

Function	Measured Quantity	Measuring Range / Nominal Range of Use	Resolution	Nominal Voltage $U_N$	Open-Circuit Voltage $U_0$	Nominal Current $I_N$	Short-Circuit Current $I_K$	Internal Resistance $R_I$	Reference Resistance $R_{REF}$	Measuring Uncertainty <sup>4</sup>	Intrinsic Error <sup>4</sup>	Overload Capacity	
												Value	Time
Individual Measurements	Device protective conductor resistance $R_E$	0.000 ... 2100 $\Omega$	1 m $\Omega$	—	4.5 ... 9 V DC	—	> 200 mA DC	—	—	$\pm(5\% \text{ rdg.} + 10 \text{ d})$ > 10 d	$\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d	253 V	Cont.
		2.11 ... 31.00 $\Omega$	10 m $\Omega$										
		0.000 ... 2.100 $\Omega$	1 m $\Omega$									—	< 6 V AC
	Insulation resistance measurement $R_{INS}$	0.050 ... 1500 M $\Omega$	1 k $\Omega$	50 ... 500 V DC	$1.0 \cdot U_N$ ... $1.5 \cdot U_N$	> 1mA	< 10 mA	—	—	$\pm(5\% \text{ rdg.} + 10 \text{ d})$	$\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d	253 V	Cont.
		1.01 ... 10.00 M $\Omega$	10 k $\Omega$										
		10.1 ... 310.0 M $\Omega$	100 k $\Omega$										
	Equivalent leakage current $I_{EA}$ or $I_{EGA}$	0.00 ... 21.00 mA	10 $\mu$ A	—	230 V~ -20 / +10%	—	< 3.5 mA	> 72 k $\Omega$	$\leq 2 \text{ k}\Omega$	$\pm(5\% \text{ rdg.} + 10 \text{ d})$	$\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d	253 V	Cont.
		20.1 ... 120.0 mA	100 $\mu$ A										
	Equivalent patient leakage current $I_{EPA}$	0.0 ... 310.0 $\mu$ A	100 nA	—	230 V~ -20 / +10%	—	< 3.5 mA	> 72 k $\Omega$	$1 \text{ k}\Omega$ $\pm 10 \Omega$	$\pm(5\% \text{ rdg.} + 10 \text{ d})$	$\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d	253 V	Cont.
		0.300 ... 2.100 mA	1 $\mu$ A										
2.00 ... 11.00 mA		10 $\mu$ A											
Touch current $I_T$ (leakage current from welding circuit)	0 ... 310 $\mu$ A 0.300 ... 3.500 mA	0.1 $\mu$ A 1 $\mu$ A	—	—	—	—	—	$\leq 2 \text{ k}\Omega$	—	$\pm(5\% \text{ rdg.} + 10 \text{ d})$	$\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d	253 V	Cont.
Residual current $\Delta I$ (primary leakage current) between L and N	0.000 ... 3.100 mA- 3.00 ... 31.00 mA <sup>-1</sup>	1 $\mu$ A 10 $\mu$ A	—	—	—	—	—	$\leq 2 \text{ k}\Omega$	—	$\pm(10\% \text{ rdg.} + 10 \text{ d})$ > 10 d	$\pm(5\% \text{ rdg.} + 5 \text{ d})$ > 10 d	1	1
Function Test	Line voltage $U_{L-N}$	207.0 ... 253.0 V-	0.1 V	—	—	—	—	—	—	—	$\pm(2.5\% \text{ rdg.} + 5 \text{ d})$	253 V	Cont.
	Load current $I_L$	0 ... 16.00 A <sub>RMS</sub>	10 mA	—	—	—	—	—	—	—	$\pm(2.5\% \text{ rdg.} + 5 \text{ d})$	20 A	10 min.
	Active power P	0 ... 3700 W <sup>2</sup>	1 W	—	—	—	—	—	—	—	$\pm(5\% \text{ rdg.} + 10 \text{ d})$ > 20 d	253 V	Cont.
	Apparent power S	0 ... 4000 VA	1 VA	Calculated value, $U_{L-N} \cdot I_V$							$\pm(5\% \text{ rdg.} + 10 \text{ d})$ > 20 d		
	Power factor LF with sinusoidal waveshape: $\cos\varphi$	0.00 ... 1.00	0.01	Calculated value, $P / S$ , display > 10 W							$\pm(10\% \text{ rdg.} + 5 \text{ d})$		
	Residual current $\Delta I$ between L and N	0.00 ... 31.00 mA-	10 $\mu$ A	—	—	—	—	—	—	—	$\pm(10\% \text{ rdg.} + 10 \text{ d})$ > 10 d	$\pm(5\% \text{ rdg.} + 5 \text{ d})$	1
$U_{Probe}$	Probe voltage (phase search)	0 ... 253.0 V $\overline{=}$ , $\sim$ and $\overline{\neq}$	0.1 V	—	—	—	—	—	—	—	$\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d	253 V	Cont.
$U_{AC/DC}$	Voltage	0 ... 253.0 V $\overline{=}$ , $\sim$ and $\overline{\neq}$	0.1 V	—	—	—	—	—	—	$\pm(5\% \text{ rdg.} + 10 \text{ d})$	$\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d	253 V	Cont.
R	Resistance	0 ... 150.0 k $\Omega$	100 $\Omega$	—	< 20 V -	—	1.1 mA	—	—	—	$\pm(1\% \text{ rdg.} + 3 \text{ d})$	253 V	Cont.
$I_{Clamp}$	Current via current-voltage transformer clamp Z3510	0.000 ... 10.00 A $\sim$	1 mA (1 mV)	—	—	—	—	1.5 M $\Omega$	—	—	$\pm(3\% \text{ rdg.} + 10 \text{ d})$ > 10 d	253 V	Cont.
		0 ... 100 A $\sim$	1 A (1 mV)	—	—	—	—	1.5 M $\Omega$	—	—	without clamp	253 V	Cont.
Temp	Temperature with Pt100 sensor	-200 ... -50 $^{\circ}$ C	1 $^{\circ}$ C	—	< 20 V -	—	1.1 mA	—	—	—	$\pm(2\% \text{ rdg.} + 1 \text{ }^{\circ}\text{C})$	10 V	Cont.
		-50.1 ... + 3000 $^{\circ}$ C	0.1 $^{\circ}$ C								$\pm(1\% \text{ rdg.} + 1 \text{ }^{\circ}\text{C})$	10 V	Cont.
		+300 ... +850 $^{\circ}$ C	1 $^{\circ}$ C								$\pm(2\% \text{ rdg.} + 1 \text{ }^{\circ}\text{C})$	10 V	Cont.