COSINUS MESSTECHNIK GMBH

DIGITAL MULTIMETER

CD5003



APPLICATIONS AND FEATURES

This instrument is a true RMS (root mean square) digital multimeter designed for measurements within the range of CAT. IV 600 V and CAT. III 1000V. It is suitable for industrial maintenance applications due to its multifunction design.

- **True RMS**
- **Auto Hold function automatically holds the measurement value once it stabilizes.**
- **Capable of measuring DC+AC composite voltage**
- **Low-pass filter (LPF) function**
- **Peak hold function**
- **Compact, lightweight, easay-to-hold design**
- **Auto power off (approx. 30min./cancelable)**

SPECIFICATIONS

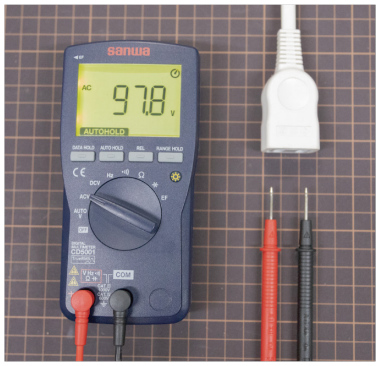
	Measuring range	Best accuracy	Resolution	Input impedance
DCV	999.9m/9.999/99.99/999.9V	±(0.3%+5)	0.1mV	11M/10MΩ
ACV	999.9m/9.999/99.99/999.9V	±(0.9%+3)	0.1mV	
DC+ACV	999.9m/9.999/99.99/999.9V	±(1.7%+6)	0.1mV	11M/10MΩ
DCA	999.9µ/9999µ/99.99m/999.9mA	±(1.0%+5)	0.1µA	100Ω/1Ω
ACA	999.9µ/9999µ/99.99m/999.9mA	±(1.0%+5)	0.1µA	
Resistance	999.9/9.999k/99.99k/999.9k/9.999M/99.99MΩ	±(0.5%+5)	0.1Ω	
Capacitance	9.999n/99.99n/999.9n/9.999µ/99.99µ/999.9µ/9.999m/99.99mF	±(5%+5)	0.001nF	
Frequency	9.999/99.99/999.9/9.999k/99.99kHz	±(0.1%+5)	0.001Hz	
Continuity	Buzzer sounds at 30 to 70Ω or less. Open voltage: approx. 0.6V			
Diode test	Open voltage : approx. 3.2V DC			

Operation method	Δ-Σ method
AC detection method	True RMS
Display	Max. 9999 counts
Sampling rate	Approx.5 times/sec. (DCV)
Over-range display	"OL" shown in numeric section
Range selection	Auto and manual
Polarity switching	Automatic selection (Only "-" is displayed.)
Battery low warning	lights up on display when supply voltage from internal batteries drops below about 2.5V.
Operating environmental condition	Altitude no more than 2000 m, indoor use, environmental pollution degree II
Operating temperature / humidity	Temperature: 5 to 40°C Humidity is as follows (without condensation) . 5 to 31°C: Max.80%RH 31 to 40°C: Linearly decreases from 80% RH to 50% RH.
Storage temperature / humidity	Temperature -10 to +40°C：No more than 80% RH, without condensation Temperature +40 to +50°C: No more than 70% RH, without condensation
Power consumption	Approx.4.9 mA (during DCV measurement, with backlight off)
Battery life	Approx.200 hours (during DCV measurement, with backlight off)
Safety standards	IEC61010 CAT. IV 600V / CAT. III 1000V
EMC Directive	IEC61326
Bandwidth	40 - 400 Hz
Battery	LR03 X 2
Size / Mass	H149 X W72 X D37 mm / approx. 250 g
Standard accessories included	Test lead (ATL101), Instruction manual

A battery for monitoring has been installed prior to shipment from the factory. It may be discharged before the expiration of the described battery life. This battery is used to check the functions and performance of the product.Specifications and external appearance of the product described above may be revised for modification without prior notice.

AUTO HOLD function

When a new stable measurement value is detected in the Auto Hold mode, the buzzer sounds, and the new measurement value is automatically held.



One position One measuring function

It's easy to select the measuring function. No need to press a button.

Hanger magnet HM-1

(optional accessory)

This enables to hang the device on metal walls and take measurements with both hands.

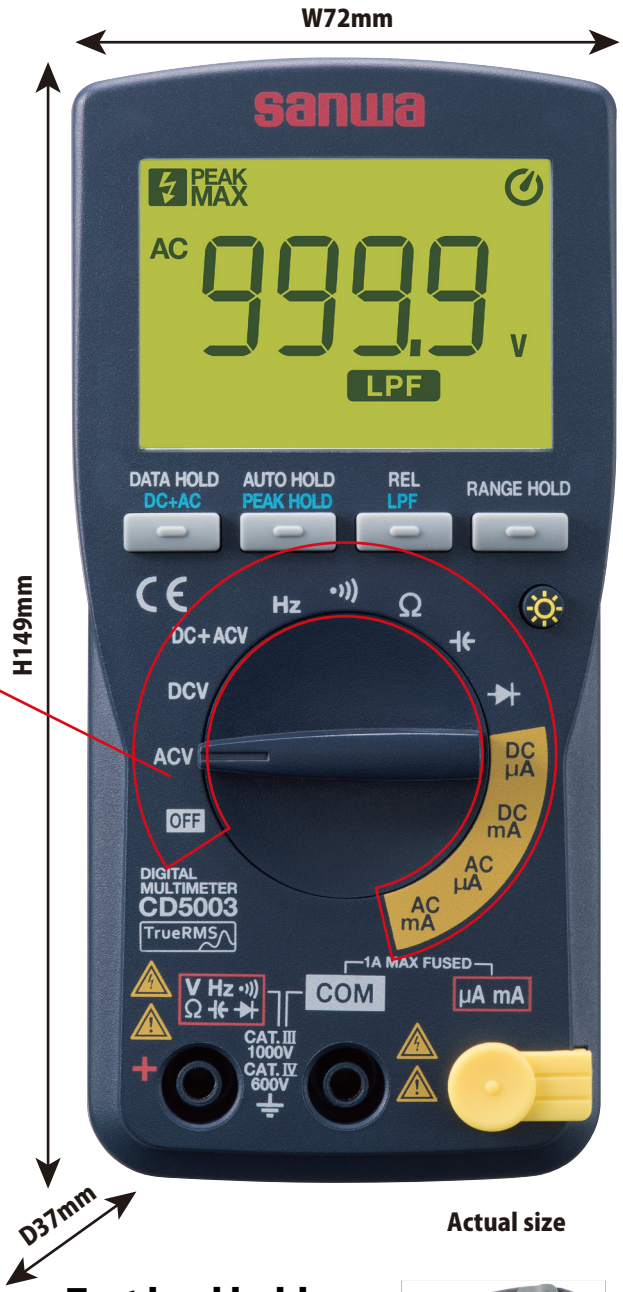


Tilt stand

This enables the device to stand at an angle on a table etc. and users to take measurements with both hands.



Compact design



Actual size

Test lead holders

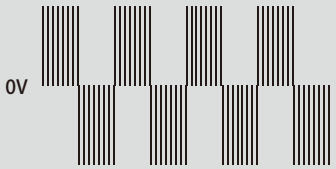
These are useful for test leads storing, and also enable users to take measurements with one hand.



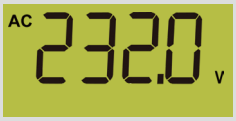
Low-pass filter function

Cuts high-frequency components to measure output voltage on the inverter secondary side.

Normal measurement

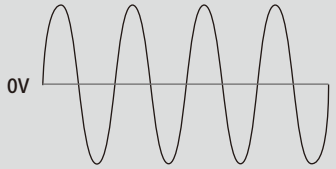


Voltage waveform with high-frequency components



Displays value including noise

LPF on measurement



Voltage waveform with high-frequesncy components filtered out

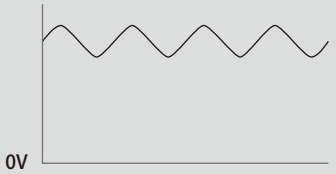


Display noise-filtered value

DC+ACV function

Measures combined DC and AC voltage (Measures DC voltage with ripple).

DC+ACV measurement



DC waveform with ripple



Captures ripple voltage superimposed on a DC power supply

$$V_{RMS} = \sqrt{V_{DC}^2 + V_{AC}^2}$$

COSINUS Messtechnik - Ihr Partner für Messlösungen in allen elektrischen und physikalischen Anwendungen

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