METRAVI® | Digital Insulation Resistance Tester | DIT-909

INTRODUCTION

DIT-909 a digital Insulation Resistance Testing Instrument. The complete equipment is brand new degin with large-scale integrated circuit, accomplices measuring of Insulation Resistance, DC Voltage, AC Voltage, Continuity, Resistance Capacitance and other Parameters; it offers more complete function, higher accuracy, more stable performance, and more convenient & reliable operation. It's application includes measuring IR on various electrical devices such as voltage transformer, motor, cable, switch, electrical appliance and insulation resistance for insulation materials, maintenance, testing and verification on variouse electrical device.

SAFETY

The instrument is designed and produced in strict accordance with GB4793 Safety Requirements for Electronic Measuring Apparatus and IEC61010-1, EN 61010-2-033 safety standard for double insulation over-voltage CAT IV 600V and pollution level II.

GENERAL SPECIFICATION

- Display : Backlit liquid crystal display with maximum display reading of up to 9999;
- Low-battery warning
- Over-range indicatior : mark of ">" appears on tap positions of insulation Resistance and Continuity;
- Auto Ranging;
- Unit display : display of symbols for functions and power unit;
- Operationg conditions : 0°C -40°C / relative humidity of 85% or lower;
- Storing conditions : -20°C -60°C / relative humidity of 90% or lower;
- Dimensions : mm (225L) x mm (103W) x mm (59D);
- Current consumption : about 500mA (1000V at maximum in output) (about 17mA in normal state);
- The instrument is designed and produced in strict accordance with IEC61010 safety standard, and complies with the safety standards for over-voltage (CAT IV 600V) and pollution level II;
- Function of automatic voltage discharge
- Backlight function is convenient for operation in dark light;
- Red warning indicator;
- Altitude : ≤ 2,000m;
- Accessories : wire, alligator clip, 6 1.5V (No.5) alkaline batteries, instructions and a carrying bag;
- Weight : 0.7kg (with batteries)

Can be used for measuring Polarization Index (PI) & Die Electric Absorption Ratio (DAR)

- Timer can be set from 1 to 10 mins
- Comparator Function
- Data Hold
- Low Battery & High Voltage Indication
- Internal Memory up to 99 Data

*Technical Specifications & Appearance are subject to change without prior notice

Electrical Specification

Error limit: ± (a% reading + b word count), calibration period is a year;
Ambient temperature: 23°C ±5°C;
Ambient humidity: 45-75%RH;
Temperature coefficient: 0.1 x (accuracy) / °C

Measuring of AC voltage: (T-RMS)

Measurement Range	Minimum Resolution	Range of Valid Frequency in Accuracy: 45Hz-450Hz
0 ~ 600V	0.01V	±(1.5%+5)

When measured voltage frequency >450Hz, measuring values shall serve as reference only.

Measuring of Frequency (Auxiliary Display of AC Voltage Tap position):

Measurement Range	Minimum Resolution	Range of Valid Frequency in Accuracy: 45Hz-450Hz
45 ~ 1KHz	0.1Hz	±(0.1%+3)

Measuring of DC Voltage:

Measurement Range	Minimum Resolution	Accuracy
-600 ~ 600V	0.01V	±(2%+3)

Measuring of continuity:

Measured Current	Measurement Range	Minimum Resolution	Accuracy
20m A	0.01Ω - 100Ω	0.01Ω	±(1.5%+5)
200m A	0.01Ω - 10Ω	0.01Ω	±(1.5%+4)

In open circuit, measured voltage is about 5V.

Measuring of Resistance:

Measurement Range	Minimum Resolution	Accuracy
0. 001KΩ - 10MΩ	0. 001KΩ	±(3%+3)

Measuring of Capacitance:

Measurement Range	Minimum Resolution	Accuracy
0.1 nF - 500μF	0.1 nF	±(5%+5)

Measuring Insulation Resistance:

Output Voltage	Measurement Range	Minimum Resolution	Accuracy
50V (0~+20%)	0.00MΩ ~ 0.99GΩ	0.01MΩ	±(3%±3)
	1.00GΩ ~ 10.0GΩ	0.01GΩ	±(3%+3) Reading ± 4%/GΩ
100V (0~+20%)	0.00MΩ ~ 0.99GΩ	0.01MΩ	±(3%±3)
	1.00GΩ ~ 20.0GΩ	0.01GΩ	±(3%+3) Reading ± 2%/GΩ
250V (0~+20%)	0.00MΩ ~ 0.99GΩ	0.01MΩ	±(3%±3)
	1.00GΩ ~ 50GΩ	0.01GΩ	±(3%+3) Reading ± 8%/GΩ
500V (0~+20%)	0.00MΩ ~ 0.99GΩ	0.01MΩ	±(3%±3)
	1.00GΩ ~ 100GΩ	0.01GΩ	±(3%+3) Reading ± 4%/GΩ
1000V (0~+20%)	0.00MΩ ~ 0.99GΩ	0.01MΩ	±(3%±3)
	1.00GΩ ~ 200GΩ	0.01GΩ	±(3%±3) Reading ± 2%/GΩ

Operation range for EN61557 : 0.10MΩ - 1.00GΩ (insulation output voltage ~ 50V).

Short-circuit current : <3mA

Testing range for leaked current : 10μA to 2mAΩ

Testing accuracy for leaked current : 10%±3.

Step voltage for insulation output voltage is set to be 50%-120% at the step of 10%.

In measuring insulation resistance, when step voltage selected is lower than nominal voltage in the function tap position (50V/100V/250V/500V/1000V), maximum testing range for insulation resistance will be 112 of maximum testing range for the function tap position and accuracy will be added with ±2 word counts.

Basic equipment .....one set
Test Leads (red + black) .....two wires
Alligator clip (red + black) ..... two clips
Testing probe (red + black) ..... two probes
1.5V AA alkaline battery ..... 6 batteries
Instructions manual..... one copy
Black cloth bag ..... one bag
Remote-control probe .... one probe

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