

# PM55A

## The compact precision DMM with AutoTect™ and VoltTect™



- AutoTect™ feature directs the meter to know if it is measuring ac volts, dc volts or resistance with no user interface
- The AutoTect™ feature has lower input impedance which zeros out ghost voltages
- Measures ac/dc current, capacitance, frequency, continuity with beeper plus includes VoltTect™ a built-in, non-contact voltage detector
- Complete user protection with full safety ratings of CAT III 300 V, CAT II 600 V and UL and CSA listing
- Large oversize digital display
- Protective silicon holster included, attached test leads, battery, deluxe carry case and manual
- One-year, no-hassle warranty

The ultimate shirt-pocket sized meter. Only 3/8" thick and less than 3 oz in weight with full functionality offering ac and dc voltage to 600 V, ac and dc current to 2000  $\mu$ A, resistance to 6 Megohm, capacitance to 2000  $\mu$ F, frequency to 30 kHz, diode test and continuity w/beeper. It also offers VoltTect™ a built-in, non-contact voltage detector for ac voltages.

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

connected. Fully autoranging, this meter offers nine 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 600 V and is UL listed. No other meter this small offers such performance and high safety ratings. Includes a silicone protective holster, deluxe carrying case, attached test leads, battery and manual.

### PM55A Specifications (Accuracy at 23 °C $\pm$ 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	$\pm$ (0.5 % + 3 dgt)
60.00 V	$\pm$ (1.0 % + 5 dgt)
600 V	2.0 % (AutoTect™ Lo-Z)
600 V	1.5 % + 5 dgt (Hi-Z only)
NMRR	> 30 dB @ 50 Hz/60 Hz
CMRR	> 100 dB @ DC, 50 Hz/60 Hz; $R_s = 1$ k $\Omega$
Input impedance	AutoTect™ Lo-Z V dc: 833 k $\Omega$ (4.2 k $\Omega$ when displaying AUTO), 90 pF nom.
V dc AutoTect™ threshold	> +1.2 V dc or < -0.6 V dc nominal (Hi-Z V dc only)
<b>AC Voltage</b>	
<b>Range</b>	<b>Accuracy</b>
50 Hz - 60 Hz	
6.000 V, 60.00 V, 600 V	$\pm$ (1.5 % + 5 dgt)
CMRR	> 60 dB @ dc to 60 Hz, $R_s = 1$ k $\Omega$
Input impedance	AutoTect™ Lo-Z V ac: 160 k $\Omega$ , 160 pF nominal
Hi-Z ACV	5 M $\Omega$ , 90 pF nominal
ACV AutoTect™ threshold	> 1.5 V ac (50 Hz/60 Hz) nominal
<b>Capacitance</b>	
<b>Range</b> <sup>1</sup>	<b>Accuracy</b> <sup>2</sup>
100.0 nF, 1000 nF, 10.0 $\mu$ F, 100.0 $\mu$ F, 2000 $\mu$ F <sup>3</sup>	$\pm$ (3.5 % + 6 dgt)
<sup>1</sup> Accuracy below 50 nF is not specified	
<sup>2</sup> Accuracies with film capacitor or better	
<sup>3</sup> 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</b>	<b>Accuracy</b>
600.0 $\Omega$	$\pm$ (2.0% + 6 dgt) <sup>2</sup>
6.000 k $\Omega$	$\pm$ (1.2% + 6 dgt) <sup>2</sup>
60.00 k $\Omega$ , 600.0 k $\Omega$	$\pm$ (1.0% + 4 dgt)
6.000 M $\Omega$	$\pm$ (2.0% + 4 dgt)
Open circuit voltage	0.4 V dc typical

<sup>1</sup>AutoTect™ is for 6.000 k $\Omega$  ~ 6.000 M $\Omega$  ranges

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



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Electrical noise or intense electromagnetic fields in the vicinity of the equipment may disturb the measurement circuit. Measuring instruments will also respond to unwanted signals that may be present within the measurement circuit. Users should exercise care and take appropriate precautions to avoid misleading results when making measurements in the presence of electronic interference.

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### PM55A Specifications *cont.*

Frequency		
Range	Accuracy	Specified at
10.00 Hz - 30.00 kHz <sup>1,2</sup>	± (0.5 % + 4 dgt)	< 2 0 V Sine-rms
10.00 Hz - 999.9 Hz	± (0.5 % + 4 dgt)	< 600 V Sine-rms
<sup>1</sup> Sensitivity (Sine-rms): Hz in Auto-V ( position: > 3 V		
<sup>2</sup> Line-level Hz in V position: @6.000 V ac range: > 3 V; @60.00 V ac range: > 6 V; @600.0 V ac range: > 60 V		
DC µA Current		
Range	Accuracy	Burden voltage
400.0 µA	± (1.5 % + 3 dgt)	6 mV/µA
2000 µA	± (1.2 % + 3 dgt)	6 mV/µA
AC µA Current		
Range	Accuracy	Burden voltage
400.0 µA	± (2.0 % + 3 dgt)	6 mV/µA
2000 µA	± (1.5 % + 3 dgt)	6 mV/µA
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	-----	
<b>Indication</b>	Bar graph segments & audible beep tones proportional to field strength	
<b>Detection frequency</b>	50/60 Hz	
<b>Detection antenna</b>	Top left corner of the meter	
Audible Continuity Tester (600 Ω range)		
<b>Open circuit voltage</b>	0.4 V dc typical	
<b>Audible threshold</b>	50 Ω to 300 Ω	
Diode Test		
<b>Diode test current</b>	0.48 mA	
<b>Open circuit voltage</b>	< 1.6 V dc	
General Specifications		
<b>Display and update rate</b>	3-5/6 digits 6000 counts; Updates 5 per second nominal	
<b>Operating temperature</b>	0 °C - 40 °C	
<b>Relative humidity</b>	Max. 80 % R.H. up to 31 °C, decreasing linearly to 50 % R.H. at 40 °C	
<b>Altitude</b>	Operating below 2000 m	
<b>Storage temperature</b>	-20 °C ~ 60 °C, < 80 % R.H. (with battery removed)	
<b>Temperature coefficient</b>	Nominal 0.15 x (specified accuracy)/ °C @ (0 °C ~ 18 °C or 28 °C ~ 40 °C), or otherwise specified	
<b>Sensing</b>	Average sensing	
<b>Overload protection</b>	600 V dc and V ac rms	
<b>Low battery</b>	Below approx. 2.4 V	
<b>Power supply</b>	3 V standard button battery x 1 (IEC-CR2032; ANSI-NEDA-5004LC)	
<b>Power consumption (typical)</b>	6 mA for voltage functions on Auto-V W position & 2 mA for other functions	
<b>Automatic Power Off (APO) timing</b>	Idle for 3 minutes	
<b>APO consumption (typical)</b>	2.2 µA	
<b>Dimension/Weight</b>	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)	
<b>Special features</b>	AutoTect™ (Automatic V & Ω selection) and VolTect™ (Electric Field Detection)	
<b>Agency approvals</b>	CE, cULus	
<b>Safety</b>	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	
<b>E.M.C.</b>	Meets EN61326	
Included Accessories		
H-PM protective holster, VC3 zippered carrying case, battery installed and User's manual.		

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