



VOLTCRAFT®

VOLTCRAFT® - TOP PERFORMANCE IN EVERY WAY

“For more than 25 years, our product range has been dynamically adapting to the constant changes in the industry. We commit to offering first-class quality to our customers while delivering an excellent cost-performance ratio. This philosophy remains the cornerstone of Voltcraft’s success.”

VC 880

DIGITAL-MULTIMETER

N° 124609

CE

VERSION 10/14

Robust, reliable, practical, ergonomically designed, safe – these are the attributes which describe this professional multimeter. Thanks to the patented housing design, the housing can be opened for battery and/or fuse replacement only if the device has been disconnected from all measurement leads. At input voltages >30 V the display will show a warning icon. Its unique safety concept is rounded out by the robust housing with sprayed on soft rubber cast protection, the 1000 V high-braking-capacity fuses, the warning sound when measurement leads are incorrectly connected and the impedance switching to avoid incorrect measurements due to stray voltages. It also features a low-bat function.

HIGHLIGHTS

CAT IV 600 V, CAT III 1000 V //

Display with 40000 Counts and backlight //

Optical interface //

Patented housing design and TLD® function //

True RMS //

Integrated data logger //

Low-pass filter measurement //

Standard measurement ranges V, A, Ω ,
Frequency, Capacitance //

Automatic range selection (Auto Range) //

Diode test, REL, Duty cycle //

Acoustic continuity checker //

Temperature measurement //



TECHNICAL DATA

| | |
|-----------------------|---|
| Symbol | Max. 40000 counts (characters) |
| Measuring rate | approx. 2-3 measurements/second, Bargraf approx. 10 measurements/second |
| Measuring line length | approx. 90 cm each |
| Measuring impedance | >10M Ω (V range) |
| Operating voltage | 9V block battery |
| Working conditions | 0 to 30°C (<75%rF), >30 to 40°C (<50%rF) |
| Operating altitude | max. 2,000 m |
| Storage temperature | -10°C to +50°C |
| Weight | approx. 380 g |
| Dimensions (LxWxH) | 185 x 91 x 43 (mm) |
| Over-voltage category | CAT III 1,000 V, CAT IV 600 V, contamination degree 2 |

Measurement tolerances

Statement of accuracy in \pm (% of reading + display error in counts (= number of smallest points)). The accuracy is valid for one year at a temperature of +23°C \pm 5°C, and at a relative humidity of less than 75 %, non-condensing.
Temperature coefficient: +0.1 x (specified accuracy)/1°C

Direct voltage

| Range | Accuracy | Resolution |
|--|--------------------|------------|
| 400 mV | $\pm(0,03\% + 10)$ | 0,01 mV |
| 4 V | $\pm(0,05\% + 10)$ | 0,0001 V |
| 40 V | | 0,001 V |
| 400 V | | 0,01 V |
| 1000 V | | 0,1 V |
| Overload protection 1000 V; Impedance: 10 M Ω | | |

Alternating voltage

| Range | Accuracy | Resolution | Frequenz range |
|--|----------|-------------------|------------------|
| 4 V | 0,0001 V | $\pm(0,5\% + 40)$ | 45 Hz - 1kHz |
| | | $\pm(1,2\% + 40)$ | 1 kHz - 10 kHz |
| | | $\pm(3\% + 40)$ | 10 kHz - 20 kHz |
| | | $\pm(4\% + 40)$ | 20 kHz - 100 kHz |
| 40 V | 0,001 V | $\pm(0,5\% + 40)$ | 45 Hz - 1kHz |
| | | $\pm(1,2\% + 40)$ | 1 kHz - 10 kHz |
| | | $\pm(3\% + 40)$ | 10 kHz - 20 kHz |
| | | $\pm(6\% + 40)$ | 20 kHz - 100 kHz |
| 400 V | 0,01 V | $\pm(0,5\% + 40)$ | 45 Hz - 1kHz |
| | | $\pm(1,2\% + 40)$ | 1 kHz - 10 kHz |
| | | $\pm(3\% + 40)$ | 10 kHz - 20 kHz |
| | | Not specified | 20 kHz - 100 kHz |
| 1000 V | 0,1 V | $\pm(1,2\% + 40)$ | 45 Hz - 1kHz |
| | | $\pm(3\% + 40)$ | 1 kHz - 5 kHz |
| | | $\pm(6\% + 40)$ | 5 kHz - 10 kHz |
| | | Not specified | 10 kHz - 100 kHz |
| Overload protection 1000 V; Impedance: 10 M Ω | | | |
| TrueRMS in the measuring range of 10 - 100%: Crest factor: max. 3.0 (at 750V max. 1.5) | | | |

Direct current

| Range | Accuracy | Resolution |
|--|-------------------|--------------|
| 400 μ A | $\pm(0,3\% + 10)$ | 0,01 μ A |
| 4000 μ A | $\pm(0,5\% + 10)$ | 0,1 μ A |
| 40 mA | | 0,001 mA |
| 400 mA | | 0,01 mA |
| 10 A | $\pm(1,5\% + 20)$ | 0,001 A |
| Overload protection: Fuses, measuring time limit >5 A: max. 10 s with 10 min break | | |

Alternating current

| Range | Accuracy | Resolution | Frequenz range |
|--|--------------|-------------------|----------------|
| 400 μ A | 0,01 μ A | $\pm(0,6\% + 40)$ | 45 Hz - 1 kHz |
| | | $\pm(1,2\% + 40)$ | 1 kHz - 10 kHz |
| 4000 μ A | 0,1 μ A | $\pm(0,6\% + 40)$ | 45 Hz - 1 kHz |
| | | $\pm(1,2\% + 40)$ | 1 kHz - 10 kHz |
| 40 mA | 0,001 mA | $\pm(0,6\% + 40)$ | 45 Hz - 1 kHz |
| | | $\pm(1,2\% + 40)$ | 1 kHz - 10 kHz |
| 400 mA | 0,01 mA | $\pm(0,6\% + 40)$ | 45 Hz - 1 kHz |
| | | $\pm(1,2\% + 40)$ | 1 kHz - 10 kHz |
| 10 A | 0,001 A | $\pm(2\% + 40)$ | 45 Hz - 1 kHz |
| | | $\pm(4\% + 40)$ | 1 kHz - 10 kHz |
| Overload protection: Fuses, measuring time limit >5 A: max. 10 s with 10 min break | | | |
| Overload protection 1000 V | | | |
| TrueRMS in the measuring range of 10 - 100% | | | |

Measuring function AC + DC voltage

| Range | Accuracy | Resolution | Frequenz range |
|--|----------|-------------------|-----------------|
| 4 V | 0,0001 V | $\pm(1\% + 80)$ | 45 Hz - 1 kHz |
| | | $\pm(3\% + 40)$ | 1 kHz - 10 kHz |
| | | $\pm(6\% + 40)$ | 10 kHz - 35 kHz |
| 40 V | 0,001 V | $\pm(1\% + 80)$ | 45 Hz - 1 kHz |
| | | $\pm(3\% + 40)$ | 1 kHz - 10 kHz |
| | | $\pm(6\% + 40)$ | 10 kHz - 35 kHz |
| 400 V | 0,01 V | $\pm(1\% + 80)$ | 45 Hz - 1 kHz |
| | | Not specified | 1 kHz - 10 kHz |
| | | Not specified | 10 kHz - 35 kHz |
| 1000 V | 0,1 V | $\pm(1,2\% + 80)$ | 45 Hz - 1 kHz |
| | | Not specified | 1 kHz - 10 kHz |
| | | Not specified | 10 kHz - 35 kHz |
| Overload protection 1000 V; Impedance: 10 M Ω | | | |

Impedance

| Range | Accuracy | Resolution |
|----------------------------|--------------------------------|------------|
| 400 Ω | ±(1,0% + 10) with REL function | 0,01 Ω |
| 4 kΩ | | 0,1 Ω |
| 40 kΩ | | 10 Ω |
| 400 kΩ | | 100 Ω |
| 4 MΩ | ±(1,2% + 10) | 1 kΩ |
| 40 MΩ | ±(2% + 5) | 10 kΩ |
| Overload protection 1000 V | | |

Capacity

| Range | Accuracy | Resolution |
|----------------------------|---------------|------------|
| 40 nF | ±(2,5% + 20) | 1 pF |
| 400 nF | | 10 pF |
| 4 μF | | 100 pF |
| 40 μF | | 1 nF |
| 400 μF | ±(2% + 20) | 10 nF |
| 4000 μF | | 100 nF |
| 40 mF | Not specified | 1 μF |
| Overload protection 1000 V | | |

Frequency

| Range | Accuracy | Resolution |
|--|---------------|----------------------|
| 10 Hz - 40 MHz | ±(0,02% + 8) | 0,001 Hz - 0,001 MHz |
| 400 MHz | Not specified | 0,01 MHz |
| Overload protection 1000 V | | |
| Sensitivity (10 Hz – 10 MHz): 200 mV; Amplitude max. 30 Veff (ms) | | |
| Sensitivity (10 MHz – 40 MHz): 400 mV; Amplitude max. 30 Veff (ms) | | |

Duty-Cycle (pulse-break ratio)

| Range | Accuracy | Resolution |
|---------------------------|--------------|------------|
| 5Hz ~ 2kHz (10%~90%) | ±(1,2% + 30) | 0,01% |
| Overload protection 1000V | | |

Temperature

| Range | Accuracy | Resolution |
|------------------|---------------|------------|
| -40 to +40 °C | ±(3% + 20) | 0,1 °C |
| +40 to +400 °C | ±(2% + 20) | |
| +400 to +1000 °C | ±2,5% | |
| -40 to +32 °F | ±(2,5 % + 40) | 0,1 °F |
| +32 to +752 °F | ±(1,5 % + 40) | |
| +752 to +1832 °F | ±2,5 % | |

Diode test

| Test voltage | Resolution |
|-----------------------------|------------|
| 2,73 V | 0,0001 V |
| Overload protection: 1000 V | |

Acoustic continuity tester

| Test voltage | Resolution |
|--|---------------|
| ca. 1,2 V | 0,01 Ω |
| Overload protection: 1000 V, <10 Ω continuous sound | |

PACKAGE CONTENT

Multimeter // 9 V battery // Measurement leads // Software CD // Operating instructions

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