1. TECHNICAL SPECIFICATIONS – INSULATION / CONTINUITY

Accuracy is indicated as ± (% readings + no. of digits) at 23°C ± 5°C, relative humidity HR <70%

Continuity test on protective and equalizing conductors

Range (Ω)	Resolution (Ω)	Accuracy	Overload protection
0.01 ÷ 19.99	0.01	±(5.0% rdg + 3dgt)	605Vrms max
20.0 ÷ 99.9	0.1		

Test current: > 200mA DC for R≤4Ω (included calibration)
Resolution on current measurement: 1mA

Open-circuit voltage: $4V \leq V_0 \leq 24V$

Insulation Resistance

Range (MΩ)	Resolution (MΩ)	Accuracy	Overload protection
0.00 ÷ 19.99	0.01	±(5.0% rdg + 2dgt)	605Vrms max
20.0 ÷ 199.9	0.1		
200 ÷ 999(*)	1	±(10.0% rdg + 2dgt)	

(*) For 500VDC test voltage. For 250VDC test voltage the range is: 200 ÷ 499MΩ
Test Voltage: 250, 500VDC
Test voltage accuracy: -0% ÷ +10% rdg
Short circuit current: <3.0mA
Nominal test current: 1mA @ 1kΩ x Vnom ; 1mA @ 500 kΩ

2. TECHNICAL SPECIFICATIONS – MULTIMETER FUNCTIONS

Accuracy is indicated as ± (% readings + no. of digits) at 23°C ± 5°C, relative humidity HR <70%

DC VOLTAGE (Autorange)

Range	Resolution	Accuracy	Input impedance	Overload protection
1.0mV ÷ 999.9mV	0.1mV	±(0.5%rdg + 2 dgt)	1MΩ	605Vrms max
1.000V ÷ 9.999V	1mV			
10.00V ÷ 99.99V	10mV			
100.0V ÷ 605.0V	100mV			

AC VOLTAGE TRMS (Autorange)

Range	Resolution	Accuracy (30 ÷ 70Hz)	Accuracy (70 ÷ 400Hz)	Input Impedance	Crest factor
1.0mV ÷ 999.9mV	0.1mV	±(1.0%rdg + 2dgt)	±(2.0%rdg+2 dgt)	1MΩ	3
1.000V ÷ 9.999V	1mV				1.5
10.00V ÷ 99.99V	10mV				
100.0V ÷ 605.0V	100mV				

AC/DC VOLTAGE: MAX / MIN / AVG / PEAK

Function	Range	Resolution	Accuracy	Response time
MAX, MIN, AVG	1.0mV ÷ 999.9mV	0.1mV	±(5.0%rdg + 10dgt)	500ms
	1.000V ÷ 9.999V	1mV		
	10.00V ÷ 99.99V	10mV		
	100.0V ÷ 605.0V	100mV		
PEAK	10.0mV ÷ 999.9mV	0.1mV		1ms
	1.000V ÷ 9.999V	1mV		
	10.00V ÷ 99.99V	10mV		
	100.0V ÷ 605.0V	100mV		

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DC/AC CURRENT TRMS (with external clamp)

Range	Resolution	DC Accuracy	Accuracy (30 ÷ 70Hz)	Accuracy (70 ÷ 400Hz)	Crest factor	Overload protection
1.0mV ÷ 999.9mV	0.1mV	±(0.5%rdg+2 dgt)	±(1.0%rdg+2 dgt)	±(2.0%rdg+2 dgt)	3	605Vrms max
1.000V ÷ 1.200V	1mV				1.5	

Note: accuracy indicated don't consider clamp accuracy. Please refer also to transducers clamp user's manual.

AC/DC CURRENT: MAX / MIN / AVG / PEAK (with external clamp)

Function	Range	Resolution	Accuracy	Response time	Overload protection
MAX, MIN, AVG	1.0mV ÷ 999.9mV	0.1mV	±(5.0%rdg+10 dgt)	500 ms	605Vrms max
	1.000V ÷ 1.200V	1mV			
PEAK	10.0mV ÷ 999.9mV	0.1mV		1ms	
	1.000V ÷ 3.000V	1mV			

RESISTANCE AND CONTINUITY TEST

Range	Resolution	Accuracy	Continuity test	Overload protection
0.00Ω ÷ 39.99Ω	0.01Ω	±(1.0%rdg+5 dgt)	R ≤40Ω	605Vrms max for 1 minute
40.0Ω ÷ 399.9Ω	0.1Ω			
400Ω ÷ 3999Ω	1Ω			
4.00kΩ ÷ 39.99kΩ	10Ω			

FREQUENCY (with test leads)

Range	Resolution	Accuracy	Input voltage	Overload protection
30.0 ÷ 199.9Hz	0.1Hz	±(0.5%rdg+2 dgt)	1.0mV ÷ 605V	605Vrms max
200 ÷ 400Hz	1Hz			

FREQUENCY (with external clamp)

Range	Resolution	Accuracy	Input voltage	Overload protection
30.0 ÷ 199.9Hz	0.1Hz	±(0.5%rdg+2dgt)	1.0mV ÷ 1.000V	605Vrms max
200 ÷ 400Hz	1Hz			

PHASE SEQUENCE / CONFORMITY (1 wre measurement)

Type of measure	Voltage range (V)	Frequency range (Hz)	System type
SEQUENCE	90 ÷ 315 (Phase – Earth)	45 ÷ 65	up to 315 (Phase – Earth) up to 550V (Phase – Phase)
CONFORMITY			

PHASE SEQUENCE / CONFORMITY (2 wre measurement)

Type of measure	Voltage range (V)	Frequency range (Hz)	System type
SEQUENCE	110 ÷ 315 (Phase – Neutral)	45 ÷ 65	up to 315 (Phase – Earth) up to 550V (Phase – Phase)
CONFORMITY			

Max crest factor :1.5

NOTE: the two-wire measurement can be performed also phase to phase in plants without neutral, even with one phase to earth, but always with phase to phase voltage up to 550V

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3. GENERAL SPECIFICATIONS

DISPLAY:	
Features:	Dual numeric, 9999 points
Display update:	2 times/sec
Visible area:	73x73 mm
POWER SUPPLY:	
Batteries:	4 batteries 1.5V type LR6-AA-AM3-MN 1500
ELECTRICAL FEATURES:	
Conversion:	AC 16 Bit, TRMS
Sample frequency:	64 sample/period
MECHANICAL FEATURES:	
Dimensions:	240(W) x 100(L) x 45(D) mm
Weight (included batteries):	about 450g
WORKING ENVIRONMENTAL CONDITIONS:	
Reference temperature:	23°C ± 5°C
Working temperature:	0° ÷ 40°C
Allowed relative humidity:	< 70% HR
Storage temperature:	-10 ÷ 60°C
Storage humidity:	< 70% HR
TEST VERIFIES REFERENCE STANDARDS:	
Continuity test with 200mA:	IEC 61557-4
Insulation resistance:	IEC 61557-2
Earth resistance:	IEC 61557-5
RCDs test:	IEC 61557-6
GENERAL REFERENCE STANDARDS:	
Safety of measuring instruments:	EN61010-1 + A2(1997)
Product type standard:	IEC61557-2, 3, 4, 5, 6
Insulation:	class 2 (double insulation)
Pollution degree:	2
Overvoltage category:	CAT III 550V AC Phase - Ground CAT III 550V AC Phase - Phase
Use:	internal use; max altitude: 2000m
EMC:	EN61326-1 (1998) + A1 (1999)

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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