery
Test Mode	Clamp CT, non-contact measurement
Jaw Size	φ16mm×18mm (outer diameter of clampable wire)
Input Range	0~200A AC/DC
Resolution	1mA AC/DC
Accuracy	±3%FS (23°C±5°C, below 75%rh)
Zero Adjustment	The ZERO button can be used for zero adjustment to eliminate the interference of geomagnetic field and external electric field.
Frequency Response	DC~50kHz
Voltage Test	±48V DC

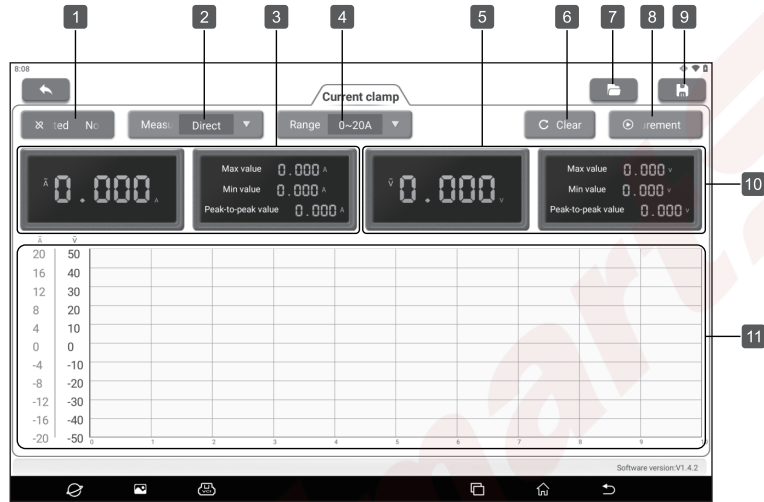
## BATTERY REPLACEMENT

When the battery is low, the LO BAT indicator on the current clamp will be on. Please shut down and replace the battery in time. Use a cross screwdriver to open the battery cover when installing the battery. Pay attention to the polarity of the battery to avoid damaging the current clamp. Please use 9V dry battery for replacement. When the current clamp is not used for a long time, take out the battery.

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## OPERATION

1. Start the **Current Clamp** app at the detection equipment and enter the following interface.



No.	Description	Operation Tips
1	Bluetooth Button (Set current clamp bluetooth connection)	Click to search for and select devices to connect, and "connected" will be displayed after connecting.
2	Measurement type	Click the drop-down list to select the measurement type: Direct Current or Alternating Current.
3	Current measurement value display bar	
4	Range selector	Click the drop-down list to display the ranges, including 0 ~ 20A and 0 ~ 200A.
5	Voltage measurement value display bar	
6	Zero	Click to zero the current clamp. This function is the same as the <b>ZERO</b> button on the current clamp.
7	Open waveform	Playback of previously saved waveforms.
8	Start/Stop	Click to start/stop measurement.
9	Save waveform	Click to save the current waveform.

2. Turn on the power switch on the current clamp, and the power indicator lamp will be on.  
 3. Click the "not connected" button on the screen to start searching for the current clamp. Click the Bluetooth name of the current clamp to be connected (the Bluetooth name is the serial number of the current clamp) to connect. After successful connection, the screen will display "connected".

4. Ensure that the current clamp is not in use. Press the ZERO button on the current clamp until the reading on the screen is 0.

*Notes: The effect of external electric field or geomagnetic field on the current clamp can be eliminated by using the zeroing function reasonably to make the measured value more accurate. Zeroing Steps: Firstly, put the clamp head close to the measured wire, and the current clamp induction will output a voltage (the interference amount of the external electric field). Adjust the ZERO button to zero the interference amount, and then clamp the measured wire, so that the test data will be more reliable.*

*After measuring the large current, the current clamp will have a certain amount of residual magnetism in a short time. If it is used for the small current test immediately, perform zeroing again.*

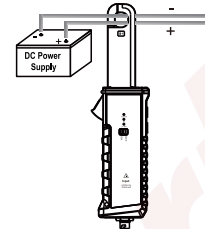
5. Press the trigger to open the clamp head, clamp the wire to be measured and tap **Start Measurement** button on the screen to measure.

6. When measuring the voltage, insert one end of the current clamp test clip into the aviation socket of the current clamp, and clamp the positive and negative wires of the power supply to be tested at the other end, measurement type select **Direct Current**, and then tap **Start Measurement** button to measure.

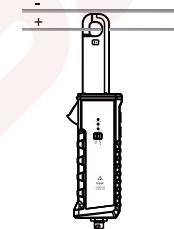
## APPLICATION

### When measuring DC current

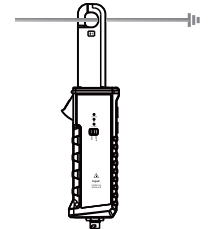
Measure DC leakage:  
Clamp the positive and negative wires of the DC line at the same time.



Measure the current of the main line: Only clamp the main wire of the main line.

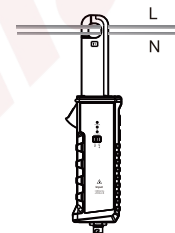


Measure the leakage current of the ground wire: Only clamp the ground wire.



### When measuring AC leakage

Clamp the live wire and neutral wire of the AC line at the same time.



### When measuring DC voltage

Connect one end of the current clamp test clip to the aviation socket of the current clamp, and clamp the positive and negative wires of the power supply to be tested at the other end.

