NEW

Quality and reliability is our tradition

KYORITSU

EARTH CLAMP TESTER
KEW 4202

Easy earth/ground resistance measurement
just clamp-on earth conductor
Wireless communication with Android application

※Android device is not provided with instrument.

Remote monitor
E-mail function
GPS data collection

Bluetooth™ TRUE RMS CE

Note : A single earthing can not be measured. (only for Multiple Earthing systems.)

Earth/Ground resistance and Leakage current measurement functions

- *The earth resistance from 0.05 to 1200 Ω can be measured without the auxiliary earth spikes in multi-earthing systems*
- *True RMS leakage or phase current readings from 0.1mA to 30.0A provides vital additional information in earthing networks*
- *Filter function offers increased immunity to electrical noise and a Noise mark appears in excessively high noisy environments*

Various useful functions are available on Android devices using Bluetooth communication

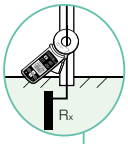
- *Real time measurements can be transferred, shown and saved on Android device (up to 100 measurements)*
- *Saved data includes measurement, GPS location and date & time*
  Easy to check on map "When" and "Where" the measurement was made
- *Comparator function on Android device informs when the measured value is lower/higher than the preset value*

KEW 4202 Specifications

Function	Range	Resolution	Measuring ranges	Accuracy
Earth resistance Auto range	20Ω	0.01Ω ※	0.00～20.99Ω	±1.5%±0.05Ω
	200Ω	0.1Ω	16.0～99.9Ω	±2%±0.5Ω
			100.0～209.9Ω	±3%±2Ω
	1200Ω	1Ω	160～399Ω	±5%±5Ω
			400～599Ω	±10%±10Ω
		10Ω	600～1260Ω	—
AC current (50Hz/60Hz) Auto range	100mA	0.1mA	0.0～104.9mA	±2%±0.7mA
	1000mA	1mA	80～1049mA	±2%
	10A	0.01A	0.80～10.49A	
	30A	0.1A	8.0～31.5A	
Operating indication	Earth resistance function : Constant voltage injection Current detection (Frequency : Approx. 2400Hz) Dual Integration AC current function : Successive approximation			
Over-range indication	"OL" is displayed when input exceeds the upper limit of a measuring range			
Response time	Approx. 7 seconds (Earth resistance) Approx. 2 seconds (AC current)			
Sample rate	Approx. 1 times per second			
Power source	LR6/ R6 (AA)(1.5V) ×4			
Current consumption	Approx. 90mA (max. 140mA)			
Measurement time	Approx. 21 hours (when LR6 is used) Approx. 5 hours (when R6 is used)			
Auto power-off	Turns power off about 10 minutes after the last button operation			
Applicable standards	IEC 61010-1 CAT.Ⅳ 300V Pollution degree 2 IEC 61010-2-032, IEC 61326-2-2(EMC)			
Withstand voltage	AC 5320Vrms/5 seconds Between the Transformer jaws fitted parts and case enclosure (except for jaws)			
Conductor size	Approx. Φ32mm			
Dimension	246 (L)×120 (W)×54 (D)mm			
Weight	Approx. 780g (including batteries)			
Included Accessories	LR6(AA) × 4, Instruction manual, 8304 (Resistors for operation check), 9167 (Carrying case [Hard])			

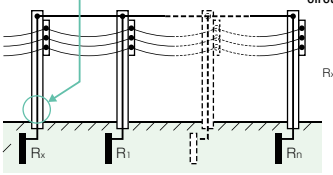
● Crest factor ≦ 3 (50Hz/60Hz, peak value shall not exceed 60A) ※4 counts or less are corrected to 0.

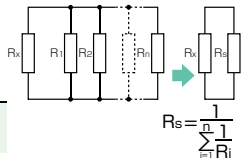
Why earth measurements can be found by only clamping it?



Rx, is defined as earth resistance under test, and R1, R2…Rn are defined as earth resistance of other measuring objects.

These earth resistances, R1, R2,… Rn can be considered that they are connected in parallel.
And They can be regarded as a combined resistance Rs. The Rs can be regarded small enough against Rx since a combined resistance consists of several resistances. Following is an equivalent circuit diagram of this circuit.





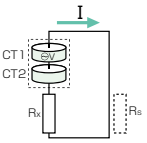
$$Rs=\frac{1}{\sum_{i=1}^{n}\frac{1}{Ri}}$$

A known Voltage V is applied to the object (Resistance Rx) measured from the voltage injection transformer CT1, and the current I corresponding to the earth resistance is flowed.
The current I is detected with detection transformer CT2, and object (Resistance Rx) measured can be put out by the calculation. (refer to the right diagram)

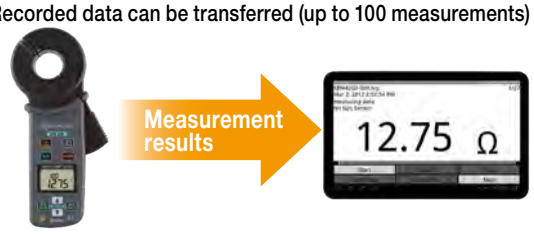
$$\frac{V}{I}=R=Rx+Rs$$

$$Rx \gg Rs=\frac{1}{\sum_{i=1}^{n}\frac{1}{Ri}}$$

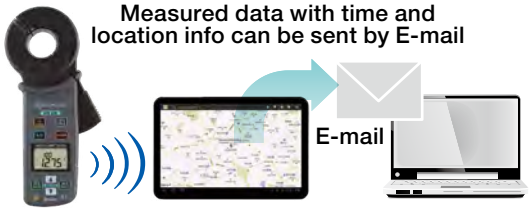
$$\frac{V}{I}=Rx$$



Recorded data can be transferred (up to 100 measurements)

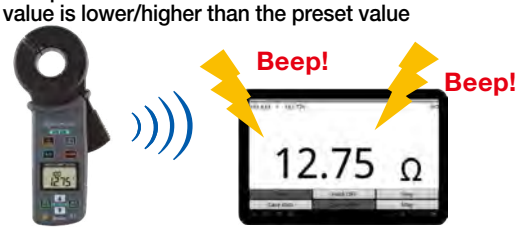


Measured data with time and location info can be sent by E-mail



GPS data collection may be lost since the GPS signal differs depending on the location of satellites.
To access GPS data and send emails, an Internet connection is required. Communication charges may be incurred separately for using these functions.

Comparator function informs when the measured value is lower/higher than the preset value



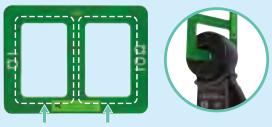
Free Andoroid software "KEW Smart 4202" is avaliable on download site

Download

KEW Smart 4202

※Communication charges may be incurred separately to download application

Included Accessories



1Ω loop 10Ω loop

MODEL8304
Resistors for operation check

MODEL9167
Carrying case [Hard]

Earth Clamp lineup

	KEW4202	MODEL4200
Common functions	Earth resisitance, AC current, Back light function, Data hold fuction, Auto power off, Memory function	
Individual function	Bluetooth connection	—

※Available on the Android devices equipped with Bluetooth/ GPS/ Data communication function Supporting Android ver. 2.2 - 3.2
Max communication distance:10m
External communication method : Bluetooth Ver2.1+EDR Class2
Bluetooth is a registered trademark of the Bluetooth SIG, Inc.
Android is a registered trademark of the Google SIG, Inc.

Safety Warnings : Please read the "Safety Warnings" in the instruction manual supplied with the instrument thoroughly and completely for correct use. Failure to follow the safety rules can cause fire, trouble, electrical shock, etc. Therefore, make sure to operate the instrument on a correct power supply and voltage rating marked on each instrument.

For inquires or orders :

KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD.

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