

## **High-performance High Voltage Insulation Testers** **PRO DIT-931 / PRO DIT-931E / PRO DIT-931F**

### **Introduction**



The Metravi DIT-931 series High Voltage Insulation Resistance Testers have perfect testing functions of various insulation resistance parameters and excellent anti-interference ability, which can be used to test the insulation resistance of large-capacity, high voltage, electrical equipment and transmission lines at substations with strong induction electric environments.

The instruments feature true colour touchscreens, and all the test data and battery power are clearly displayed on the screen simultaneously for viewing. The combination of the knob switch and button makes the operation very simple. The user does not need to memorise the operation methods and can just click “HELP” on the screen to pop-up the guides to effectively operate the instruments.

The DIT-931 series have rapid discharge function, and the charge of the tested object is released automatically after each test. The voltage monitor of the instrument automatically monitors the live voltage of the measured object, and when the voltage exceeds 36V, it automatically prohibits testing and effectively protects the instrument and the operator.

The devices are powered by large-capacity, rechargeable lithium battery packs.

The test timers of the instruments automatically record the test time and store the test results with date and time. The touchscreen easily checks the historical data recorded. The fully-isolated USB interface helps in safely uploading the test data to a PC. Equipped with double-insulated test lines and shielding layers, the high voltage rod is equipped with replaceable crocodile clip and hook, which adapt to various test environments. The instrument has a strong double-shell structure and the outer case of the instrument has an IP65 protection rating, which prevents the intrusion of moisture and dust, as well as prevents damage on any impact during transportation and storage process.

The Metravi DIT-931 series High Voltage Insulation Resistance Testers come with a wide measurement range, high resolution, convenient operation, and are strong, durable, accurate and reliable. They feature stable performance and strong anti-interference ability.

**The tester is capable of Insulation Resistance Test (IR), Polarisation Index Test (PI), Dielectric Absorption Ratio Test (DAR), Ramp Test Mode (RAMP), Voltage Test (V), Capacitance Measurement (uF), Current measurement (nA), Dielectric Discharge Index (DD), Step Voltage.**

The instruments are suitable for testing the insulation resistance of large equipment such as electric equipment which with large capacity, high voltage and in strong induction electric environment, and transmission line, like power, telecommunications, meteorology, computer rooms, oil fields, mechanical and electrical installations and maintenance and power supply departments of industrial and mining enterprises.



## High-performance High Voltage Insulation Testers PRO DIT-931 / PRO DIT-931E / PRO DIT-931F

### DIT-931 series High Voltage Insulation Resistance Testers feature:

- Insulation resistance range up to 30TΩ (15kV), 20TΩ (10kV), 10TΩ (5kV)
- Output rated voltage max reach 8 gears (50V, 250V, 500V, 1kV, 2.5kV, 5kV, 10kV, 15kV)
- Max short circuit current 7mA
- Insulation resistance test (IR), Polarisation Index test (PI), Dielectric Absorption Ratio test (DAR), Ramp test mode (RAMP), Dielectric Absorption Ratio(DAR), Step Voltage(STEP) Measurement, Dielectric Discharge Index(DD), Capacitance
- Voltage monitor function, automatically monitors the live voltage of the measured object
- Test timer function, automatically records the test time
- Automatic discharge function, the charge of the tested object is released automatically after the test
- Automatic shutdown function
- Large size touch colourful screen
- Double-shell structure, sturdy and durable, protection rating of IP65
- Large capacity rechargeable lithium battery pack
- Storage function, can automatically store 1000 groups of real-time test data with test date, time and timing.
- Upload function, equipped with USB interface, the recorded data can be uploaded to the computer via USB communication cable for data statistical analysis.

### MODEL SPECIFICATIONS

Product Model	Rated Voltage	Insulation Resistance Range	Short Circuit Current
<b>DIT-931</b>	50V, 250V, 500V, 1kV, 2.5kV, 5kV	0.005MΩ ~ 10.0TΩ	>7mA
<b>DIT-931E</b>	50V, 250V, 500V, 1kV, 2.5kV, 5kV, 10kV	0.005MΩ ~ 20.0TΩ	>7mA
<b>DIT-931F</b>	50V, 250V, 500V, 1kV, 2.5kV, 5kV, 10kV, 15kV	0.005MΩ ~ 30.0TΩ	>7mA

### Insulation Resistance Range and Accuracy

Rated Voltage	Insulation Resistance Range	Accuracy
50V	0.005MΩ ~ 10.0GΩ	±5%rdg±3dgt
	10.0GΩ ~ 100GΩ	±10%rdg±3dgt
250V	0.05MΩ ~ 50.0GΩ	±5%rdg±3dgt
	50.0GΩ ~ 500GΩ	±10%rdg±3dgt
500V	0.10MΩ ~ 100GΩ	±5%rdg±3dgt
	100GΩ ~ 1.00TΩ	±10%rdg±3dgt
1000V	0.5MΩ ~ 200GΩ	±5%rdg±3dgt
	200GΩ ~ 2.00TΩ	±10%rdg±3dgt
2500V	1.00MΩ ~ 1.00TΩ	±5%rdg±3dgt
	1.00TΩ ~ 5.00TΩ	±10%rdg±3dgt
5000V	2.00MΩ ~ 2.00TΩ	±5%rdg±3dgt
	2.00TΩ ~ 10.0TΩ	±10%rdg±3dgt

Custom Setting Voltage
DIT-931: 40V~5kV
DIT-931E: 40V~10kV
DIT-931F: 40V~15kV

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10kV	5.00MΩ ~ 4.00TΩ	±5%rdg±3dgt
	4.00TΩ ~ 20.0TΩ	±10%rdg±3dgt
15kV	10.00MΩ ~ 6.00TΩ	±5%rdg±3dgt
	6.00TΩ ~ 30.0TΩ	±10%rdg±3dgt

1 TΩ (Tera Ohm) = 1000GΩ = 10<sup>12</sup>Ω

1 GΩ (Giga Ohm) = 1000MΩ = 10<sup>9</sup>Ω

1 MΩ (Mega Ohm) = 1000KΩ = 10<sup>6</sup>Ω

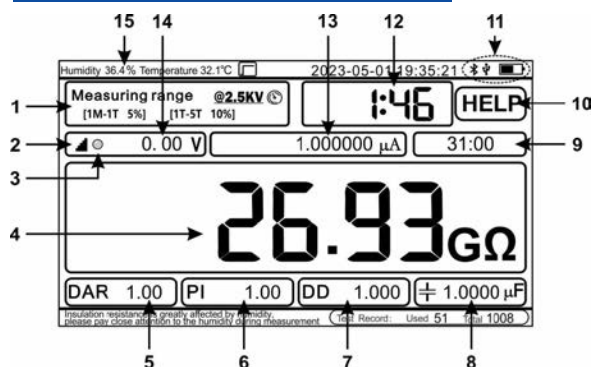
### TECHNICAL SPECIFICATIONS

<b>Function</b>	Insulation resistance test (IR), Polarisation Index test (PI), Dielectric Absorption Ratio test (DAR), Ramp test mode (RAMP), Dielectric Absorption Ratio(DAR), Step Voltage(STEP) Measurement, Dielectric Discharge Index(DD)  Voltage Measurement(V); Capacitance Measurement (uF); Current Measurement (nA)
<b>Power Supply</b>	Rechargeable lithium battery 14.8V, 6200mAh
<b>Rated Voltage</b>	DIT-931 : 50V, 250V, 500V, 1kV, 2.5kV, 5kV DIT-931E : 50V, 250V, 500V, 1kV, 2.5kV, 5kV, 10kV DIT-931F : 50V, 250V, 500V, 1kV, 2.5kV, 5kV, 10kV, 15kV  (5% ~ 10%) ±10V.
<b>Output Voltage Accuracy</b>	
<b>Insulation Resistance Test Range</b>	DIT-931: 0.005MΩ ~ 10.0TΩ DIT-931E: 0.005MΩ ~ 20.0TΩ DIT-931F: 0.005MΩ ~ 30.0TΩ
<b>Output Short Circuit Current</b>	≥7mA
<b>Polarization Index Test</b>	YES
<b>Dielectric Absorption Ratio Test</b>	YES
<b>Step Voltage(STEP) Measurement</b>	YES
<b>Dielectric Discharge Index(DD)</b>	YES
<b>Custom Voltage (VS)</b>	YES
<b>Ramp Test Mode</b>	Step up to the preset voltage by testing with 10% stepped size of the preset voltage.
<b>Voltage Test</b>	Range : DC: 10 ~ 1000V; AC: 10 ~ 700V; Accuracy : ±5%rdg±3V
<b>Capacitance Test</b>	Range : 10nF ~ 200uF; Accuracy : ±10%rdg±10nF
<b>Current Test</b>	Range : 0.001nA ~ 7.5mA; Accuracy : ±5%rdg±0.5nA
<b>Voltage Monitor</b>	Monitor the voltage of the measured object, and monitor discharge status after test, forbidden to test when voltage exceed 36V, protect instrument and operator.
<b>Custom Setting Time</b>	10s - 3600s
<b>Test Timer</b>	Automatic record test time, time range: 0s ~ 9999s
<b>Storage Function</b>	Automatically store the test data with test date and time, total of 1000 groups
<b>Upload Function</b>	Upload the stored data to computer via USB communication cable.
<b>Battery Power Display</b>	With battery power display, when battery voltage low will remind to replace the battery
<b>Automatic Shutdown</b>	After 15 minutes device will shut down automatically, if no operations

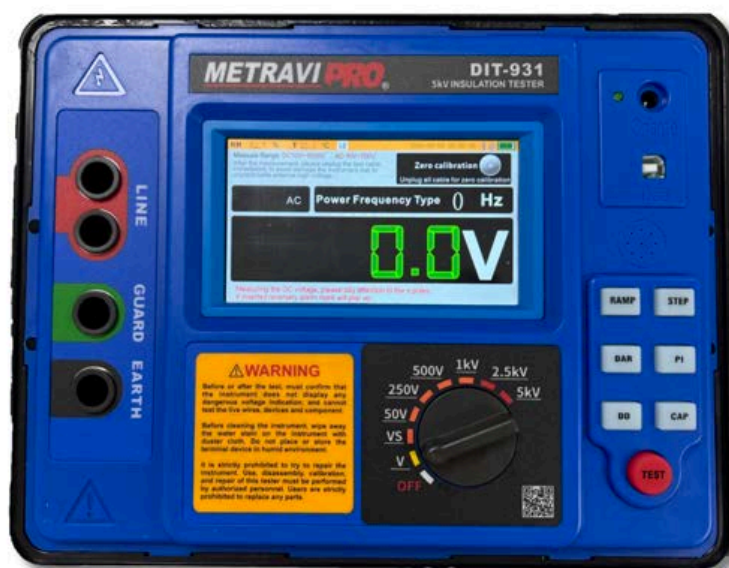
## High-performance High Voltage Insulation Testers PRO DIT-931 / PRO DIT-931E / PRO DIT-931F

<b>Meter Dimension</b>	280mm×260mm×160mm
<b>Meter Weight</b>	4326g (including the battery), Total Weight: 6.96kg (Accessories)
<b>Test Wires</b>	Red colour high voltage test wire (with alligator clip and hook), Green colour test wire, Black colour test wire
<b>Protection Level</b>	Closed case IP65, open the case IP40
<b>Working Environment</b>	-20°C ~ 50°C; 80%RH
<b>Store Environment</b>	-25°C ~ 65°C; 80%RH
<b>Insulation Resistance</b>	50MΩ (1000V) (between the test circuit and shell)
<b>Withstand Voltage</b>	AC 3kV 50Hz 1min (between the test circuit and shell)
<b>Suitable Safety Standard</b>	IEC61010-1, IEC61326-1

### Touchscreen with Multifunction Coloured Display



1. Present voltage gear and range
2. Normal/Ramp mode indication
3. Present output terminal state (Red-output, Yellow-voltage over 36V)
4. Insulation Resistance (IR)
5. Dielectric absorption ratio (DAR)
6. Polarization index (PI)
7. Dielectric discharge index (DD)
8. Distributed capacitance (CAP)
9. Estimated test duration (Stop by manual will not display)
10. HELP button
11. Bluetooth, USB, Battery Power indication
12. Test time
13. Transient Current value
14. Transient Voltage value
15. Ambient temperature and humidity during the test (inside housing)



### Accessories

Tester	1 Pc
High Voltage Rod	1 Pc (red)
Alligator Clip Test Wire	2 Pcs (each 1 Pc of black and green)
Alligator Clip	1 Pc
Hook	1 Pc
USB Communication Cable	1 Pc
Software CD	1 Copy
Charger	1 Pc
Instrument Bag	1 Pc
Manual / Warranty Card / Test Certificate	1 Set