RISHABH

Data Sheet

RISH Insu 10

Analog - Digital Insulation and Continuity Tester

RoHS CE

Measure Control Record Analyze

Applications

RISH Insu10 Analog-Digital Insulation and Continuity Tester is suitable for following
Measurement of the insulation resistance on electrically dead equipment and systems with test voltages up to 1000V.
For testing motors, transformers, generators, switchgears.
For testing of house hold appliances.
Measurement of the insulation resistance of cables.
Very useful for on-site maintenance and service departments.

Features

Test Voltages 50V/ 100V/ 250V/ 500V/ 1000V
Test voltages from 50V to 1000V can be selected for Insulation Resistance measurement. It covers all insulation tests up to 1000V.

Insulation Resistance Measurement
The instrument is capable of measuring insulation resistance from 10 KΩ ...999 MΩ.

Hands-free continuity testing
Continuity testing (0-10 with acoustic signal) can be done without pressing the test button. In addition to the display function, an acoustic signal can be activated which sounds if the adjustable limit value is violated.

Voltmeter
Instrument measures voltages > 25V ... 600 V AC/DC.

Automatic discharge for capacitive circuits after test measurement
Capacitive devices under test, such as cables and windings, that get charged during the test, are discharged by the tester.

Live circuit detection
Displays presence of voltages >25V irrespective of function selected.

Pre-selectable measurement time for Insulation Resistance Measurement
In normal course, the insulation test terminates and the measured insulation resistance value remains on display for 2 sec after the test key is released. With the **Pre-selectable measurement time** feature, the insulation test continues and the measured value remains on the display for the pre-determined time. Pre-selectable time: 10 sec - 5 min.

Pre-selectable limit checks (Go/ No-go option) for MΩ
An acoustic signal can be generated when the measured value of insulation resistance falls below an adjustable limit value.

Lead resistance null facility
The instrument provides a facility to compensate the resistance of the leads for an accurate measurement of low resistance.

Storage of MIN/MAX values
In addition to the display of the actual measured value, the minimum or maximum value can constantly be updated or stored.

Storage Memory for last 50 readings
The instrument provides a facility to store and recall 10 values in each of the 5 ranges of insulation resistance measurement.

Blown fuse indication
The display FUSE points to a blown fuse.

Low battery indication
Automatic display of the Symbol "⊣⊢" when battery cells are exhausted.

Stop Watch
This function allows you to measure elapsed time up to 1 hour.

Auto-power off function
The instrument turns off automatically, if any of the keys or the selector switch have not been activated for about 10 minutes in insulation range and 5 minutes in other ranges or can be switched to continuous operation.

Protective holster for rough duty
A holster of soft rubber with tilt stand protects the meter against damage in the case of shock and drop.

Low Resistances Measurement
(0.01 Ω ... 99.9 Ω)
Low resistances can be measured up to 99.9 Ω . There are two measuring ranges for Low Ω .: 9.99Ω and 99.9Ω

Specification

Meas. Function	Range	Resolution	Accuracy ±(...% of rdg ±...Digit)	Overload value & duration
Insulation [1] Resistance MΩ [1] U_N=50V, 100V	0.01 MΩ to 0.99 MΩ	10 KΩ (0.01 MΩ)	± 3% ± 2D	1200 Vrms 10 sec
	>1.0 MΩ to 9.9 MΩ	100 KΩ (0.1 MΩ)	± 5% ± 2D	
	>10 MΩ to 99 MΩ	1 MΩ	± 30%	
Insulation [1] Resistance MΩ [1] U_N=250V, 500V,1000V	0.01 MΩ to 9.99 MΩ	10 KΩ (0.01 MΩ)	± 3% ± 2D	1200 Vrms 10 sec
	>10.0 MΩ to 99.9 MΩ	100 KΩ (0.1 MΩ)	± 5% ± 2D	
	>100 MΩ to 999MΩ	1 MΩ	± 30% service error	
Low Ohms [2] Ω	0 to 9.99Ω	0.01Ω at 210 mA	± 3% ± 2D	1200 Vrms 10 sec
	≥10 Ω to 99.9Ω	0.1 Ω at 21 mA	± 5% ± 2D	
Continuity [2]	0 to 9.99Ω	0.01Ω at 210 mA	± 3% ± 2D	1200 Vrms 10 sec
	>10Ω to 99.9Ω	0.1Ω at 21 mA	± 5% ± 2D	
V AC/DC	25V to 450V	1V	± 2% ± 3D	1200 Vrms 10 sec
	450V to 600V	1V	± 3%	

1) For Insulation Resistance Range:
- Terminal voltage on open circuit (DC) -0% + 30% of rated voltage
- Short circuit current < 2 mA
- Test current on load 1 mA at minimum pass values of Insulation as specified in VDE 0413 Part 1.

2) For Low Ohms/Continuity Ranges:
- Lead Resistance Compensation: 0 - 9.99Ω.
- Open circuit voltage 5V + 1V D.C.

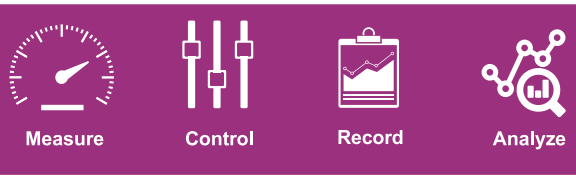
Power Supply

Battery	6 x 1.5 V cells IEC LR6 (Nickel cadmium rechargeable cells may be used)
Service Life	Typically 2500 x 5 sec. operations
Battery Test	Automatic display of the Symbol " ⊣⊢ "when battery voltage < 5.4V.

Note : Battery cells should not be left in the instrument which may remain unused for extended period of time.

Environmental conditions

Temperature Coefficient	<0.1% per °C
Operating Temp.	-20°C...+40°C (full range) -20°C...+60°C (upto 100M Ω)
Storage Temp.	-25°C...+65°C
Relative Humidity	90% RH at 40°C max.



Display
LCD display field (65 mm x 30mm) with analog indication and digital display and with display of unit of measured quantity and functions

Analog

Display	LCD scale with bar graph
Scale Length	47 mm
Scaling	0...30 with 30 graduations
Overflow Display	Bar with triangle

Digital

Display/Char.Height	7 segment digits/ 12mm
Number of Digits	3 digit for M Ω and Ω 4 digit for Stop watch
Overflow Display	OL

Reference Conditions

Ambient Temp.	+23 °C + 2 K
Relative Humidity	45% ... 55%
Battery Voltage	8V + 0.1V
Voltage Measurement	AC (Sine), 50/60 Hz

Auto turn OFF
Meter turns off automatically, if any of the keys or the selector switch have not been activated for about 10minutes in insulation range and 5 minutes in other ranges.

Fuse 500 mA (F) / 440V H.B.C.10kA min (32mm x 6mm)

Applicable standards

IEC/EN 61010 - 1 VDE 0411 - 1	Safety regulations for electrical measuring, control, regulation and laboratory devices
IEC/EN 61557 VDE 0413 Part 1 Part 2 Part 3	Devices for testing, measuring and monitoring protective safety measures in system with voltages of upto 1000 V A.C. and 1500 V D.C. - General requirements - Insulation resistance measuring instruments - Low-resistance measuring instruments
DIN 43751	Digital measuring instruments
IEC/EN 61 326	Electromagnetic Compatibility (EMC)
EN 60529 VDE 0470-Part1	Test Instruments and test procedures Degree protection provided by enclosures (IP code)

EMC immunity:
IEC 61326-1:2012, Table A.1

Electrical Safety

Protection class	II per IEC 61010-1/EN61010-1/ VDE0411-1	
Overvoltage Category	II	III
Nominal Voltage	600V	300V
Contamination degree	2	2
Test Voltage	3.7KV-per IEC 61010-1 /EN61010-1	

Mechanical Design

Protection	Instrument : IP 50 For terminal socket : IP 20 according to DIN VDE 0470 part 1 / EN60529
Dimensions	W x H x D 84 mm x 195 mm x 35 mm
Weight	500 g including battery

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All specifications are subject to change without notice

Measure Control Record Analyze

RISHABH INSTRUMENTS LIMITED
Domestic (India): +91 253 2202028/99 | marketing@rishabh.co.in
International: +91 253 2202004/06/08/99 | global@rishabh.co.in
www.rishabh.co.in