

Characteristic Values

Measuring Ranges:

Standard	DIN EN 61557-1:2007 DIN EN 61557-2:2008
VDE Regulation	VDE 0413 Part 1:2007 VDE 0413 Part 2:2008

Insulation Resistance

Display Range [Ω]	Measuring Range	Test Voltage	Intrinsic Uncertainty	Measuring Uncertainty
0.00 M ... 50.0 G	0.60 M ... 10.0 G	100 V ... 250 V	$\pm(7\% \text{ rdg.} + 6\text{d})$	$\pm(10\% \text{ rdg.} + 8 \text{ d})$
	>10.0 G ... 50.0 G		$\pm(7\% \text{ rdg.} + 6\text{d})$	$\pm(10\% \text{ rdg.} + 8 \text{ d})$
0.00 M ... 250 G	0.40 M ... 50.0 G	> 250 V ... 1.00 kV	$\pm(7\% \text{ rdg.} + 6\text{d})$	$\pm(10\% \text{ rdg.} + 8 \text{ d})$
	>50.0 G ... 250 G		$\pm(7\% \text{ rdg.} + 6\text{d})$	$\pm(10\% \text{ rdg.} + 8 \text{ d})$
0.00 M ... 999 G	0.40 M ... 200 G	>1.00 kV ... 5.00kV	$\pm(7\% \text{ rdg.} + 6\text{d})$	$\pm(10\% \text{ rdg.} + 8 \text{ d})$
	>200 G ... 999 G		$\pm(7\% \text{ rdg.} + 6\text{d})$	$\pm(10\% \text{ rdg.} + 8 \text{ d})$

Test duration: automatic (until measured value is stable),
manual (1 to 120 s) or continuous measurement (lock function)

Polarization Index (PI), Absorption Ratio (DAR)

	t1 [min]	t2 [min]	Limit [min]
PI	00:00 ... 01:00 ... 99:50	00:00 ... 10:00 ... 99:50	0.10 ... 4.00 ... 9.80
DAR	00:00 ... 00:30 ... 99:50	00:00 ... 01:00 ... 99:50	0.10 ... 1.60 ... 9.80

PI and DAR are calculated values. The specifications of the insulation measurement are applicable.

Insulation Test Voltage

Nominal Values of Test Voltage	Variable Test Voltage	Nominal Current	Intrinsic Uncertainty
100 V, 250 V, 500 V, 1.00 kV		$\geq 1.0 \text{ mA}$	0 ... +25% rdg.
1.50 kV, 2.00 kV, 2.50 kV		$\geq 0.4 \text{ mA}$	$\pm 5\% \text{ rdg.}$
5.00 kV		$\geq 0.1 \text{ mA}$	$\pm 3.5\% \text{ rdg.}$
	100 V...1.00 kV	$\geq 1.0 \text{ mA}$	$\pm 15\% \text{ rdg.}$
	> 1.00 kV...2.50 kV	$\geq 0.4 \text{ mA}$	$\pm 5\% \text{ rdg.}$
	> 2.50 kV...5.00 kV	$\geq 0.1 \text{ mA}$	$\pm 3.5\% \text{ rdg.}$

Variable test voltages are adjustable in increments of 50 V
Short-circuit current up to 1.00 kV, test voltage $\leq 2 \text{ mA}$

Voltage Measurement

Measuring range	Frequency [Hz]	Impedance	Intrinsic Uncertainty	Measuring Uncertainty
test voltage dc 50 V ... 5.00 kV	—	—	$\pm(2.5\% \text{ rdg.} + 5 \text{ d})$	$\pm(5\% \text{ rdg.} + 5 \text{ d})$
50 V ... 1.00 kV ac/dc	15 ... 500	1 M Ω	$\pm(2.5\% \text{ rdg.} + 2 \text{ d})$	$\pm(5\% \text{ rdg.} + 5 \text{ d})$
50 V ... 1.00 kV ac/dc	>500...1 k	1 M Ω	$\pm(10\% \text{ rdg.} + 2 \text{ d})$	$\pm(12.5\% \text{ rdg.} + 5 \text{ d})$

Frequency Measurement

Measuring Range	Impedance	Intrinsic Uncertainty	Measuring Uncertainty
15.0 Hz ... 1.00 kHz	1 M Ω	$\pm(0.5\% \text{ rdg.} + 2 \text{ d})$	$\pm(1\% \text{ rdg.} + 2 \text{ d})$

Voltage of measuring quantity: 50 V ... 1 kV

Breakdown Voltage

Parameters	Setting Range	Intrinsic Uncertainty	Measuring Uncertainty
Voltage range	100 ... 5000 V	$\pm(10\% \text{ rdg.} + 8 \text{ d})$	$\pm(15\% \text{ rdg.} + 10 \text{ d})$
Rise time	5 ... 300 s	—	—
Measuring time	1 ... 120 s / auto / cont. measurement	—	—

Capacitance Measurement

Display Range	Measuring Range	Test Voltage	Intrinsic Uncertainty	Measuring Uncertainty
0.00 ... 10.0 μF	0.10 ... 5.00 μF	100...450 V	$\pm(10\% \text{ rdg.} + 5 \text{ d})$	$\pm(15\% \text{ rdg.} + 8 \text{ d})$
		500...5 kV	$\pm(5\% \text{ rdg.} + 5 \text{ d})$	$\pm(10\% \text{ rdg.} + 8 \text{ d})$

Dielectric Discharge (DD)

	Limit
DD	0.10 ... 2.00 ... 9.80

Reference Conditions

Ambient temperature	+23 °C \pm 2 K
Relative humidity	40 ... 60%
Measured quantity frequency	50 Hz \pm 10 Hz (during voltage measurement)
Line voltage waveshape	Sinusoidal, deviation between RMS and rectified value < 1%

Power Supply MERISO PRIME+

Line voltage	207 V ... 253 V / 49 Hz ... 61 Hz or (depending on country-specific version) 108 V ... 132 V / 59 Hz ... 61 Hz
Power consumption	< 18 VA
Storage batteries	NiMH 9.6 V, 3 Ah, charging period 6 hours
Number of measurements at nominal current as per VDE 0413	700

Power Supply PROFITEST 204HP/HV

Line voltage	207 V ... 253 V / 49 Hz ... 61 Hz
Power consumption	PROFITEST 204HP/2.5kV: max. 700 VA PROFITEST 204HV/5.4kV: max. 100 VA

Ambient Conditions

Accuracy	0 °C ... + 40 °C
Operating temperature	-5 °C ... + 40 °C
Storage temperature	-20 °C ... + 60 °C (without batteries)
Relative humidity	max. 75%, no condensation allowed
Elevation	to 2000 m
Deployment	indoors, outdoors: only in the specified ambient conditions