

Measurements via Connector Sockets

Voltage, V DC

Measuring Range	Resolution	Intrinsic Error under Reference Conditions
0.00 ... 59.99 V	10 mV	0.00 V ... 5.99 V: $\pm(1.0\% \text{ rdg.} + 10 \text{ d})$ 6.00 V ... 59.99 V $\pm(1.0\% \text{ rdg.} + 3 \text{ d})$
60.0 ... 599.9 V	100 mV	$\pm(1.0\% \text{ rdg.} + 3 \text{ d})$
600 ... 1000 V	1 V	

Input impedance 10 M Ω

Voltage, V AC (TRMS)

Measuring Range	Resolution	Intrinsic Error under Reference Conditions
0.15 ... 59.99 V	10 mV	0.15 V ... 5.99 V: $\pm(1.0\% \text{ rdg.} + 10 \text{ d})$ 6.00 V ... 59.99 V $\pm(1.0\% \text{ rdg.} + 3 \text{ d})$
60.0 ... 599.9 V	100 mV	$\pm(1.0\% \text{ rdg.} + 3 \text{ d})$
600 ... 1000 V _{TRMS} 600 ... 1400 V _{peak}	1 V	

AC frequency range 45 ... 65 Hz (reference range)
10 Hz ... 3 kHz (bandwidth)

Input impedance 10 M Ω

Frequency Measurement for Alternating Voltage

Measuring Range	Resolution	Intrinsic Error under Reference Conditions
5.0 ... 599.9 Hz	0.1 Hz	$\pm(0.4\% \text{ rdg.} + 1 \text{ d})$
600 ... 5999 Hz	1 Hz	
6.0 ... 19.99 kHz	10 Hz	

Continuity Testing Ω (acoustic, programmable threshold up to 40 Ω)

Measuring Range	Resolution	Intrinsic Error under Reference Conditions *
0.0 ... 599.9 Ω	0.1 Ω	$\pm(1.0\% \text{ rdg.} + 5 \text{ d})$

Open-circuit voltage $\leq 3.6 \text{ V}$

Measuring current 550 μA

Resistance Measurement Ω

Measuring Range	Resolution	Intrinsic Uncertainty under Reference Conditions ¹
0.0 ... 599.9 Ω	0.1 Ω	$\pm(1.0\% \text{ rdg.} + 5 \text{ d})$
600 ... 5999 Ω	1 Ω	
6.00 ... 59.99 k Ω	10 Ω	

Open-circuit voltage $\leq 3.6 \text{ V}$

Measuring current 600 Ω range: 550 μA
6 k Ω range: 100 μA
60 k Ω range: 10 μA

Diode Test

Measuring Range	Resolution	Intrinsic Uncertainty under Reference Conditions
0.000 ... 3.199 V DC	1 mV	$\pm(1.0\% \text{ rdg.} + 10 \text{ d})$ METRAC ₆₄₈₅
0.000 ... 3.199 V DC	1 mV	$\pm(1.0\% \text{ rdg.} + 3 \text{ d})$ METRAC ₆₄₈₆

Measuring current 550 μA

Measurements via Current Clamp

Current, A DC

Measuring Range	Resolution	Intrinsic Uncertainty under Reference Conditions
0.00 ... 59.99 A	10 mA	$\pm(1\% \text{ rdg.} + 10 \text{ d})$
60.0 ... 599.9 A	100 mA	$\pm(1\% \text{ rdg.} + 3 \text{ d})$
600 ... 900 A	1 A	

Current, A AC (TRMS)

Measuring Range	Resolution	Intrinsic Uncertainty under Reference Conditions
0.15 ... 59.99 A	10 mA	$\pm(1\% \text{ rdg.} + 10 \text{ d})$
60.0 ... 599.9 A	100 mA	$\pm(1\% \text{ rdg.} + 3 \text{ d})$
600 A	1 A	$\pm(1.5\% \text{ rdg.} + 3 \text{ d})$

AC frequency range 45 ... 65 Hz (reference range)
10 Hz ... 2 kHz (bandwidth)

Frequency Measurement for Direct Voltage

Measuring Range	Resolution	Intrinsic Uncertainty under Reference Conditions
5.0 ... 599.9 Hz	0.1 Hz	$\pm(0.4\% \text{ rdg.} + 1 \text{ d})$
600 ... 2999 Hz	1 Hz	$\pm(0.4\% \text{ rdg.} + 1 \text{ d})$

True inrush, A AC/DC

Measuring Range	Resolution	Intrinsic Uncertainty under Reference Conditions
6 ... 600 A AC	1 A	$\pm(5\% \text{ rdg.} + 5 \text{ d})$
6 ... 900 A DC	1 A	$\pm(5\% \text{ rdg.} + 5 \text{ d})$

Specific data in the **peak function** for true inrush current measurements (from 10 to 400 Hz AC):

- Intrinsic uncertainty: the values in the table have to be increased by $\pm(1.5\% \text{ rdg.} + 0.5 \text{ A})$.
- Acquisition time for peak values: min. 1 ms to max. 1.5 ms.

Applications include:

- Measurement of starting current for electric motors
- Precise specification of fuses and protective circuit breakers (relationship between amplitude and signal time)
- Loading components with a current overload

Key

rdg. = measured value (reading); d = digits