

RD3031E Double Clamp Grounding Resistance Tester

RD3031E Double Clamp Earth 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.



Product features

1. The fuselage is light, easy to carry and operate.
2. The large LCD display of host machine, with white backlight and bar graph indicating that can be seen clearly.
3. It can store 2000 groups of
4. Alarm indication and auto shut down
5. With the functions as historical data access, reading and preservation.

Product specifications and technical parameters

1. Measurement Range & Accuracy

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 ($\rho=2\pi aR$, a: 1m-100m, $\pi=3.14$)	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

2. Technical Parameters

Function	Description
Power Supply	DC 9V Alkaline dry cell LR14 1.5V*6PCS, continues standby 300 hours
LCD Size	124mm x 67mm (with backlight)
Data Storage	2000 groups
Data Upload	RS232 interface, storage data can be uploaded to computer, saved or printed.
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°C ~ 40°C, below 80%RH
Storage temperature & humidity	-20°C ~ 60°C, 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)
Data Model	Average value, maximum, minimum value
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)
Short-circuit Test Current	AC 20mA max
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
Battery Voltage	While battery voltage decreases to around 7.5V, will display battery voltage low symbol“ ”, and reminding to replace the battery
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)