KUSAM-MECO®
An ISO 9001:2015 Company

Earth Resistance Soil Resistivity Tester
2 / 3 / 4 Wire Model KM 1320

THINK SAFETY
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KM 1320 Earth Resistance Soil Resistivity Tester is specially designed and manufactured for measuring earth resistance, soil resistivity, earth voltage, AC voltage. Adopting the latest digital and micro-processing technology, precise 4-pole, 3-pole and simple 2-pole method for earth resistance measurement, importing FFT and AFC technology, with a unique function of anti-interference capability and the ability to adapt to the environment, consistency of repeat testing, to ensure high precision, high stability and reliability for prolonged measure, which is widely used in electric power, telecommunications, meteorology, oil field, construction, lightning protection, industrial electrical equipment and other earth resistance, soil resistivity, earth voltage, AC voltage measurement.



KM 1320 Earth Resistance Soil Resistivity Tester is composed of host machine, monitoring software, testing wires, auxiliary ground pillars, communication wires and others. The large LCD display of host machine is with blue backlight & 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 like historical data access, reading, preservation, report forms, printing and so on.



GENERAL SPECIFICATIONS :

- **Function** : Measurement of 2/3/4-pole earth resistance, soil resistivity, earth voltage, AC voltage
- **Measurement Range** : Earth Resistance: 0.00Ω-30.00kΩ
  Soil Resistivity: 0.00Ωm-9000kΩm
- **Measuring Mode** : Precise 4-pole measurement, 3-pole measurement, simple 2-pole measurement
- **Measuring Method** : Earth Resistance: rated current change-pole method, measurement current 20mA Max
  Soil Resistivity: 4-pole measurement
  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** : Can be set 1m-100m
- **Shift** : Earth Resistance: 0.00Ω-30.00kΩ, automatic shift
  Soil Resistivity: 0.00Ωm-9000kΩm, automatic shift
- **Backlight** : Blue screen backlight, suitable for dim places
- **Display Mode** : 4-digital super-large LCD display, blue screen backlight
- **Measuring Indicator** : During measurement, LED flash indicator, LCD count down display, progress bar indicator
- **LCD Frame Dimension** : 128mm×75mm
- **LCD Window Dimension** : 124mm×67mm
- **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 Earthing Rod** : 4 rods: Φ10mm×150mm
- **Measuring Rate** : Earth voltage: about 3 times/second
  Earth resistance, soil resistivity: about 5 seconds/time
- **Line Voltage** : below AC 600V

All Specifications are subject to change without prior notice

- **Measuring Times** : Over 5000 times (Short-circuit test, interval time should be at least 30 seconds)
- **RS232 Interface** : RS232 interface, software supervision, storage data can be uploaded to computer, saved or printed.
- **Communication Wire** : One piece of RS232 communication wire, with length 1.5m
- **Data Storage** : 300 sets, “MEM” icon storage indicator, flash display “FULL” icon to indicate storage is full
- **Data Hold** : Data hold function: “HOLD” icon display
- **Data Access** : Data read function: “READ” icon display
- **Overflow Display** : Exceeding measuring range overflow function: “OL” icon display
- **Interference Test** : Recognize interference signal automatically, “NOISE” icon display when interference voltage exceed 5V
- **Auxiliary Earthing Test** : Can measure auxiliary earth resistance, 0.00KΩ-30kΩ(100R+rC<50kΩ, 100R+rP<50kΩ)
- **Operating Temperature & Humidity** : -10℃-40℃, below 80%rh
- **Storage temperature & humidity** : -20℃-60℃, below 70%rh
- **Alarm Function** : When measuring value exceeds alarm setting value, there is alarm Sound
- **Battery Voltage** : When battery voltage decreases to about 7.5V, battery voltage low icon will display, reminding to replace battery.
- **Overload Protection** : Measuring earth 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 2), IEC61010-031, IEC61557-1 (Earth resistance), IEC61557-5 (Soil resistivity), JJG 366-2004
- **Power Consumption** : Standby: about 20mA (Backlight shut off)
  Boot and with backlight: about 45mA (25mA without backlight)
  Measurement: about 100mA (Backlight shut off)
- **Power Supply** : DC 9V(Zi-Mn dry battery R14S 1.5V 6 PCS, continuous standby for 300 hours)
- **Weight** : 4.5kg (including package)
- **Dimension** : 215(L)×190(W)×95(H)mm
- **Accessories** : Standard testing wire 4nos., Simple testing wire 2nos., earth rods 4pcs., Battery, Manual Software CD, RS232 Communication cable & Carrying case.

ELECTRICAL SPECIFICATIONS :

1. Base Conditions and Working Conditions

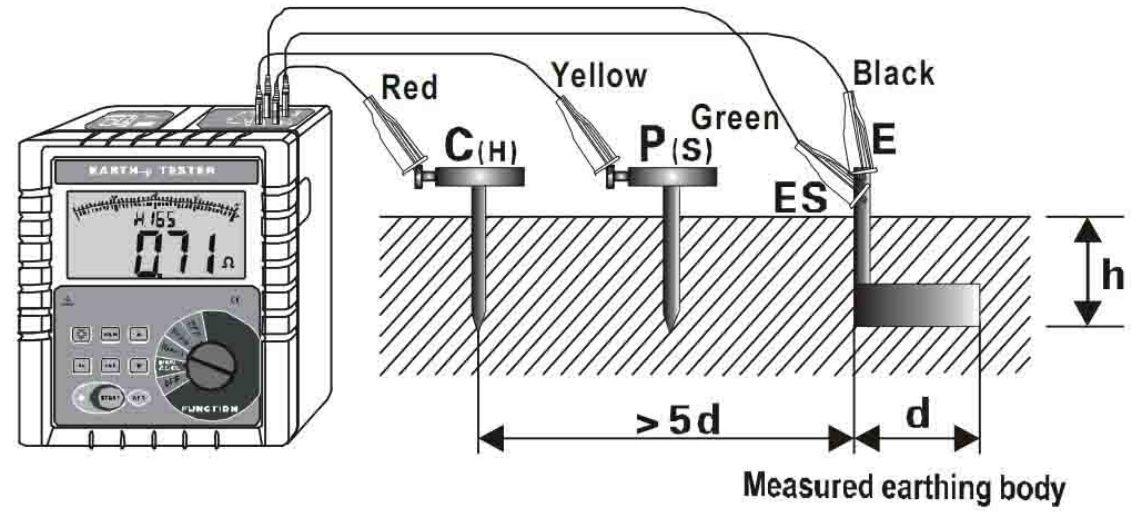
Influence Quantity	Base Condition	Working Conditions
Ambient Temp	23°C±1°C	-10°C-40°C
Ambient Humidity	40%-60%	< 80%
Working Voltage	9V±0.1V	9V±1.5V
Auxiliary Earth Resistance	< 100Ω	< 30kΩ
Interference Voltage	no	< 20V
Interference Current	no	< 2A
Electrode Distance when measuring R	a > 5d	a > 5d
Electrode Distance when measuring ρ	a > 20h	a > 20h

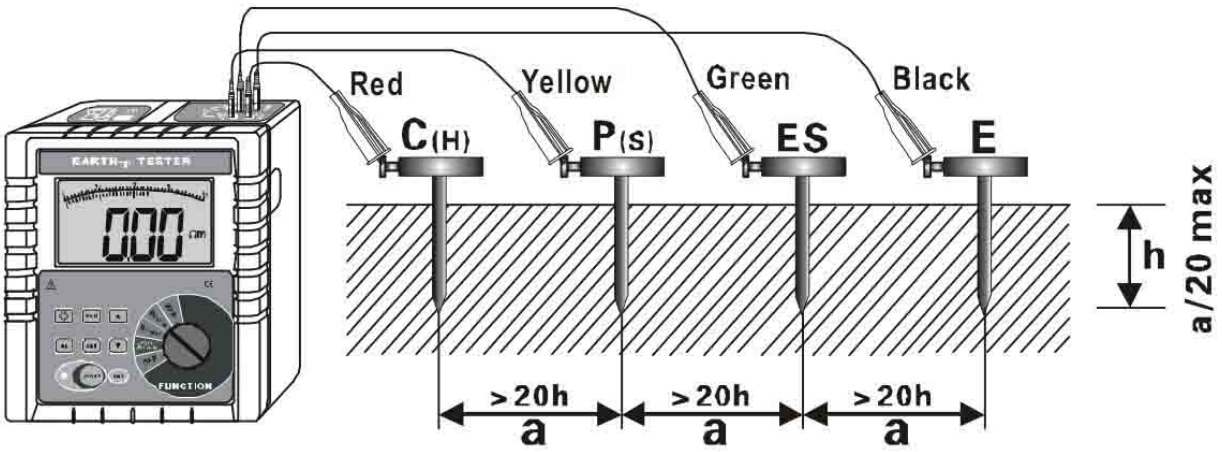
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3. Intrinsic error and performance indicators under base conditions

Category	Measurement Range	Intrinsic Error	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 (ρ)	0.00Ωm-99.99Ωm	According to the precision of R (ρ=2πaR a:1 m-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	AC 0.0-600V	±2%rdg ± 3dgt	0.1V

4. Field Application





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