



## AM-270 TRMS Industrial Multimeter

A commercial - industrial multimeter for Electrical and HVAC applications dedicated for electrical and HVAC professionals. Safety rated to CAT IV 600V and CAT III 1000V for outdoor and indoor applications requiring direct connection to main panel of the building or measurement of the outdoor wiring connecting building the utility transformer. The AM-270 measures complete range of electrical parameters including voltage, current, resistance and frequency. It also covers HVAC application with temperature, capacitance and micro amps functions. TRMS sensing for superior accuracy.

- 18 Features
- True RMS (TRMS)
- Measures AC/DC voltage up to 1000V, Current, Resistance, Frequency, Capacitance and Temperature
- Auto and manual ranging
- Auto power off
- Data hold
- Backlight display
- Large, easy to read LCD display
- Diode Test
- Audible continuity
- Safety CAT III 600V

### No hassle warranty

*No waiting.*

*No shipping charges.*



Our commitment to high-quality products and customer service is demonstrated by our industry exclusive "No Hassle" warranty. In the unlikely event that an Amprobe Test Tool requires warranty service, any of our local dealers are authorized to replace it, on the spot.

(note: \$500 MSLP limit)



## AM-270 TRMS Industrial Multimeter

## Data Sheet

### General Specifications

Display	-4/5 digits 5000 counts LCD display
Update Rate	Digital Data 5 per second nominal; 52 Segments Bar-graph 60 per second nominal
Operating Temperature	0°C to 45°C (32F-113F)
Relative Humidity	Maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 45°C
Altitude	Operating below 2000m
Storage Temperature	-20°C ~ 60°C (-4F to 140F) , < 80% R.H. (with battery removed)
Temperature Coefficient	nominal 0.15 x (specified accuracy)/°C @ (0°C -18°C or 28°C -45°C), or otherwise specified
Pollution Degree	2
Safety	The meter (all versions) is protected, against the users, by double insulation per EN61010-1 and IEC61010-1 2nd Edition (2001) to CAT III 1000V & CAT IV 600V. The meter (all versions) also meet CSA C22.2 No. 1010-1-92* to CAT III 1000V. AM-120 & AM-130 Terminals (to COM) ratings: V: Category III 1000 Volts AC & DC, and Category IV* 600 Volts AC & DC. A / mAµA: Category III and Category IV* 500 Volts AC and 300 Volts DC.
E.M.C.	Meets EN61326(1997, 1998/A1), EN61000-4-2(1995) and EN61000-4-3(1996). Also meets former standards EN55011(1991) and EN50082-1(1997)
In an RF field of 3V/m:	Capacitance function is not specified Other function ranges: Total Accuracy = Specified Accuracy + 30 digits. Performance above 3V/m is not specified
Power Supply	Single standard 9V battery NEDA1604, JIS006P or IEC6F22
Power Consumption	4.3 mA typical
Low Battery	Below approx. 7V
APO Timing	Idle for 17 minutes
Dimension	L317.5 x W177.8 x H76.2mm (12.5 x 7 x 3in) with clamshell
Weight	689.46g (1.52lb) with clamshell
Special Features	Data-Hold; Range-Hold; Backlighted Display; Optional PC-interface capabilities 50ms Record MAX-MIN readings at fast 20/second measurement mode; 5ms Crest (Instantaneous Peak-Hold) MAX-MIN readings; Relative-Zero offset mode; Zoom 5x analog pointer at 60/s
Accessories	Test leads (pair); Battery (installed); User's manual; banana plug K type thermocouple
Optional PC-interface Capabilities	50ms Record MAX-MIN readings at fast 20/second measurement mode; 5ms Crest (Instantaneous Peak-Hold) MAX-MIN readings; Relative-Zero offset mode; Zoom 5x analog pointer at 60/s

## AM-270 TRMS Industrial Multimeter

## Data Sheet

### Electrical Specification

Accuracy is +/- (% reading digits + number of least significant digits) or otherwise specified, at 23°C +/- 5°C & less than 75% R.H. True RMS models ACV & ACA accuracies are specified from 5 % to 100 % of range or otherwise specified. Maximum Crest Factor <3:1 at full scale & <6:1 at half scale, and with frequency spectrums, besides fundamentals, fall within the meter specified AC bandwidth for non-sinusoidal waveforms.

	Range	Accuracy
	50.00 mV	0.12% + 2d
	500.0 mV	0.06% + 2d
	5.000V, 50.00V, 500.0V, 1000V	0.08% + 2d

<b>DC Voltage</b>	NMRR: >60dB @ 50/60Hz CMRR: >120dB @ DC, 50/60Hz, Rs=1kΩ Input Impedance: 10MΩ, 16pF nominal (44pF nominal for 50mV & 500mV ranges)
-------------------	---

AC Voltage	Range	Accuracy*
	50Hz -- 60Hz	
	50.00mV, 500.0mV, 5.000V, 50.00V, 500.0V, 1000V	0.5% + 3d
<b>40Hz -- 500Hz</b>	50.00mV, 500.0mV	0.8% + 3d
	5.000V, 50.00V, 500.0V	1.0% + 4d
	1000V	1.2% + 4d
<b>Up to 20kHz</b>	50.00mV, 500.0mV	0.5dB*
	5.000V, 50.00V, 500.0V	3dB*
	1000V	Unspec'd
	*Specified from 30% to 100% of range CMRR : >60dB @ DC to 60Hz, Rs=1kΩ Input Impedance : 10MΩ, 16pF nominal (44pF nominal for 50mV & 500mV ranges)	

Temperature	Range	Accuracy*
	-50 °C TO 1000 °C	0.3% + 3d
	-58 °F TO 1832 °F	0.3% + 5d
	*Thermocouple range & accuracy not included	

DC Current	Range	Accuracy	Burden Voltage
	500.0μA	0.2%+4d	0.15mV/μA
	5000μA		0.15mV/μA
	50.00mA		3.3mV/mA
	500.0mA		3.3mV/mA
	5.000A		0.03V/A
	10.00A*		0.03V/A
	*10A continuous, 20A for 30 second max with 5 minutes cool down interval		

AC Current	Range	Accuracy	Burden Voltage
<b>50Hz -- 60Hz</b>	500.0μA		0.15mV/μA
	5000μA	0.6%+3d	0.15mV/μA
	50.00mA		3.3mV/mA
	500.0mA	1.0%+3d	3.3mV/mA
	5.000A	0.6%+3d	0.03V/A
	10.00A*		0.03V/A

## AM-270 TRMS Industrial Multimeter

## Data Sheet

440Hz --1kHz	Range	Accuracy	Burden Voltage	
	500.0μA	0.8%+4d	0.15mV/μA	
	5000μA	0.8%+4d	0.15mV/μA	
	50.00mA	0.8%+4d	3.3mV/mA	
	500.0mA	1.0%+4d	3.3mV/mA	
	5.000A	0.8%+4d	0.03V/A	
	10.00A*	0.8%+4d	0.03V/A	
*10A continuous, 20A for 30 seconds max with 5 minutes cool down interval				
Crest mode for V & A functions				
Accuracy: Specified accuracy ±150 digits for changes > 5 ms in duration				
Ohms	Range	Accuracy		
	50.00Ω	0.2% + 6d		
	500.0Ω	0.1% + 3d		
	5.000kΩ, 50.00kΩ, 500.0kΩ	0.1% + 2d		
	5.000MΩ	0.4% + 3d		
	50.00MΩ	1.5% + 5d		
Open Circuit Voltage	< 1.3VDC (< 3VDC for 50Ω & 500Ω ranges)			
Audible Continuity Tester				
Audible Threshold :	between 20Ω and 200Ω. Fast response time < 100μs			
➔Diode Tester	Range	Accuracy	Test Current (Typical)	Open Circuit Voltage
	2.000V	1%+1d	0.8mA	< 3.5 VDC
Frequency	Function	Enstivity (Sine RMS)	Range	
Accuracy: 0.01% + 2d	mV	300mV	6Hz - 125kHz	
	5V	2V	6Hz - 125kHz	
	50V	20V	6Hz - 20kHz	
	500V	80V	6Hz - 1kHz	
	1000V	300V	6Hz - 1kHz	
	Ω, Cx, diode	300mV	6Hz - 125kHz	
	μA, mA, A	10% F.S.	6Hz - 125kHz	
Capacitance	Range	Accuracy*		
	50.00nF	0.8% + 3d		
	500.0nF	0.8% + 3d		
	5.000μF	1.0% + 3d		
	50.00μF	2.0% + 3d		
	500.0μF	3.5% + 5d		
	9999μF	5.0% + 5d		
*Accuracies with film capacitor or better				

**Amprobe® Test Tools**  
 website: [www.Amprobe.com](http://www.Amprobe.com)  
 email: [info@amprobe.com](mailto:info@amprobe.com)  
 Everett, WA 98203  
 Tel: 877-AMPROBE

**Amprobe® Test Tools Europe**  
 In den Engematten 14  
 79286 Glottertal, Germany  
 Tel.: +49 (0) 7684 8009 - 0

©2010 Amprobe Test Tools. All rights reserved.  
 6/2010 AM-270\_DS Rev A