



GDCR3000B Digital Earth Resistance Tester Soil Resistivity Tester



Product Description

GDCR3000B Earth Resistance/Soil Resistivity Tester is special designed for measuring earth resistance, soil resistivity, earth voltage and AC voltage. The latest digital and micro processing technology is adopted, to measure earth resistance by 4-pole, 3-pole or 2-pole. FFT(Fourier transform) technology, AFC(automatic frequency control) technology is also available, with good anti-interference ability and the ability to adapt to the environment, to ensure high precision, high stability and reliability.

It's widely used for measurement of electric power, telecommunications, meteorology, oil field, construction, lightning protection, industrial electrical equipment.

Specifications

Functions	2-pole/3-pole/4-pole Earth resistance measurement,soil resistivity, earth voltage, AC voltage measurement.
Power Supply	DC 9V (Zn-Mn dry battery R14S 1.5V 6 pieces,Continuous standby time 300hrs)
Range	Earth Resistance: 0.00Ω~30.00kΩ
	Soil Resistivity: 0.00Ωm~9000kΩm
Measurement type	4-pole, 3-pole, 2-pole earth resistance measurement.
Methods of Measurement	Earth resistance: Rated current pole changing method. Soil Resistivity: 4 poles method. Earth voltage : Average rectifier(P(S)-ES port)
Test Frequency	128Hz/111Hz/105Hz/94Hz(AFC)
Short Circuit Test Current	AC 20mA max
Open Circuit Test Voltage	AC 40V max
Test Voltage Waveform	Sine Wave
Range of Electrodes Distance	Can be set 1m-100m
Level Switch	Earth Resistance: 0.00Ω-30.00kΩ Auto switching.
	Soil Resistivity: 0.00Ωm-9000kΩm Auto switching.
Backlight	Blue-screen backlight
Display Model	4 digital LCD display, Blue-screen backlight
Indicator Light	LED indicator flash during test,LCD count down display
LCD Dimension	128mm*75mm
LCD Display	124mm*67mm

Dimension	215mm*190mm*95mm
Standard Test Leads	Total 4 leads: 1* Red 20m, 1* Black 20m, 1* Yellow 10m, 1*Green 10m
Simple Test Leads	2 leads: 1* Red 1.6m, 1*Black 1.6m
Auxiliary Ground Electrodes	4 pieces: $\phi 10\text{mm} \times 150\text{mm}$
Measurement Time	To the ground voltage: about 3 times/sec
	Earth resistance, soil resistivity: about 5 seconds/time
Measurement Times	More than 5000 times (short circuit test, test 1 times, stop 20 seconds then to test)
Circuit Voltage	To test below AC 600V
RS232	RS232 interface, memorized data can be uploaded to PC to save and print.
Communication Lead	RS232, 1.5m * 1 piece
Data Storage	300 group, "MEM" storage indicate, "FULL" icon to indicate storage is full
Data Hold	Data hold function: "HOLD" icon display
Data Read	Data read function: "READ" icon display
Overflow Display	Exceeding measuring range overflow function: "OL" icon display
Interference Test	Identify interference signal automatically, when interference voltage exceeds 5V, there is "NOISE" alarm hint
Auxiliary ground test	0.00K Ω -30k Ω (100R+rC<50k Ω , 100R+rP<50k Ω)
Alarm Function	When measuring value exceeds alarm setting value, there is sound alarm
Battery Voltage	When battery voltage decreases to about 7.5V, battery voltage low icon " " will display, reminding to charge
Power Consumption	Standby: about 20mA(Backlight shut off)
	Backlight: about 45mA(Backlight shut off 25mA)
	Measurement: about 100mA (Backlight shut off)

Weight	Total weight with bag: 4.5kg
	Tester: 1443kg(including battery)
	Testing Wires: 1560g
	Auxiliary earthing rod: 935g (4 PCS)
Working Temperature & Humidity	-10°C-40°C, below 80%rh
Storage temperature & humidity	-20°C-60°C, below 70%rh
Overload Protection	Measuring earth ground resistance: between each interfaces of C(H)-E,P(S)-ES, AC 280V/3 seconds
Insulation Resistance	Over 20MΩ(between circuit and enclosure it is 500V)
Withstanding Voltage	AC 3700V/rms (Between circuit and enclosure)
Electromagnetic Features	IEC61326(EMC)
Protection Type	IEC61010-1(CAT III 300V,CAT IV 150V,pollution degree 2); IEC61010-031;IEC61557-1(Earth Resistance); IEC61557-5(Soil Resistivity);JJG 366-2004

Basic error and performance under standard condition

Items	Measurement range	Accuracy	Resolution
Earth resistance(R)	0.00Ω~30.00Ω	$\pm 2\% \text{rdg} \pm 3 \text{dgt}$	0.01Ω
	30.0Ω~300.0Ω	$\pm 2\% \text{rdg} \pm 3 \text{dgt}$	0.1Ω
	300Ω~3000Ω	$\pm 2\% \text{rdg} \pm 3 \text{dgt}$	1Ω
	3.00kΩ~30.00kΩ	$\pm 4\% \text{rdg} \pm 3 \text{dgt}$	10Ω
Soil resistivity(ρ)	0.00Ωm~99.99Ωm	According to accuracy of $R(\rho = 2\pi aR)$ a:1 m-100m;	0.01Ωm
	100.0Ωm~999.9Ωm		0.1Ωm

	1000Ωm~9999Ωm	$\pi=3.14$)	1Ωm
	10.00kΩm~99.99kΩm		10Ωm
	100.0kΩm~999.9kΩm		100Ωm
	1000kΩm~9000kΩm		1kΩm
Earth voltage	AC 0.0~600V	$\pm 2\% \text{rdg} \pm 3 \text{dgt}$	0.1V

Remark: 1. additional error: $\leq \pm 3\% \text{rdg} \pm 5 \text{dgt}$ under rC max or rP max. (rC max: $4\text{k}\Omega + 100\text{R} < 50\text{k}\Omega$, rP max: $4\text{k}\Omega + 100\text{R} < 50\text{k}\Omega$)

2. additional error: $\leq \pm 5\% \text{rdg} \pm 5 \text{dgt}$ under 5V interference voltage