

PM51A

The ultimate shirt-pocket DMM with frequency & capacitance



- Measures ac and dc voltage, resistance, continuity with beeper, capacitance and frequency
- Fully autoranging with 7 measurement functions and 27 ranges
- Complete safety ratings of CAT III 300 V, CAT II 600 V and UL and CSA listing
- Large oversize digital display with measurement results and the unit icon
- Data Hold freezes measurement value on the display
- One-year, no-hassle warranty

This shirt-pocket sized meter is only 3/8" thick and weighs less than 3 oz. With full functionality offering ac and dc voltage to 600 V, resistance to 40 Megohm, capacitance to 3000 μ F, frequency to 1 MHz, continuity w/beeper, and diode test.

Fully autoranging, this meter offers seven different measure-

ment functions with 27 full ranges of measurement. The digital display is oversized with large digits and annunciators. In spite of its size, this meter is fully safety rated to CAT III 300 V, CAT II 600 V and is UL listed. No other meter offers this small size with such performance and high safety ratings.

PM51A Specifications

DC Voltage	
Range	Accuracy
400.0 mV	$\pm (1.0 \% + 2 \text{ dgt})$
4.000 V, 40.00 V, 400.0 V	$\pm (2.0 \% + 2 \text{ dgt})$
600 V	$\pm (2.5 \% + 4 \text{ dgt})$
NMRR	> 50 dB @ 50 Hz/60 Hz
CMRR	> 120 dB @ dc, 50 Hz/60 Hz; $R_s = 1 \text{ k}\Omega$
Input impedance	10 M Ω , 30 pF nominal; (1000 M Ω for 400.0 mV range)
AC Voltage	
Range	Accuracy
50 Hz - 60 Hz	
4.000 V, 40.00 V, 400.0 V	$\pm (2.0 \% + 5 \text{ dgt})$
60 Hz - 500 Hz	
4.000 V, 40.00 V, 400.0 V	$\pm (3.0 \% + 5 \text{ dgt})$
50 Hz - 500 Hz	
600 V	$\pm (3.5 \% + 5 \text{ dgt})$
Input impedance	10 M Ω , 30 pF nominal
CMRR	> 60 dB @ dc to 60 Hz, $R_s = 1 \text{ k}\Omega$
Capacitance	
Range ¹	Accuracy ²
500.0 nF, 5.000 μ F, 50.00 μ F, 500.0 μ F, 3000 μ F ³	$\pm (3.5 \% + 6 \text{ dgt}^4)$
¹ Additional 50.00 nF range accuracy is not specified	
² Accuracies with film capacitor or better.	
³ Updates > 1 minute on large values	
⁴ Specified with battery voltage above 2.8 V (half full battery). Accuracy decreases gradually to 12% at low battery warning voltage of approx 2.4 V.	
Resistance	
Range	Accuracy
400.0 Ω	$\pm (1.5 \% + 6 \text{ dgt})$
4.000 K Ω , 40.00 K Ω , 400.0 K Ω	$\pm (1.0 \% + 4 \text{ dgt})$
4.000 M Ω	$\pm (1.5 \% + 4 \text{ dgt})$
40.00 M Ω	$\pm (2.5 \% + 4 \text{ dgt})$
Open circuit voltage	0.4 V dc typical



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PM51A Specifications *cont.*

Frequency	
Range¹	Accuracy
400 Hz, 4 kHz, 40 kHz, 400 kHz, 1 MHz	± (0.5 % + 4 dgt)
¹ Specified at input voltage < 20 V ac rms input signal: Sine-wave, or square-wave with duty cycle > 40 % & < 70 %	
Sensitivity (V-peak)	
5 Hz - 100 kHz	> 1.3 Vp
100 kHz - 500 kHz	> 2.2 Vp
500 kHz - 1 MHz	> 4.2 Vp
Diode Tester	
Test current (typical)	0.25 mA
Open circuit voltage	1.6 V dc
Audible Continuity Tester	
Open circuit voltage	0.4 V dc typical
Audible threshold	65 Ω ± 55 Ω
General Specifications	
Display and update rate	3-3/4 digits 4000 counts; Updates 3 per second nominal
Operating temperature	0 °C - 40 °C
Relative humidity	Max. 80 % R.H. up to 31 °C, decreasing linearly to 50 % R.H. at 40 °C
Altitude	Operating below 2000 m
Storage temperature	-20 °C ~ 60 °C, < 80 % R.H. (with battery removed)
Temperature coefficient	Nominal 0.15 x (specified accuracy) / °C @ (0 °C ~ 18 °C or 28 °C ~ 40 °C), or otherwise specified
Sensing	Average sensing
Overload protection	600 V dc and V ac rms
Low battery	Below approx. 2.4 V
Power supply	3 V standard button battery x 1 (IEC-CR2032; ANSI-NEDA-5004LC)
Power consumption (typical)	2 mA
Automatic Power Off (APO) timing	Idle for 30 minutes
APO consumption (typical)	2.2 µA
Dimension	L 113 mm x W 53 mm x H 10.2 mm (4.4 x 2.1 x 0.4 in)
Weight	Approx. 78 gm (3 oz)
Special features	Data Hold, and 30 ms MAX Hold
Agency approvals	CE, cULus
Safety	Meets IEC61010-1, UL61010B-1, CAN/CSA-C22.2 No. 1010.1-92, CAT II 600 V and CAT III 300 V, Pollution Degree 2, Class 2
E.M.C.	Meets EN61326
Accessories	
Included	Battery installed, and User's manual
Optional	H-PM protective holster, and VC3 zippered carrying case

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