Metrix+™

Model: DIT 918

Voltage Insulation Tester
Instruction Manual

Precaution

- Thank you for purchasing our company's insulation tester.
- This manual provides relative information on how to use the unit and warnings in operation.
  to make the best use of the products's functions read the manual throughly before use ,Please keep the manual for quick reference.
- Please make some simple test measurement to ensure proper performance of the unit.

CONTENTS

1、Before Use

Check Up

Carefully unpack your kit and ensure that you have the following items ,in case that any item is missing or if you find any mismatch or damage ,promptly contact your dealer.

- Insulation Tester····· 1pcs
- English Instruction Manual····· 1pcs
- Warranty Card····· 1pcs
- Test wire 、 Alligator clip·····3pcs
- 1.5v AA Battery ····· 6pcs
- PP packing Box····· 1pcs

Safety Precaution

The instrument is designed to following standards
- IEC 61010-1 CAT.III 600V Type 2
- IEC 61010-031 (Hand lever、Probe standards)

⚠Warning:
Electricity is dangerous and can cause injury/Death ,For use the instrument correctly and safely.
Pls read this manual carefully and follow the instruments.

The symbol" ⚠ " in this manual have three meanings pls pay attention the operation with " ⚠ " symbol .

⚠ Danger--- That conditions operation likely to cause serious or fatal injury.
⚠ Warning--- That conditions operation can cause serious or fatal injury.
⚠ Caution--- That conditions operation likely to cause a injury or instrument damage.

⚠ 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 when you are measuring.
- Make sure switch to off position after measured,Do not touch any bare wire during testing.

⚠ Warning

- The tester must be operated according to this manual by qualify person who have passed the training.
- Do not open the case while testing. If the tester not working 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 of f the power before open 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.

⚠ Caution

- Before testing, make sure to select proper range.
- Make sure switch to off position after measured,remove the battery from the instrument if it it not required for extended periods of time in order to avoid eroding of battery case electrode piece resulting from a leaking battery.
- Instrument wet ,dry first then store.
- Do not store the instrument in high temperature 、 humidity or under sunshine
- Wipe off the dirt with a damp、 soft cloth ,do not use aggressive cleaning agents or solutions.

⚠	Danger of possible Electric Shock
⧈	Instrument with double or Reinforced insulation
⎓	DC
~	AC
⏚	Ground Terminal

Features and functions

- Auto discharge function, operate more safety
- LCD backlight
- Live wire warning and audio indication
- Auto power off in 10 minutes,without any operation
- Low battery indication

Specification

1.Insulation resistance test

Rated Voltage	100v	250v	500v	1000v	2500v
Testing Range	0.0-10MΩ 10-100MΩ 100-200MΩ	0.0-10MΩ 10-100MΩ 100-500MΩ	0.0-99.9MΩ 100-999MΩ	0.0-99.9MΩ 100-999MΩ 1.00-19.9GΩ	0.0-99.9MΩ 100-999MΩ 1.00-9.99GΩ 10.0-49.9GΩ
Open Circuit Voltage	DC 100V +10%-0%	DC 250V +10%-0%	DC 500V +20%-0%	DC 1000V +20%-0%	DC 2500V +20%-0%
Rated Current	0.5MΩ 0.2mA- 0.25mA	0.5MΩ 0.5mA- 0.55mA	0.5MΩ 1mA- 1.1mA	1.0MΩ 1mA- 1.1mA	2.5MΩ 1mA- 1.1mA
Short Circuit current	1.3Ma Approx				
Accuracy	±8%rdg （100K~10GΩ） ±10%rdg (10GΩ~50GΩ)				

2、Voltage Measurement

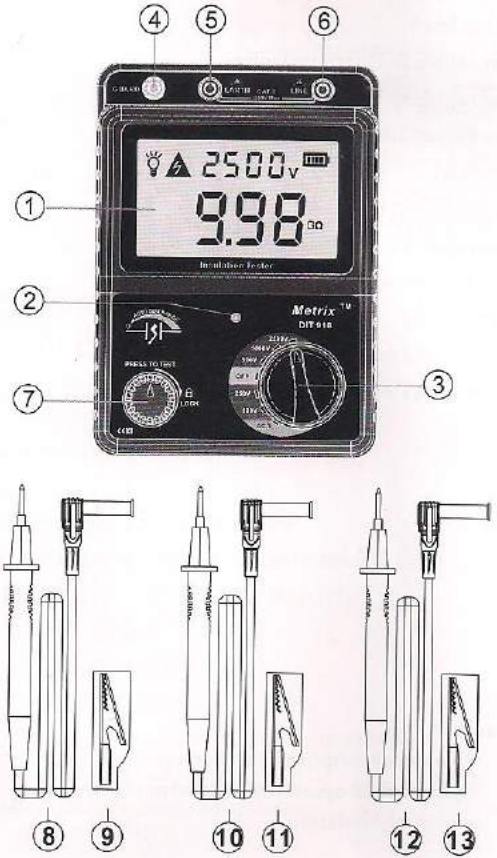
30~600V (Resolution: 1V):

	AC Voltate
Range	30~600V (50/60HZ)
Resolution	1V
Accuracy	±2% rdg ±3dgt

3.Technical specification:

Parameter	Index
LCD display	Max 999 counts
Over range indication	OL: appears on insulation resistance Lo: appears on votage
Auto range	Rang shift to upper range: 1000 counts Range shift to lower range: 95 counts (only on insulation)
Sampling rate	0.5~10 times/sec
Operation alititude	≤2000m(indoor use)
Operation circumstance	temperature: 0℃-40℃/humidity: ≤85%
Storage circumstance	temperature: -20℃-60℃/humidity: ≤90%
Over load protection	Insulation re: AC 1200V/10sec Voltage: AC 720V/10sec
Withstand voltage	AC 8320V(50/60Hz)/sec
Withstand Insulation resistance	≥1000MΩ/DC 1000V
Power supply	DC9V(6x1.5V AAbatteries)
Battery consumption	approx. 800mA(max)
Battery life	approx. 15 hours
Dimension	125.4X174.6X69mm
Weight	547.44g (without battery and test wire)

Diagram of the product

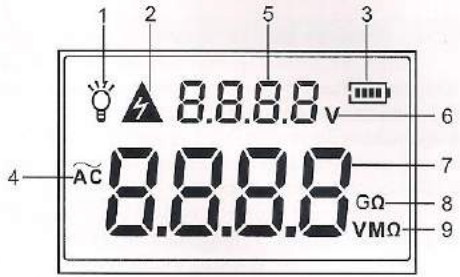


1. LCD display
2. High voltage indication light
3. Function knob
4. Socket for black Guard test wire
5. Socket for black Earth test wire
6. Socket for red Line test wire
7. Test button
8. Black Earth test wire
9. Black alligator clip
10. Red Line test wire
11. Red alligator
12. Green Guard test wire
13. Green alligator clip

Note:

Above descriptions just are simple introduction, please read operation instructions part in this manual for details.

LCD Display



1. : Back light indication icon
2. : High voltage warning icon
3. : Batter power icon, shows current battery voltage as following 5 grades:
   - :battery is sufficient
   - :battery is comparative sufficient
   - :battery is nearly deficient
   - :battery is nearly exhausted, need to have a replacement
   - :battery is exhausted completely.
4. AC : AC symbol
5. Voltage reading area
6. V : Unit of voltage
7. Voltage / Insulation resisance value reading
8. GΩ : Unit of Insulation
9. VMΩ : Unit of voltage / insulation

2、Operation

Preparation before measurement

1. Checking the battery power and battery replacement

a. Set the function switch to turn on.

b. When the battery icon " ▭ " shows on the LCD, it means the battery almost exhausted. Please replace the battery to avoid in-accurate measurement.

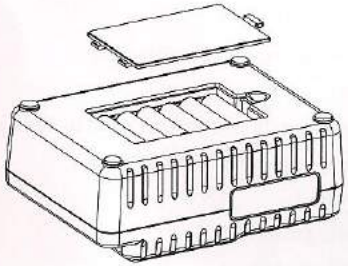
c. Battery replacement:

1> Turn off the unit and unplug the test wires.

2> Uninstall the battery door screw, and open the battery door.

3> Unload the old batteries, and load the new batteries.

4> After load the new batteries, put the battery door back and fasten the screw. As figure below



Note:
Remove the batteries from the unit if it is not required for extended periods of time in order to avoid damage resulting from leaking battery.

2. Test wires connection:

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

Connect the red test wire to "Line" terminal;

Connect the black test wire to "Earth" terminal;

Connect the Green guard wire to "Guard" terminal; the green guard wire only use in insulation measurement, when take measurement clamping on the shield line the avoid the current interference.

The connect method like the picture below:

Voltage measurement(AC 30V~600V)

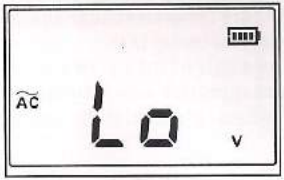
⚠ DANGER

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

1.Connect the red 、 black earth test wire to reciprocal terminal.

2.Setting the function switch to AC. V position, like the picture as below:

3、After the full LCD display one sec, the LCD shows as below,do not press TEST button, the unit have the auto AC detection function.



4、Connect the red black wire or pin to the tested electrode the LCD shows the reading as below:

5、Remove the test pin from the tested parts firstly after measurement ,and then set the function switch to OFF position.

Insulation resistance measurement

⚠ Danger

- Make sure that there is no electrical charge exists on the circuit and Capacitor under test.
- Be sure to put on a pair of insulated gloves for high voltage.
- Do not make measurement when thunder rumbling.
- Do not make the measurement with the battery cover removed.

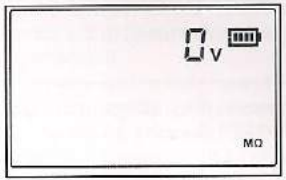
⚠ Caution

- When the live circuit warning is indicated or the warning buzzer sounds, measurement cannot be made at this time

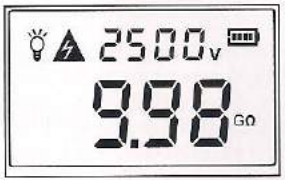
1.Connect the red test wire and black test wire to reciprocal terminal.

2.Setting the function switch to proper position according to the content of insulation material, (you can take a try follow the sequence 100V/250V/ 500V/ 1000V/2500V if you do not know the resistance range) for example, 2500V like the following picture:

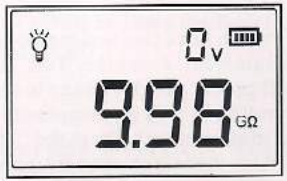
After full LCD display for one Sec, LCD shows as below:



3、Connect the terminal pins/ alligators to the part undertest, press and turn TEST button to measure, the buzzer will sound continuously and the high voltage light will flash. LCD display as the figure below during the testing:



4、Release the button, the instrument will discharge the high voltage automatically, and the high voltage light and alarm sound will turn off. Remove the terminal pins/alligators only after the LCD display 0V.The insulation resistance reading display on the LCD as the figure below:

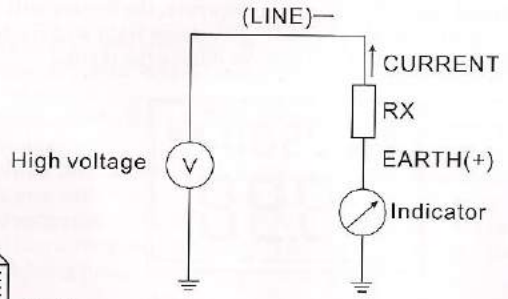


⚠ DANGER

- Do not touch the circuit bare wire under test immediately after testing. capacitance stored in the circuit may cause electric shock.

5、Remove the terminal pins/alligators to the part under test then switch to "OFF" position power off.

6、The test principle of the insulation resistance:
Resistance value was triggered by applying a certain high voltage to trigger following current R=V/I



Caution:

1. The unit will auto power "OFF" after 10 minutes without any operation to save the battery power, if you need to restart the unit, just turn the power switch to "OFF" position and turn on.set the power switch to "OFF" position when you do not use the instrument.

2. The "Test" switch have two test methods:

a. Instant measurement: Press the "Test" switch and not rotate, it will produce high voltage to test insulation release the button to stop measurement.

b. Continuous measurement: Press the "Test" switch and turn to lock it for measurement continuously, turn and release the switch will stop the measurement.

Continuous Measurement

1. About the first and second procedure, please refer "insulation measurement".
2. Connect with the parts under test, press the TEST switch and Clockwise rotate to enter continuous measurement,the buzzer sound DiDi the LCD display as below:

Until contrarotate and release the TEST switch to original position , the high voltage indicator and Alarm will turn off gradually,,instrument on testing status ,release the button the unit will auto discharge the voltage .Only disconnect the testing wire after the LCD Display OV.

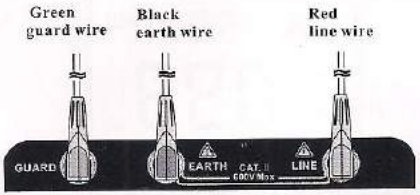
3.Remove the test wires, and turn the Functional switch to "OFF" position turn off

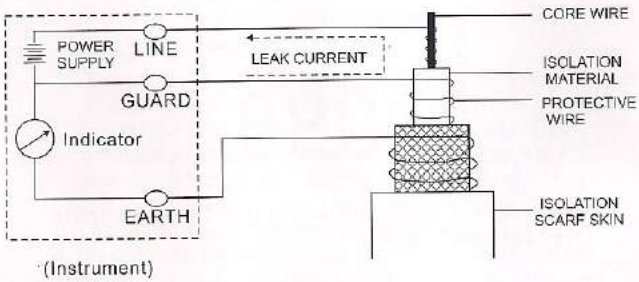
Caution

The data in the operate instruction is only for demonstration to make you understand easily, please refer it according to the measured data in practice.

Green Guard wire usage

Plug the green guard test wire into GUARD socket, the Green wire only use in insulation test, during measurement clip the guard wire to the shielded wire to reduce the interference of the current.the connecting methods as below





(Instrument)

3、Other items

Attentions

1. The screen is blank after turn on:
   Check up if the batteries have been installed correctly. the "+" "-" polarity of the batteries must match the symbol inside the battery compartment.
2. If the battery power lower than 7.2V±0.2V, LCD will display low battery icon " ▭ ", please replace the batteries to prevent inaccurate readings. The replace battery method pls refer the contents of page09.
3. Remove the batteries from the unit if it is not required for extended periods of time in order to avoid damage to the battery compartment and the erosion resulting from a battery leakage.

Maintenance and warranty

Maintenance:

1. Do not store or use the unit in following circumstance:
a. Splashes of water or high levels of dust.
b. Air of high salt or sulphur content.
c. Air mixed with other gases or chemical contents.
d. High temperature or humidity (above60℃, 90%RH,) or direct sunlight.
2. Do not disassemble the unit or attempt any internal a lterations.
3. Never use alcohol or diluents to clean the housing for doing that will especially erode the LCD surface;just clean the unit lightly as needed with little cleanwater.

Warranty:

1. About relative warranties please read warranty card.
2. We disclaim any liability due to: client's transportation damages; incorrect use or operation; manipulation, alterations or repair attempts; without warranty card, invoice.

Statement:

- We reserve the rights of upgrading and amending the design of the product as well as the manual updating, and the product is subject to change without any further notification.

IntelliSafe CE