



# 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.”

# VC850 DIGITAL MULTIMETER

Nº 12 46 02

CE

VERSION 04/10

Robust, reliable, practical, ergonomically designed, safe – these are the attributes which describe this professional multimeter. This multimeter sets benchmarks with its safety features. Thanks to the patented housing design, the housing can be opened for battery and/or fuse replacements 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.

## HIGHLIGHTS

Standard measurement ranges  
V, A,  $\Omega$ , Frequency, Capacitance //

Automatic range selection (Auto Range) //

Impedance switching to avoid stray voltages //

Diode test //

Acoustic continuity checker //

Temperature measurement //

Low-bat function //

Data hold //

REL //

Duty cycle //

Optical interface //

Backlight //



# GENERAL SPECIFICATIONS

**SYMBOL:** 6000 counts **MEASURING RATE:** Approx. 3 measuring operations/second **MEASURING LINE LENGTH:** Approx. 90 cm each **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 **BASIC ACCURACY:** ± 5 % **VOLTAGE SUPPLY:** 9 V block battery **OVER-VOLTAGE CATEGORY:** CAT III 1,000 V, CAT IV 600 V, contamination degree 2 **WEIGHT:** Approx. 380 g **DIMENSIONS (W x H x D):** 185 x 91 x 43 (mm)

## TECHNICAL DATA

Functions	Range	Resolution	Accuracy ±(a% reading + b digits)	Overload protection
DCV	600 mV	0.1 mV	±(0.5 % + 3)	1000 V Impedance: 10 MΩ
	6 V / 60 V / 600 V	1 mV / 10 mV / 100 mV	±(0.5 % + 2)	
	1000 V	1 V	±(0.8 % + 3)	
ACV <sup>1</sup>	6 V / 60 V / 600 V	1 mV / 10 mV / 100 mV	±(0.8 % + 3)	Frequency range 45 – 400 Hz; Overload protection 750 V.
	750 V	1 V	±(1.0 % + 5)	
DCA	600 μA / 6 mA / 60 mA / 600 mA	0.1 μA / 1 μA / 10 μA / 100 μA	±(0.8 % + 3)	Fuse, measuring time limit > 5 A: max. 10 s with 10 min break.
	6 A / 10 A	1 mA / 10 mA	±(1.2 % + 5)	
ACA <sup>2</sup>	600 μA / 6 mA	0.1 μA / 1 μA	±(1.0 % + 2)	Fuse, measuring time limit > 5 A: max. 10 s with 10 min break. Frequency range 45 – 400 Hz; Overload protection 750 V.
	60 mA / 600 mA	10 μA / 100 μA	±(1.2 % + 3)	
	6 A / 10 A	1 mA / 10 mA	±(1.5 % + 5)	
Ω	600 Ω	0.1 Ω	±(0.8 % + 3) w/ REL function	Overload protection 1,000 V; Measuring voltage: Approx. 0.4 V.
	6 kΩ / 60 kΩ / 600 kΩ	1 Ω / 10 Ω / 100 Ω	±(0.8 % + 2)	
	6 MΩ	1 kΩ	±(1.2 % + 2) ≥ 20 MΩ:	
	60 MΩ	10 kΩ	±(1.5 % + 5)	
Capacity	40 nF	0.01 nF	±(3.0% + 5) with RELfunction	Overload protection 1,000 V
	400 nF	0.1 nF		
	4 μF	1 nF		
	40 μF	10 nF	±(3.0 % + 5)	
	400 μF	100 nF	±(4.0 % + 5)	
	4000 μF	1 μF	Not Specified	
Frequency / Duty Cycle <sup>3</sup>	10 Hz to 10 MHz	0.001 Hz to 0.01 MHz	±(0.1 % + 3)	Overload protection 750 V
	0.1 to 99.9 %	0.1 %	Not specified	
Temperature <sup>4</sup>	-40 to -20°C	1°C	-(8.0 % + 5)	
	-20 to 0 °C		±(1.2 % + 4)	
	0 to +100 °C		±(1.2 % + 3)	
	+100 to +1000 °C		±(2.5 % + 2)	
Diode test	Approx. 3.7 V	0.001 V	NA	Overload protection 1000 V
Acoustic continuity tester	<30 Ω continuous sound, test voltage: approx. 0.65 V/DC;.			Overload protection 1,000 V

1. TrueRMS: Crest factor: max. 3.0. Permissible display error with an open measuring input: 2 counts. Permissible display error with a short-circuited measuring input: 20 counts.

2. TrueRMS: Crest factor: max. 3.0 (at 750 V max. 1.5)

3. Sensitivity: 200 mV; Amplitude max. 5 Veff (>5 V with adjustable impedance)

4. Without sensor tolerance.

## PACKAGE CONTENT

Unit // Batteries // Operating instructions

This data sheet is published by Voltcraft®, Lindenweg 15, D-92242 Hirschau / Germany, Phone +49 180 586 582 7. The data sheet reflects the current technical specifications at time of print. We reserve the right to change the technical or physical specifications.