



Battery "IR" Checker user manual

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(1) Overview

Team Exalt battery internal resistance tester is a true four-wire internal resistance tester, which can measure the internal resistance and voltage at the same time. It can also be used to measure the resistance. The measurement results are displayed on the same screen. This product is suitable for battery configuration, battery performance testing, battery screening and other aspects. The machine structure is compact making easy to carry, and Perfect IR Battery Tester.

(2) Safety instructions

The machine shall not input DC voltage greater than 30V. No AC voltage can be input under any conditions. Micro-USB port is used for charging and 4.5V-5.5V voltage is input.

(3) Part names and functions

Button function:

【POWER】 key (Power /Set/Cancel)

1. Short press to start up in shutdown state.
2. From the menu options, click the 【POWER】 key to unset and return to the menu list.
3. In normal mode and sorting mode, click 【POWER】 to enter the menu list.
4. Under the menu list, click 【POWER】 to enter the selected menu options.
5. In normal mode and sorting mode, long press 【POWER】 key to enter the shutdown interface, and use 【HOLD】 key and 【RANGE R】 key to determine whether shutdown is required.

【HOLD】 key (Save/confirm)

1. Under the "Power Off?" interface, click 【HOLD】 to confirm shutdown.
2. In normal mode and sorting mode, short press 【HOLD】 on the left side of the screen will display HOLD, indicating that the screen is locked. Click to unlock again.
3. Under the menu list, short press 【HOLD】 to exit directly from the menu list.
4. From the menu options, click 【HOLD】 to save the Settings and return to the menu list. Click HOLD/ZEROR again to save the Settings and return to the measurement interface.

5. In parameter setting, click 【HOLD】 to switch 【RANGE R】 and 【RANGE U】 .
- #### 【RANGE R】 key (Move up/add)

1. Under the "Power Off?" interface, click 【RANGE R】 key to cancel the shutdown.
2. In normal mode and sorting mode, click 【RANGE R】 key to switch the RANGE of internal resistance.
3. Under the menu list, click the 【RANGE R】 key to move up menu options. Long press ultra-3s.
4. From the menu options, click the 【RANGE R】 key to move up to select the parameter, or change the parameter value. Long press more than 3S will continuous motion.

【RANGE U】 key (Move down/reduce)

1. In normal mode and sorting mode, click 【RANGE U】 key to switch the voltage range.
2. Under the menu list, click the 【RANGE U】 key to move down menu options. Long press ultra-3s.
3. From the menu options, click the 【RANGE U】 key to move down to select the parameter, or change the parameter value. Long press more than 3S will continuous motion.

(4) Parameter setting

Click the 【POWER】 Key in the measurement interface to enter the menu list, switch the selected menu through the 【RANGE R】 Key and the 【RANGE U】 Key, and press the 【POWER】 key to enter the setting after selecting, press the 【HOLD】 Key to exit the setting and return to the measurement interface.

1. General mode: General Test common mode, the display interface is the measurement interface.

· The upper part on the left side is the internal resistance range (AUTO is the automatic range, 20mR is the 20 mΩ range, 200mR is the 200 mΩ range, 2R is the 2 OHM range, 20R is the

When the display value of the short-connection voltage of the watch pen cannot return to zero, it needs to be adjusted to zero. Short the stylus, select the tap position, then select the voltage display value, and press 【RANGE R】 key to zero. Save exit.

8. Factory setting: restore factory calibration setting without opening potentiometer.
9. Charging setting: built-in battery charging current setting, charging current can be 200mA or 400mA. Language selection: Press the 【RANGE R】key to switch the language version. EN is the English version and CNS is the Chinese version. After selection, press the 【HOLD】 Key twice to save and exit.

(5) Precision specifications

Format of precision specification: \pm ([degree percentage]+[minimum significant digit])

Dc voltage measurement	resolution	accuracy	display mode
4V	1mV	0.8%+5	4.500V
40V	10mV	0.8%+5	45.00V
Internal resistance measurement※	resolution	accuracy	display mode
20m Ω	0.01m Ω	0.7%+7	22.00m Ω
200m Ω	0.1m Ω	0.5%+5	220.0m Ω
2 Ω	1m Ω	0.5%+5	2.200 Ω
20 Ω	10m Ω	0.5%+5	22.00 Ω
200 Ω	0.1 Ω	0.6%+5	220.0 Ω

※The range of gear range is 5%-95%, and the error may be greater than the above precision if the range is not within this range (less than 5% range, or greater than 95% range).

(6) Maintenance

Host maintenance:

1. Avoid high temperature and humidity environment. Prevent interface and circuit from moisture oxidation.
2. Avoid direct sunlight to the LCD screen for a long time to avoid aging.
3. If not used for a long time, please keep the battery at 50% power (or between 3.7V-3.9V battery voltage) to extend the life.

External test line:

1. Check the on-off condition of each signal line of the test line frequently to avoid the test error caused by the broken line.
2. Avoid high temperature and humid environment. Prevent the interface and probe from moisture oxidation.

(7) General technical indicators

Maximum voltage between any terminals: 30V

Display: Number: 2,000 count updated 4 times per second

Temperature: Working: 0°C -40°C, storage:-20°C -60°C temperature coefficient: 0.1 *
(specified accuracy)) /°C (<18°C or >28°C)

Battery type: 3.7V 2000mAh 18650

Power consumption: <60mA (200mΩ and above range, when the power supply is 3.7V, the
backlight is off)

< 120 ma (20 m Ω range, the power supply of 3.7 V, the backlight off)

<10mA (enter low power mode)

0mA (Power off)

(8) Matters needing attention in the test

1. The machine has been calibrated before delivery, and there is no need to calibrate or reset the machine.
2. After starting up, check the internal resistance and voltage range. For example, connect the test line to test directly on the automatic range AUTO.
3. The twined test wire should not be disassembled, but should be wound in red and black when received, and should be wound in vain. Double stranded can enhance anti-interference and improve measurement accuracy.
4. Each test line of the indicator pen shall be in good contact with the battery under test, and there shall be no connection between each test line.
5. Use of Kelvin plus test wire: the clamp must be open when measuring the battery. There should be no direct contact between the two metal pieces of each clamp and the battery electrode.
6. Use of 18650 battery stand: align the back edge of the movable stand with the length scale according to the length of the battery, and compress the negative contact with the battery before putting it in. So that the positive and negative poles can not expose the middle of the yellow needle, otherwise it can not be stable and accurate measurement.
7. Use of probe test line: the positive and negative poles of the vertical battery press down the probe to shrink part of the probe and make both probes touch the battery independently. Make sure that the positive and negative surfaces of the battery are clean, otherwise poor contact can not be stable and accurate measurement.