

# MIRT - 61

1KV Digital Multimeter Insulation Tester



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The MOTWANE's multipurpose tester Model MIRT-61 is a Versatile, battery operated Digital insulation tester with true RMS industrial grade multimeter features best suited for industrial preventive maintenance.

With test voltage range up to 1KV , highest insulation resistance range of 6GΩ and multi featured function of RMS multimeter (i.e. AC/DC 1000V) ; makes it a superior offering for Industry and Service segment. It is designed predominantly for low voltage insulation resistance testing in maintenance and services, which involves the applications like Cables/Wires, Rotating Machines, LT transformers, Switchgears and Industrial installations. It is designed to suit the extreme environment conditions. Save your operating cost and test more with this single box design rather buying two different products.

## APPLICATIONS

- Ideal for Insulation Resistance Measurement during maintenance for Electrical Equipments (Motors, Transformers, Machines, Switchgears etc.)
- Electrical Wire/Cables for Distribution Networks
- Control Panels
- Electrical Contractors
- Industrial, Commercial & Residential Installations
- Railways applications & Telecom applications

## SMART FEATURES

- Multi-featured single box design
- Multipurpose model – More Saving, More testing
- Wide IR range up to 6GΩ ,suitable for all LT application
- Selectable voltage facility 50,100,250,500 &1000V
- Maximum test current of 1mA
- Industrial Grade True RMS Multimeter functions
- Voltage Measurement up to 1000V AC/DC
- Dual Display LCD with Amber backlit
- Auto power off facility, Reading Hold / Lock, Min/Max, FLT ( Filter )

## ENVIRONMENTAL

- Operating Temperature : 0°C to 50°C
- Storage Temperature : -20°C to 60°C
- Relative Humidity : 80% RH @ 5°C to 31°C , 50 % RH @ 31°C to 40°C,Non-condensing

## OVER LOAD PROTECTION


- Fuse protection for 'mA' Input Terminal : 0.8A/250V fast blow type, Ceramic fuse
- Ω /  $\rightarrow$  /  $\rightarrow$  /  $\rightarrow$  / Hz / D / IRT : 440V DC / AC rms

## Safety

### CE Certifications:-

- Directives for CE Certification : LVD: 2006/95/EC, EMC: 2004/104/EC.
- Measurement Category : CAT IV (1000V) Reinforced insulation.
- Relevant Standard (S) : EN61010-1,EN61326-1
- IP Rating (dust&water protection) : IP 54.

## General Technical Specification :

■ Display	: 6000 counts, LCD with amber backlit
■ Polarity	: Automatic
■ Display Update Rate	: 3 Times per second nominal
■ Ranges	: DCV, ACV, Resistance, Capacitance, Frequency, AC/DC Current, IRT
■ Dimensions	: 102mm X 209mm X 44mm Approx.
■ Weight	: 620 gm. (with battery) approx.
■ Indications	: Low battery Indication “  ” below 6.5V approx.
■ Auto Power Off	: After 10 mins

## TECHNICAL SPECIFICATION

### DC AND AC VOLTAGE MEASUREMENT

No.	Range	Resolution	Max. reading	Measurement	DC Accuracy ± (reading + digit)	AC Accuracy ± (reading + digit)	Overload protection
1	600mV	0.1mV	600.0mV	DC	± (0.9%+3)	N/A	1050V DC/AC rms
2	6V	1mV	6.000V	AC/DC	± (0.9%+3)	±(1%+5)	
3	60V	10mV	60.00V	AC/DC	± (0.9%+3)	±(1%+5)	
4	600V	100mV	600.0V	AC/DC	± (0.9%+3)	±(1%+5)	
5	1000V	1V	1000V	AC/DC	± (0.9%+3)	±(1.2%+8)	

### DC AND AC CURRENT RANGE

No.	Range	Resolution	Max. reading	DC Accuracy ± (reading + digit)	AC Accuracy ± (reading + digit)	Overload protection
1	600mA	0.1mA	600.0 mA	±(1%+5)	±(1.2%+5)	0.8A/250V fast blow type Ceramic fuse

### RESISTANCE RANGE

■ Range	: 600Ω - 60MΩ
■ Accuracy	: ±(1.2%+3) upto 600kΩ : ±(1.5%+5) from 600kΩ to 6MΩ : ±(3%+5) from 6MΩ to 60MΩ

### CAPACITANCE RANGE

■ Range	: 6nF - 60mF
■ Accuracy	: ±(3%+10) upto 600uF : ±(5%+20) from 600uF - 60mF

### DIODE TEST

■ Range	: 6V ( 1mV resolution )
Open circuit voltage	: ≤2.90V DC approx.

### CONTINUITY TEST

■ Range	: 600.0Ω ( 0.1Ω resolution ) Meter Beeps at < 60Ω approx.
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### FREQUENCY RANGES (Auto Ranging Only)

■ Range	: 60Hz - 60MHz
■ Accuracy	: ±(0.1%+3)
■ Overload Protection	: 440V DC/AC rms:

## DUTY CYCLE MEASUREMENT

- Range : 0.1% - 99.9% ( with resolution 0.01% )
- Accuracy :  $\pm(0.5\% + 3 \text{ Digit})$

## INSULATION TEST

Output Voltage	Range (Auto ranging only)	Resolution	Test Current	Resistance Accuracy $\pm(\% \text{ of Rdg} + \text{ Digits})$
50 V $\pm(10\% + 5)$	30 to 300 k $\Omega$	1 k $\Omega$	1 mA approx @ 50 k $\Omega$	$\pm(3\% + 5 \text{ counts})$
	0.30 to 3.00 M $\Omega$	0.01 M $\Omega$		
	3.0 to 30.0 M $\Omega$	0.1 M $\Omega$		
	30 to 300 M $\Omega$	1 M $\Omega$		
100 V $\pm(10\% + 5)$	60 to 600 k $\Omega$	1 k $\Omega$	1 mA approx @ 100 k $\Omega$	$\pm(3\% + 5 \text{ counts})$
	0.60 to 6.00 M $\Omega$	0.01 M $\Omega$		
	6.0 to 60.0 M $\Omega$	0.1 M $\Omega$		
	60 to 600 M $\Omega$	1 M $\Omega$		
250 V $\pm(10\% + 5)$	0.15M $\Omega$ to 1.50 M $\Omega$	0.01 M $\Omega$	1 mA approx @ 250 k $\Omega$	$\pm(1.5\% + 5 \text{ counts})$
	1.5 to 15.0 M $\Omega$	0.1 M $\Omega$		
	15 to 150 M $\Omega$	1 M $\Omega$		
	0.15 to 1.50 G $\Omega$	0.01 G $\Omega$		
500 V $\pm(10\% + 5)$	0.30M $\Omega$ to 3.00 M $\Omega$	0.01 M $\Omega$	1 mA approx @ 500 k $\Omega$	$\pm(1.5\% + 5 \text{ counts})$
	3.0 to 30.0 M $\Omega$	0.1 M $\Omega$		
	30 to 300 M $\Omega$	1 M $\Omega$		
	0.30 to 3.00 G $\Omega$	0.01 G $\Omega$		
1000 V $\pm(10\% + 5)$	0.60M $\Omega$ to 6.00 M $\Omega$	0.01 M $\Omega$	1 mA approx @ 1M $\Omega$	$\pm(10\% + 3 \text{ counts})$
	6.0 to 60.0 M $\Omega$	0.1 M $\Omega$		
	60 to 600 M $\Omega$	1 M $\Omega$		
	0.60 to 6.00 G $\Omega$	0.01G $\Omega$		

### Accessories:

#### Included Accessories

- Test lead set Red & Black one end with shrouded banana 4 mm & another with crocodile clip : 1 Set
- Test lead Green, one end with shrouded banana 4 mm & another with crocodile clip : 1 No.
- Test lead set with one end pointed tip & another with 4mm shrouded banana : 1 Set
- Batteries 1.5V AA Alkaline (IEC LR6) (Duracell Only) : 6 Nos.
- Instruction Manual : 1 No.
- Carrying Bag : 1 No.



### Notes

1. The Instrument is accompanied with Test & calibration sheet. 2. Test Facilities can be provided at the factory with the available test set-ups only. 3. The company's policy is continuous improvement of its products. We therefore reserve the Right of any deviation from illustration or specifications without notice. 4. Stated accuracies are valid from 10% of the range to 95% of the range. 5. Accuracy Specified for temperature range of 25°C  $\pm$  5°C & 55% RH  $\pm$  10%



Designed and Manufactured by:

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