HTC
INSTRUMENTS

DIGITAL INSULATION TESTER
3 PHASE & VOLTAGE TESTER

OPERATION MANUAL

Model: 6250-IN

CE

Rev3.2

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VII. Maintenance

This instrument is a precision electronic instrument, be sure to maintain it well.

1. Do not apply the instrument to any AC voltage higher than 600V.
2. Do not use the instrument when the rear cover of the instrument is in place.
3. To replace battery, remove the probe and power off the instrument first. Unscrew the screws of the battery cover and remove the battery cover. Be sure to replace the battery according to the specification requirement.
4. Do not forget to remove the battery if you are not going to use the instrument for a long period of time. Place the instrument at a dry and well ventilated environment.
5. Do not alter any internal circuit of this instrument at will in case it is damaged.

VIII. Accessori

1.	user manual	1
2.	phase sequence test wire (set)	1
3.	insulation resistance test wire (set)	1
4.	1.5V AA battery	8
5.	toolbox	1
6.	AC/DC adaptor	1

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object under test before you remove the test wire, to prevent the residual charges discharge.

4. Phase Sequence Measurement

There is high voltage in the 3-phase wire. It would be highly dangerous to touch, therefore be sure to handle with care when you connect wires for a 3-phase measurement. In case the instrument indicator is not on when the test wire has been connected, one phase may be live. Be careful not to get shocked. Do not test any voltage that is higher than the rated voltage of 100V450V/40-60Hz (3-phase AC). Do not measure for more than 30 minutes when the voltage is higher than 200V and not more than 3 minutes when the voltage is higher than 450V. The duration mentioned above commences from the moment the probe wires of two phase sequences are connected.

① The phase sequence function allows you to test the phase sequence of 3-phase AC power supply (100V-450V/40-60Hz). When you have connected the phase sequence probes with the test wires by input terminals, you can judge the positive phase and reverse phase of 3-phase AC according to LED indicator and beep, and phase missing indicated by LED.

② Test State

Phase Sequence Test Indication	Open Phase Test Indication	Beep
Positive phase (CW indicator is on)	L1, L2 and L3 indicators are on.	Long beep
Reverse phase (CCW indicator is on)	L1, L2 and L3 indicators are on.	No beep
Missing phase (CCW indicator is on)	Any of L1, L2 and L3 is not on	No beep

Note: When the measurement probes have been connected, the phase sequence measurement function shall indicate the positive phases and reverse phases of a 3-phase AC, and the LED indicator will indicate the phase missing. Be sure to measure with 3 triple-color test wires with 3 round crocodile clamps.

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Warning

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Warning

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I. General Introduction

The brand new 6250-IN instrument can measure insulation resistance, AC voltage and phase sequence. it has made fundamental changes to the circuit industry of conventional insulation resistance. Aided by the nice and fashionable design, 6250-IN have more and stronger functions, are easier to use and more reliable. The instrument and accessories are all in the toolbox, fit for field application. It can be used to test the insulation resistance of power system, electrical equipment, lightning arrester equipment, and measure AC voltage and phase sequence test.

II. Safety Rules

1. Be sure to read this user manual carefully before using this instrument.
2. Do not use this instrument when the rear cover is not in place, or you may get electrical shock.
3. Be sure to check the insulation layer of the probe is sound and free of any damage before using this instrument.
4. To prevent electrical shock, be sure not to touch electric lead and circuit when the test is in process.
5. Be sure to confirm the range selection switch has been set in the appropriate range before testing.
6. Confirm the plug of the wire has been tightly inserted in the terminal.
7. Be sure not to use the instrument when it is moist
8. Be sure not to turn the function selection switch when the test is in process.
9. Do not apply any voltage higher than 600V, AC or DC, between test terminals.

3. Test of Insulation Resistance.

① Connection of Test Terminals

Insert the red test lead into the L socket of the instrument and the plug of the black test lead with flat crocodile clamp into the E socket of the instrument.

② Test connection

The wiring of E socket of the instrument is the earth wire; The wiring of L socket of the instrument is the line wire. The G terminal socket of the instrument is the shield wire to test the high insulation resistance. If necessary, insert the plug of the black test wire with probe into the G terminal socket of the instrument, to eliminate the measurement error caused by the leak current in the surface of the product, and ensure the accuracy of the test;

③ Selection of Rated Voltage

Select the rated voltage you need to test the insulation resistance by turning the knob to the relevant voltage class.

④ Test Operation

Connect the other terminal of the wire to the object under test. Press the Test/Stop key, the red indicator turns on, indicating the high voltage output of test is connected.

When the test has started, the LCD of the instrument displays some readings. The value displayed by LCD is the insulation resistance of the object under test.

When the high voltage indicator is on, it indicates the test instrument is working properly.

⑤ Turn off

When the test is over, press the Test/Stop key, the red indicator turns off, indicating the test high voltage has been disconnected. Thrn the switch at OFF position,No display on LCD. For capacitive load,be sure to discharge the residual charges in the

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VI. Operation Instruction

1. Safety Precautions

① Be careful of the high voltage shock. When the insulation resistance test is over, be sure to confirm the high voltage on the object under test has been discharged.

② Do not touch the object under test when the test is in process in case you should get electrical shock.

③ The object under test shall not be live and be sure to confirm the object under test is securely earthed when you test the insulation resistance. Short circuit the two test terminals of the object under test to discharge before you start the test.

④ Do not include any external voltage into the test loop when you test the insulation resistance.

⑤ Be sure to confirm the knob switch is in right position and the test wire is firmly connected before you start the test.

⑥ When the high voltage switch has been turned on, up to 5000V high voltage is generated between L terminal and E terminal. Be sure not to touch any exposed part of instrument and the object under test, otherwise you may get electrical hazard.

2. AC Voltage Test

① Do not test any voltage higher than 600V.

② Connection of Test Terminals.

Insert the red test lead into the ACV socket of the instrument and the black test lead into the G socket of the instrument.

③ Set the rotary switch at the "600V" position and connect the probe to the object under test.

④ The value displayed by the instrument now is the AC voltage between two terminals of the object under test.

10. Do not test in inflammable environment since spark may lead to explosion.
11. Stop using the instrument in case any metal is exposed because the shell or test wire is broken when the test is in process.
12. Be sure that the test wire has been removed from the test terminal and the function range selection switch is in the OFF position when you remove the rear cover to replace battery.
13. Do not replace battery when the instrument is moist
14. Be sure to put the function range selection switch at the OFF position when your work is over.
15. Remember to remove the battery when you are going to not use the instrument for a long period of time.
16. When the instrument displays "⊟+", replace battery promptly, to ensure the accuracy of measurement.

III. Performance Features

1. Low power consuming CMOS dual integral A/D conversion IC, automatic zero
2. LCD: 3 1/2 bit large screen display, maximum reading 1999
3. Data holding function, functional icons display
4. Can measure voltage lower than AC600V
5. Low Battery indication
6. LCD backlight function
7. phase sequence test
8. Automatically convert range (Insulation test only)
9. Perfect protection circuits, which can effectively prevent the harm of reverse voltage
10. LCD dimension: (65x48)mm (digit is 29mm high)
11. Power: 8x1.5V (R6 AA) battery

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12. Dimension: 190x155x75mm
13. Weight: about 900g(including battery)
14. The instrument and accessories can be put into one for easy carriage
15. Environment conditions
Operating temperature: 0℃~40℃
Relative humidity<80%
Storage temperature: -10℃ ~50℃
Relative humidity<80%

IV. Specification

Accuracy: (%reading+digit) the warranty is one year
Environment temperature: 23℃±5℃
Relative humidity: <75%

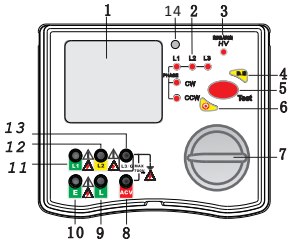
1. Insulation Resistance

Model	6250-IN
Testing Volatge	1000/2500/5000V
Out Volatge	90%-110% of the test voltage
Range	0.1MΩ-200GΩ
Resolution	0.01MΩ
Accuracy	0.1MΩ-200MΩ± (3%rdg+5dgt)
	200MΩ-10GΩ±(5%rdg+5dgt)
	10GΩ-200GΩ±(10%rdg+5dgt)

2. AC Voltage Measurement
Measurement range: 0-600V
Accuracy: (2% rdg+5dgt)
Resolution:1V
Test frequ

3. Phase Sequence Test
Phase-phase voltage range tested: 100V-450V
Frequency tested: 40-60Hz
Phase Sequence test result is indicated by LED.
No display in LCD

V. Operation Schematic View



1. LCD display
2. Phase sequence measurement LED indicators (CW, CCW, L1, L2 and L3)
3. Insulation resistance measurement high voltage LED indicator
4. Data holding swith
5. Test button
6. Backlight indicator swith
7. Function switch
8. ACV Input terminal
9. LINE input terminal (Insulation)
10. EARTH input terminal (Insulation)
11. Phase sequence L1 input terminal
12. Phase sequence L2 input terminal
13. Phase sequence L3/ACV measurement G terminal/shield input terminal for insulation
14. DC 12V input jack

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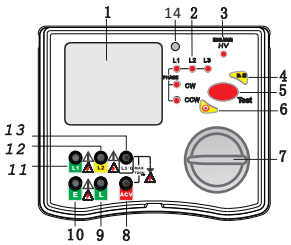

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