ES8020 Battery Internal Resistance Tester



Ⅰ. Characteristic

Universal rechargeable battery internal resistance tester for short: **battery internal resistance tester**, which is used to measure the internal resistance, voltage and temperature of rechargeable batteries such as lead-acid batteries and lithium batteries to judge the health status of the battery. Meter for capacitance ESR parameters (for reference only). This instrument uses the AC 4-terminal test method to measure the internal resistance of the battery, which can measure the correct measurement value without being affected by the contact resistance between the test wire, the terminal and the battery electrode. At the same time, it also has the functions of data storage, data access, alarm, automatic shutdown and so on. The whole machine is high-grade and beautiful, wide range, high resolution, convenient operation, easy to carry, accurate, reliable, stable performance, strong anti-interference ability. It is an indispensable instrument for battery production, battery installation, equipment production, equipment maintenance and other scenarios.

The universal rechargeable battery internal resistance tester is controlled by a microprocessor, and the internal 16-bit ADC can accurately detect the internal resistance, voltage and temperature of the battery. Its characteristics are to measure without stopping the UPS system, using AC low resistance measurement and noise reduction technology, and do not need to stop the normal operation of the equipment under test. The measurement is carried out in the running state, which greatly shortens the test time. At the same time, it has functions such as data storage, histogram display, data uploading to computers, mobile phones, tablets and other smart devices via Bluetooth connection for wireless measurement and data viewing.

Ⅱ. Range and Accuracy

2.1 Resistance measurement accuracy

Range	Maximum display	Highest resolution	Test accuracy
0.000mΩ~3 Ω	3.100 Ω	1 uΩ	±0.5 %

2.2 Voltage measurement accuracy

Range	Maximum display	Highest resolution	Test accuracy
0.000V~70 V	±71.00 V	1 mV	±0.2 %

2.3 Temperature measurement accuracy

Range	Maximum display	Resolution	Test accuracy
-10.0℃~60.0℃	60.0℃	0.1℃	±1.0℃

Ⅲ. Technical Specification

Features	Battery internal resistance measurement, battery voltage measurement, temperature measurement
Avoid noise frequencies	Yes, automatic frequency conversion range 920Hz~1080Hz
Accuracy Guaranteed Temperature Humidity	23℃±5℃, below 75%rh
Power supply	DC 3.7V lithium battery
Resistor Resolution	1uΩ
Voltage resolution	1 mV
Temperature resolution	0.1℃
Measuring range	Internal resistance measurement: 0.000mΩ~3.100 Ω (4 ranges)
	Voltage measurement: 0.000V~±71.00V (2 ranges)
	Temperature measurement: -10.0°C~60.0°C (single range configuration)
Maximum input voltage	DC 70V (between + measurement terminal and - measurement terminal), no AC input
Measurement method	Internal resistance measurement: 1KHz AC 4-terminal test method, open-circuit terminal voltage 3V max Measuring current: 2.0mA~200mA (different measuring currents in different ranges) Temperature measurement: NTC temperature sensor (10KΩ at 26°C) A/D conversion method: successive approximation type Display update frequency: 5 times/second
Response time	200ms
Measure time	about 2 seconds
LCD size	70.1mm×52.6mm / 3.5 inches (320*240 resolution 16-bit true color screen)
Meter size	Length, width and height: 190mm×121mm×51mm
USB interface	With a USB interface, the stored data can be uploaded to the computer, saved and printed
Bluetooth connection	Have
Hold and store functions	There are manual hold and storage, automatic hold and storage
Measurement judgment function	PASS, WARNING, FAIL judgment thresholds can be preset
Battery voltage	5-bar display of battery power, reminding to charge in time when the battery voltage is low
Automatic shut-down	Power on without operation, automatically shut down after about 15 minutes (can be turned off in the settings)
Power consumption	300mA MIN / 500mA MAX
Quality	Meter: 480g (including battery)
Working temperature and humidity	-10℃～40℃; below 80%RH
Storage temperature	-20℃～60℃; below 70%RH

and humidity	
Insulation resistance	Above 20MΩ (500V between circuit and case)
Pressure resistance	AC 3700V/RMS (between circuit and case)
External magnetic field	<40A/m
External electric field	<1V/m
Suitable for safety regulations	IEC 61010

Ⅳ. Packing List

Meter	1 set
Test lead	1 set
USB communication cable	1
Charger	1
Monitoring software CD	1 set
Manual, Warranty	1 set
Instrument box	1

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