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An ISO 9001:2015 Company

DOUBLE CLAMP MULTI-FUNCTION GROUNDING RESISTANCE TESTER MODEL- KM 4237ER

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INTRODUCTION

KM 4237ER Double clamp multi-function grounding resistance tester is also called double clamp grounding resistance tester, The advanced grounding resistance tester integrates a variety of measurement methods. In addition to the traditional function of ancillary grounding resistance, it also has the unique function of measuring without auxiliary ground. It uses a large LCD gray screen backlight display and microprocessor technology, through the microprocessor-controlled 2-wire, 3-wire, 4-wire, selection method, double clamp method to test ground resistance. Large-diameter current clamp design, using double jaw measurement technology, without the need to hit the auxiliary ground, without the need to isolate the grounding body and equipment to achieve on-line measurement. Widely used in telecommunications, electricity, meteorology, computer rooms, oil fields, power distribution lines, iron tower transmission lines, gas stations, factory grounding networks, lightning rods and so on. The instrument has the characteristics of precise, fast, simple, stable and reliable.



Preliminary Data

KM 4237ER Double clamp multi-function grounding resistance tester is controlled by a microprocessor and can accurately detect ground resistance, soil resistivity, ground voltage, DC voltage and AC current. It uses a fast filtering technique to minimize interference. Displaying the resistance value of the auxiliary electrode in the same screen, which is convenient for judging the measurement error caused by environmental factors, facilitating more accurate measurement of the grounding true resistance value, and storing 500 sets of data at the same time. The online monitoring data can be monitored by the monitoring software. USB data can be uploaded to the PC and has unique functions such as numerical maintenance and intelligent alarm prompting.

KM 4237ER Double clamp multi-function grounding resistance tester consists of host computer, monitoring software, test line, USB cable, and grounding pin. It has the functions of reading, checking, saving, reporting and printing of historical data.

I. TECHNICAL SPECIFICATION :

1. Range and Accuracy

Test Function	Range	Accuracy	Resolution
2、3、4 wire method for measuring ground	0.00Ω～29.99Ω	±2%rdg±5dgt(remark 1)	0.01Ω
	30.0Ω～299.9Ω	±2%rdg±3dgt	0.1Ω
	300Ω～2999Ω	±2%rdg±3dgt	1Ω
	3.00kΩ～30.00kΩ	±2%rdg±3dgt	10Ω
DC resistance(Re)	0.0Ω～299.9Ω	±2%rdg±3dgt	0.1Ω
	300Ω～2999Ω	±2%rdg±3dgt	1Ω
	3.00kΩ～30.00kΩ	±2%rdg±3dgt	10Ω
Selection method for measuring	0.00Ω～29.99Ω	±2%rdg±5dgt(remark 1)	0.01Ω
	30.0Ω～299.9Ω	±2%rdg±3dgt	0.1Ω
	300Ω～3000Ω	±2%rdg±3dgt	1Ω
Double clamp method for measuring	0.01Ω～0.99Ω	±10%rdg±10dgt	0.01Ω
	1.0Ω～9.9Ω		0.1Ω
	10Ω～100Ω		1Ω

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Soil resistivity(ρ)	0.00Ωm～99.99Ωm	ρ=2πaR (remark 2)	0.01Ωm
	100.0Ωm～999.9Ωm		0.1Ωm
	1000Ωm～9999Ωm		1Ωm
	10.00kΩm～99.99kΩm		10Ωm
	100.0kΩm～999.9kΩm		100Ωm
	1000kΩm～9999kΩm		1kΩm
Ground voltage	AC 0.00～100.0V	±2%rdg±3dgt	0.01V
AC current	AC 0.0mA～1000A	±2%rdg±3dgt	0.1mA

Remark：

1. Reference conditions: accuracy with Rh Rs < 100Ω。
   Working conditions:Rh max = 3kΩ+100R < 50kΩ；Rs max = 3kΩ+100R < 50kΩ
2. Depends on the measurement accuracy of R,π=3.14, a:1 m ~ 100m；

II. General specification

Function	Ground resistance、Soil resistivity、DC resistance、Ground voltage、AC current
Ambient temperature and humidity	23℃±5℃，below 75%rh
Interference voltage	<20V (should be avoided)
Interference current	<2A (should be avoided)
Measure R electrode spacing	a＞5d
Measured pelectrode spacing	a＞20h
Power	DC 6V 4.5Ah lead-acid battery lasts more than 100 hours standby
Backlight	Controllable backlight, suitable for use in dim places
measurement mode	Precise four-wire、 three-wire measurement, simple two-wire measurement、Selection method, double clamp method for measuring grounding resistance
Measurement methods	2.3.4-wire method measurement: Polarization method, measuring current 20mA Max Soil resistivity: four-pole method Selectivity Measurement: Polarization Method, Measuring Current 20mA Max Double clamp method: non-contact mutual inductance measurement method, test current 1mA Max DC resistance: polarization method AC current: average rectification (clamp) Ground Voltage: Average Rectification(between S-ES interface)
Test voltage waveform	Sine wave
Test frequency	128Hz
Short circuit test current	AC 20mA max
Open circuit test voltage	AC 28V max
Electrode spacing range	1m～100m
Display mode	4-bit large LCD display, with backlight
Measurement instructions	LED flashing indicator during measurement

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LCD size	111mm×68mm
LCD display field	108mm×65mm
Instrument size	L/W/H：277.2mm×227.5mm×153mm
Clamp size	L/T/H：101mm×27mm×214mm
Test line	4 strips：red 15m，black 15m, yellow 10m，green 10m each one
Simple test line	2strips：yellow 1.5m，green 1.5m each one
Auxiliary Grounding rod	4PCS：φ10mm×200mm
Current clamp	2PCS：φ4 mm Banana plug
Current clamp diameter	φ50mm
Current clamp lead	Length 2m
Measure time	AC current：about 2 times/sec; Ground voltage：about 2 times/sec; grounding resistance、soil resistivity: about 7 seconds/time
Line voltage	Measurement below AC100V (ground voltage measurement function cannot be used to measure commercial power)
USB interface	With USB interface, storage data can be uploaded to the computer, save and print
Communication Line	One USB communication line, 1.5m long
Data storage	500 groups, "MEM" storage indicates, flashing "FULL" symbol indicates that the memory is full
Data review	Data review function: "MR" symbol display
Overflow display	Over-range overflow function: "OL" symbol display
Current clamp low current indication	When measuring by the selection method or the double-clamp method, when the current signal received by the current clamp A is lower than 0.5 mA, the sy⌐bol “” is displayed, and at this time, the clamping direction of the current clamp A should be checked.
Interference test	Automatic identification of interference signals, "NOISE" symbol indication when the interference voltage is higher than 5V
Auxiliary grounding test	With auxiliary ground resistance test function, 0.00KΩ ~ 30kΩ (Rh max = 3kΩ +100R <50kΩ; Rs max = 3kΩ +100R <50kΩ)
Alarm function	Alarm when the measured value exceeds the alarm setting value
Battery voltage	Real-time display of battery power, reminding timely charging when battery voltage is low
Automatic Shutdown	“APO” Indicates, automatic Shutdown After 15 Minutes
Power consumption	Standby: 40mA Max(Backlight off)
	Turn on backlight: 43mA Max
	measuring：120mA Max(Backlight off)
Weight	Instrument： 2450g(including battery)
	Current clamp：940g(2PCS)
	Test lines：1300g(including simple test line)
	Auxiliary grounding rod： 850g(4PCS)
Working temperature and humidity	-10℃～40℃； below 80%rh
Storage temperature and humidity	-20℃～60℃； below 70%rh
Overload protection	Grounding resistance：AC 280V/3 seconds between H-E and S-ES ports
Insulation resistance	More than 20MΩ(500V between circuit and housing)
Pressure resistance	AC 3700V/rms(between circuit and housing)

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Electromagnetic properties	IEC61326(EMC)
Suitable for safety regulations	IEC61010-1(CAT Ⅲ 300V、CAT IV 150V、pollution level 2)； IEC61010-031； IEC61557-1(grounding resistance)； IEC61557-5(soil resistivity)； JJG 366-2004. JJG 366-2004(ground resistance meter)； JJG 1054-2009(Clamp grounding resistance meter).

III. Accessories

Instrument	1PC
Instrument bag	1PC
Auxiliary grounding rod	4PCS
Current clamp	2PCS
Monitoring software CD	1PC
USB communication line	1PC
Test line	4PCS
Simple test line	2PCS
6V Battery (built-in)	1PC
charger	1PC
Manual, certificate	1SET

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