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.

VC171
DIGITAL MULTIMETER

Item no. 2446478

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

FEATURES

- AC / DC voltage measurement
- AC / DC current measurement up to 10 A
- Duty cycle
- Diode test
- Acoustic continuity tester
- Hold function
- Auto power off
- 4000 counts
- True RMS
- Auto range
- 600 V high performance fuses
- CAT III 600 V measuring category
- Torch function

TECHNICAL DATA

Intended use	Indoors
Voltage supply	9 V block battery (6F22, NEDA 1604 or same)
Operating time/battery	approx. 35 h (backlight always on, torch off, buzzer off)
Measuring impedance	approx. 10 MΩ (600 mV: ≥100 MΩ)
Display range	4000 counts (characters)
Refresh rate	2-3x per sec
Measuring method AC	True RMS
Measuring line length	each approx. 90 cm
Low battery indicator	≤6 V ±0.2 V
Measuring jacks distance	19 mm (COM-V)
Auto power off	approx. 15 minutes
Data hold	approx. 15 minutes
Measuring category	≤ CAT III 600 V
Degree of contamination	2
Direct voltage	max. 600.0 V / DC
Alternating voltage	max. 600.0 V / AC
Direct current	max. 10.00 A / DC
Alternating current	max. 10.00 A / AC
Resistance	max. 40.00 MΩ
Capacitance	max. 100.0 uF
Operating temperature	0 to +40 °C
Storage temperature	-10 to +50 °C
Operating/storage humidity	0 to +30 ˚C: ≤75 % RH (non-condensing) +30 to +40 ˚C: ≤ 50 % RH (non-condensing)
Operating altitude	max. 2000 m (above sea level)
Dimensions (W x H x D):	76.5 x 157.5 x 40 mm
Weight	approx. 262 g (without battery)
F1 Fuse	ø6×32 mm, FF 10 A, H 600 V, Breaking capacity:10 KA Input terminal protection (A)
F2 Fuse	ø5×20 mm, FF 400 mA H 600 V, Breaking capacity: 500 A min. Input terminal protection (µA, mA)

Capacitance measurement

Range	Resolution	Accuracy
40.00 nF	0.01 nF	± (4 % + 10)
400.0 nF	0.1 nF	± (4 % + 3)
4.000 - 100.0 uF	0.001 - 0.1 uF	
Overload protection: 600 V		

Continuity (·ı)) and diode (→|) test

Range	Resolution	Remark
·ı))	0.1Ω	• Open circuit: Resistance >100 Ω, no beep. • Circuit with a good connection: Resistance ≤10 Ω, consecutive beeps.
→|	1 mV	• Open circuit voltage: Approx. 3.2 V • Silicon PN junction voltage: Appox. 0.5 to 0.8 V
Overload protection: 600 V		

DC voltage measurement

Range	Resolution	Accuracy
4.000 V	0.001 V	± (0.7 % +6)
40.00 V	0.01 V	
400.0 V	0.1 V	
600 V	1 V	
• Input impedance: approx 10 MΩ • Input voltage: max. 600 V		

AC voltage measurement

Range	Resolution	Accuracy
400.0 mV	0.1m V	± (1.5 % + 8)
4.000 V	0.001 V	± (1.2 % + 6)
40.00 V	0.01 V	± (1.2 % + 6)
400.0 V	0.1 V	± (1.2 % + 6)
600 V	1 V	± (1.5 % + 4)
• Input impedance: approx. 10 MΩ. • True RMS display. • Frequency response: 40 - 400 Hz. • Accuracy guarantee range: 5~100% of range, short circuit allows least significant digit <5. • Non-sinusoidal waveforms: - When the crest factor is 1.0 to 2.0, the accuracy must be increased by 4.0 %. - When the crest factor is 2.0 to 2.5, the accuracy must be increased by 5.0 %. - When the crest factor is 2.5 to 3.0, the accuracy must be increased by 7.0 %. • Input voltage: max. 600 Vrms.		

Resistance measurement (Ω)

Range	Resolution	Accuracy
400.0 Ω	0.1 Ω	± (1.3 % + 5)
4.000 kΩ	1 Ω	± (1.3 % + 5)
40.00 kΩ	10 Ω	
400.0 kΩ	100 Ω	
4.000 MΩ	1 kΩ	± (1.5 % + 5)
40.00 MΩ	10 kΩ	± (2.5 % + 5)
Overload protection: 600 V		

Frequency / duty ratio measurement

Range	Resolution	Accuracy
10.00 Hz - 10.00 MHz	0.01 Hz - 0.01 MHz	± (0.6 % + 5)
0.1 % - 99.9 %	0.1 %	± 2.5 %
• Overload protection: 600 V • Input amplitude a: (DC level = 0) ≤100 kHz: 300 m Vrms≤a≤2 0Vrms 100 kHz - 1 MHz: 600 m Vrms≤a≤ 20Vrms ≥1 MHz - 10 MHz: 6 Vrms≤a≤3 0Vrms • Duty ratio measurement is applicable to zero-crossing square waves with frequency ≤10kHz. 1 Vpp ≤ Input amplitude ≤ 30 Vpp. Frequency ≤ 1 kHz, duty ratio: 10.0 % to 90.0 %. Frequency > 1 kHz, duty ratio: 30.0 % to 70.0 %		

DC current measurement

Range		Resolution	Accuracy
µA	400.0 µA	0.1 µA	± (1.0 % + 6)
	4000 µA	1 µA	
mA	40.00 mA	10 µA	
	400.0 mA	0.1 mA	
A	4.000 A	1 mA	± (1.3 % + 4)
	10.00 A	10 mA	± (1.5 % + 6)

- When the measured current is >5 A, each measurement time should be ≤30 s and the rest interval should be ≥15 minutes.
- Overload protection:
  - F1 Fuse: ø6×32 mm, FF 10 A, H 600 V, Breaking capacity:10 KA
  - F2 Fuse: ø5×20 mm, FF 400 mA H 600 V, Breaking capacity: 500 A min.

AC current measurement

Range		Resolution	Accuracy
µA	400.0µA	0.1 µA	± (1.5 % + 6)
	4000µA	1 µA	
mA	40.00 mA	10 µA	
	400.0 mA	0.1 mA	
A	4.000 A	1 mA	
	10.00 A	10 mA	± (1.8 % + 6)

- When the measured current is >5 A, each measurement time should be ≤30 s and the rest interval should be ≥15 minutes.
- True RMS display.
- Frequency response: 40 - 400 Hz.
- Accuracy guarantee range: 5 - 100 % of range, open circuit allows least significant digit <5.
- Non-sinusoidal waveforms:
  - When the crest factor is 1.0 - 2.0, the accuracy must be increased by 4.0 %.
  - When the crest factor is 2.0 - 2.5, the accuracy must be increased by 5.0%.
  - When the crest factor is 2.5 - 3.0, the accuracy must be increased by 7.0%.
- Overload protection:
  - F1 Fuse: ø6×32 mm, FF 10 A, H 600 V, Breaking capacity:10 KA
  - F2 Fuse: ø5×20 mm, FF 400 mA H 600 V, Breaking capacity: 500 A min.

PACKAGE CONTENTS

Digital multimeter // 9 V block battery // Test leads (pair) // Operating instructions

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