

## ES3002E Multifunction Earth Resistance Tester



### I , Features

**Multi-function Earth resistance tester is also called grounding resistance tester.** Its advanced grounding resistance tester integrating a variety of measurement methods, in addition to the function of the traditional auxiliary ground pole measurement and grounding resistance, the instrument also has the unique function of no auxiliary ground pole measurement. Using color display and microprocessor technology, measure the grounding resistance test by microprocessor control precision 4-line method, 3-line method, simple 2-line method, selection method and double clamp method. Using large diameter current clamp design, using double clamp measurement technology, without playing auxiliary ground pole, without isolating the ground body from the equipment, the online measurement was achieved. Widely used in telecommunications, electric power, meteorology, machine room, oil field, power distribution line, iron tower transmission line, gas station, factory grounding network, lightning rod, etc. The instrument has the characteristics of test accuracy, speed, simplicity, stability and reliability.

**Multifunctional Earth resistance tester is controlled by a microprocessor,** it can accurately detect the grounding resistance, soil resistivity, grounding voltage, DC voltage, DC resistance and AC current. It uses a rapid filtering technology to minimize the interference. The resistance value of the same screen shows the auxiliary electrode, which is convenient to judge the measurement error caused by environmental factors, and it is convenient to measure the true grounding resistance value more accurately. At

the same time, 500 sets of data are stored, connected to the mobile phone APP through Bluetooth, or connected to the computer through USB, to realize wireless or wired remote measurement, read historical data, export report analysis and other functions with the unique functions such as value keeping and intelligent alarm prompt.

**Multifunction Earth Resistance tester** is composed of host machine, host computer software, mobile phone APP software, test line, USB cable, charger and ground pin.

## Model

Model	Functions
ES3002E	Two or three and four wire AC grounding resistance, soil resistivity, three / four wire selection method, double clamp resistance, DC resistance, AC voltage, DC voltage, AC current

## II, Technical Specifications

<b>Two, three and four wire method grounding resistance</b>	0.000 $\Omega$ ~ 200.00k $\Omega$	accuracy: $\pm 1.5\%rdg \pm 70dgt$	resolution ratio: 0.001 $\Omega$
<b>DC resistance</b>	0.000 $\Omega$ ~ 200.00k $\Omega$	accuracy: $\pm 1.5\%rdg \pm 70dgt$	resolution ratio: 0.001 $\Omega$
<b>Selection method for grounding resistance</b>	0.00 $\Omega$ ~ 3.000k $\Omega$	accuracy: $\pm 2\%rdg \pm 30dgt$	resolution ratio: 0.01 $\Omega$
<b>Dual-clamp grounding resistance</b>	0.00 $\Omega$ ~ 200 $\Omega$	accuracy: $\pm 10\%rdg \pm 10dgt$	resolution ratio: 0.01 $\Omega$
<b>Soil resistivity</b>	0.00 $\Omega_m$ ~ 9999k $\Omega_m$	accuracy: $\rho = 2 \pi aR$	resolution ratio: 0.01 $\Omega_m$
<b>Ground voltage</b>	0.000V ~ 50.00V	accuracy: $\pm 1.5\%rdg \pm 50dgt$	resolution ratio: 0.001V
<b>DC Voltage</b>	0.000V ~ 50.00V	accuracy: $\pm 1.5\%rdg \pm 50dgt$	resolution ratio: 0.001V

<b>AC Current</b>	0.00A~1000.0A	accuracy: $\pm 2\% \text{rdg} \pm 50 \text{dgt}$	resolution ratio: 0.01mA
<b>Base condition</b>	23°C $\pm$ 5°C, 75%rh below		
<b>Power Supply</b>	11.1V Lithium battery (built-in) full charge can be measured continuously for more than 1000 times in AC resistance mode		
<b>Backline</b>	Controlled backlight, suitable for dim place use		
<b>Test the waveform, and the frequency</b>	Sine wave at 128Hz		
<b>Auto shut off</b>	"APO" indicates automatic shutdown after 15 minutes (default). The shutdown time can be customized		
<b>Measurement method</b>	Two - three - four - wire method measurement、Soil resistivity、Selective measurement、Dual - clamp method、DC resistance、AC current、Ground voltage、DC voltage		
<b>Alarm function</b>	Sending an alarm prompt when the measured value exceeds the alarm set point		
<b>Screen size</b>	5 Inches		
<b>Electrode spacing range</b>	0.1m~100.0m		
<b>Measurement time</b>	AC current: about 3 times / second AC current: about 3 times / second Ground resistance, soil resistivity: about 10 seconds / time		
<b>USB Interface</b>	With USB interface, for data reading, saving record data, etc		
<b>Bluetooth APP</b>	With remote control, real-time monitoring, data reading and other functions		
<b>Data storage</b>	500 Groups		
<b>Overload protection</b>	Measure the grounding resistance: H-E, S-ES between each port of AC 280V / 3 seconds		
<b>Auxiliary grounding rod</b>	4 Piles: $\phi 10\text{mm} \times 200\text{mm}$		
<b>Auxiliary grounding test</b>	With the auxiliary grounding resistance value test function, 0.00k $\Omega$ ~ 200.00k $\Omega$		
<b>Power dissipation</b>	screen intensity: 190mA Max (maximum brightness) 140mA Min (minimum brightness)		
	Measurement: 200mA Max (max) 150mA Min (minimum)		
<b>Quality</b>	Instrument: 1975g (including battery)		

	Current clamp: 940g (2pcs)
	Test line: 1300g (including simple test line)
<b>Suitable for safety regulations</b>	IEC61010-1(CAT III 300V、CAT IV 150V、Pollution degree 2) ; IEC61010-031; IEC61557-1(earth resistance ) ; IEC61557-5( soil resistivity ) ; JJG 366-2004(earth resistance meter ) ; JJG 1054-2009(clamp earth resistance meter).

### III, Packing List

<b>Instrument</b>	1pcs (built-in battery)
<b>Instrument bag</b>	1 pcs
<b>Auxiliary grounding rod</b>	4 pcs
<b>Current clamp</b>	2 pcs(banana plug *1、 audio plug*1)
<b>Monitoring software CD</b>	1 pcs
<b>USB cable</b>	1 pcs
<b>Test cable</b>	4 pcs
<b>Simple test cables</b>	2 pcs
<b>Charger</b>	1 pcs
<b>Guarantee certificate of the user manual</b>	1 pcs

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