

The Tekneka 8050 5kV insulation tester is a flexible and dependable testing tool that was created with accuracy in mind. It ensures accurate assessment with a variety of testing modes, including IR, PI, DAR, DDT, STEP, RAMP, and V. Operation can be made simpler by its user-friendly 5-inch TFT LCD touch-screen display, and its durable construction is appropriate for elevations up to 2000 meters. Electrical safety is of the utmost importance and has a 600V CAT IV rating. It enables thorough analysis and has a sizable data logging capacity of 2000 readings. Additionally, it provides an auditory readout along with alert sounds and test result announcements at the end. Through a mobile app, connect wireless with USB 2.0 and Bluetooth. With a continuous operation time of 6 hours, enjoy extended usage. The Tekneka 8050 is the best tool for precise and efficient measurements.

### Features

- Can perform PI, DAR, DD, Step Voltage & Ramp Test
- Insulation resistance measures from 50KΩ to 10TΩ
- Short circuit currents of 1.2mA, 3mA, and 6mA are selectable
- Digital filters that can be selected by the user
- Rejection of noise 8mA
- Shows real time graphical trend of the insulation resistance measurement
- It runs on a rechargeable Li-ion battery as well as mains power
- Comes with USB & Bluetooth interface for safety operation
- Can store upto 2000 readings & extracted in .xlsx format
- 5-inch fast response touch screen TFT colour display
- Auditory readout along with alert sounds and test result
- Test voltage can be set in 10V increments from 100V to 1000V and in 25V increments from 1000V to 5000V
- Measures AC/DC voltages ranging from 20V to 600V
- Auto sleep mode reduces power consumption
- Simple to quantify measurement of insulation leakage current



### Applications

The Tekneka 8050 5kV insulation tester is frequently utilized in the fields of high-voltage equipment testing, motor and generator testing, cable and wire insulation testing, electrical substations, manufacturing quality control, renewable energy systems, aircraft and aerospace, railway systems, oil and gas industry, research and development.

### Functions

#### **IR** Insulation Resistance

IR mode is intended to determine the insulating resistance of a device over a set period of time. The keyboard will then display, allowing you to type any time between 45 seconds to 99 minutes and 59 seconds.

#### **DD** Dielectric Discharge Test Ratio

The DD test is a diagnostic insulation test that detects aging, degradation, and voids in insulation. The discharge characteristic, which evaluates the insulation's internal state and is largely unaffected by surface contaminants, determines the outcome.

#### **DAR** Dielectric Absorption Ratio

DAR is calculated as the difference between insulation resistance at 1 minute and insulation resistance at 30 seconds. It is very useful to know the condition of the insulation.

#### **V** Voltage

The instrument also has a voltmeter that measures AC/DC voltage from 20 V to 600 V. This voltmeter is useful as it shows the presence of voltage when it is connected to a DUT which has induced voltage.

#### **STEP** Step Voltage Test

In the step voltage test 5 test voltages are applied to the DUT. The SV test is based on the principle that an ideal insulator will produce identical readings at all voltages, while an insulator which is being over stressed, will show lower insulation values at higher voltages

#### **RAMP** Ramp Diagnostic Test

The ramp mode is similar to the step voltage test, but with many minor tests. During this test, the voltage rises steadily every second. The slope rate, which is adjustable in the control window, determines the rate of voltage increase.

#### **PI** Polarization Index

PI is defined as the ratio of insulation resistance at 10 minutes divided by insulation resistance at 1 minute. It is very useful to know the condition of the insulation.

#### **Go No Go** Go No Go

The user can specify a voltage or IR threshold at which the meter will certify the insulation to be in good condition. On the primary measurement screen, the IR text color will change to green or red.

#### **Short Circuit**

Three settings are offered. 1.2 mA, 3 mA, and 6 mA. In addition, if a fault occurs (current exceeds the short circuit value), you can use the breakdown/burn parameters to decide whether or not to continue running the test.

#### **Live Graph Window**

The meter also displays a trend of the DUT's insulation resistance over time in addition to the insulation resistance value and associated metrics. This is a crucial aspect because the insulation resistance's trend provides a wealth of knowledge about the insulation's state.

#### **PC Interface & Data Storage**

Software allows for device control, data storage, and excel sheet results.

#### **Sleep**

This mode reduces the battery's power usage by turning off the LCD's back light and communication.

#### **Display Brightness**

Users can choose from three levels of brightness control: Low/Medium/High

### Insulation Resistance Measurement Specifications

Test Voltage	100V	250V	500V	1000V	2500V	5000V	Accuracy
Max. Resistance	2GΩ	50GΩ	100GΩ	200GΩ	500GΩ	1TΩ	±5% ±1dgt.
	10GΩ	500GΩ	1TΩ	2TΩ	5TΩ	10TΩ	±20% ±1dgt.

Description	Range	Accuracy
Insulation Resistance	50KΩ to 10TΩ	
Test Voltage	100 to 5000V	+7% ±10V
IR Test Time	45s to 99m 59s	
Voltage Measurement (AC/DC)	20 to 600V	±3% ±10dgt
Frequency	45 to 500Hz	
Insulation Leakage Current	0.01nA to 6mA	±5% ±0.2nA
Capacitance Range	1nF to 5μF	±10% ±5nF
Guard Terminal Performance	Guards out parallel leakage resistance down to 500kΩ with max. error of 2% with 100MΩ load	
Output Short Circuit	1.2mA, 3mA, 6mA	
Go-NO-GO Limits	Resistance & Voltage	

Reference Conditions	
Ambient Temperature	+23°C ±2K
Humidity	45 to 50%RH
Measured Frequency	50Hz ± 10Hz
Line Voltage Waveform	Sine Wave
Position	Horizontal

ESD immunity compliance	
IEC 61000-4-2	8kV atmospheric discharge
IEC 61000-4-3	4kV contact discharge

### General Specifications

Testing Modes	Insulation Resistance	IR
	Polarization Index	PI
	Dielectric Absorption Ratio	DAR
	Dielectric Discharge Test	DDT
	Step Voltage Test	STEP
	Ramp Diagnostic Test	RAMP
	Voltage	V
Display	5-inch Touch Screen (TFT LCD)	
Electrical Safety	600V CAT IV	
Data Logging	2000 readings	
Audio Read-Out	Warning beeps & test result readout on completion	
Interface	USB 2.0 & Bluetooth (Mobile App)	
Operating Temperature & Humidity	-20 to 50°C	
Storage Temperature	-20 to 70°C	
Relative Humidity	max. 90%	
Protection Level	IP 67 (Lid closed), IP 52 (Lid open)	
Power Supply	230V AC ±15%, 50/60Hz	
Rechargeable Battery	11.1V, 7.8Ah Li-ion 3 cell battery	
Continuous Operating Time	6 Hrs, condition: @5kV 100MΩ	
Charging Time	7 Hrs	
Compliance Standards	Safety: IEC 61010-1, EMC: IEC 61557   IEC61326-1	
Dimension (LxWxH)	360 x 310 x 195mm	
Weight	Device: 6.6kg, Package: 10.0kg	

### Packing Includes

- Test Leads Set 3m (+ve, -ve & Guard Lead)
- In-Built Rechargeable Battery
- USB Cable
- Power Cord
- Carrying Case



### Ordering Info

8050..... Insulation Tester 5kV Kit

8050P-03m..... Test Leads Set with 3 Meter Length of Large Clamp Opening (3 nos.)

8050P-10m..... Test Leads Set with 10 Meter Length of Large Clamp Opening (3 nos.)

8050P-15m..... Test Leads Set with 15 Meter Length of Large Clamp Opening (3 nos.)