

## 1. ELECTRICAL SPECIFICATION

Uncertainty is indicated as  $\pm$  (% rdgs + no. of dgt) at 23 °C  $\pm$  5 °C, con relative humidity <80%HR

### DC/AC TRMS VOLTAGE

Range	Resolution	Uncertainty	Overload protection
10 ÷ 660V	1V	$\pm(2\%rdg+2dgt)$	CAT IV 600 to ground

### INSULATION RESISTANCE

Range	Test Voltage	Resolution	Uncertainty (*)
0.01M $\Omega$ ÷ 0.19M $\Omega$	$\geq 100V$ DC	$\leq 1\%rdg$	$\pm(5\%rdg + 7dgt)$
0.20M $\Omega$ ÷ 199G $\Omega$			$\pm(5\%rdg.+3dgt)$ if $R_{mis} \leq \frac{Test\ Voltage}{5nA}$
0.20M $\Omega$ ÷ 499G $\Omega$	$\pm(20\%rdg.+3dgt)$ if $R_{mis} > \frac{Test\ Voltage}{5nA}$		
0.20M $\Omega$ ÷ 999G $\Omega$			$\geq 250V$ DC
0.20M $\Omega$ ÷ 1.99T $\Omega$	$\geq 500V$ DC		
0.20M $\Omega$ ÷ 4.99T $\Omega$	$\geq 1000V$ DC		
0.20M $\Omega$ ÷ 9.99T $\Omega$	$\geq 2500V$ DC		
	5000V DC		

(\*) Load Capacitance < 1nF

Capacitor charging time (@5kV test voltage): 10s (Capacitance = 2 $\mu$ F)

Capacitor discharging time (from 5kV test voltage): 5s (Capacitance = 2 $\mu$ F)

### GENERATED TEST VOLTAGE (compliance to IEC/EN61557-2)

Test mode	Nominal test voltage	Uncertainty
FIX	100V, 250V, 500V, 1kV, 2.5kV, 5kV	-0%, +10% +15V
AJUSTABLE	100 ÷ 1kV in steps of 25V	
	1kV ÷ 5kV in steps of 50V	
RAMP	100 ÷ 1kV in steps of 25V	
	1kV ÷ 5kV in steps of 50V	

### TEST CURRENT

Test Voltage	Test current
100 ÷ 5000V	1mA $\leq$ Test Current $\leq$ 3mA (**)

(\*\*) Test current automatically controlled.

### TEST TIME

Setting Range	Resolution
5s – 99min 59s	1s

### CAPACITANCE

Range	Resolution	Resistance Load	Test Voltage (Vn)	Uncertainty
1nF ÷ 999nF	1nF	$\geq 5M\Omega$	Vn $\leq$ 5kV	$\pm(10\%rdg+5dgt)$
1.00 $\mu$ F ÷ 5.00 $\mu$ F	0.01 $\mu$ F		Vn $\leq$ 2.5kV	
1nF ÷ 999nF	1nF			
1.00 $\mu$ F ÷ 9.99 $\mu$ F	0.01 $\mu$ F		Vn $\leq$ 1kV	
10.0 $\mu$ F ÷ 19.9 $\mu$ F	0.1 $\mu$ F			
1nF ÷ 999nF	1nF			
1.00 $\mu$ F ÷ 9.99 $\mu$ F	0.01 $\mu$ F			
10.0 $\mu$ F ÷ 49.9 $\mu$ F	0.1 $\mu$ F			

Capacitor charge time (OV  $\rightarrow$  5000V): < 3s x 1 $\mu$ F

Capacitor discharge time (5000V  $\rightarrow$  25V): < 5s x 1 $\mu$ F





## LEAKAGE CURRENT

Range	Resolution	Uncertainty
1nA ÷ 99.9nA	0.1nA	$\pm(7\%rdg+3dgt)$ if $R_{mis} \leq \frac{Test\ Voltage}{5nA}$
100nA ÷ 999nA	1nA	
1.00 $\mu$ A ÷ 9.99 $\mu$ A	0.01 $\mu$ A	$\pm(22\%rdg+3dgt)$ if $R_{mis} > \frac{Test\ Voltage}{5nA}$
10.0 $\mu$ A ÷ 9.99 $\mu$ A	0.1 $\mu$ A	
100 $\mu$ A ÷ 999 $\mu$ A	1 $\mu$ A	
1.00mA ÷ 2.5mA	0.01mA	

## P.I (Polarization Index) – D.A.R (Dielectric Absorption Ratio)

Range	Resolution	Uncertainty
0.01 ÷ 9.99	0.01	$\pm(5\%rdg+3dgt)$ if $R_{mis} \leq \frac{Test\ Voltage}{5nA}$
		$\pm(20\%rdg+3dgt)$ if $R_{mis} > \frac{Test\ Voltage}{5nA}$

(\*) Load Capacitance < 1nF




## 2. GENERAL CHARACTERISTICS

### DISPLAY, MEMORY, SERIAL INTERFACE

- Backlight LCD with three simultaneous readings:  
Group 1 (main) → Insulation Resistance, Leakage Current, PI, DAR, Capacitance  
Group 2 → Test voltage (nominal and generated)  
Group 3 → Test Time
- Bargraph: 32 segments
- Low battery indications
- Memory: 700 test
- Communication interface: RS232 optoinsulated

### POWER SUPPLY:

- Internal battery charger, power supply: 220-240V 50/60Hz, 20VA
- Internal NiMH rechargeable battery
- Protection fuse on power supply: T 200mA/250V, Ir: 1.5kA
- Low battery indication:  symbol at display
- Battery life: > 7 hours (@ 5kV) on 100MΩ (test time: 10s, delay between two test: 2s)
- Battery recharging time: approx: 4.3 hours
- Auto Power OFF: after 5min since last operation

### ENVIRONMENT:

- Ref. Temperature: 23°C ± 5°C
- Working temperature: 0°C ÷ 40°C
- Maximum relative humidity: <80%RH
- Storage temperature: -10°C ÷ 60°C
- Storage humidity: < 80%RH

### MECHANICAL DATA:

- Dimensions (L x W x H): 360 x 310 x 195 mm (14.2" x 12.2" x 7.7")
- Weight: about 3.5kg (about 7.8lb)

### GUIDELINES

Instrument's safety	IEC/EN61010-1, IEC/EN61557-1, IEC/EN61557-2
Technical documentation :	IEC/EN61187
Accessories safety :	IEC/EN61010-031
Insulation:	Double insulation
Pollution degree:	2
Mechanical protection:	IP40 (open case), IP53 (closed case)
Over voltage category:	CAT IV 600V to ground, max 600V between inputs
Maximum altitude	max altitude 2000m
Patented certification:	TÜV protocol conformity

**This instrument complies with the requirements of the European Low Voltage Directives 2014/35/EU (LVD) and EMC 2014/30/EU**

**This instrument complies with the requirements of the European 2011/65/EU (RoHS) and with the requirements of the European 2012/19/EU (WEEE)**

