

## Process Calibrator MultiMeters™

Precision DC, mA, Voltage, Calibrators combined with True RMS MultiMeter

### Calibrator Features:

- Simultaneous source/simulate and measure on large dual display
- Precision 0.03% accurate voltage and current calibration source
- Constant current output for loads up to 500Ω (Optional 1000Ω adaptor)
- Bipolar current ( $\pm 25\text{mA}$ ) and voltage ( $\pm 1.5\text{V}$ ,  $\pm 15\text{V}$ ) outputs
- Simultaneously source excitation voltage and measure mA output of 2-wire transmitters
- Wide range Frequency (square wave) source with adjustable amplitude, pulse width, and duty cycle (CMM-15-R)
- Programmable for 16 continuous or timed step outputs, or 999 step ramp
- Includes Windows® 95/98 compatible software generates basic Calibration Report for unit under test and enables graphing and datalogging

### DMM Features:

- Measure DCmA, ACmA, DCV, ACV, AC+DC, Temperature, Frequency, Duty Cycle, Pulse Width, Resistance, Continuity, and Diode
- $1\mu\text{V}$  or  $1\mu\text{A}$  resolution and 0.03% basic DCV accuracy (400mV-40V)
- 1ms Peak Hold for glitch capture, plus Data Hold, Auto Hold. Relative and dynamic recording

### Common Features:

- True RMS measurement for non-linear voltage and current loads
- Built-in isolated RS-232 interface for data acquisition and documentation with data acquisition software
- Large 4,000/40,000 count backlit LCD displays primary, secondary, source/measure ranges and functions selected
- Separate input/output banana jacks with fused protection
- Auto power off with disable function
- Complete with input/output test leads, Type K temperature probe, 9V battery, external battery pack, protective holster, pouch case, software and cable

### Ordering Information:

CMM-15-R .....Process Calibrator MultiMeter™  
 CMM-15-R-NIST..Process Calibrator MultiMeter™ w/NIST Certificate  
 423240 .....Optional 1000Ω High Impedance Adaptor  
 149116 .....Optional 117VAC Adaptor 12vdc Source  
 149230 .....Optional 220VAC Adaptor 12vdc Source



Software included



Specifications:			
Source (Output)	Ranges	Max Res.	Accuracy (% output + digits)
DC Voltage	$\pm 1.5$	100 $\mu\text{V}$	$\pm(0.03\% + 0.3\text{mV})$
	$\pm 15\text{V}$	1mV	$\pm(0.03\% + 3\text{mV})$
DC Current	$\pm 25\text{mA}$	1 $\mu\text{A}$	$\pm(0.03\% + 5\mu\text{A})$
	(Max load 500 $\Omega$ , 1000 $\Omega$ with optional adaptor)		
Square Wave	28 Frequencies	0.01Hz	$\pm(0.005\% + 0.01\text{Hz})$
	(0.5,1,2.5,10,15,20,25,30,40,50,60,75,80,100,120,150,200,240,300,400,480,600,800,1200,1600,2400,4800 Hz)		
Duty Cycle	0.39% to 99.60%	0.390625%	$\pm(0.01\% + 0.02\%)$
	1/frequency	Range/256	$\pm(0.01\% + 0.3\text{ms})$
	Pulse Width	5V, $\pm 5\text{V}$ , 12V, $\pm 12\text{V}$	0.1V
Amplitude			
Measure (Input)	Ranges	Max Res.	Accuracy (% rdg + digits)
DC Voltage	40mV	1 $\mu\text{V}$	$\pm(0.08\% + 5\text{d})$
	400mV, 4V, 40V	10 $\mu\text{V}$	$\pm(0.03\% + 3\text{d})$
	300V	10mV	$\pm(0.06\% + 3\text{d})$
AC Voltage (45-20kHz)	40,400mV, 4,40,300V	1 $\mu\text{V}$	$\pm(0.7\% + 5\text{d})$ @50/60Hz
DC Current	40mA, 400mA	1 $\mu\text{A}$	$\pm(0.2\% + 3\text{d})$
AC Current (45Hz-2kHz)	40mA, 400mA	1 $\mu\text{A}$	$\pm(1\% + 5\text{d})$
AC + DC Voltage	40,400mV, 4,40,300V	1 $\mu\text{V}$	$\pm(0.8\% + 10\text{d})$ @50/60H
AC + DC Current	40mA, 400mA	1 $\mu\text{A}$	$\pm(1.2\% + 10\text{d})$
1ms Peak Hold (Glitch capture)	40,400mV, 4,40,300V	1 $\mu\text{V}$	$\pm(2\% + 43\text{d})$
Resistance	400,4k,40k,400k,4M $\Omega$	0.01 $\Omega$	$\pm(0.2\% + 3\text{d})$
	40M $\Omega$	1k $\Omega$	$\pm(1\% + 5\text{d})$
Temperature (Type K)	-40°F to 1832°F	1/0.1°F	$\pm(0.3\% + 6°F)$
	-40°C to 1000°C	1/0.1°C	$\pm(0.3\% + 3°C)$
Frequency	100Hz,1,10,100,200kHz	0.001Hz	$\pm(0.2\% + 1\text{d})$
Duty Cycle	0.1-99.9%		$\pm(0.3\% \text{ per kHz} + 0.3\%)\text{FS}$
Pulse Width	0.2-1999.9mS		$\pm(0.2\% + 3\text{d})$
Diode Check	1.65mA @ <3.3V		
Continuity	Beeper < 10 $\Omega$ on 400 $\Omega$ range		
Dimensions/Weight:	1.45x3.54x7.56"(37x90x192mm) / 32oz.(940g)		