

The Tekneka 8100 Insulation Tester 10kV 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 CATIV rating. It enables thorough analysis and has a sizable data logging capacity of 2000 readings. Additionally, it provides 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 8100 is the best tool for precise and efficient measurements.

Features

- 5-inch fast response touch screen TFT colour display
- Capable of performing Ramp, Step, DAR, DD, and PI tests
- It features a USB and Bluetooth interface for secure operation
- The range of insulation resistance is 50K to 20T
- Auditory readout along with alert sounds and test result
- Short circuit currents of 1.2mA, 3mA, and 6mA are available
- Digital filters that can be selected by the user
- Rejection of noise 8 mA
- Displays the graphical trend of the insulating resistance measurement in real time
- It utilizes both mains power and a rechargeable Li-ion battery to operate.
- Can store up-to 2000 readings & extracted in .xlsx format
- The test voltage ranges from 100V to 10,000V in increments of 10V, and from 1000V to 10,000V in increments of 25V
- Measures AC/DC voltages ranging from 20V to 600V
- Power consumption is decreased via auto sleep mode
- Insulation leakage current is easily quantified



Applications

The Tekneka 8100 10kV 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

<p>IR Insulation Resistance</p> <p>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.</p>	<p>DD Dielectric Discharge Test Ratio</p> <p>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.</p>	<p>DAR Dielectric Absorption Ratio</p> <p>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.</p>	<p>V Voltage</p> <p>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.</p>
<p>STEP Step Voltage Test</p> <p>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</p>	<p>RAMP Ramp Diagnostic Test</p> <p>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.</p>	<p>PI Polarization Index</p> <p>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.</p>	<p>Go No Go Go No Go</p> <p>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.</p>
<p>Short Circuit</p> <p>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.</p>	<p>Live Graph Window</p> <p>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.</p>	<p>PC Interface & Data Storage</p> <p>Software allows for device control, data storage, and excel sheet results.</p> <p>Display Brightness</p> <p>Users can choose from three levels of brightness control: Low/Medium/High</p>	<p>Sleep</p> <p>This mode reduces the battery's power usage by turning off the LCD's back light and communication.</p>

Insulation Resistance Measurement Specifications

Test Voltage	250V	500V	1000V	2500V	5000V	10000V	Accuracy
Max. Resistance	50GΩ	100GΩ	200GΩ	500GΩ	1TΩ	2TΩ	±5% ±10dgt.
	500GΩ	1TΩ	2TΩ	5TΩ	10TΩ	20TΩ	±20% ±10dgt.

Description	Range	Accuracy
Insulation Resistance	50KΩ to 20TΩ	
Test Voltage	100 to 10000V	±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 50μF 1nF to 25μF	±10% ±5nF (upto 5kV) ±10% ±5nF (above 5kV)
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 55%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

Applicable Standards	
IEC 61010-1	Safety regulations for electrical measurement, control, regulation & lab devices
IEC 610557	Measuring and monitoring facilities for testing the electrical safety in lines with nominal voltages up to AC1000V & 1500V

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 CATIV	
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	14.8V, 7.8Ah Li-ion 3 cell battery	
Continuous Operating Time	5.5 Hrs, condition: @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 Leads)
- In-Built Rechargeable Battery
- USB Cable
- Power Cord
- Carrying Case



Ordering Info

- 8100..... Insulation Tester 10kV 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.)