Continuity 2W, 4W, test current (0.2 A, 4 A, 10 A, 25 A)

Function	Measuring range	Resolution	Accuracy
- R	0.00 Ω ... 19.99 Ω	0.01 Ω	±(2 % of reading + 2 D)
	20.0 Ω ... 99.9 Ω	0.1 Ω	±(3 % of reading)
	100.0 Ω ... 199.9 Ω	0.1 Ω	±(5 % of reading)
	200 Ω ... 999 Ω	1 Ω	Indicative

Voltage drop (Iout = 10 A)

Function	Measuring range	Resolution	Accuracy
- ΔU	0.00 Ω ... 19.99 Ω	0.01 Ω	±(2 % of reading + 5 D)
	20.0 Ω ... 99.9 Ω	0.1 Ω	±(3 % of reading)

HVAC, programmable HV AC, output voltage, * 100 V - 2500 V, ** 2510 V - 5000 V (floating to earth)

Function	Measuring range	Resolution	Accuracy
- Voltage (AC)	0 V ... 1999 V	1 V	±(3 % of reading)
	2.00 kV ... 5.99 kV	10 V	±(3 % of reading)
- Current, apparent	0.0 mA ... 49.9 mA** / 99.9 mA*	0.1 mA	±(3 % of reading + 3 D)
- Current, resistive	0.0 mA ... 49.9 mA** / 99.9 mA*	0.1 mA	Indicative
- Current capacitive	-49.9 mA ... 49.9 mA**	0.1 mA	Indicative
	-99.9 mA ... 99.9 mA*	0.1 mA	Indicative
- Short circuit current	> 200 mA		
- Output power	250 VA max		

Insulation resistance (250 V, 500 V), insulation resistance - S (250 V, 500 V), Riso - PAT / Riso - welding

Function	Measuring range	Resolution	Accuracy
- Riso/Riso-s	0.08 MΩ ... 19.99 MΩ	0.01 MΩ	±(3 % of reading + 2 D)
	20.0 MΩ ... 99.9 MΩ	0.1 MΩ	±(5 % of reading)
	100.0 MΩ ... 199.9 MΩ	0.1 MΩ	±(10 % of reading)
- Output voltage	0 V ... 600 V	1 V	±(3 % of reading + 2 D)

Insulation resistance (500 V and 1000 V) ISO installation

- Riso	0.15 MΩ ... 19.99 MΩ	0.01 MΩ	±(5 % of reading + 3 D)
	20.0 MΩ ... 199.9 MΩ	0.1 MΩ	±(5 % of reading)
	200.0 MΩ ... 999 MΩ	1 MΩ	±(10 % of reading)
- Output voltage	0 V ... 1200 V	1 V	±(3 % of reading + 3 D)

Insulation resistance (50 V, 100 V and 250 V) ISO Installation

- Riso	0.15 MΩ ... 19.99 MΩ	0.01 MΩ	±(5 % of reading + 2 D)
	20.0 MΩ ... 99.9 MΩ	0.1 MΩ	±(10 % of reading)
	100.0 MΩ ... 199.9 MΩ	0.1 MΩ	±(20 % of reading)
- Output voltage	0 V ... 300 V	1 V	±(3 % of reading + 3 D)
Measuring range according to EN 61557	0.15 MOhm ... 999 MOhm		

Substitute leakage (Isub, Isub-S), open circuit voltage, 110 V AC, 230 V AC

Function	Measuring range	Resolution	Accuracy
- Isub	0.02 mA ... 1.99 mA	0.01 mA	±(3 % of reading + 3 D)
- Isub s	2.00 mA ... 19.99 mA	0.01 mA	±(5 % of reading)

Differential leakage current

Function	Measuring range	Resolution	Accuracy
- Idiff	0.010 mA ... 1.999 mA	0.001 mA	±(3 % of reading + 10 D)
	2.00 mA ... 19.99 mA	0.01 mA	±(5 % of reading)

PE leakage current

Function	Measuring range	Resolution	Accuracy
- Ipe	0.010 mA ... 1.999 mA	0.001 mA	±(3 % of reading + 3 D)
	2.00 mA ... 19.99 mA	0.01 mA	±(5 % of reading)

Touch leakage current

Function	Measuring range	Resolution	Accuracy
- Itou	0.010 mA ... 1.999 mA	0.001 mA	±(3 % of reading + 3 D)
	2.00 mA ... 19.99 mA	0.01 mA	±(5 % of reading)
Operating range (acc. to EN 61557-16)	0.010 mA ..... 19.99 mA		

Power

Function	Measuring range	Resolution	Accuracy
- P (active)	0.00 W ... 19.99 W	0.01 W	±(5 % of reading + 5 D)
	20.0 W ... 199.9 W	0.1 W	±(5 % of reading)
	200 W ... 1999 W	1 W	±(5 % of reading)
	2.00 kW ... 3.70 kW	10 W	±(5 % of reading)
- S (apparent)	0.00 VA ... 19.99 VA	0.01 VA	±(5 % of reading + 10 D)
	20.0 VA ... 199.9 VA	0.1 VA	±(5 % of reading)
	200 VA ... 1999 VA	1 VA	±(5 % of reading)
	2.00 kVA ... 3.70 kVA	10 VA	±(5 % of reading)

- Q (reactive)	0.00 VAr ... 19.99 VAr 20.0 VAr ... 199.9 VAr 200 VAr ... 1999 VAr 2.00 kVAr ... 3.70 kVAr	0.01 VAr 0.1 VAr 1 VAr 10 VAr	±(5 % of reading + 10 D) ±(5 % of reading) ±(5 % of reading) ±(5 % of reading)
- PF	0.00 i ... 1.00 i 0.00 c ... 1.00 c	0.01 0.01	±(5 % of reading + 5 D) ±(5 % of reading + 5 D)
- THDU	0.0 % ... 99.9 %	0.1%	±(5 % of reading + 5 D)
- THDI	0 mA ... 999 mA 1.00 A ... 16.00 A	1 mA 0.01 A	±(5 % of reading + 5 D) ±(5 % of reading)
- Cos Phi	0.00i ... 1.00i 0.00c ... 1.00c	0.01 0.01	±(5 % of reading + 5 D)
- U	0.1 V ... 199.9 V 200 V ... 264 V	0.1 1 V	±(3 % of reading + 10 D) ±(3 % of reading)
- I	0 mA ... 999 mA 1.00 A ... 16.00 A	1 mA 0.01 A	±(3 % of reading + 5 D) ±(3 % of reading)
RCD testing / current shape AC, A, F, B, B+ / RCD type (non-delayed, S time-delayed, PRCD, PRCD-K, PRCD-S)			
Function	Measuring range	Resolution	Accuracy
- I△ – Trip-out current	0.2 xI△N ... 1.1 xI△N (AC type); 0.2 xI△N ... 1.5 xI△N (A type, I△N≥30 mA); 0.2 xI△N ... 2.2 xI△N (A type, I△N<30 mA); 0.2 xI△N ... 2.2 xI△N (B type)	0.05 xI△N	±0.1 xI△N
- Uc – Contact voltage	0.0 V ... 19.9 V 20.0 V ... 99.9 V	0.1 V	(-0 % / +15 %) of reading ± 10 D (-0 % / +15 %) of reading
UC I△N - Contact coltage			
- Uc I△	0.0 V ... 19.9 V 20.0 V ... 99.9 V	0.1 V	(-0 % / +15 %) of reading ± 10 D (-0 % / +15 %) of reading
- t △N –Trip-out time	0.0 ms ... 40.0 ms 0.0 ms ... max. time* * For max. time refere to user manual.	0.1 ms	±1 ms ±3 ms
Trip out time			
- t I△	0 ms ... 300 ms	1 ms	±3 ms
Polarity, test voltage (normal) < 50 V / test voltage (active) mains voltage Power consumption of tested device during the active test.....< 25 VA			
Clamp current (true RMS current using 1000:1 current clamp)			
Function	Measuring range	Resolution	Accuracy
- I - Idiff - Ipe	0.00 mA ... 9.99 mA 10.0 mA ... 99.9 mA 100 mA ... 999 mA 1.00 A ... 9.99 A 10.0 A ... 24.9 A	0.01 mA 0.1 mA 1 mA 0.01 A 0.1 A	±(5 % of reading + 10 D) ±(5 % of reading + 5 D)
Accuracy of current transformer is not considered. Frequency range of current clamp is not considered.			
Voltage (online terminal voltage monitor (10 ... 550 V) + phase rotation)			
Function	Measuring range	Resolution	Accuracy
- TRMS (14 ... 500 Hz) Uln, Ulpe, Unpe, U1pe, U2pe, U12, U13, U23	0 V ... 550 V	1 V	±(2 % of reading + 2 D)
- Frequency	0.00 Hz ... 9.99 Hz 10.0 Hz ... 499.9 Hz	0.01 Hz 0.1 Hz	±(0.2 % of reading + 1 D)
Varistor test			
Function	Measuring range	Resolution	Accuracy
- DC voltage	0 V ... 1000 V	1 V	±(3 % of reading + 3 D)
- AC voltage	0 V ... 625 V	1 V	Consider accuracy of DC voltage
R low - resistance of earth connection and equipotential bonding			
Function	Measuring range	Resolution	Accuracy
- R	0.16 Ω ... 19.99 Ω 20.0 Ω ... 199.9 Ω 200 Ω ... 1999 Ω	0.01 Ω 0.1 Ω 1 Ω	±(3 % of reading + 3 D) ±(5 % of reading) ±(5 % of reading)
Measuring range according to EN 61557	0.16 Ω ... 1999 Ω		
Function	Measuring range	Resolution	Accuracy
- R+,R-	0.0 Ω ... 199.9 Ω 200 Ω ... 1999 Ω	0.1 Ω 1 Ω	±(5 % of reading + 5 D) ±(5 % of reading + 5 D)
Open circuit voltage Measuring current Test lead compensation	6.5 Vdc ... 18 Vdc min. 200 mA into load resistance of 2 Ω up to 5 Ω		

Impedance Z loop, (L-PE, Test current @ 230 V ... 20 A (10 ms))			
Function	Measuring range	Resolution	Accuracy
- Z – Fault loop impedance	0.00 Ω ... 9.99 Ω 10.0 Ω ... 99.9 Ω 100 Ω ... 999 Ω 1.00 kΩ ... 9.99 kΩ	0.01 Ω 0.1 Ω 1 Ω 10 Ω	±(5 % of reading + 5 D) ±(10 % of reading) ±(10 % of reading) ±(10 % of reading)
Measuring range according to EN 61557	0.12 Ω ... 9.99 kΩ		
Impedance Zs rcd, L-PE			
Function	Measuring range	Resolution	Accuracy
- Z - Zs Rcd	0.00 Ω ... 9.99 Ω 10.0 Ω ... 99.9 Ω 100 Ω ... 999 Ω 1.00 kΩ .... 9.99 kΩ	0.01 Ω 0.1 Ω 1 Ω 10 Ω	±(5 % of reading + 12 D) ±(5 % of reading + 12 D) ±(10 % of reading) ±(10 % of reading)
Measuring range according to EN 61557 is 0.46 Ohm ... 9.99 kOhm for Itest = normal and 0.48 Ohm ... 9.99 kOhm for Itest = low.			
Function	Measuring range	Resolution	Accuracy
- Ipsc – Prospective fault current	0.00 A ... 9.99 A 10.0 A ... 99.9 A 100 A ... 999 A 1.00 kA ... 9.99 kA 10.0 kA ... 23.0 kA	0.01 A 0.1 A 1 A 10 A 100 A	Consider accuracy of fault loop resistance measurement
- Ulpe – Voltage	0 V ... 550 V 20.0 V ... 99.9 V* * for Z - Zs Rcd function	1 V 0.1 V	±(2 % of reading + 2 D)
Impedance Z line (L-L, L-N, Test current @ 230 V ... 20 A (10 ms))			
Function	Measuring range	Resolution	Accuracy
- Z Line impedance	0.12 Ω ... 9.99 Ω 10.0 Ω ... 99.9 Ω 100 Ω ... 999 Ω 1.00 kΩ ... 9.99 kΩ	0.01 Ω 0.1 Ω 1 Ω 10 Ω	±(5 % of reading + 5 D) ±(5 % of reading + 5 D) ± 10 % of reading ± 10 % of reading
- Ipsc – Prospective fault current	0.00 A ... 0.99 A 1.0 A ... 99.9 A 100 A ... 999 A 1.00 kA ... 99.99 kA 100 kA ... 199 kA	0.01 A 0.1 A 1 A 10 A 1000 A	Consider accuracy of line resistance measurement
- Uln – Voltage	0 V ... 550 V	1 V	±(2 % of reading + 2 D)
Voltage Drop (Zref 0.00 Ω ... 19.99 Ω, Test current @ 230 V ... 20 A (10 ms))			
Function	Measuring range	Resolution	Accuracy
-dU – Voltage drop	0.0 % ... 99.9 %	0.1 %	Consider accuracy of line resistance measurement (s)
Discharging time			
Function	Measuring range	Resolution	Accuracy
- t – Discharging time	0.0 s ... 10.0 s	0.1 s	±(5 % of reading + 2 D)
- Up – Peak voltage Threshold voltage: 34 V, 60 V, 120 V	0 V ... 550 V	1 V	±(5 % of reading + 3 D)

General data	
Power supply	110 V / 230 V AC, 50 Hz / 60 Hz
Max. power consumption	300 VA (without load on mains test socket)
Max. load	10 A continuous, 16 A short duration, 1.5 kW motor
Measuring categories	
Mains test socket, IEC test socket	CAT II / 300 V
TC1 test socket, (C1, C2, P1, P2, P)	CAT III / 300 V
Protection classification	
Degree of protection	IP 54 (Closed case), IP 40 (Open case), IP 20 (Mains socket)
Communication	
Memory	Depends on microSD card size
RS-232 interfaces	Two DB9 ports RS-232-1 (PC), RS-232-2
INPUTs/OUTPUTs	24 Vmax (DB9 connector, 2X)
USB 2.0	Standard USB Type B
Bluetooth	Class 2
Ethernet	Dynamic IP (DHCP)
Dimensions (L x W x H)	420 x 325 x 180 mm / 420 x 325 x 250 mm (with accessories)
Weight	13.3 kg / 15.1 kg (with accessories)