Double Clamp Ground Resistance Tester

RD3031E & RD3032E

RD3031E

RD3032E

Double Clamp Ground Resistance Tester through a variety of methods measuring earth resistance, soil resistivity, earth voltage, grounding lead leakage current, AC current; The tester adopts the precision 4-wire method, 3-wire method, simple 2-wire method, selection method and double-clamp method to measure grounding resistance. Large caliber current clamp design, can measure the grounding system which using large grounding down lead. It can flexibly and accurately measure arbitrary grounding resistance values of single point and mesh grounding and other complex grounding conditions. When measuring parallel grounding, it is unnecessary to disconnect any parallel grounding electrode to maximize the convenience of measurement. Import FFT (fast Fourier transform) technology, AFC (automatic frequency control) technology, ensure the measurement of high precision, high stability and reliability. The Double Clamp Grounding Resistance Tester case is made of waterproof protection box, anti-collision, anti-drop, waterproof (protection grade IP65), strong and durable, and also equipped with a large-capacity rechargeable lithium battery pack, especially suitable for outdoor construction.

🕮 Product features

1. The fuselage is light, easy to carry and operate.
2. The large LCD display of host machine, with backlight and bar graph indicating that can be seen clearly.

3. It can store 2000 groups of data.
4. Alarm indication and auto shut down.
5. With the functions as historical data access, reading and preservation.

🕮 Product specifications and technical parameters

1. Technical Parameters

Picture		
Model	**RD3031E**	**RD3032E**
Power Supply	DC 9V Alkaline dry cell LR14 1.5V*6PCS, continues standby 300 hours	DC 7.4V 2600mAh rechargeable lithium battery, full of about 8.4V
Data Upload	RS232 interface, storage data can be uploaded to computer, saved or printed.	With USB interface, software monitoring, storage data can be uploaded to computer, saved and printed
Data Model	Average value， maximum， minimum value	
Short-circuit Test Current	AC 20mA max	AC 100mA max
Battery Voltage	While battery voltage decreases to around 7.5V, will display battery voltage low symbol“ ”, and reminding to replace the battery	While battery voltage decreases to around 7.2V±0.1V, will display battery voltage low symbol, and reminding to charge
Protection Level		IP65 (close the case)
Function	Description	
LCD Size	124mm x 67mm (with backlight)	
Data Storage	2000 groups	
Automatic Shut Down	Automatically shut down after 15 minutes start up	

Power Consumption	Turn on the backlight： 45mA Max
	Turn off the backlight: 25mA Max
	Measurement: 100mA Max (Backlight shut off)
Working Temperature & Humidity	-10℃ ~ 40℃, below 80%RH
Storage temperature & humidity	-20℃ ~ 60℃, below 70%RH
Clamp Caliber	Φ68mm
Measuring Method	2/3/4 pole measurement method: Change-pole method, measurement current 20mA Max
	Selection measurement method: Change-pole method, measurement current 20mA Max
	Double clamp measurement method: Non-connect mutual inductance method, measurement current 1mA Max
	Soil Resistivity: 4-pole measurement (Wenner method)
	AC current: Mutual inductance method (clamp)
	Earth Voltage: Average rectification (between P(S)-ES)
Test Frequency	128Hz/111Hz/105Hz/94Hz (AFC)
line resistance check	Automatic calibration
Measuring Rate	AC current: about 2 times/second
	Earth Voltage: about 2 times/second
	Earth resistance，soil resistivity: about 7 seconds/time
Measuring Times	Over 5000 times (Short-circuit test, interval time should be at least 30seconds)
Open-circuit Test Voltage	AC 40V max
Test Voltage Wave	Sine wave
Electrode Distance Range	1m ~ 100m
Line Voltage	Measurement below AC 600V
Data Hold	Data hold function: “HOLD” symbol display
Data Access	Data read function: “READ” symbol display
Overflow Display	Exceed measuring range overflow function: “OL” symbol display
Auxiliary Grounding Test	With auxiliary grounding resistance test function, 0.00KΩ ~ 30kΩ (100R+rC<50kΩ, 100R+rP<50kΩ)
Interference Test	Automatic identification of interference signals, “NOISE” symbol indication when the interference voltage is higher than 5V

Alarm Function	Measuring value exceeds alarm setting value, will "Toot-toot-toot" alarm hint
Overload Protection	Measure earth resistance: between each interfaces of E-P、E-E- C,AC 280V/3 seconds
Insulation Resistance	Over 20MΩ (between circuit and outside shell is 500V)
Withstand Voltage	AC 3700V/rms. (Between circuit and outside shell)
Electromagnetic Features	IEC61010- 4-3, Wireless frequency electromagnetic field ≤1 V/m
Protection Type	IEC61010-1 (CAT III 300V、CAT IV 150V、Pollution 2);
	IEC61010-031;
	IEC61557-1 (Earth resistance);
	IEC61557-5 (Soil resistivity);
	JJG 366-2004 (Grounding resistance meter)

2. Measurement Range & Accuracy

Model	**RD3031E& RD3032E**		
Measurement Function	Measurement Range	Intrinsic Error	Resolution
2/3/4 pole method measure earth resistance (Re)	0.00Ω ~ 29.99Ω	±2%rdg±5dgt	0.01Ω
	30.0Ω ~ 299.9Ω	±2%rdg±3dgt	0.1Ω
	300Ω ~ 2999Ω	±2%rdg±3dgt	1Ω
	3.00kΩ ~ 300kΩ	±4%rdg±3dgt	10Ω
Selection method measure grounding resistance (Re)	0.00Ω ~ 29.99Ω	±2%rdg±5dgt	0.01Ω
	30.0Ω ~ 299.9Ω	±2%rdg±3dgt	0.1Ω
	300Ω ~ 3000Ω	±2%rdg±3dgt	1Ω
Double clamp method measure grounding resistance (Re)	0.01Ω ~ 0.99Ω	±10%rdg±5dgt	0.01Ω
	1.0Ω ~ 29.9Ω		0.1Ω
	30Ω ~ 100Ω		1Ω
Soil Resistivity(ρ)	0.00Ωm ~ 99.99Ωm	Accuracy:According to the precision of R (ρ=2πaR, a:1m-100m,π=3.14)	0.01Ωm
	100.0Ωm ~ 999.9Ωm		0.1Ωm
	1000Ωm ~ 9999Ωm		1Ωm
	10.00kΩm ~ 99.99kΩm		10Ωm
	100.0kΩm ~ 999.9kΩm		100Ωm
	1000kΩm ~ 9000kΩm		1kΩm

Earth Voltage(50Hz/60Hz)	AC 0.0 ~ 100.0V	±2%rdg±3dgt	0.1V
Alternatingcurrent(50Hz/60Hz)	0.0mA ~ 600.0A	±2%rdg±3dgt	0.01mA

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