1. ELECTRICAL SPECIFICATIONS

Accuracy is indicated as ± [%rdg + (numbers of digits*resolution)] at 23°C ± 5°C, <80%HR

DC VOLTAGE

Range	Resolution	Accuracy	Overload protection
100.00mV	0.01mV	±(0.08%rdg+3dgt)	1000VDC/ACrms
1000.0mV	0.1mV	±(0.08%rdg+2dgt)	
10.000V	0.001V		
100.00V	0.01V		
1000.0V	0.1V		

Input impedance: 10MΩ // <100pF

AC TRMS VOLTAGE

Range	Resolution	Accuracy (50Hz ÷ 60Hz)	Accuracy (60Hz ÷ 5kHz)	Overload protection
100.00mV	0.01mV	±(0.9%rdg+3dgt)	±(0.9%rdg+3dgt)	1000VDC/ACrms
1000.0mV	0.1mV			
10.000V	0.001V		±(1.9%rdg+3dgt)	
100.00V	0.01V			
1000.0V	0.1V		±(0.9%rdg+3dgt) (*)	

(*) In the range: 60Hz ÷ 1kHz
Input impedance: 10MΩ // <100pF
For non-sinusoidal voltages add the herewith correction on accuracies:
Crest factor: 1.4 ÷ 2.0 → add 1.0%rdg to the accuracy
Crest factor: 2.0 ÷ 2.5 → add 2.5%rdg to the accuracy
Crest factor: 2.5 ÷ 3.0 →add 4.0%rdg to the accuracy

AC TRMS VOLTAGE – Mode HFR

Range	Resolution	Accuracy (50Hz ÷ 60Hz)	Accuracy (60Hz ÷ 5kHz)	Overload protection
10.000V	0.001V	±(0.9%rdg+3dgt)	±(2.9%rdg+3dgt) (*)	1000VDC/ACrms
100.00V	0.01V			
1000.0V	0.1V			

(*) In the range: 60Hz ÷ 500Hz
Input impedance: 10MΩ // <100pF
Cutoff frequency mode HFR: 1kHz
For non-sinusoidal voltages consider the indication of AC TRMS voltage

DC CURRENT

Range	Resolution	Accuracy	Overload protection
100.00mA	0.01mA	±(0.2%rdg+2dgt)	max 440mA
400.0mA	0.1mA		

AC TRMS CURRENT

Range	Resolution	Accuracy (50Hz ÷ 5kHz)	Overload protection
100.00mA	0.01mA	±(1.5%rdg+2dgt)	max 440mA
400.0mA	0.1mA		

For non-sinusoidal currents consider the indication of AC TRMS voltage

RESISTANCE

Range	Resolution	Accuracy	Open voltage	Overload protection
1000.0Ω	0.1Ω	±(0.5%rdg+2dgt)	approx 0.25V	1000VDC/ACrms
10.000kΩ	0.001kΩ			
100.00kΩ	0.01kΩ			
1000.0kΩ	0.1kΩ			
10.000MΩ	0.001MΩ			
40.00MΩ	0.01MΩ			

CONTINUITY TEST

Range	Buzzer	Accuracy	Overload protection
400.0Ω	<30Ω	±(0.5%rdg+2dgt)	1000VDC/ACrms

Max open voltage: 1.2V

DIODE TEST

Range	Accuracy	Open voltage	Overload protection
2.000V	±(0.5%rdg+2dgt)	<2.5V	1000VDC/ACrms

Max test current: 0.6mA

FREQUENCY AC VOLTAGE/CURRENT

Range	Resolution	Accuracy	Minumum pulse duration	Overload protection
100.00Hz	0.01Hz	±(0.1%rdg+2dgt)	10µs	1000VDC/ACrms
1000.0Hz	0.1Hz			
10.000kHz	0.001kHz			
100.00kHz	0.01kHz			

Function	Range	Sensitivity (sinusoidal waveform)	
		10Hz ÷ 10kHz	10kHz ÷ 100kHz
AC mV	100.00mV	15.00mV	
	1000.0mV	150.0mV	
AC V	10.000V	1.500V	
	100.00V	3V	-
	1000.0V	30V	-
AC mA	100.00mA	15.00mA	-
	400.0mA	30mA	-

CAPACITANCE

Range	Resolution	Accuracy	Meas. Time	Overload protection
10.000nF	0.001nF	±(1.2%rdg+80dgt)	0.7s	1000VDC/ACrms
100.00nF	0.01nF	±(1.2%rdg+20dgt)		
1000.0nF	0.1nF	±(1.2%rdg+2dgt)		
10.000µF	0.001µF			
100.00µF	0.01µF			
1000.0µF	0.1µF		3.75s	
10.000mF	0.001mF	±(1.2%rdg+20dgt)	7.5s	
40.00mF	0.01mF	±(1.2%rdg+80dgt)		

TEMPERATURE WITH TYPE K PROBE

Range	Resolution	Accuracy	Overload protection
-200.0°C ÷ 0.0°C	0.1°C	±(1.0%rdg+2°C)	1000VDC/ACrms
0.0°C ÷ 1200.0°C		±(1.0%rdg+1°C)	
-328.0°F ÷ 32.0°F	0.1°F	±(1.0%rdg+36°F)	
32.0°F ÷ 2192.0°F		±(1.0%rdg+18°F)	

INSULATION RESISTANCE

Test voltage	Measurement range	Accuracy	Overload protection
50V DC	2.000MΩ	±(1.5%rdg+5dgt)	600VDC/ACrms
	20.00MΩ		
	55.0MΩ		
100V DC	2.000MΩ		
	20.00MΩ		
	110.0MΩ		
250V DC	2.000MΩ		
	20.00MΩ		
	200.0MΩ		
	275MΩ		
500V DC	2.000MΩ		
	20.00MΩ		
	200.0MΩ		
	550MΩ		
1000V DC	2.000MΩ		
	20.00MΩ		
	200.0MΩ		
	2000MΩ		
	22.0GΩ	±(10%rdg+3dgt)	

Test voltage accuracy: +20%rdg, -0%rdg
Short-circuit current: 1mA
Minimum resistance (@ nominal current 1mA): 50kΩ (50V), 100kΩ (100V), 250kΩ (250V), 500kΩ (500V), 1MΩ (1000V)
Discharge time of measured object: <1s (C≤ 1µF)
Maximum capacitive load: 1µF
Voltage detection on circuit: test inhibited for voltages ≥30V AC/DC on inputs

2. GENERAL SPECIFICATIONS

Display:
- LCD display, 5 digit with maximum reading 10000 counts with sign, decimal point and bargraph
- Automatic polarity indication
- "**OL**" over range indication

Features:
- Data HOLD
- MAX/MIN/AVG for maximum, minimum and average values
- Auto Backlight for automatic activation of backlit
- LOCK for insulation measurement in continuous mode
- AUTOTEST for automatic detection of AC or DC measurements
- HFR for AC voltage measurement with 500Hz cut-off frequency
- SMOOTH for stability of insulation measurements
- Internal memory for saving/recall data
- RANGE for manual range selection
- REL for relative measurement (Resistance and Capicatance)
- Internal test on protection fuses
- Auto Power OFF after 20 minutes of idleness

Internal memory:
- Max 100 locations for each function

Low battery indication:
- The symbol "  " appears when the battery voltage is low

Environmental conditions:
- Working temperature/humidity: 0°C ÷ 50°C, <80%HR
- Storage temperature/humidity: -20°C ÷ 60°C, <80%HR

General information:
- Max height of use: 2000m
- Pollution degree: 2
- Insulation: double insulation

Power supply:
- 4 x 1.5V alkaline batteries type AA IEC LR6

Sizes:
- 207(L)x95(W)x52(H) mm

Weight (included batteries):
- 630g

Applied standards:
- Safety: IEC/EN61010-1, UL61010-1, IEC/EN61557-1, IEC/EN61557-2
- Measurement category: CAT IV 600V – CAT III 1000V

This product conforms to the prescriptions of the European directive on low voltage 2006/95/EEC and to EMC directive 2004/108/EEC