

# 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.

## VC272 DIGITAL MULTIMETER

CE

### Item no. 2576862

A robust CAT III 600 V digital multimeter for professional, industrial and do-it-yourself applications.

### FEATURES

- CAT III 600 V measuring category
- Complies with EN 61010-1 and EN 61010-2-033
- Measures direct and alternating voltages up to 600 V
- Measures direct and alternating currents up to 10 A
- Frequency measuring up to 10 MHz
- Measures capacitance up to 60 mF
- Measures resistance up to 60 M $\Omega$
- Measures temperatures from -40 to +1000 °C
- Continuity tests (<10  $\Omega$  acoustic)
- Diode tests
- Non-contact V/AC voltage detection (NCV)



## TECHNICAL DATA

Display	6000 counts (digits)
Measuring rate	approx. 2 - 3 measurements/second
AC measurement method	True RMS, AC-coupled
Test lead length	approx. 90 cm
Measuring impedance	≥10 MΩ (mV: ≥100 MΩ)
Measurement socket clearance	19 mm (COM-V)
Low battery indicator	Battery voltage <3.6 ±0.2 V
“Dangerous voltage” indicator	≥30 V/AC-DC
“Range exceeded” alarm	≥600 V/AC-DC, >10 A/AC-DC
“OL” (overload) alarm	≥610 V/AC-DC, ≥10 A/AC-DC or measurement >6000 counts
Automatic shut-off	after approx. 15 minutes (can be manually disabled)
Current consumption (auto off)	<50 μA
Operating voltage	3x AAA 1.5 V batteries
Operating conditions	0 to +40 °C (<75% RH)
Operating altitude	max. 2000 m above sea level
Storage temperature	-10 to +50 °C
Weight	approx. 375 g
Dimensions (L x W x H)	190 x 90 x 43 mm
Measuring category	CAT III 600 V
Pollution degree	2
Operating environment	Indoor use
Compliance	EN 61010-1 and EN 61010-2-033
F1 FUSE	ø6.35×32 mm, FF 10 A, H 600 V, breaking capacity: 10 kA
F2 FUSE	ø5×20 mm, FF 2.5 A, H 700V, breaking capacity: min 300 A

### Direct voltage (V/DC)

Range	Resolution	Accuracy
60.00 mV*	0.01 mV	±(1.2% + 8)
600.0 mV*	0.1 mV	±(0.9% + 8)
6.000 V	0.001 V	±(0.9% + 4)
60.00 V	0.01 V	
600.0 V	0.1 V	

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

### Direct voltage (V/DC) LoZ

Range	Resolution	Accuracy
6.000 V	0.001 V	±(1.7% + 7)
60.00 V	0.01 V	
600.0 V*	0.1 V	

Specified measurement range: 5 - 100% of the measurement range  
 600 V overload protection; Impedance: 400 kΩ (\*max. 250 V, 3s)  
 The multimeter may display ≤5 counts if a measurement input is short-circuited.  
 After using the LoZ feature, leave the multimeter for 1 minute before using it again.

**Alternating voltage (V/AC)**

Range	Resolution	Accuracy
60.00 mV*	0.01 mV	±(1.4% + 5)
600.0 mV*	0.1 mV	
6.000 V	0.001 V	±(1.3% + 4)
60.00 V	0.01 V	
600.0 V	0.1 V	
*Only available in "mV" mode Specified measurement range: 5 - 100% of the measurement range Frequency range: 45 - 400 Hz; Overload protection: 600 V; Impedance: 10 MΩ (mV: ≥100 M) The multimeter may display 5 counts if a measurement input is short-circuited		
TrueRMS peak (Crest Factor (CF)) ≤3 CF to 600 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%		

**Alternating voltage (V/AC) LoZ**

Range	Resolution	Accuracy
6.000 V	0.001 V	±(2.2% + 7)
60.00 V	0.01 V	
600.0 V*	0.1 V	
Specified measurement range: 5 - 100% of the measurement range Frequency range: 45 - 400 Hz; Overload protection: 600 V; Impedance: 400 kΩ (*max. 250 V, 3s) The multimeter may display 5 counts if a measurement input is short-circuited After using the LoZ feature, leave the multimeter for 1 minute before using it again		
TrueRMS peak (Crest Factor (CF)) ≤3 CF to 600 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%		

**Direct current (A/DC)**

Range	Resolution	Accuracy
600.0 μA	0.1 μA	±(0.9% + 7)
6000 μA	1 μA	
60.00 mA	0.01 mA	
600.0 mA	0.1 mA	
6.000 A	0.001 A	±(1.3% + 4)
10.00 A	0.01 A	±(1.5% + 7)
Overload protection: 600 V Fuses: μA/mA = 2x 0.55 A/240 V resettable, 1x F2 2.5 A/700 V ceramic, internal resistance approx. <10 Ω 10 A = High-performance FF 10 A/600 V ceramic fuse ≤ 6 A = continuous measurement, >6 A = max. 30 s at intervals of 15 minutes The multimeter may display 3 counts when a measurement input is open.		

## Alternating current (A/AC)

Range	Resolution	Accuracy
600.0 $\mu$ A	0.1 $\mu$ A	$\pm(1.3\% + 4)$
6000 $\mu$ A	1 $\mu$ A	
60.00mA	0.01mA	
600.0mA	0.1mA	
6.000A	0.001A	$\pm(1.5\% + 4)$
10.00A	0.01A	$\pm(1.8\% + 7)$
Specified measurement range: 5 - 100% of the measurement range Overload protection 600 V; frequency range 45 - 400 Hz Fuses: $\mu$ A/mA = 2x 0.55 A/240 V resettable, 1x F2 2.5 A/700 V ceramic, internal resistance approx. <10 $\Omega$ 10 A = High-performance FF 10 A/600 V ceramic fuse $\leq 6$ A = continuous measurement, >6A = max. 30 s at intervals of 15 minutes The multimeter may display 3 counts when a measurement input is open.		
TrueRMS peak (Crest Factor (CF)) $\leq 3$ 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
600.0 $\Omega^*$	0.1 $\Omega$	$\pm(1.3\% + 4)$
6.000 K $\Omega$	0.001 K $\Omega$	$\pm(1.2\% + 7)$
60.00 K $\Omega$	0.01 K $\Omega$	
600.0 K $\Omega$	0.1 K $\Omega$	
6.000 M $\Omega$	0.001 M $\Omega$	$\pm(1.5\% + 4)$
60.00 M $\Omega$	0.01 M $\Omega$	$\pm(2.7\% + 7)$
600 V overload protection Measurement voltage: Approx. 1.0 V, measurement current approx. 0.7 mA *Accuracy for measurement range $\leq 600 \Omega$ was calculated after deducting lead resistance from the REL function		

## Capacitance

Range	Resolution	Accuracy
6.000 nF*	0.001 nF	$\pm(4.4\% + 9)$
60.00 nF*	0.01 nF	$\pm(3.2\% + 9)$
600.0 nF*	0.1 nF	$\pm(3.2\% + 5)$
6.000 $\mu$ F	0.001 $\mu$ F	
60.00 $\mu$ F	0.01 $\mu$ F	
600.0 $\mu$ F	0.1 $\mu$ F	
6.000 mF	0.001 mF	$\pm(4.4\% + 5)$
60.00 mF	0.01 mF	$\pm(7.0\% + 5)$
600 V overload protection *Accuracy for measurement range $\leq 600$ nF only applies when the REL function is used		

## Frequency "Hz" (electronic)

Range	Resolution	Accuracy
$\leq 9.999$ Hz*	0.001 Hz	Not specified
10.00 Hz - 99.99 Hz	0.01 Hz	$\pm(0.2\% + 7)$
100.0 Hz - 999.9 Hz	0.1 Hz	
1.000 kHz - 9.999 kHz	0.001 kHz	
10.00 kHz - 99.99 kHz	0.01 kHz	
100.0 kHz - 999.9 kHz	0.1 kHz	
1.000 MHz - 9.999 MHz	0.001 MHz	
>10.00 MHz*	0.01 MHz	Not specified
*The specified frequency range is 10.00 Hz - 10 MHz Signal level (without direct voltage component): $\leq 100$ kHz: 200 mVrms - 20 Vrms >100 kHz to 1 MHz: 600 mVrms - 20 Vrms >1 MHz to 5 MHz: 500 mVrms - 20 Vrms >5 MHz to 10 MHz: 900 mVrms - 20 Vrms 600 V overload protection		

### Pulse width / pulse ratio (duty cycle)

Range	Resolution	Accuracy
0.1% - 99.9%	0.1%	±2.3%
Overload protection: 600 V Signal level (without direct voltage component): ≤100 kHz: 1 mVrms - 20 Vrms Frequency range pulse width: ≤100 kHz		

### Temperature

Range	Resolution	Accuracy
-40 to +40 °C	1 °C	±(1.4% +5)
+40 to +1000 °C		±(1.4% + 4)
-40 to +104 °F	1 °F	±(1.4% + 9)
+104 to +1832 °F		±(1.4% + 7)
Overload protection: 600 V, Sensor input: Type K		

### Diode test

Test voltage	Resolution
Approx. 3.0 V/DC	0.001 V
Overload protection: 600 V; Test voltage: 2 mA typ.	

### Acoustic continuity tester

Measurement range	Resolution
600 Ω	0.1 Ω
≤10 Ω continuous tone; ≥100 Ω no tone Overload protection: 600 V Test voltage approx. 1 V Test current <1.5 mA	

## PACKAGE CONTENTS

Digital multimeter // 2x safety test leads with CAT III protective caps // Temperature sensor (-40 to +230 °C, type K, jack connector) // 3x AAA 1.5 V batteries // Operating instructions