MG-3010

Digital Insulation Resistance Tester

Operating Manual

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1. Summary

The newly style of Digital Insulation Resistance Tester is MG-3010. It has fashionable design and improved electronic circuit, so that has more fully function, higher precision, easier operation.

The output testing voltage can be selected in 250V/500V/1000V for deferent measurement. Resistance range can touch 2000MΩ. Alternating voltage also can be tested.

This tester apply for all kinds of electric equipment and insulation materials such as transformer, electromotor, cable, switch appliance, etc.It is a perfect electrical testing meter.

2.Safety notice

(1)Read this Operation Manual carefully before use it.
(2)This meter is designed in accordance with ICE publication 1010, pollution degree Ⅱ and installation category (over voltage category) Ⅱ.
(3)Shouldn't use it before close the back lid cause of the danger of electroshock.
(4)Check the insulation skin of the test lead.
(5)Don't rotate switch when testing.
(6)When seeing "⊟+" on the LCD, means battery is low. Please replace battery to ensure accurately testing.

3.Feature

(1)Low power consumed CMOS double integral A/D convertor IC, auto zero.
(2)3? digits LCD display, the max reading is 1999.
(3)Data holding with symbol.
(4)LED indicating shows high voltage is generated.
(5)Voltage below AC600V can be tested.
(6)Low battery indicated.
(7)Output short current is over 1.5mA.
(8)Range: 0-2000MΩ, auto range.
(9)Perfect circuit protect.
(10) Size of LCD: 67 ×28mm (Height of character is 20mm).
(11)Power: R6P(AA)(1.5V)×6 .
(12)Size : 150 ×100 ×70mm.
(13)Weight: 680g (Including batteries).
(14)Environment:
Working temperature: 0-40℃, relative humidity<80%
Storage temperature: -10-50℃, relative humidity<85%
Temperature to ensure precision: 23℃ ±5℃, relative humidity<75%

4. Technique specification

accuracy: ±(% of reading + counts)
Environment temperature: 23℃ ±5℃, relative humidity<75%

Model	MG-3010		
Test Voltage DC	250V/500V/1000V		
Output Voltage	90%~110% of test voltage DC		
Measure Range	0.01MΩ~2000MΩ		
Minimum Resolution	0.001MΩ		
Accuracy	0.001MO~200MΩ ±(3% readings + 5 digits)		
	200MΩ ~ 2000MΩ ±(5% readings + 5 digits)		
Measure Voltage AC	600V		
Accuracy	±(2% readings + 15 digits)		
Test Frequency of Voltage AC	50/60Hz		

5. Panel map

(1) High voltage indicator light
(2) High voltage button: TEST/STOP
(3) Data holding button: Hold
(4) Rotary switch
(5) E (EARTH) socket
(6) G socket (leakage current for insulation/input for ACV)
(7) ACV input
(8) L (LINE) socket

6. Operating

(1) Safety notices

a.There is a possibility of causing an accident of electric shock after the measurement of insulation resistance is completed, Be sure to discharge the high voltage charged in the measuring object.

b.There is a risk of electric shock during the measurement. Be careful not to touch the measuring terminal and measuring object during the measurement.

c.Make measurement within the insulation resistance measuring range, and never lead voltage from outside, or the tester will be destroyed.

d.Be sure to confirm the position of rotary switch and the connection of measuring lead with the tester before starting the measurement.

e.When start the high voltage button, There is a high voltage about 15V-2500V between “L ”and “E”, Don’t touch the bare part of meter and be tested object , cause of the danger.

(2) AC voltage test

a. ⚠ Don't test over AC 600V or high voltage. It is Dangerous!

b.Connect the measuring Leads

Insert the plug of lead with probe to measuring terminal ACV, and the plug of lead with clip to measuring terminal G respectively.

c.Connect to the measuring object

Using the rotary switch select the (600V) position. Connect the probe of red and black lead to the measuring object.

(3) Insulation resistance testing

a .Connection of measuring lead

Insert the plug of lead with big probe to “L” socket.
Insert the plug of lead with big clip to “E” socket
The lead with the big measuring clip is connected with the earth. The lead with big probe is connected to measuring object. The lead insert in “G” socket is the shield lead to leak current of testing resistance,connected to ground.

b.DC test voltage select

Select the DC voltage which the insulation resistance you want to test.
Turn the rotating switch to the needed voltage .

c.Testing

Turn on the power by lightly pressing the button (TEST/STOP).The power is turned on when the button is pressed, Press the button once again to turn the power off.
When the power is turned on, measuring high voltage is generated, measurement is started, and LED on the panel will light. the value will be showed on the LCD. This is the value of insulation resistance measured.
If the high voltage indicator LED on the panel is lighting at this time, it means that the tester is working correctly and correct voltage has been impressed on the measuring object. This LED does not light when the batteries have been exhausted or the contact of batteries is not proper.

d.Finish

Press the button (TEST/STOP) once more after themeasurement completed. When the red LED off, means the output testing high voltage has been over. Turn the rotary switch to “OFF” position. If the load contains capacitance, please short the testing object first to discharge residually electricity before move the testing leads.

7. Maintenance

This is a precise instrument and needs careful maintenance.
a.Don't open the back lid . Don't use it if the back lid not fixed.
b.Take out the test lead and turn off the power before replace battery. Please open the lid and fit the new battery.
c.Take out battery and put it in the place where dry and airiness if the meter will be unused for long-term.
d.Don't change the inner circuit .
e.Please contact with us if there is any problem.

8. Accessories

a.Test lead ：	1 set
b.User's manual：	1 piece
c.Battery:R6P(AA)(1.5V)	6 piece