ETCR3100C Earth Resistance Soil Resistivity Tester

1. 2/3/4-pole method measure earth resistance,Range: 0.00Ω~30.00kΩ
2. Soil resistivity measurement, Range: 0.00Ωm ~ 9000kΩm
3. Earth voltage measurement,Range: AC 0~600V
4. Data storage: 300 sets
5. Alarm function: audible and visual alarm

ETCR3100C Earth Resistance Soil Resistivity Tester is specially designed and manufactured for on-site measurement of earth resistance, soil resistivity, earth voltage, AC voltage. Apply digital processing technology, precision 4-wire method, 3-wire method and simple 2-wire method to measure grounding resistance; Adopt FFT (fast Fourier transform) technology, AFC (automatic frequency control) technology, automatic identification of interference and selection of measurement frequency, to minimize the impact of interference, provide more accurate earth resistance value. With unique anti-interference ability and environmental adaptability, high repeated test consistency, ensuring high precision, high stability and high reliability for long-term

measurement.The 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.Widely used in power, telecommunications, meteorology, oil fields, construction, lightning protection and industrial electrical equipment, such as grounding resistance, soil resistivity, grounding voltage, AC voltage.

ETCR3100C Earth ResistanceSoilResistivity Tester is composed of host machine, monitoring software, testing wires, auxiliary ground pillars, communication wires etc. The large LCD display of host machine, with white backlight and bar graph indicating that can be seen clearly. At the same time it can store 300 sets of data, fulfilling historical inquiry and online real-time monitoring through monitoring software, dynamic display, alarm indicator, and with the functions as historical data access, reading, preservation, report forms, printing and so on.

ETCR3100C Earth ResistanceSoilResistivity Tester also named: Precision Earth Resistance Tester, 4-pole Earth Resistance Tester, 2/3/4-pole Earth Resistance Tester, Soil Resistivity Tester.

Specification

Technical Specifications

Function	2/3/4-pole measurement for earth resistance, soil resistivity, earth voltage, AC voltage
Power Supply	DC 7.4V 2600mAh rechargeable lithium battery, full of about 8.4V
Measurement Range	Earth Resistance: 0.00Ω-30.00kΩ
	Soil Resistivity: 0.00Ωm-9000kΩm
	Earth Voltage: 0V~600V
Measurement Mode	Precise 4-pole measurement, 3-pole measurement, simple 2-pole measurement of earth resistance
Measurement Method	Earth Resistance: rated current change-pole method, test current 20mA Max
	Soil Resistivity: 4-pole method (Wenner method)
	Earth Voltage: average rectification(between P(S)-ES)
Test Frequency	128Hz/111Hz/105Hz/94Hz(AFC)
Short-circuit Test Current	AC 20mA max
Open-circuit Test Current	AC 40V max
Test Voltage Wave	Sine wave
Electrode Distance Range	1m-100m
Shift	Earth resistance: 0.00Ω-30.00kΩ automatic shift
	Soil Resistivity: 0.00Ωm-9000kΩm automatic shift

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Backlight	Controllable white screen backlight, suitable for dim places
Display Mode	4-digital super-large LCD display, white screen backlight
Measurement Indicator	During measurement, LED flash indicator, LCD count down display, progress bar indicator
LCD Frame Dimension	128mm×75mm
LCD Window Dimension	124mm×67mm
Meter Dimension	280mm(L)×260mm(W)×160mm(H)
Standard Test Wire	4 wires: each for red 20m, black 20m, yellow 10m, and green 10m
Simple Test Wire	2 wires: each for red 1.6m and black 1.6m
Auxiliary Ground Rod	4 wires: Φ10mm×150mm
Measurement Rate	Voltage to earth: about 3 times/second
	Earth resistance, soil resistivity: about 15 seconds/time
Measuring Times	Over 5000 times (Short-circuit test, interval time should be at least 30 seconds)
Circuit Voltage	below AC 600V
Communication Interface	USB interface, software monitoring, storage data can be uploaded to computer, saved or printed.
Communication Wire	One piece USB communication wire, length 1.5m
Data Storage	300 sets, “MEM” symbol storage indicator, flash display “FULL” symbol indicate storage full
Data Hold	Data hold function: “HOLD” symbol display
Data Read	Data read function: “READ” symbol display
Overflow Display	Over range overflow function: “OL” symbol display
Interference Test	Recognize interference signal automatically, “NOISE” symbol display when interference voltage exceed 5V
Auxiliary Ground Test	With auxiliary earth resistance test function, 0.00K?-30k?(100R+rC<50k?, 100R+rP<50k?)
Alarm Function	Measurement value exceeds alarm setting value, will “Toot-toot-toot” alarm hint
Auto-shut off	Automatically shut down after 10 minutes of power on
Battery Voltage	While battery voltage decreases to around 7.2V±0.1V, will display battery voltage low symbol“ ”, and reminding to charge
Working Power	Standby: about 20mA (Backlight shut off)
	Boot up and with backlight: about 45mA (25mA without backlight)

	Measurement: about 100mA (Backlight shut off)
Weight	Tester: 2290g
	Tester bag:915g
	Test wires: 1560g
	Auxiliary ground rods: 935g (4pcs)
Working Temperature & Humidity	-10ºC-40ºC, below 80%rh
Storage temperature & humidity	-20ºC-60ºC, below 70%rh
Overload Protection	Measuring earth resistance: between each interfaces of C(H)-E?P(S)-ES, AC 280V/3 seconds
Protection Level	IP65(close the case)
Insulation Resistance	Over 20MΩ (between circuit and enclosure it is 500V)
Withstand Voltage	AC 3700V/rms (Between circuit and enclosure)
Electromagnetic Features	IEC61326(EMC)
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

Intrinsic error and performance indicators under base conditions

Measurement Function	Measurement Range	Accuraccy	Resolution
Earth Resistance (R)	0.00Ω~30.00Ω	±2%rdg±3dgt	0.01Ω
	30.0Ω~300.0Ω	±2%rdg±3dgt	0.1Ω
	300Ω~3000Ω	±2%rdg±3dgt	1Ω
	3.00kΩ~30.00kΩ	±4%rdg±3dgt	10Ω
Soil Resistivity(P)	0.00Ωm~99.99Ωm	(P=2πaR a:1 m~100m, π=3.14)	0.01Ωm
	100.0Ωm~999.9Ωm		0.1Ωm
	1000Ωm~9999Ωm		1Ωm
Soil Resistivity (ρ)	10.00kΩm~99.99kΩm	(P=2πaR a:1 m~100m,π=3.14)	10Ωm
	100.0kΩm~999.9kΩm		100Ωm
	1000kΩm~9000kΩm		1kΩm
Earth Voltage	AC 0.0~600V	±2%rdg±3dgt	0.1V

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Application

Model	Earth Resistance(Ω)	Selection Method Measure Resistance (Ω)	Double Clamp Method Measure Resistance(Ω)	Soil Resistivity (Ωm)		Earth Voltage (V)	AC Current (A)	Data Storage (group)	Remark
ETCR3000	0.00~2000	None	None	None		0~600	None	400	——
ETCR3000+	0.00~2000	None	None	None		0~200	0?100	1000	——
ETCR3000C	0.00~2000	None	None	None		0~600	None	400	Waterproof protective shell
ETCR3000B	0.00~30000	None	None	0.00~9000k		0~600	None	300	——
ETCR3100C	0.00~30000	None	None	0.00~9000k		0~600	None	300	Waterproof protective shell
ETCR3200	0.00~30000	0.00~3000	0.00~100	0.00~9000k		0.0~100.0	0.00~600	2000	——
ETCR3200C	0.00~300000	0.00~3000	0.00~100	0.00~9000k		0.0~100.0	0.00~600	2000	Waterproof protective shell
ETCR3230C	0.00~30000	0.00~3000	0.00~100	0.00~9000K		0.0~100.0	0.0~600.0	2000	Waterproof protective shell

Relate Model

Meter	1 PCS
Meter Bag	1 PCS
Auxiliary Grounding Rod	2 PCS
Monitoring sortware CD	1 COPY
USB Communication Cable	1 PCS
Test Wires	4 PCS
Simple Test Wires	2 PCS
Special Charger	1 PCS
Manul/Warranty Card/Certificate	1 SET

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Accessory