



## 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 $\Omega$ $\div$ 999k $\Omega$	1k $\Omega$	$\pm(5.0\%\text{rdg} + 3\text{dgt})$
1.00M $\Omega$ $\div$ 9.99M $\Omega$	0.01M $\Omega$	
10.0M $\Omega$ $\div$ 99.9M $\Omega$	0.1M $\Omega$	
100M $\Omega$ $\div$ 999M $\Omega$	1M $\Omega$	
1.00G $\Omega$ $\div$ 9.99G $\Omega$	0.01G $\Omega$	
10.0G $\Omega$ $\div$ 99.9G $\Omega$	0.1G $\Omega$	
100G $\Omega$ $\div$ 999G $\Omega$	1G $\Omega$	
1.00T $\Omega$ $\div$ 10.00T $\Omega$	0.01T $\Omega$	$\pm(15.0\%\text{rdg} + 3\text{dgt})$

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

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	$\pm(3.0\%\text{rdg} + 3\text{V})$
$\geq$ 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 $\mu$ A	0.01 $\mu$ A	
10.0 $\div$ 9.99 $\mu$ A	0.1 $\mu$ A	
100 $\div$ 999 $\mu$ A	1 $\mu$ 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 $\mu$ F

### INSULATION MEASUREMENT WITH RAMP TEST VOLTAGE

Measurement range	Resolution	Accuracy
2000 $\div$ 9999V	1V	$\pm(3.0\%\text{rdg} + 3\text{V})$
$\geq$ 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 &lt; 45Hz

Frequency &gt; 65Hz:

visualization &gt; 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:  $CFS = 10\mu F * U_{test} [kV]$



## 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

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energie ist messbar

Optec AG | Guyer-Zeller-Strasse 14 | CH-8620 Wetzikon ZH

Telefon: +41 44 933 07 70 | Telefax: +41 44 933 07 77

E-Mail: info@optec.ch | Internet: www.optec.ch