

DCV/ACV, ohms, DCA/ACA, hFE, Diode, Hz, Temp., Cap.

DMM

Model : DM-9090

ISO-9001, CE, IEC1010

T+M

Tmi



Lutron



Tmi

LUTRON ELECTRONIC

The Art of Measurement

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DIGITAL MULTIMETER

Model : DM-9090



1. FEATURES

- * Multi-function measurement : ACV, DCV, ACA, DCA, OHMS, CAPACITANCE, TEMP., Hz, DIODE, hFE, CONTINUITY BEEPER.
- * Rotary function switch, easy operation.
- * Large size LCD display.
- * meet IEC safety requirement, & approval.
- * Built in overload protection for any ranges.
- * Fuse for overload protection.

2. SPECIFICATIONS

2-1 General Specifications

Display	18mm (0.7") LCD (Liquid Crystal Display), 3 1/2 digits, Max. indication 1999.
Measurement	40 ranges covering DCV, ACV, DCA, ACA, ohms, CAPACITANCE, FREQUENCY, TEMPERATURE, hFE, DIODE, Continuity Beeper,
Polarity	Automatic Switching '-' indicates negative polarity.
Zero Adjustment	Automatic.
Over - input	display shows '1' or '-1'
Sampling Time	Approx. 0.4 second.
Operating Temp.	0 °C to 50 °C (32 °F to 122 °F).
Operating Humidity	Max. 80% RH.
Power Supply	006P DC 9V battery (heavy duty type).
Power Consumption	Approx. DC 3.6 mA.
Dimension	185x87x39 mm (7.3x3.4x1.5 inch).
Weight	322 g/0.71 lb. (including battery).
Standard Accessories	Red and Black Test Leads 1 pair. 0.5 Amp Spare Fuse 1 PC. Instruction Manual 1 PC.



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2-2 Electrical Specifications (23± 5°C)

DC VOLTAGE				
RANGE	ACCURACY	RESOLUTION	INPUT IMPEDANCE	OVERLOAD PROTECTION
200mV	± (0.5%+1d)	100uV	10M ohm	500V DC, 350V AC, 15 secs
2V	± (0.8%+1d)	1mV		DC 600V AC 600V
20V		10mV		
200V		100mV		
600V		1V		

AC VOLTAGE				
* FREQUENCY RESPONSE: 40Hz-500Hz, SINE WAVE SPEC. TESTED ON 60Hz/50Hz				
RANGE	ACCURACY	RESOLUTION	INPUT IMPEDANCE	OVERLOAD PROTECTION
200mV	± (1%+2d)	100uV	10M ohm	500 AV, 350V AC, 15 secs
2V (0.01V-2V)		1mV		DC 600V AC 600V
20V		10mV		
200V		100mV		
600V		1V		

AC / DC CURRENT				
* FREQUENCY RESPONSE: 40Hz-500Hz, SINE WAVE SPEC. TESTED ON 60Hz/50Hz				
RANGE	ACCURACY	RESOLUTION	VOLTAGE DROP	OVERLOAD PROTECTION
200uA	DCA:	0.1uA	ACA: AC200mV	0.5 A Fuse
2mA	± (1%+1d)	1uA		
20mA	ACA:	10uA		
200mA	± (1.2%+2d)	100uA		
10A	DCA: ± (1.5%+2d) ACA: ± (1.5%+3d)	10mA	DCA: DC200mV	UNFUSED



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**RESISTANCE**

RANGE	ACCURACY	RESOLUTION	OPEN CKT. VOLTAGE	OVERLOAD PROTECTION
200 ohm	± (1%+3d)	0.1 ohm	3 V Max.	AC 500V DC 500V (Protected by PTC)
2K	± (0.8%+1d)	1 ohm	APPROX. 0.3 V Max.	
20K		10 ohm		
200K		100 ohm		
2000K		1K ohm		
20M	± (2%+2d)	10K ohm		

CAPACITANCE

RANGE	ACCURACY	RESOLUTION	TESTED FREQUENCY	TESTED VOLTAGE
2000pF	$\pm (2.5\% + 5d)$	1pF	400Hz	500mV
20nF		10pF		
200nF		100pF		
2uF		1nF		
20uF		10nF		

TEMPERATURE

RANGE	RESOLUTION	ACCURACY
-20°C to 750°C	1°C	>0°C, $\pm (1\% + 2dgt)$ To 300 °C, (Over 550°F 3%)
0°F to 1400°F	1°F	>32°F, $\pm (1\% + 3dgt)$ To 550 °F, (Over 500 °F 3%)

FREQUENCY (Hz)

RANGE	MEASURING RANGE	ACCURACY	RESOLUTION	INPUT SENSITIVITY	MAX. INPUT VOLTAGE
200Hz	9-199.9 Hz	$\pm (1\% + 2d)$	0.1 Hz	35mV RMS	500V DC/AC
2 KHz	9-1999 Hz		1Hz		
20KHz	0.9-19.99 kHz		10Hz		

CONTINUITY BEEPER

A CONTINUITY TEST BEEPER IS STANDARD. SO WHEN ARE CHECKING CIRCUITS FOR SHORTS OR OPENS, YOU DO NOT HAVE TO LOOK AT THE METER. THE BEEPER SOUNDS IF CONTINUITY IS PRESENT.

DIODE TEST

OPEN CIRCUIT VOLTAGE IS APPROX. DC 3V Max.

TRANSISTOR hFE MEASUREMENT

0 - 1000 hFE VALUES FO EITHER P.N.P. OR N.P.N.
TRANSISTOR
(TEST CONDITION: BASE DC CURRENT APPROX.
10uA, VCE: APPROX. 2.8V)



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3. Optional Accessories and Adapters

Temperature Probe	(Type K) TP-01, naked bead.
Temperature Probe	(Type K) TP-02A. immerse, general purpose
Temperature Probe	(Type K) TP-03, high temperature.
Temperature Probe	(Type K) TP-04, surface.
Carry case	CA-03
Carry case	CA-05A
Plug	PL-03
Test Lead	TL-02AS
DCA. ACA CLAMP ADAPTER	CA-501, CA-502, CA-202, CA-203
TACHOMETER ADAPTER	TA-601
PRESSURE ADAPTER	PS-403
HUMIDITY ADAPTER	HS-702
SOUND ADAPTER	SL-406
ANEMOMETER ADAPTER	AM-402
LIGHT ADAPTER	LX-02
EMF ADAPTER	EMF-824
HIGH VOLTAGE PROBE	HV-40



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