



1. ELECTRICAL SPECIFICATION

Uncertainty is indicated as \pm [% rdg + (number of dgt) * resolution] at $-10^{\circ}\text{C} \div 30^{\circ}\text{C}$, 40% \div 60%HR

INSULATION RESISTANCE

Measurement range	Resolution	Accuracy
120k Ω \div 999k Ω	1k Ω	$\pm(5.0\% \text{rdg} + 3 \text{dgt})$
1.00M Ω \div 9.99M Ω	0.01M Ω	
10.0M Ω \div 99.9M Ω	0.1M Ω	
100M Ω \div 999M Ω	1M Ω	
1.00G Ω \div 9.99G Ω	0.01G Ω	
10.0G Ω \div 99.9G Ω	0.1G Ω	
100G Ω \div 999G Ω	1G Ω	
1.00T Ω \div 10.00T Ω	0.01T Ω	$\pm(15.0\% \text{rdg} + 3 \text{dgt})$

The value of insulation resistance FS is defined as: $RFS = 1G\Omega * U_{\text{test}} [V]$

Nominal test voltage: 500 \div 10kV DC
 Nominal test current: > 1mA
 Short circuit current: 5mA \pm 10%
 Automatic discharge object on test: Yes

Range of test voltage	Resolution	Accuracy
0 \div 9999V	1V	$\pm(3.0\% \text{rdg} + 3V)$
\geq 10kV	0.1kV	$\pm 3.0\% \text{rdg}$

Nominal test voltage: 500 \div 10kV DC programmable in steps of 25V
 Output power consumption: 10W max

Range of test current	Resolution	Accuracy
0.00 \div 9.99nA	0.01nA	$\pm(5.0\% \text{rdg} + 0.05 \text{nA})$
10.0 \div 99.9nA	0.1nA	
100 \div 999nA	1nA	
1.00 \div 9.99 μ A	0.01 μ A	
10.0 \div 9.99 μ A	0.1 μ A	
100 \div 999 μ A	1 μ A	
1.00 \div 5.50mA	0.01mA	

Filter option	Maximum current @ 50Hz (mA rms)
Fil0	1.5
Fil1	2.5
Fil2	4.5
Fil3	5

MEASUREMENT OF DAR, PI, DD PARAMETERS

Measurement range	Resolution	Accuracy
0.01 \div 9.99	0.01	$\pm(5.0\% \text{rdg} + 2 \text{dgt})$
10.0 \div 100.0	0.1	$\pm 5.0\% \text{rdg}$

Measurement range capacitance for DD test: 5nF \div 50 μ F

INSULATION MEASUREMENT WITH RAMP TEST VOLTAGE

Measurement range	Resolution	Accuracy
2000 \div 9999V	1V	$\pm(3.0\% \text{rdg} + 3V)$
\geq 10kV	0.1kV	$\pm 3.0\% \text{rdg}$

Nominal test voltage: 2000 \div 10kV DC programmable in steps of 125V



DC WITHSTANDING TEST

Measurement range	Resolution	Accuracy
500 ÷ 9999V	1V	±(3.0% rdg + 3V)
≥ 10kV	0.1kV	±3.0% rdg

Range of discharging current	Resolution	Accuracy
0.000 ÷ 0.009mA	0.001mA	±(3.0% rdg + 3 dgt)
0.01 ÷ 5.50mA	0.01mA	±3.0% rdg

Nominal test voltage:

500 ÷ 10kV DC programmable in steps of 25V

Accuracy of test voltage:

-0 / +10% + 20V

AC/DC VOLTAGE

Measurement range	Resolution	Accuracy
0 ÷ 600V	1V	±(3.0% rdg + 4V)

Output impedance:

3MΩ ±10%

Voltage frequency	Resolution	Accuracy
0 e 45.0 ÷ 65.0Hz	0.1Hz	±0.2Hz

Frequency between 0 and 45Hz:

visualization < 45Hz

Frequency > 65Hz:

visualization > 65Hz

CAPACITANCE

Measurement range	Resolution	Accuracy
0.0 ÷ 99.9nF	0.1nF	±(5.0%rdg + 2dgt)
100 ÷ 999nF	1nF	
1.00 ÷ 50.0μF	0.01μF	

The value of FS capacitance is defined as: CFS = 10μF * Utest [kV]



2. GENERAL SPECIFICATIONS

DISPLAY, MEMORY, SERIAL INTERFACE

- LCD, dot matrix with backlight (160x116pxl):
- Low battery indications
- Memory: 1000 locations
- Serial interface: RS232 optoinsulated (2400,4800,9600,19200 baud, 1, N)
- USB interface: type B standard, 115000 baud

POWER SUPPLY:

- External main supply: 90-260V AC, 45-65Hz, 60VA
- Internal supply: 6 x 1.2V type IEC LR20 NiMH rechargeable battery
- Low battery indication: "▢" symbol at display
- Battery life: approx.. 4 hours (continuous test at 10kV)
- Automatic discharging of object on test, resistance $425\Omega \pm 10\%$

ENVIRONMENT:

- Ref. Temperature: $10^{\circ}\text{C} \div 30^{\circ}\text{C}$; $40 \div 60\%HR$
- Working temperature: $10^{\circ} \div 50^{\circ}\text{C}$
- Maximum relative humidity: $<90\%HR$
- Storage temperature: $-20 \div 70^{\circ}\text{C}$
- Storage humidity: $<00\%HR$

MECHANICAL DATA:

- Dimensions: 360(L) x 330(W) x 160(H) mm
- Weight: 5.5kg

GUIDELINES

Instrument's safety	IEC/EN61010-1, IEC/EN61557-2
Accessories safety :	IEC/EN61010-031
Insulation:	Double insulation
Type of Protection:	2
Mechanical protection:	IP44 (closed case)
Over voltage category:	CAT IV 600V to ground, max 600V between inputs
Maximum altitude of use:	2000m

This instrument complies with the requirements of the European Low Voltage Directives 2006/95/EEC (LVD) and EMC 2004/108/EEC