VOLTCRAFT

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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.

VC891
DIGITAL MULTIMETER

CE

Item no. 2576866

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 AC+DC mixed 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
- 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
Safety regulations	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	±(0.15% + 20)
600.00 mV*	0.01 mV	±(0.03% + 5)
6.0000 V	0.0001 V	±(0.03% + 8)
60.000 V	0.001 V	±(0.03% + 8)
600.00 V	0.01 V	±(0.05% + 10)
1000.0 V	0.1 V	±(0.05% + 10)

*Only available in “mV” mode
Specified measuring range: 5 - 100 % of the measuring range
1000 V overload protection; impedance: ≥10 MΩ
The multimeter may display ≤10 counts if a measurement input is short-circuited.

Alternating voltage (V/AC)

Range	Resolution	Accuracy
600.00 mV*	0.01 mV	45 Hz -1 kHz ±(0.4% + 40) >1 kHz - 10 kHz ±(1.2% + 40) >10 kHz -20 kHz not specified >20 kHz -100 kHz not specified
6.0000 V	0.0001 V	45 Hz -1 kHz ±(0.4% + 40) >1 kHz - 10 kHz ±(1.2% + 40) >10 kHz -20 kHz ±(2.5% + 40) >20 kHz -100 kHz ±(4% + 40)
60.000 V	0.001 V	45 Hz -1 kHz ±(0.4% + 40) >1 kHz - 10 kHz ±(1.2% + 40) >10 kHz -20 kHz ±(2.5% + 40) >20 kHz -100 kHz ±(5% + 40)
600.00 V	0.01 V	45 Hz -1 kHz ±(0.4% + 40) >1 kHz - 10 kHz ±(1.2% + 40) >10 kHz -20 kHz ±(2.5% + 40) >20 kHz -100 kHz not specified
1000.0 V	0.1 V	45 Hz -1 kHz ±(0.8% + 40) >1 kHz - 10 kHz ±(2.5% + 40) >10 kHz -20 kHz ±(5% + 40) >20 kHz -100 kHz not specified
*Only available in “mV” mode Specified measurement range: 10–100 % of the measurement range 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)) 6 V to 600 V 1 kHz low-pass filter can be switched on in the measuring range 6 V - 1000 V.		
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%		

Low impedance measurement (LoZ)

Range	Resolution	Accuracy
6 - 1000 V	0.1 V	±(2% + 3)
DC or 45 Hz - 1 kHz 1000 V overload protection; impedance: 400 KΩ		

Mixed voltage V/AC+DC

Range	Resolution	Accuracy
6.0000 V	0.0001 V	45 Hz - 1 kHz ±(0.8% + 70) >1 kHz - 10 kHz ±(2.4% + 70) >10 kHz - 35 kHz ±(5% + 70)
60.000 V	0.001 V	45 Hz - 1 kHz ±(0.8% + 70) >1 kHz - 10 kHz ±(2.4% + 70) >10 kHz - 35 kHz ±(5% + 70)
600.00 V	0.01 V	45 Hz - 1 kHz ±(0.8% + 70) >1 kHz - 10 kHz ±(2.4% + 70) >10 kHz - 35 kHz not specified
1000.0 V	0.1 V	45 Hz - 1 kHz ±(0.8% + 70) >1 kHz - 10 kHz ±(2.4% + 70) >10 kHz - 35 kHz not specified

Direct current (A/DC)

Range	Resolution	Accuracy
600.00 µA	0.01 µA	±(0.2% + 10)
6000.0 µA	0.1 µA	±(0.2% + 5)
60.000 mA	0.001 mA	±(0.2% + 10)
600.00 mA	0.01 mA	±(0.2% + 5)
6.0000 A	0.0001 A	±(0.8% + 10)
10.000 A	0.001 A	±(1.0% + 10)
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		

Alternating current (A/AC)

Range	Resolution	Accuracy
600.00 µA	0.01 µA	45 Hz - 1 kHz ±(0.5% + 30) >1 kHz - 10 kHz ±(1.0% + 30)
6000.0 µA	0.1 µA	45 Hz - 1 kHz ±(0.5% + 30) >1 kHz - 10 kHz ±(1.0% + 30)
60.000 mA	0.001 mA	45 Hz - 1 kHz ±(0.5% + 30) >1 kHz - 10 kHz ±(1.0% + 30)
600.00 mA	0.01 mA	45 Hz - 1 kHz ±(0.5% + 30) >1 kHz - 10 kHz ±(1.0% + 30)
6.0000 A	0.0001A	45 Hz - 1 kHz ±(0.5% + 30) >1 kHz - 10 kHz ±(1.0% + 30)
10.000 A	0.001 A	45 Hz - 1 kHz ±(0.5% + 30) >1 kHz - 10 kHz ±(1.0% + 30)
Overload protection: Fuse Specified measurement range: 10–100 % of the measurement range 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	±(0.1% + 10)
6.0000 kΩ*	0.0001 kΩ	±(0.15% + 5)
60.000 kΩ	0.001 kΩ	±(0.15% + 5)
600.00 kΩ	0.01 kΩ	±(0.2% + 5)
6.0000 MΩ	0.0001 MΩ	±(0.4% + 10)
60.000 MΩ	0.001 MΩ	±(1.2% + 5)
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	±(2.0% + 20)
6.0000 µF*	0.0001 µF	±(2.0% + 20)
60.000 µF	0.001 µF	±(2.0% + 20)
600.00 µF	0.01 µF	±(2.0% + 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	±(0.02% + 6)
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		

Pulse ratio “Duty Cycle”

Range	Resolution	Accuracy
10% - 90%	0.01%	±(1.2% + 30)
Frequency range 10 Hz - 2 kHz		

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 ~ +400 °C	0.1 °C	±(1.0% + 20)
+400 to +1000 °C	0.1 °C	±(2.5%)
-40 to <+32 °F	0.2 °F	±(2.5% + 40)
+32 to <+752 °F	0.2 °F	±(1.5% + 40)
+752 to +1832 °F	0.2 °F	±(2.5%)
Overload protection 1000 V * additional tolerance of the temperature probe		

PACKAGE CONTENTS

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

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