

AUTOMOTIVE METER

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DC [Symbol] AC [Symbol] BATT TEST [Symbol] 10 A [Symbol] 20M [Symbol] 2M [Symbol] OFF [Symbol] ON [Symbol]

OP ADPT. 2000A 200A 200K  $\Omega$

EXT ADPT. 200m 20 200 500 20K 2000

V [Symbol]

Hz [Symbol] 20K 200

TEMP [Symbol]

DWELL [Symbol]

10A DWELL COM V  $\Omega$  Hz

TACH [Symbol]

1000V DC FROM AC [Symbol]

DM-9030

# AUTOMOTIVE TESTER

Model : DM-9030

## 1. FEATURES

- Multi function measurement: DCV, ACV, DCA, ACA, OHMS, TEMPERATURE, Hz, RPM, DWELL ANGLE, DIODE, CONTINUITY BEEPER.
- RPM (TACH) measurement by inductive pickup for more convenient & accurate readings of both conventional and distributorless ignitions.
- RPM (TACH) used the "Secondary Tach" measuring method, so matter what cylinder no. is.
- Accurate DCV/ACV, DCA/ACA and resistance measurement, wide range of automotive electronics tests.
- Duty cycle (%) with Dwell conversion chart for electronic fuel injection and feedback carburetors.
- Diode test quickly measures the forward bias voltage drop of alternator rectifiers and other diodes.
- Continuity beeper keeps whenever probes touch a continuous circuit. Helps find shorts and open wires.
- 10 Mega ohm impedance protects Mega ohm computer ckt.
- Frequency measurements with adjustable trigger point for testing MAF, MAP & ABS SENSOR.
- Rotary function switch, easy operation.
- Large size LCD display.
- Built-in overload protection for most ranges.

## 2. SPECIFICATIONS

### 2-1 General Specifications

Display	18 mm (0.7") LCD, 3 1/2 digits, Max indication 999
Measurement	36 ranges covering: DCV, ACV, DCA, ACA, OHMS, TEMPERATURE, Hz, RPM, DWELL ANGLE, DIODE, CONTINUITY BEEPER
Polarity	Automatic Switching, "-" indicates negative polarity
Zero Adjustment	Automatic
Over-range	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	Less than 80% RH
Power Consumption	Approx. DC 3.6 mA
Dimensions	185 x 87 x 39 mm (7.3 x 3.4 x 1.5 inch)
Weight	322 g (11.3 oz) (including battery)
Standard Accessories	Red and Black Test leads ..... 1 pair Instruction Manual ..... 1 PC
Optional Accessories	RPM inductive pickup sensor (GP-07) Temperature probe, carrying case.

### 2-2 Electrical Specifications

DC VOLTAGE				
RANGE	ACCURACY	RESOLUTION	INPUT IMPEDANCE	OVERLOAD PROTECTION
200mV	±(0.5%+1d)	100µV		500V DC, 350V AC, 15 sec.
2V		1mV		DC 600 V
20V	±(0.8%+1d)	10mV	10M ohm	AC 600 V
200V		100mV		
600V		1V		
AC * FREQUENCY RESPONSE: 40Hz-500Hz, SINE WAVE SPEC. TESTED ON 60Hz/50Hz.				
RANGE	ACCURACY	RESOLUTION	INPUT IMPEDANCE	OVERLOAD PROTECTION
200mV		100µV		500V DC, 350V AC, 15 sec.
2V		1mV	10M ohm	DC 600 V
(0.61V-2V)	±(1%+2d)	10mV		AC 600 V
20V		100mV		
200V		1V		
600V		1V		
AC/DC * FREQUENCY RESPONSE: 40Hz-500Hz, SINE WAVE SPEC. TESTED ON 60Hz/50Hz.				
RANGE	ACCURACY	RESOLUTION	VOLTAGE DROP	OVERLOAD PROTECTION
10A	DCA ±(1.5%+2d) ACA ±(1.5%+3d)	10mA	ACA: AC200mV DCA: DC200mV	10A (UN FUSED)
RESISTANCE				
RANGE	ACCURACY	RESOLUTION	OPEN CRT. VOLTAGE	OVERLOAD PROTECTION
200 ohm	±(1%+3d)	0.1 ohm	3V Max.	AC 500V
2K		1 ohm		(Protected by PTC)
20K		10 ohm		
200K	±(0.8%+1d)	100 ohm	APPROX.	
2000K		1K ohm	0.5 V Max.	
20M	±(2%+2d)	10K ohm		
DWELL				
CYLINDER	RANGE	RESOLUTION	ACCURACY	OVERLOAD PROTECTION
3 CYL	0 - 120			200V DC/AC
4 CYL	0 - 90			RMS
5 CYL	0 - 72	0.1	±(1.2%+1d)	(within 15 sec)
6 CYL	0 - 60			
8 CYL	0 - 45			
DUTY CYCLE	0 - 100.0%	0.1%		
TACH (Speeds/ tach)				
RANGE	RESOLUTION	ACCURACY	OVERLOAD PROTECTION	
500 - 10,000 RPM	10 RPM	±(1.2%+1d)	50V DC/AC RMS (within 1 min.)	
TEMPERATURE				
RANGE	RESOLUTION	ACCURACY		
-20°C to 750°C	1°C	±(1% + 2d) 0 to 300 °C ± (3% + 2d) Over 300 °C		
0°F to 1400°F	1°F	±(1% + 3d) 0 to 550 °F ± (3% + 3d) Over 550 °F		
FREQUENCY (Hz)				
RANGE	MEASURING RANGE	ACCURACY	RESOLUTION	INPUT SENSITIVITY
200Hz	9-199.9 Hz		0.1 Hz	
2 KHz	9-1999 Hz	±(1% + 2d)	1Hz	35mV RMS
20 KHz	0.9-19.99 kHz		10Hz	
* Max. input voltage is 500 V DC/AC				
OPTIONAL ADAPTER (OPADPT)				
RANGE	MAX. DISPLAY CAPACITY	PER. INGT. EQUAL	ACCURACY	
EXT ADPT	2000 x 1	0.1 mV DC		
200 A	200.0 x 0.1	0.1 mV DC	±(1.2% + 2d)	
2000 A	2000 x 1	1 mV DC		
BATT TEST	200.0 x 0.1	0.1 V DC		
CONTINUITY BEEPER				
A continuity test beeper is standard. When make the circuits (checking for shorts or opens, it not necessary to look at the meter, the beeper sounds if continuity is present.				
DIODE TEST				
Open circuit voltage is approx. DC 3V max.				

## 3. OPTIONAL TEMPERATURE PROBE & OTHER ACCESSORIES

Temperature Probe (Type K) TP-01	Measure Range: -40 °C to 250 °C (-40 °F to 482 °F) Max. short-term operating temperature: 300 °C (572 °F) It is an ultra fast response nickel-chromium-copper stable for many general purpose application.
Temperature Probe (Type K) TP-02A	Measure Range: -50 °C to 900 °C (-50 °F to 1700 °F) Dimension: 10cm tube, 3.2mm dia.
Temperature Probe (Type K) TP-02B	General purpose application. Measure Range: -50 °C to 300 °C (-50 °F to 932 °F) Dimension: 10cm tube, 4.2mm dia, 10cm handle.
Temperature Probe (Type K) TP-03	Measure Range: -40 °C to 1200 °C (-40 °F to 2200 °F) Dimension: 10cm tube, 5mm dia.
Carry case, CA - 03	Dimension: 185 x 90 x 60mm (7.3 x 3.5 x 2.4 inch) Weight: 70g (0.1 LB)
Test Lead, TL - 02AS	High quality and better performance testlead with silicon rubber wire & alligator clip sets.

