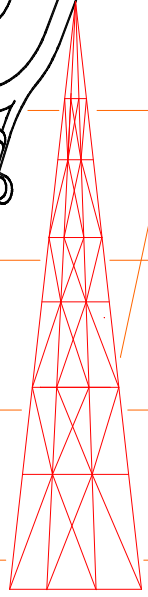
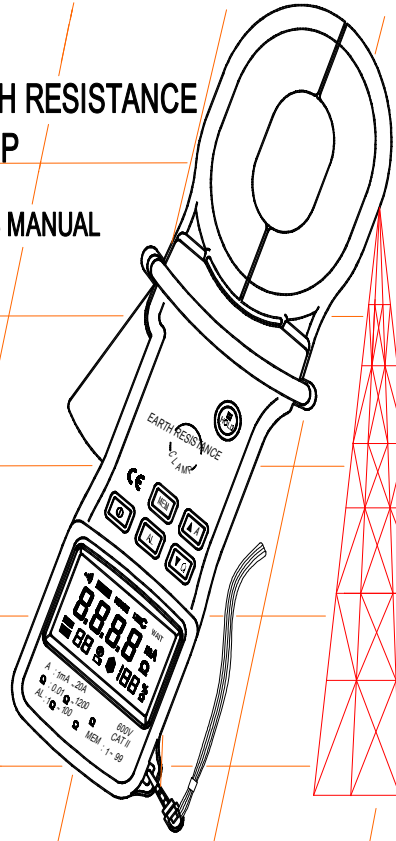


EARTH RESISTANCE CLAMP

USERS MANUAL



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WARNING

- * Before measuring, the metal objects or the conductors that connected with the electric equipment are deadliness danger, earth system is also danger. So when you test the electric equipment, you must especially pay attention to safety.
- * Warning letter that chiseled in the back of your instrument reminds you that the values must not be exceeded, the measurement ranges, and briefly, the operation of the clamp.
- * Do not exceed the permissible overloads of loop current.
- * Before switching the instrument on, you must press the trigger several times to ensure the clamp closing correctly.
- * When switch on and the clamp is auto-calibrating, do not open the clamp or hook the clamp jaw around any conductor.

READ THE INSTRUCTIONS BEFORE USING THE INSTRUMENT

MAINTENANCE

- * Keep the surfaces of the clamp jaw clean, any dirt may cause malfunction of the clamp.
- * Use the soft damp cloth to clean the clamp jaw faces, do not use abrasives, solvents, alcohol.
- * Avoid any shock, especially the clamp jaw faces.
- * Avoid the immediate proximity of metallic masses.
- * After each measurement, press the HOLD button to depress consume of the batteries.
- * Remove the batteries from the instrument in case of prolonged non-use.

INTRODUCTION

Modern industrial electronic equipment is in quick development. A good Earth is becoming an efficient system to prevent from interference and thunderbolt. Safe and quick earth tester is the most needed.

Earth resistance clamp is a break through from traditional tester. Neither the supplementary earth leads nor the break earth equipment is necessary. Ground resistance result can be get safely and fast only by clamping the ground line.

Additionally, current testing is also provided. High sensitivity clamp meter can measure the leakage current to 1mA, neutral current to 20A RMS. It is especially important for testing ground circuit with strong interference and ripple that will influence the electrical quality.

Besides industrial electronic equipment, it is also widely used in the field of electric power distribution, telecommunication and architectural ground.

FRATURES

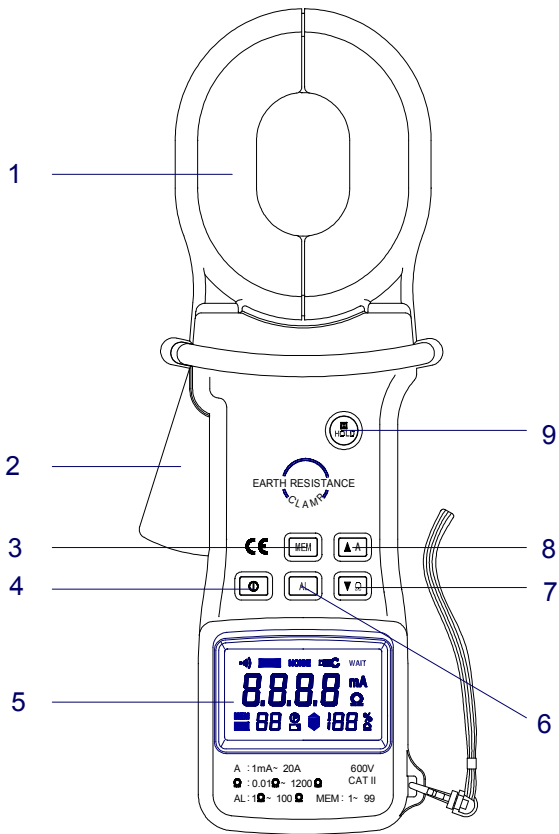
- ☼ 0.01 Ω high accuracy for low resistance measurement
- ☼ 0.001 Ω high resolution
- ☼ Record 99 resistance measurement values
- ☼ With alarm function of resistance limit, set alarm threshold in 1 Ω to 100 Ω
- ☼ Measure leakage current and neutral current 1mA~20A
- ☼ 45mm×32mm large jaws of exactitude measurement probe
- ☼ Digital measurement, autorange ,easy operation
- ☼ Double insulation, strengthen the interference resistance
- ☼ Untouched measurement ,ensure the safety
- ☼ Time per measurement : 1 second
- ☼ current overload display : >20A RMS, display “OL”

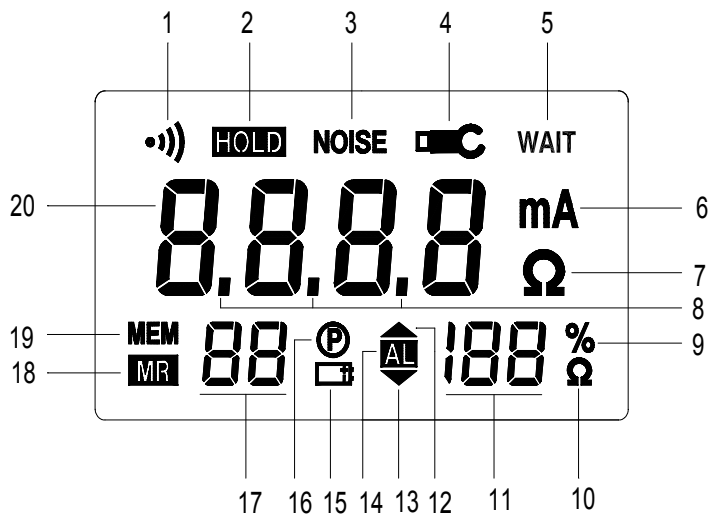
SUMMARY OF FUNCTION

FUNCTION
ON/OFF/EXIT SET MODE
▲ MEASUREMENT/ INCREASE/ RECORD NUM
▼ Ω MEASUREMENT/ MINISH / RECORD NUMBE
HOLD DISPLAY
SELECT ALARM MODE
SELECT /SET MEMORY
SWITCH BUZZER ON/OF



6. AL Button
7. ▼ Ω Button
8. ▲A Button
9. HOLD Button





9. Percent sign of the batteries actual service life

10. Alarm threshold value of resistance unit

11. Digital display of the battery actual service life or Alarm threshold value

- 12. High Alarm symbol
- 13. Low Alarm symbol
- 14. Alarm mode symbol
- 15. Low voltage indication symbol

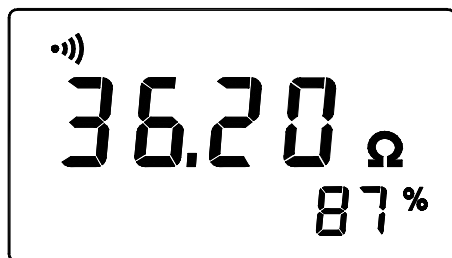


Symbol 2 begins to auto-calibrate to obtain better resolution. When it is calibrating, the instrument will count from CAL 9 to CAL 0. The user must wait for the clamp completed calibration. Do not open the clamp or hook the clamp jaw around the conductor or the object be measured in case of the calibration. After the calibration completed, the instrument returns the measurement mode when last switch off. If the instrument is in resistance measurement mode when switch off, the LCD will display the primary resistance measured value.

二、EARTH RESISTANCE MEASUREMENT

ement current

or resistance



•))
68.70 Ω
⏪ ⏩

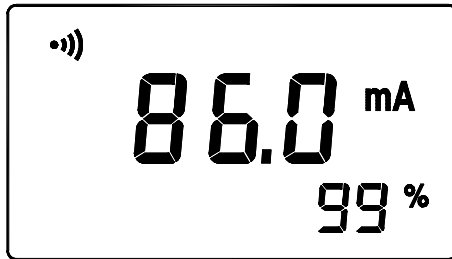
•))
19.60 Ω
MEM 6 AL 30 Ω

•)) **HOLD**
1700

•)) **NOISE**
55.20 Ω
86 %

•••
93.70 Ω
MEM 55 ⓘ 18%

— — — —
Ω
90%



四、HOLD BUTTON

Press the HOLD button to lock display of the current measure state and last measurement on measurement mode.

五、ALARM OPERATION

1. On resistance measurement, press the AL value of the alarm threshold are displayed.
2. According to the measurement demand, you time to select one of three alarm modes:
 - LOW ALARM MODE: when signals r threshold, a continuous beep at low f displayed.
 - HIGH ALARM MODE: when signals mea



threshold, a continuous beep at high
is displayed.



---- NO ALARM MODE: signals meas
threshold .

3. Set the alarm threshold

The earth resistance clamp set ini
threshold of 20Ω . In resistance me
set in Alarm threshold value setting
threshold value are displayed; press
or decrease the Alarm threshold val
inclusive. After switching off the thre:
threshold value completed, you can
Alarm mode: HIGHT ALARM MOI
MODE, when the selection is compl
button to exit Alarm threshold value s



六、MEMORY FUNCTION

1. Clear memory

Press the HOLD+MEM for 3 seconds, then the “CLR” symbol is shown on
the display. At a beep, the memory is cleared. The instrument return to
measurement mode automatically.

2. Save measured value

When press the MEM button , the ”MEM” symbol is displayed; press this
button for 2 seconds to save the current measured value in memory.

shown on the
when is pressed



①

①

Off
h off
from
the



n 20% , the symbol is continual
measured value in memory in this
less than 15%, prompt beeps is
mitted, the instrument switch off

that an interference current of
resistance measurement is not



incorrectly and can not make a

the instrument switch on and

begin to auto calibration, the instrument will be CAL 1 to calibration count.

7. OL Symbol

Measured resistance value exceeds $1200\ \Omega$ or measured current value
exceeds 20A, this symbol is shown on the display.

SPECIFICATION

※ TESTING CONDITIONS:

	RANGE	ACCURACY	RESOLUTION
RESISTANCE	0.01 Ω ~ 0.999 Ω	±(1.5%+0.01 Ω)	0.001 Ω
	1 Ω ~ 9.99 Ω	±(1.5%+0.1 Ω)	0.01 Ω
	10 Ω ~ 99.9 Ω	±(2.0%+0.3 Ω)	0.1 Ω
	100 Ω ~ 199.9 Ω	±(3.0%+1 Ω)	1 Ω
	200 Ω ~ 400 Ω	±(6.0%+5 Ω)	5 Ω
	400 Ω ~ 500 Ω	±(10%+10 Ω)	10 Ω
	500 Ω ~ 1200 Ω	approx. 20%	20 Ω
CURRENT	100mA	±(2.5%+1mA)	0.1mA
	300mA	±(2.5%+2mA)	0.3mA
	1A	±(2.5%+0.003A)	0.001A
	3A	±(2.5%+0.01A)	0.003A
	10A	±(2.5%+0.03A)	0.01A
	20A	±(2.5%+0.05A)	0.03A

Temperature 23°C ± 3; Humidity 50%RH ± 10%

Battery Voltage >7V; External magnetic field <40A/m

External electric field <1 V/m

Testing frequency of current 45Hz~65Hz

FEATURES

- Test voltage : 3700V
- Electric clearance : 6.5mm (IEC1010 double insulation CAT II 600V)
- Electric shock : IEC1010-1
- Limiting overload : 20A RMS current
- Average consumption : approx. 50mA
- Range : autorange



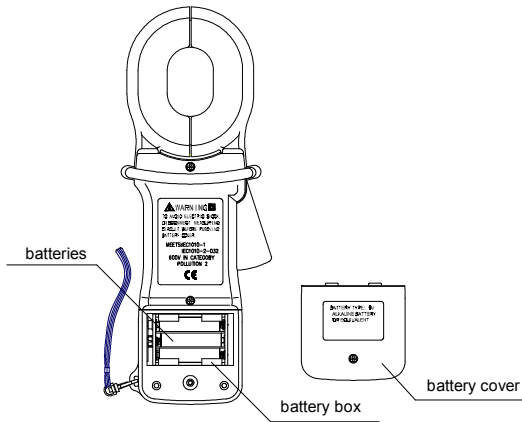
- Conductor size : ϕ 32mm OR 45mm \times 32mm
- Dimensions : 54mm \times 104mm \times 276mm
- Weight : approximate 1050g (include the batteries)

ACCESSORY

Calibration loop of resistance (0.01 Ω)	1 piece
Calibration loop of resistance (1 Ω)	1 piece
Calibration loop of resistance (10 Ω)	1 piece
1.2V Batteries (Ni-MH)	6 pcs



1. Switch off
2. Unscrew the screw on the battery cover
3. Remove the cover
4. Take the battery box out of the instrument
5. Replace new batteries of the same type
7. Reinstall the battery box
8. Replace the battery cover
9. Reinstall the screw

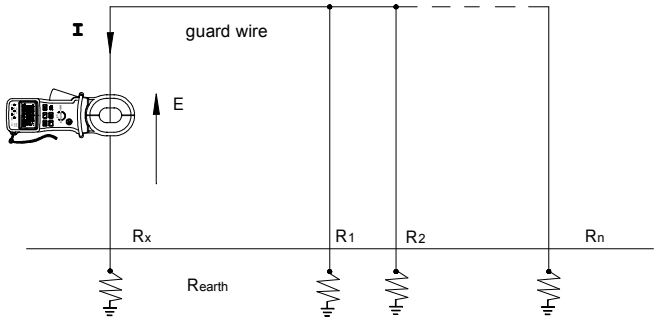


CHARGE THE BATTERIES

Refer to the operation manual on the battery charger.

APPLICATION FIELD

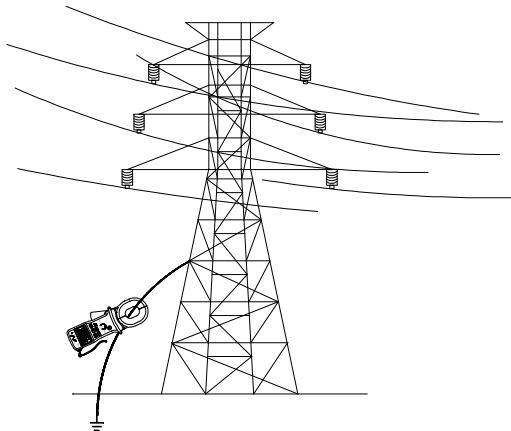
EARTH RESISTANCE CLAMP is designed for testing earth resistance of any loop system, for example not only earth resistance of electric power transportation conductors and communication circuitry, but also earth resistance of electric equipment and lightning arrester can be tested. When there is an interference current in the grounding loop, the accuracy of resistance measurement is affected, the interference current can be tested by the earth

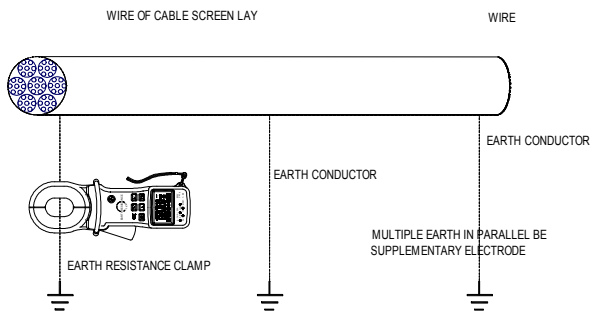
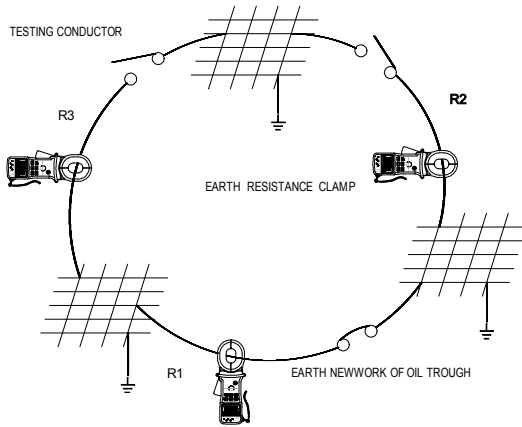


一、 TESTING EARTH RESISTANCE OF ELECTRIC POWER

1. TESTING EARTH RESISTANCE OF DISTRIBUTION CIRCUITRY

Usually most electrodes of neutral wire are connected in parallel for three-phase, four-wire system. The resistance is very low, so you only hook the clamp around earth conductor to be measured to test the distribution circuitry. Other earth electrodes become supplementary electrode naturally.





四、APPLICATION OF FARADAY-CAGE PROTECT SYSTEM

Using FARADAY-CAGE to avoid instruments and equipment be static interfered, so it is very important that we can control earth resistance. If the

