



## Features

- ✓ Programmable Test Voltage 250 - 5000V in steps of 50V
- ✓ Insulation Resistance upto 10TΩ
- ✓ Three Programmable Timers
- ✓ Modes for conducting IR, Leakage current, PI, DAR, DD, SV and BDV test
- ✓ Mains & Battery Operation
- ✓ CE, CAT-IV 600V, IP65, complies with latest IEC/IS Standards
- ✓ 1000 test results storage
- ✓ Optically Isolated RS-232 port & USB port
- ✓ AC / DC Voltage Measurement
- ✓ Bluetooth enabled for Motware Mobile App

## 5K PI

### Diagnostic Insulation Tester

CAT III	CAT IV	IP	CE	Bluetooth
600V	600V	65		

5K PI Insulation Diagnostic Tester is designed to conduct various diagnostic tests on electrical apparatus like Transformers, Cables, Bushings, Insulator, Switchgears, Lightning Arrester/Arrestor and Rotating Machines etc. Designed & developed indigenously at the state of the art, R&D laboratory, the 5K-PI is a microprocessor based instrument deployed with latest technology and very high speed data sampling to give correct, repetitive and durable performance under harsh conditions. It is operated through mains and (as well as) the battery, weighing less than 5kgs making truly light weight & compact insulation resistance tester for outdoor applications. The instrument is specially designed to suit operator's ease and test requirement, also certified as per relevant IS/IEC standards. Instrument has large white backlit LCD displayed with indication and display test information like insulation resistance value, test voltage, leakage current, capacitance, battery status and timer. Equipped with three programmable timers, which provides to conduct various tests like Polarization Index (PI), Dielectric Absorption Ratio (DAR), Dielectric Discharge (DD), Step Voltage (SV) test and Breakdown Voltage (BDV) test. The instrument has the automatic capacitive load discharge at the end of the test.

5K-PI has Bluetooth connectivity module with Motware mobile app for remote access of testing data & in the cloud for further analysis & record purpose.

## Applications

The Insulation Resistance Test is an essential test that helps to verify the condition of electrical insulation. Insulation resistance quality of an electrical system degrades with time, environment condition i.e. temperature, humidity, moisture and dust particles. The instrument is designed for routine and diagnostic testing like IR, PI, DD, DAR & SV of high voltage electric apparatus like transformers, generators, motors, cables, bushings, LA's, switchgear, etc. and is temperature independent. Trending of data can reveal vital information about insulation quality and enables the user to take informed decision.



## Technical Details

5K PI

### Test Parameter Specifications

<b>Test Regimes (Automatic)</b>	IR, Leakage Current, PI, DAR, DD, SV & BDV
---------------------------------	---

<b>Test Voltage</b>	250V - 5KV in 50V steps
---------------------	-------------------------

<b>Test Voltage Accuracy</b>	± 5%
------------------------------	------

<b>Short Circuit Current</b>	3mA / 5 mA
------------------------------	------------

<b>Three Programmable Timers</b>	T1, T2 & T3 (max. 99 min 59 sec.)
----------------------------------	-----------------------------------

### Measurement Ranges

<b>Insulation Resistance Analog Display</b>	1KΩ to 5TΩ
---	------------

<b>Digital Range (3 Digit Display)</b>	1KΩ to 10TΩ
--	-------------

<b>Accuracy (25°C)</b>	±( 5% + 5 digits)
------------------------	-------------------

<b>Guard</b>	2% error guarding < 300KΩ leakage with 100MΩ Load.
--------------	---

### Leakage Current

<b>Range</b>	up to 5mA
--------------	-----------

<b>Accuracy</b>	± 5%
-----------------	------

### Capacitance

<b>Range</b>	10nF to 50μF
--------------	--------------

<b>Accuracy</b>	±10% of rdg.
-----------------	--------------

### Voltage Measurement

<b>Range</b>	Upto 600V DC / Upto 600V AC RMS
--------------	---------------------------------

<b>Accuracy</b>	±5% of rdg.
-----------------	-------------

### Power Supply

<b>AC Mains Voltage</b>	90 - 270V AC
-------------------------	--------------

<b>Frequency</b>	50/60Hz
------------------	---------

<b>Battery</b>	Internal Rechargeable Battery
----------------	-------------------------------

<b>Backup</b>	Approx. 6 Hours of continuous testing at 5KV on a load of 10 GΩ
---------------	--

<b>Charging Time</b>	4 Hours (Approx.)
----------------------	-------------------

<b>Interference Rejection</b>	1mA RMS per KV test voltage
-------------------------------	-----------------------------

### Physical Specifications

<b>Dimensions</b>	195mm(H) x 290mm(W) x 360mm(L)
-------------------	--------------------------------

<b>Weight</b>	5Kg. (Excluding Accessories)
---------------	------------------------------

### Standards & Approvals

Safety In accordance with EN 61010-1

EMC In accordance with EN 61326-1

Type Test In accordance with IS 11994

Ingress Protection IP65

CE & CAT III 600V / CAT IV 600V

Safety of Accessories with IEC61010-31

### Environmental Specifications

<b>Operating Temperature</b>	0°C to 55°C
------------------------------	-------------

<b>Storage Temperature</b>	-20°C to 70°C
----------------------------	---------------

<b>Relative Humidity</b>	<95% RH, Non condensing
--------------------------	-------------------------

### Indications & Annunciations

Audio visual indication for HV presence

LED indication for HV presence

Battery status and charging indication

Audible discharge annunciation

Mains / Battery Indication

### Display Details

Real-time display of Insulation Resistance

After the end of the test, the result including resistance, leakage current, time & capacitance information will be displayed in a scrolling form.

### Accessories

#### Standard

- 3 x 3m test leads for Earth, Guard and Line connection with large insulated clamps 1.5m
- Main Power Cord
- Mains Protected fuse
- Instruction Manual
- Carrying Bag

#### Optional

- 3 X 10m Test leads with large insulated clamps
- RS-232 communication cable
- USB Cable
- PC Software
- Bluetooth enabled for Motware Mobile App

**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 includes continuous improvement of its product. We, therefore, reserve the right of any deviation from illustration or specifications without notice. **4.** Stated accuracies are valid from 10% of 0 the range to 95% of the range. **5.** Accuracy specified for temperature range of 25°C ± 5°C & 55% RH ± 10%.

## This Product is Connected (MOT-WARE Enabled)

### MOT-WARE Cloud Application

Motwane has designed and developed MOT-WARE – a cloud based test data platform to aid in accurate Asset Health Assessment. Through MOT-WARE, the test and measurement industry has taken a huge leap forward. MOT-WARE captures data from full range of BLE enabled Motwane testing equipment. It is a user-friendly platform as it is also accessible from a web-based, desktop as well as a mobile application. In addition, it offers an open architecture that can seamlessly integrate with any non Motwane test and measurement equipment for quick and authentic digital test data, captured periodically as well as streamed with real-time data via sensors from loXn series of IOT devices.

MOT-WARE has a preloaded repository of test templates for various electrical assets as well as customizable test templates. A customized report builder in MOT-WARE allows the user to generate report in their own format. It also has a facility to upload historical test data and breakdown history of assets. Test results can also be viewed by various metrics, such as pass or fail.

Data Analysis is also done through MOT-WARE which includes Trend Analysis, MIS Reports and Pivot Tables. As an add-on, MOT-WARE also offers “Motwane AI Analytics” which uses a proprietary AI algorithm and Machine Learning to make accurate predictions about assets life, based on its behavioural patterns and operating conditions.

Being centralized test data, it helps in improving life of assets, its productivity and efficiency, cost reduction, etc. It can be used for various applications across customers’ segments like Utilities, OEMs, Industry, Electrical contractors (Testing, O&M) or Field repairs & Service Provider, EPCs, commercial premise and many more.

### Important Benefits



**Accurate Digital Data**



**Centralized  
Data Access**



**Customizable Report  
Templates**



**Trend Analysis**



**Minimum Training**



**Scheduling Tests**



Reach out to us at [setup@motware.com](mailto:setup@motware.com) to setup a new MOT-WARE account.