VOLTCRAFT

VOLTCRAFT – TOP PERFORMANCE IN EVERY WAY

For more than 40 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.

VC871
DIGITAL MULTIMETER

CE

Item no. 2576867

A robust CAT IV (600 V) / CAT III (1000 V) digital multimeter for professional and industrial applications.

FEATURES

- CAT III max. 1000 V
- CAT IV max. 600 V
- Complies with EN 61010-1
- Measures direct voltage up to 1000 V
- Measures alternating voltage up to 1000 V
- Measures direct and alternating currents up to 10 A
- Measures frequency from 10 Hz to 60 MHz (max. 20 Vrms)
- Displays pulse ratio (duty cycle) in %
- Measures capacitance up to 60 mF
- Measures resistance up to 60 MΩ
- Active power measurement up to max. 2500 W via protective contact measuring adapter
- Measuring temperatures from -40 to +1000 °C
- Continuity test (Resistance threshold can be set as 1~1000 Ω)
- Diode test
- Bluetooth® interface for app control

TECHNICAL DATA

Power supply

Operating voltage	3 micro batteries (3x 1.5 V, type AAA)

Ambient conditions

Operating temperature	0 to +40 °C
Operating humidity	≤80 % RH (non-condensing)
Storage temperature	-10 to +60 °C
Storage humidity	≤80 % RH (non-condensing)
Operating altitude	max. 2000 m above sea level

Other

Dimensions (L x W x H)	200 x 91 x 43 mm
Weight	430 g

Device

Display	60000 counts (digits), TFT
Sample rate	approx. 3 measurements/second
AC measurement method	True RMS, AC-coupled
Test lead length	approx. 120 cm
Measuring impedance	≥10 MΩ//10 pF (V range)
Measuring socket clearance	19 mm (COM-V)
Automatic shut-off	5, 10, 15 or 30 minutes, Always ON
Measurement category	CAT III 1000 V, CAT IV 600 V
Pollution degree	2
Compliance	EN 61010-1

Radio module

Interface	Bluetooth® LE 4.0
Frequency range	2402 - 2480 MHz
Transmission power	0.86 dBm
Transmission range	10 m

Direct voltage (V/DC)

Range	Resolution	Accuracy
60.000 mV*	0.001 mV	±(0.2% + 30)
600.00 mV*	0.01 mV	±(0.08% + 5)
6.0000 V	0.0001 V	±(0.08% + 6)
60.000 V	0.001 V	±(0.08% + 6)
600.00 V	0.01 V	±(0.1% + 6)
1000.0 V	0.1 V	±(0.15% + 6)

*Only available in “mV” mode
1000 V overload protection; impedance: 10 MΩ
The multimeter may display ≤10 counts if a measurement input is short-circuited.
The LoZ low impedance measurement is not specified.

Alternating voltage (V/AC)

Range	Resolution	Accuracy
600.0 mV*	0.1 mV	±(0.8% + 10)
6.000 V	0.001 V	±(0.8% + 5)
60.00 V	0.01 V	±(0.8% + 5)
600.0 V	0.1 V	±(0.8% + 5)
1000 V	1 V	±(1.0% + 5)
*Only available in “mV” mode Specified measurement range: 10–100 % of the measurement range Frequency range 45 Hz - 1 kHz; overload protection 1000 V; impedance: 10 MΩ The multimeter may display 10 counts if a measurement input is short-circuited TrueRMS peak (Crest Factor (CF)) ≤3 CF to 600 V The LoZ low impedance measurement is not specified.		
TrueRMS peak for non-sinusoidal signals plus tolerance: CF >1.0 - 2.0 + 3% CF >2.0 - 2.5 + 5% CF >2.5 - 3.0 + 7%		

Direct current (A/DC)

Range	Resolution	Accuracy
600.00 µA	0.01 µA	±(0.5% + 10)
6000.0 µA	0.1 µA	±(0.5% + 5)
60.000 mA	0.001 mA	±(0.6% + 10)
600.00 mA	0.01 mA	±(0.6% + 5)
6.0000 A	0.0001 A	±(1.0% + 10)
10.000 A	0.001 A	±(1.2% + 7)
Overload protection: Fuse Fuses: µA/mA = 600mA 1000V high-performance ceramic fuse 10 A = F10AH1000V high-performance ceramic fuse Measuring time 10 A input: 10 seconds with 10-minute intervals		

Loop current 4 - 20 mA/DC

Range	Resolution	Accuracy
0 - 100%	0.01%	±(1.2% + 2)
Overload protection: Fuse Fuses: µA/mA = 600 mA 1000 V high-performance ceramic fuse		

Alternating current (A/AC)

Range	Resolution	Accuracy
600.0 µA	0.1 µA	±(1.0% + 5)
6000 µA	1 µA	±(0.8% + 5)
60.00 mA	0.01 mA	±(0.8% + 5)
600.0 mA	0.1 mA	±(0.8% + 5)
6.000 A	0.001 A	±(1.0% + 10)
10.00 A	0.01 A	±(1.2% + 10)
Overload protection: Fuse Specified measurement range: 10–100 % of the measurement range Frequency range 45 Hz - 1 kHz Fuses: µA/mA = F600mAH1000V high-performance ceramic fuse 10 A = F10AH1000V high-performance ceramic fuse Measuring time 10 A input: 10 seconds with 15-minute intervals		
TrueRMS peak (Crest Factor (CF)) ≤3 CF over the entire range TrueRMS peak for non-sinusoidal signals plus tolerance: CF >1.0 - 2.0 + 3% CF >2.0 - 2.5 + 5% CF >2.5 - 3.0 + 7%		

Resistance

Range	Resolution	Accuracy
600.00 Ω*	0.01 Ω	±(0.5% + 10)
6.0000 kΩ*	0.0001 kΩ	±(0.3% + 10)
60.00 kΩ	0.01 kΩ	±(0.3% + 10)
600.0 kΩ	0.1 kΩ	±(0.2% + 5)
6.000 MΩ	0.001 MΩ	±(0.6% + 5)
60.00 MΩ	0.01 MΩ	±(1.5% + 7)
1000 V overload protection Measuring voltage: approx. 1 V, measuring current approx. 0.5 mA *Accuracy for measurement range ≤600 Ω was calculated after deducting lead resistance from the REL function		

Capacitance

Range	Resolution	Accuracy
6.0000 nF*	0.0001 nF	±(5.0% + 100)
60.000 nF*	0.001 nF	±(2.5% + 20)
600.00 nF*	0.01 nF	±(2.5% + 20)
6.0000 µF*	0.0001 µF	±(2.5% + 20)
60.000 µF	0.001 µF	±(2.0% + 20)
600.00 µF	0.01 µF	±(2.5% + 20)
6000.0 µF	0.1 µF	±(4.0% + 20)
60.000 mF	0.001 mF	±(5.0% + 20)
1000 V overload protection *Accuracy for measurement range ≤600 nF only applies when the REL function is used		

Frequency “Hz” (electronic)

Range	Resolution	Accuracy
60.000 Hz	0.001 Hz	±(0.08% + 5)
600.00 Hz	0.01 Hz	
6.0000 kHz	0.0001 kHz	
60.000 kHz	0.001 kHz	
600.00 kHz	0.01 kHz	
6.0000 MHz	0.0001 MHz	
60.000 MHz	0.001 MHz	
Signal level (without direct voltage component): ≤100 kHz: 0.5 - 20 Vrms 100 kHz - 1 MHz: 0.6 - 20 Vrms >1 MHz: 0.8 - 20 Vrms 1000 V overload protection Duty cycle: 0.1 - 99.9%, not specified		

Diode test

Test voltage	Resolution
Approx. 3.2 V/DC	0.0001 V
Overload protection: 1000 V; Test voltage: 1.5 mA typ.	

Acoustic Continuity tester

Measurement range	Resolution
1000.0 Ω	0.1 Ω
Resistance threshold can be set as 1~1000 Ω Overload protection: 1000 V Test voltage approx. 1 V Test current 0.5 mA	

Temperature

Range	Resolution	Accuracy*
-40 to <+40 °C	0.1 °C	±(2.0% + 30)
+40 to <+100 °C	0.1 °C	±(1.0% + 20)
+100 to +1000 °C	0.1 °C	±(3.0%)
-40 to <+32 °F	0.2 °F	±(4.0% + 50)
+32 to <+210 °F	0.2 °F	±(2.0% + 40)
+210 to +1832 °F	0.2 °F	±(5.0% + 0)
Overload protection 1000 V * additional tolerance of the temperature probe		

DC power measurement

Range	Resolution	Accuracy
0 - 2500.0 W	0.1 W	±(2.0% + 10)
0 - 250.0 V	0.1 V	±(1.0% + 10)
0 - 10.0 A	0.1 A	±(1.0% + 10)
Overload protection 1000 V, 10 A		

AC power measurement

Range	Resolution	Accuracy
0 - 2500.0 W	0.1 W	±(2.0% + 10)
0 - 2500.0 VA	0.1 VA	±(2.0% + 10)
0 - 250.0 V	0.1 V	±(1.0% + 10)
0 - 10.0 A	0.1 A	±(1.0% + 10)
50/60 Hz	0.1 Hz	±(1.0% + 10)
Overload protection 1000 V, 10 A		

USB power measurement

Range	Resolution	Accuracy
240.0 W	0.1 W	±(2.0% + 10)
48.00 V	0.01 V	±(0.5% + 5)
5.00 A	0.01 A	±(1.0% + 5)
0 - 99999 mAh	1 mAh	
0 - 1000 Wh	1 Wh	
99 h 59 m 59 s	1 s	
Overload protection 1000 V, 10 A		

PACKAGE CONTENTS

Digital multimeter // 2x safety test leads with CAT III/CAT IV protective caps // Wire temperature probe, type-K (-20 to +230 °C) // Protective contact measuring adapter for AC power measurement // 3x micro batteries (AAA) // Operating instructions

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