

Data Sheet

ISO-5 Insulation Tester 5000V DC













- · Selectable short circuit current 1.2mA, 3mA and 6mA
- User selectable digital filters
- Noise Rejection 8 mA
- Operates on rechargeable Li-ion battery and Mains as well.
- Bluetooth connectivity far data logging
- · Touch screen TFT color display
- Audio Read-out
- Test voltage can be selected in steps of 10V from 100V to 1000V & in steps of 25V from 1000V to 5000V
- Measurement of DC and AC voltages from 20V 600V
- · Three programmable timers
- insulation leakage current measurement
- · PI, DAR, DD, Step voltage & Ramp Test

Application

Digital insulation tester ISO-5 is designed to perform at power utilities where induction field is very high. Its high noise immunity and user selectable digital filters makes it most robust and reliable instrument with user selectable test voltages.

Also it is used for testing the electrical insulation of cables, motors, generators, transformers, etc. at power generation plants, utilities, distribution.

It's advance features like Bluetooth connectivity, audio read out, touch screen **TFT** color display makes it never before user friendly. It can stare the data on its inbuilt memory with real time stamp. Data can be transferred to computer for future analysis purpose.

It performs tests like Polarization index, Dielectric Absorption Ratio, Dielectric Discharge, Ramp Diagnostic Test, Step voltage test.

Selectable Test Voltage up to 5000 V

Test voltages can be set to any desired value from 100V to 5000V.

High insulation resistance measurement

insulation resistance measurement from 50 K Ω to 10T $\!\Omega$ far 5kV test voltage

Noise rejection -8mA

High Noise immunity allows accurate measurement under HT lines.

Polarization index

Polarization index (PI) testing is an extension of the insulation resistance test and is designed to check specific issues in a motor such as moisture and insulation deterioration.

Dielectric Absorption Ratio

DAR measurement is a diagnostic test similar to the Polarization index (PI), but DAR takes the ratio of the insulation Resistance usually measured at 30 sec and 1 min (other time settings are possible)

Dielectric Discharge

Dielectric Discharge (DD) Test is a diagnostic insulation test that allows aging and deterioration of insulation to be assessed.

Step Voltage Test

Step Voltage Test is designed as a controlled over-voltage or proof test to provide an additional evaluation of the insulation system integrity.

Ramp Diagnostic Test

The Ramp Test is performed with a slowly rising voltage.

Software Selectable Filter

User selectable software filter can be used depending on noise levels. This help in accurate reading in noisy environment

Capacitance Measurement

Capacitance can be measured from 1nF to 50uF.

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Go- NoGo Function

Depending on insulation resistance limit the user can be alarmed about the quality of insulation.

insulation Resistance Graph Display

insulation Resistance can be displayed aver the time in graphical farm

Communication interface

Bluetooth 2.0 & 4.0 Class II and electrically isolated USB 2.0 communication

Software and Mobile Application

It has data logging and monitoring software far window system and an interactive mobile application far android. App INSU CONNECT.

Burn & Breakdown Mode

Burn Mode far uninterrupted insulation testing to find the breakdown region and Breakdown mode will stop generation of voltage on detection of high current.

Internal Datalogging

It has internal datalogging feature. It can log up to 2000 reading with customer information and time stamp.

File Explorer

It has file explorer to view the data log file on TFT display.

Audio Read-Out

Audible test result on completion of test far awkward locations

Rechargeable Battery

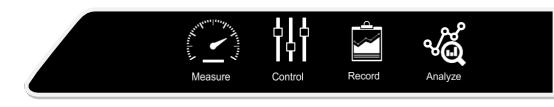
Li-lon 3 Cell Battery with charging current of 1A

Selectable test time

We can set the test time to any desired test time from 45sec to 99min59sec

Specification

Maximum Resistance	intrinsic Error
2GΩ	5%± 1D
10GΩ	20% ± 1D
50GΩ	5% ± 1D
500GΩ	20% ± 1D
100GΩ	5%± 1D
1ΤΩ	20% ± 1D
200GΩ	5% ± 1D
2ΤΩ	20% ± 1D
500GΩ	5% ± 1D
5ΤΩ	20% ± 1D
1ΤΩ	5% ± 1D
10ΤΩ	20% ± 1D
	2GΩ 10GΩ 50GΩ 500GΩ 100GΩ 1TΩ 200GΩ 2TΩ 500GΩ 5TΩ 1TΩ



 $+7\% \pm 10 \text{V}$

Direct and Alternating Voltage Measurement

Measuring range	Frequency	intrinsic error
20V-600V AC DC	45 Hz-500Hz	3%+10D

Capacitance Measurement

InF to 50uF; Accuracy ±10% ± 5 nF

insulation Leakage Current Measurement

0,01nA to 6mA; Accuracy ±5% ±0.2 nA

Guard terminal

2% error guarding 500 $\,k\Omega$ leakage, 100 $M\Omega$ load

Timer Range for IR test

Time: 45s - 99 min 59 sec with three programmable timers Tests: IR(t),DAR,DD,PI,Step Voltage, Ramp voltage

Ambient Conditions

Operating Temperature $-20 \, ^{\circ}\text{C} \dots +50 \, ^{\circ}\text{C}$ Storage Temperature $-20 \, ^{\circ}\text{C} \dots +70 \, ^{\circ}\text{C}$ Relative Humidity max. 90%

(Condensation must be avoided)

Elevation up to 2000m

Protection IP 67 with closed case

IP 52 with open case

Applicable Standards

Standard	Norms
IEC ₆₁₀₁₀₋₁	Safety regulations for electrical measurement, control, regulation, and lab devices
IEC 61557	Measuring and monitoring facilities for testing the electrical safety in lines with nominal voltages up to AC1000V and DC1500V
PART-1	General
PART-2	insulation resistance measuring devices

Reference Conditions

 $\begin{array}{ll} \mbox{Ambient Temperature} & + 23 \ ^{\circ}\mbox{C} + 2\mbox{K} \\ \mbox{Relative Humidity} & 45 \dots 55\% \\ \mbox{Measured Quantity} & 50\mbox{Hz} \pm 1\mbox{OHz} \end{array}$

Frequency (for voltage measurements)

Line Voltage Waveform Sine wave
Battery Voltage 11.1V±1%
Operating position Horizontal

Power Supply Voltage $230V \pm 15\%$, 50/60 Hz

(Mains)

Power Supply (Battery)

Battery 11.1V ,7.8Ah Li-ion Battery

Battery service life 6 Hrs continuous testing at 5kV $100M\Omega$

Battery charging time 7 Hrs

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Power Supply (Mains)

Nominal Power (Mains) 230V AC ± 15%, 50/60 Hz

Electromagnetic Compatibility (EMC)

IEC61326 - 1

immunity

IEC 61000-4-2: 8 KV atmosphere discharge

4 KV contact discharge. IEC 61000-4-3: 3 V/m

Electrical Safety

Overvoltage Category 600V CAT IV
Test Voltage 7.4kVPollution degree 2

Mechanical Design

Dimensions (Lx W x H) 360mm x 310mm x 195mm

Weight approx. 5kg

Standard Scope of Supply

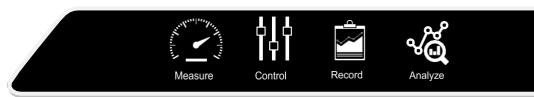
1 In built Li-ion rechargeable battery

- 1 Operating instructions
- 1 Power cord
- 1 USB cable for communication and software CD(with USB and Bluetooth communication interface)

Test lead options(one to be selected)

Test lead set with 3m test leads(+ve, -ve & Guard lead) with
 3 clamps with large jaw opening













Via Vittori 57 48018 Faenza (RA) Italie 0546.623002 0546.623691