

# PM53A

## The compact commercial DMM with AutoTect™ and VolTect™



This meter is the essential shirt-pocket size meter. Only 3/8" thick and less than 3 oz in weight, this meter offers full functionality with ac and dc voltage to 450 V, resistance to 6 Megohm, capacitance to 100 µF, frequency to 30 kHz and continuity w/beeper. It also offers VolTect™ a built-in, non-contact voltage detector for ac voltages.

Another key feature is AutoTect™, which automatically selects ac voltage, dc voltage or resistance measurement based on the test

point to which the leads are connected. Fully autoranging, this meter offers seven different measurement functions plus features that are usually found in much more expensive and larger meters. The digital display is oversized with large digits and unit icons in the display. In spite of its size, this meter is fully safety rated to CAT III 300 V, CAT II 450 V and is UL listed. Includes a silicone protective holster, attached test leads, battery and manual.

- AutoTect™ feature directs the meter to know if it is measuring ac volts, dc volts or resistance with no user interface required
- The AutoTect™ feature has lower input impedance which zeros out ghost voltages
- Measures capacitance, frequency, continuity with beeper plus includes VolTect™ a built-in, non-contact voltage detector
- Complete user protection with full safety ratings of CAT III 300 V, CAT II 450 V and UL and CSA listing
- Large oversize digital display
- Protective silicon holster included, attached test leads, battery and manual
- One-year, no-hassle warranty

### PM53A Specifications (Accuracy at 23 °C ± 5 °C, <75 % R.H.)

RF field @ 3 V/m	Specified accuracy + 45 d (capacitance not specified)
<b>DC Voltage</b>	
<b>Range</b>	<b>Accuracy</b>
6.000 V	± (0.5 % + 3 dgt)
60.00 V	± (1.0 % + 5 dgt)
450.0 V	± (1.2 % + 5 dgt)
NMRR	> 30 dB @ 50 Hz/60 Hz
CMRR	> 100 dB @ DC, 50 Hz/60 Hz; Rs = 1 kΩ
<b>Input impedance</b>	AutoTect™ Lo-Z V dc: 160 kΩ, 160 pF nominal
<b>V dc AutoTect™ threshold</b>	> +1.2 V dc or < -0.6 V dc nominal
<b>AC Voltage</b>	
<b>Range</b>	<b>Accuracy</b>
50 Hz - 60 Hz	
6.000 V, 60.00 V, 450.0 V	± (1.5 % + 5 dgt)
CMRR	> 60 dB @ dc to 60 Hz, Rs = 1 kΩ
<b>Input impedance</b>	AutoTect™ Lo-Z V ac: 160 kΩ, 160 pF nominal
<b>ACV AutoTect™ threshold</b>	> 1.5 V ac (50 Hz/60 Hz) nominal
<b>Capacitance</b>	
<b>Range<sup>1</sup></b>	<b>Accuracy<sup>2</sup></b>
100.0 nF, 1000 nF, 10.0 µF, 100.0 µF <sup>3</sup>	± (3.5 % + 6 dgt) <sup>4</sup>
<sup>1</sup> Accuracy below 50 nF is not specified	
<sup>2</sup> Accuracies with film capacitor or better	
<sup>3</sup> Top range. Updates > 1 minute on large values	
<sup>4</sup> 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.	
<b>Resistance</b>	
<b>Range<sup>1</sup></b>	<b>Accuracy</b>
6.000 kΩ	± (1.2% + 6 dgt) <sup>2</sup>
60.00 kΩ, 600.0 kΩ	± (1.0% + 4 dgt)
6.000 MΩ	± (2.0% + 4 dgt)
<b>Open circuit voltage</b>	0.4 V dc typical

<sup>1</sup>AutoTect™ is for 6.000 kΩ ~ 6.000 MΩ ranges

<sup>2</sup>Add 40 dgt to specified accuracy while reading is below 20 % of range



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### PM53A Specifications *cont.*

Frequency		
Range <sup>1</sup>	Accuracy	Specified at
100 Hz, 1 kHz, 10 kHz	± (0.5 % + 4 dgt)	< 20 V Sine-rms
<sup>1</sup> Sensitivity (Sine-rms): Hz in Auto-VΩ position: > 3 V		
VolTect™		
Typical voltage	Bar graph indication	
15 V to 55 V	-	
30 V to 85 V	--	
55 V to 145 V	---	
85 V to 190 V	----	
above 120 V	-----	
Indication	Bar graph segments & audible beep tones proportional to field strength	
Detection frequency	50/60 Hz	
Detection antenna	Top left corner of the meter	
Audible Continuity Tester		
Open circuit voltage	0.4 V dc typical	
Audible threshold	175 Ω ±125 Ω	
General Specifications		
Display and update rate	3-5/6 digits 6000 counts; Updates 5 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	450 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 3 minutes	
APO consumption (typical)	2.2 µA	
Dimension/Weight	L 113 mm x W 53 mm x H 10.2 mm (4.4 x 2.1 x 0.4 in)/Approx. 78 gm (3 oz)	
Special features	AutoTect™ (Automatic V & Ω selection) and VolTect™ (Electric Field Detection)	
Agency approvals	CE, cULus	
Safety	Meets IEC61010-1, UL61010B-1, CAN/CSA-C22.2 No. 1010.1-92, CAT II 450 V and CAT III 300 V, Pollution Degree 2, Class 2	
E.M.C.	Meets EN61326	
Accessories		
Included	Battery installed, User's manual and H-PM silicone holster	
Optional	VC3 zippered carrying case	

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