

پتروفرفهان گستر جنوب



MODEL: GM3125

High voltage insulation tester User's Manual



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FGJ-NDT.IR

DIGINDT.IR

CE  Version: GM3125-EN-0

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Danger

- Do not measure if the voltage is above 600V.
- Do not test at flammable / explosive hazard.
- Do not measure if the unit or your hand is wet.
- Do not go beyond the range of the tester
- Do not open the battery door under measuring.
- Do not touch any naked lead under measuring
- Make sure turn off the unit after measurement.

Warning

- The tester must be operated according to this manual by qualified person who have passed the training.
- Do not open the case while testing. If the tester does not work properly, please return for repair.
- Do not replace the batteries in a humidity condition.
- Make sure the wire firmly connected to the tester.
- Make sure to turn off the power before opening the battery door.
- Check the tester regularly, do not operate if the tester is not normal (such as lead wire is cracked, the case broken etc.)
- Do not attempt any alterations. Please contacted your dealer if the tester need to be repaired.

Symbol:

	Danger of possible electric shock
	Instrument with double or reinforced insulation
	DC
	AC
	Ground terminal

Features and functions

- Auto- discharge function to make, the operation safe.
- LCD Back-light.
- Digital readout display.
- Live circuit warning symbols with audio sounds.
- Auto- power off function (in 10 minutes without operation)
- Timer measurement function.
- Low battery indication
- PI measurement (Polarization index measurement)
- Suitable for 12V DC adapter (12V/1A)

Specifications:

1. Insulation resistance tester:

Rated voltage	500V	1000V	2500V	5000V
Test range	0.0~99.9MΩ	0.0~99.9 MΩ	0.0~99.9 MΩ	0.0~99.9 MΩ
	100~999MΩ	100~999 MΩ	100~999 MΩ	100~999 MΩ
		1.00~1.99GΩ	1.00~1.99GΩ	1.00~9.99GΩ
			10.0~99.9GΩ	10.0~99.9GΩ
				100~1000GΩ
Open circuit voltage	DC 500V +30%, -0%	DC 1000V +20% -0%	DC 2500V +20% -0%	DC 5000V +20% -0%
Rated current	0.5MΩ loading 1mA~1.2mA	1MΩ loading 1mA~1.2mA	2.5MΩ loading 1mA~1.2mA	5MΩ loading 1mA~1.2mA
Short-circuit current	Approx. 1.3mA			
Accuracy	±5%rdg±3dgt (0~99.9GΩ) ±20%rdg±3dgt (above 100GΩ)			

2. Voltage tester:

30~600V (Resolution 1V)

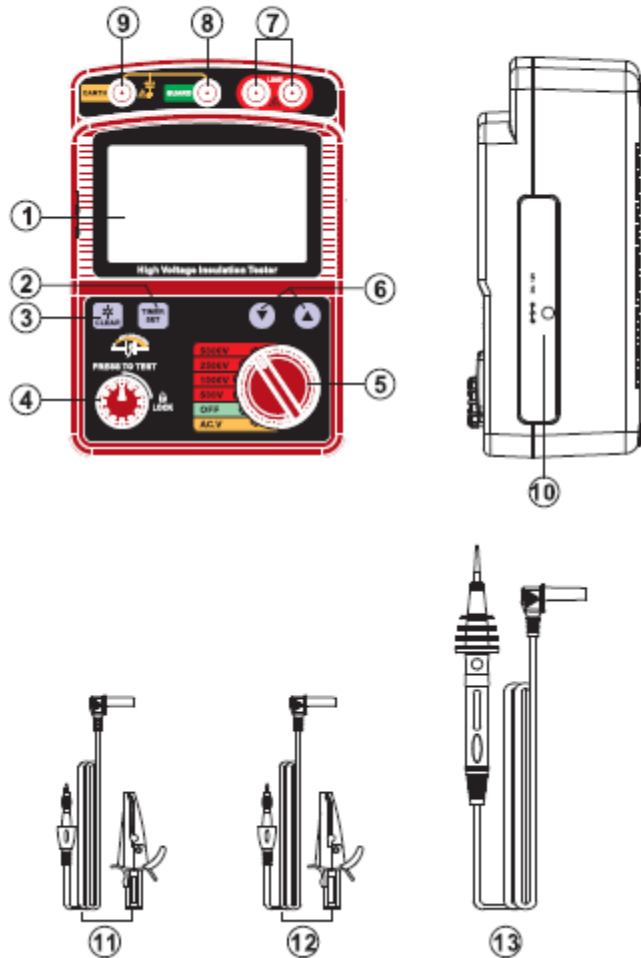
	DV	AV
Measuring range	±30~±600V	30~600V (50/60Hz)
Resolution	1V	
Accuracy	±2%rdg±3dgt	

3. Technology parameter:

Technology parameter	Technology index
Display	Max. 999 counts LCD display (1000 counts only at 1T is displayed)
Over range indication	OL mark appears on insulation resistance range. LO mark appears on voltage's range.
Auto- ranging	Range shifts to upper range: 1000 count Range shifts to lower range: 95 counts (merely on the insulation resistance range)
Sample rate	0.5~ 10 times/sec
Operable altitude	Less than 2000m (Indoor use)
Operation circumstance	Temperature 0~40C, humidity <= 85%
Storage circumstance	Temperature -20~ 60C, humidity <= 90%
Overload protection	Insulation resistance : AC 1200V/ 10s Voltage : AC 720V/ 10 s
Voltage resistance	AC8320 (50/60Hz)/ 5 second (between electrical circuit and enclosure)
Insulation resistance	1000M of more/ DC 1000V (between electrical circuit and enclosure)
Power supply	DC12V (8x1.5V LR14 battery)
Battery's life	Approx. 15 hours
Dimension	153x 96x 200mm
Weight	1032g (without batteries and test wires)

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Diagram of the unit



1.LCD display.

2. [TIMER SET] : Time set button.

3. [★ CLEAR] : Backlight button

4. Test button.

5. Function switch.

6. [▼] [▲] : Time choose button.

7. Red high voltage test wire socket.

8. Green protect test wire socket.

9. Black test wire socket.

10. DC input interface (12V/1A)

11. Black test wire and alligator clip.

12. Green protective test wire and alligator clip.

13. Red Hi- volt test wire.



Caution

The data in the diagram of the unit is a simple instruction.
Read the operation to get a detail operation guidance.

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2. Connecting test wires:

Insert the test wire firmly to the connector terminal on the instrument;

Connect the red test wire to “Line” socket;

Connect the black test wire to “Earth” socket;

Connect the green guard wire to “Guard” socket;

The connect method like the picture below:



Voltage measurement(30~600V)

⚠ Danger

- Do not take measurement on a circuit above AC/ DC 600V
- The user maybe hazard when testing installation that has a large current capacity, do not touch any bare wire at this time.
- Do not take measurement if the battery cover removed.

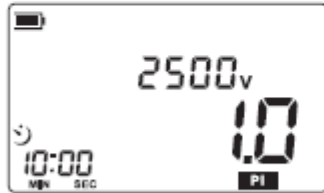
1. Connect the red test lead and black test lead to reciprocal terminal socket.


2. Set the function switch to "AC. V" position, like the picture below: Don't press "Test" button, this instrument with DC/AC self-detection and DC voltage +/- identification function.




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5. When the measurement is completed at TIME2, the high voltage light get off and the sound of the high voltage stop. Turn test button back to the original position anticlockwise, the rate (insulation resistance of TIME2/ insulation resistance of TIME1)display as below:




6. Press the  button at the first time: LCD display the insulation resistance value of TIME1 like the followed picture:



- Press the  button at the second time: LCD will display the insulation resistance value of TIME2 like the followed picture:



Press the  button at the third time, LCD will display the Polarization index value.

7. Polarization index measurements usually set TIME 1 to 1 min. set TIME2 to 10min.

$$\text{Polarization index} = \frac{\text{Resistance value in 10 min (TIME2)}}{\text{Resistance value in 1 min (TIME1)}}$$

Polarization index	4 or more	4- 2.0	2.0- 1.0	1.0 or les
Criteria	Very good	Good	Dubiouts	Unsatisfactory

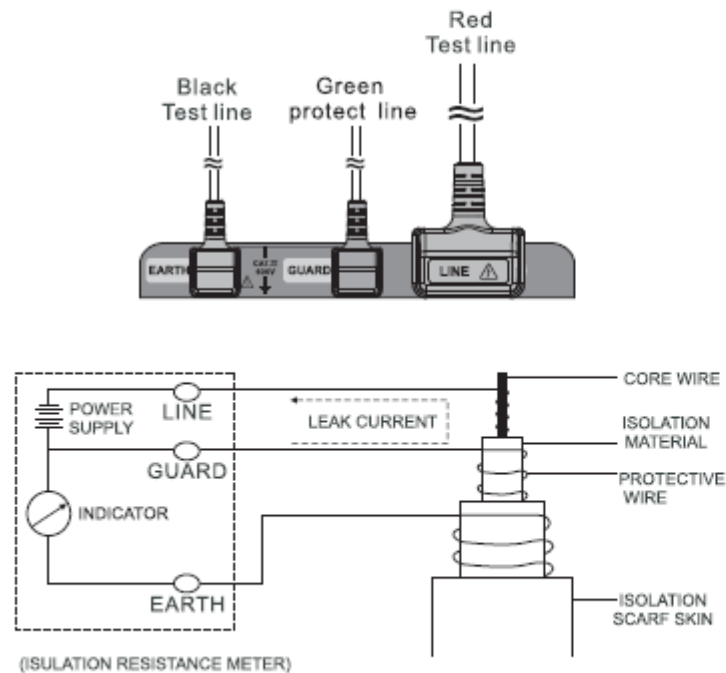


Caution

The data shown in the operation instruction are merely a example to illustrate, please refer to the value obtained in your practice.

The use of green protect- wire

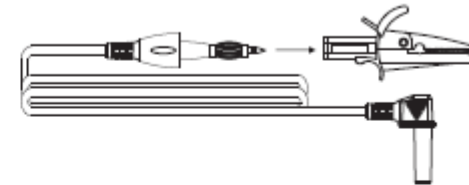
Connect the green protect- wire to GUARD terminal. It is only used to measure the insulation resistance of cable. Nip the shield like during the measurement to reduce the effect of leakage current (please reference before test instruction to understand other operation). Connect the wires as below:



Other items

Attentions:

1. The screen is vacant after turn on the instrument:
Check whether the battery is installed correctly. Open the battery door, check the symbol + - on the battery must accord with symbol on the battery compartment.
2. If the battery voltage lower than $8.5v \pm 0.2v$ and the LCD displays low battery indication, please replace the battery to avoid the in-correct reading.
Please read the page 10 of operation instruction for the battery replacement operation.
3. The connect way of test pin with alligator clip is like the following picture:



4. Remove the battery form the instrument if it is not required for extended period of time in order to avoid damage to the battery compartment and the electrode resulting from a battery leakage.