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.

VC831
DIGITAL MULTIMETER

CE

Item no. 2576864

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 750 V
- Measures direct and alternating currents up to 10 A
- Measures frequency from 10 Hz to 10 MHz (max. 20 Vrms)
- Displays pulse ratio (duty cycle) in %
- Measures capacitance up to 60 mF
- Measures resistance up to 60 MΩ
- Continuity test (<50 Ω acoustic)
- Diode test

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	6000 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	after 5, 10, 15, 30 minutes, Always ON
Measurement category	CAT III 1000 V, CAT IV 600 V
Pollution degree	2
Compliance	EN 61010-1

Direct voltage (V/DC)

Range	Resolution	Accuracy
60.00 mV*	0.01 mV	±(0.5% + 10)
600.0 mV*	0.1 mV	±(0.5% + 5)
6.000 V	0.001 V	±(0.5% + 5)
60.00 V	0.01 V	±(0.5% + 5)
600.0 V	0.1 V	±(0.5% + 5)
1000 V	1 V	±(0.8% + 5)

*Only available in “mV” mode
Specified measurement range: 5–100 % of the measurement range
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*	0.1m V	±(1.0% + 10)
6.000 V	0.001 V	±(0.8% + 8)
60.00 V	0.01 V	±(0.8% + 5)
600.0 V	0.1 V	±(0.8% + 5)
750 V	1 V	±(1.0% + 5)
*Only available in “mV” mode Specified measurement range: 5–100 % of the measurement range Frequency range 45 - 400 Hz; overload protection 750 V; impedance: 10 MΩ The frequency shows 20 - 100 % of the measurement range. The multimeter may display 10 counts if a measurement input is short-circuited TrueRMS peak (Crest Factor (CF)) ≤3 CF (6V and 60 V) 600mV range does not support CF≤3 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
600.0 µA	0.1 µA	±(0.8% + 8)
6000 µA	1 µA	±(0.8% + 5)
60.00 mA	0.01 mA	±(0.8% + 8)
600.0 mA	0.1 mA	±(0.8% + 5)
6.000 A	0.001 A	±(1.5% + 8)
10.00 A	0.01 A	±(1.5% + 8)
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
600.0 µA	0.1 µA	±(1.0% + 5)
6000 µA	1 µA	±(1.0% + 5)
60.00 mA	0.01 mA	±(1.0% + 5)
600.0 mA	0.1 mA	±(1.0% + 5)
6.000 A	0.001A	±(1.5% + 10)
10.00 A	0.01 A	±(1.5% + 10)
Overload protection: Fuse Specified measurement range: 5–100 % of the measurement range Frequency range 45 Hz - 1 kHz; overload protection 1000 V; impedance: 10 MΩ The frequency shows 20 100 % of the measurement range. Fuses: µA/mA = 600 mA 1000V high-performance ceramic fuse 10 A = F10AH1000V high-performance ceramic fuse Measuring time 10 A input: 10 seconds with 10-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
600.0 Ω*	0.1 Ω	±(0.8% + 5)
6.000 kΩ*	0.001 kΩ	±(0.8% + 5)
60.00 kΩ	0.01 kΩ	±(0.8% + 5)
600.0 kΩ	0.1 kΩ	±(0.8% + 5)
6.000 MΩ	0.001 MΩ	±(1.0% + 5)
60.00 MΩ	0.01 MΩ	±(2.0% + 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
60.00 nF*	0.01 nF	±(3.0% + 5)
600.0 nF*	0.1 nF	±(3.0% + 5)
6.000 µF*	0.001 µF	±(3.0% + 5)
60.00 µF	0.01 µF	±(3.0% + 5)
600.0 µF	0.1 µF	±(3.0% + 5)
6000 µF	1 µF	±(4.0% + 10)
60.00 mF	0.01 mF	±(4.0% + 10)
1000 V overload protection *Accuracy for measurement range ≤600 nF only applies when the REL function is used		

Frequency “Hz” (electronic)

Range	Resolution	Accuracy
60.00 Hz	0.01 Hz	±(0.1% + 3)
600.0 Hz	0.1 Hz	
6.000 kHz	0.001 kHz	
60.00 kHz	0.01 kHz	
600.0 kHz	0.1 kHz	
6.000 MHz	0.001 MHz	
10.00 MHz	0.01 MHz	
Signal level (without direct voltage component): ≤100 kHz: 0.4 - 20 Vrms >100 kHz <1 MHz: 0.4 - 20 Vrms ≥1 MHz - <5 MHz: 0.5 - 20 Vrms ≥5 MHz - 10 MHz: 0.9 - 20 Vrms 1000 V overload protection Duty cycle: 0.1 - 99.9%, not specified		

Diode test

Test voltage	Resolution
Approx. 3.0 V/DC	0.001 V
Overload protection: 1000 V; Test voltage: 1.5 mA typ.	

Acoustic Continuity tester

Measurement range	Resolution
600.0 Ω	0.1 Ω
Response threshold: ≤50 Ω continuous tone; >50 Ω no tone Overload protection: 1000 V Test voltage approx. 1 V Test current 0.5 mA	

PACKAGE CONTENTS

Digital multimeter // 2x safety test leads with CAT III/CAT IV protective caps // 3x micro batteries (AAA) // Operating instructions

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