

AUTOMOTIVE TESTER

Model : DM-9131

ISO-9001, CE, IEC1010



Holster, HS-03



(optional)

Inductive pick up sensor
Model : IP-09



LUTRON ELECTRONIC



The Art of Measurement

AUTOMOTIVE TESTER

Model : DM-9131

FEATURES

* Meet IEC 1010 CAT III 1000 V safety requirement.
* LCD with green light backlight, easy reading.
* 6000 counts A/D, high resolution.
* Multi function measurement. DCV, ACV, DCA, ACA, Resistance, Capacitance, Inductance, Frequency, Temperature, Diode, Continuity beeper, TACH, DWELL, POINT, 2000A Clamp
* Max. & Min. measurement value with recall.
* Relative, Data hold.
* Auto range with manual range selection.
* Temperature measurement possibility.
* V/A/Hz button, when execute the ACV, ACA function also can measure the frequency of signal.
* Both 10 A, 6A current are build fuse for safety consideration.
* 10 M ohm impedance for voltage circuit.
* Operates from 9 V (006P, MIN1604) batteries.
* Built-in overload protection for most ranges.
* Photo couple RS 232 computer serial interface.
* Uses durable, long-lasting components, enclosed in strong, light weight ABS-plastic housing.
* Full line optional adapters : Clamp adapter, Pressure adapter, Sound level adapter, Anemometer adapter, Light adapte, EMF adapter.

GENERAL SPECIFICATIONS

Display	60 mm x 39 mm large LCD display
Measurement	DCV, ACV, DCA, ACA, Resistance, Diode, Continuity beeper, Capacitance, Inductance, Frequency, Temperature.
A/D counts no.	6000 counts.
Range selection	Auto range with manual range selecting.
Special function	Relative measurement
Data hold	To freeze the display reading on the LCD display.
Power On/Off management	Auto power off or manual power off.
Memory recall	Records Maximum & Minimum readings with recall.
Relative measurement	To offset the measurement value.
VAHz button	When execute the voltage or current function also can measure the frequency of signal.
Data output	RS 232 PC serial interface, photo couple.
Polarity	Automatic Switching, " - " indicates negative polarity.
Zero adjustment	Automatic.
Sampling time	Approx. 0.5 to 1 second.
Operating temperature and humidity	0 °C to 50 °C (32 °F to 122 °F), Max. 80% RH.
Power supply	9 V (006P, MIN1604) DC 9V adapter input <i>*AC/DC Power adapter is optional.</i>
Power consumption	Approx. DC 7.0 mA.
Dimension	190 x 88 x 40 mm (7.5 x 3.5 x 1.6 inch).
Weight	378 g/0.83 LB (w/o battery).
Accessories Included	Red and Black Test Leads..... 1 Set Instruction Manual..... 1 PC
Optional accessories	Full line adapters : ACA/DCA current adapter, Pressure adapter, Light adapter, EMF adapter, Sound level adapter, High voltage probe. Holster.....HS-03 Type K Temperature probe..... TP-11 Soft carrying case.....CA-05A AC to DC 9V adapter.....AP-9VA USB cable.....USB-11 Data Acquisition software.....SW-801-WIN SW-E802 RPM inductive pick up sensor.....IP-09

ELECTRICAL SPECIFICATIONS (23± 5 °C)

DC Voltage

Range	600.0 mV /6 V/60 V/600 V /1000 V
Resolution	0.1 mV /0.001V /0.01V /0.1V/1 V
Accuracy	± (0.5% + 2d) 600 mV ± (0.8% + 1d) 6 V, 60 V, 600 V, 1000 V
Input impedance	10 M ohm.
Over load protection	600 mV range ± 380 DCV, 380 ACV other ranges ± 1000 DCV, 1000 ACV

AC Voltage (True RMS)

Range	600.0 mV /6 V/60 V/600 V /1000 V
Resolution	0.1 mV /0.001V /0.01V /0.1V/1 V
Accuracy	± (1% + 2d) * Spec. are tested under 50/60 Hz.
Input impedance	10 M ohm.
Over load protection	600 mV range ± 380 DCV, 380 ACV other ranges ± 1000 DCV, 1000 ACV

DC Current, AC Current (True RMS)

Range	10 A / 6 A
Resolution	0.01 A / 0.001A
Accuracy	DCA 6 A ± (1.5 % + 5d) ± (1.5% + 5d) 10 A ± (1.5 % + 2d) ± (1.5 % + 2d) * ACA spec. are tested under 50/60 Hz.
Over load protection	10A fuse.

Diode (Forward voltage, VF)

Range	2.9 V DC.
Accuracy	± (0.5 % + 2d)

Capacitance

Auto Range	600 pF/6 nF/60 nF/600 nF/6 uF/60 uF/100 uF/600 uF
Resolution	0.1 pF/0.001 nF/0.01nF/0.1 nF/0.001 uF/0.01 uF/0.1 uF/1 uF
Accuracy	600 pF ± (2.5% + 5d) 6 nF/60 nF/600 nF/ ± (1.5% + 5d) 6 uF/60 uF ± (5% + 5d) 100 uF/600 uF
Over load protection	± 30 DCV, 30 ACV.
Test frequency	100Hz /1KHz /10KHz * Auto frequency configuration
Remark	Discharge capacitor before testing.

Inductance

Auto Range	600 uH/6 mH/60 mH/600 mH/6 H/60 H/100 H
Resolution	0.1uH/0.001mH/0.01 mH/0.1 mH/0.001 H/0.01 H/0.1 H
Test frequency	100Hz /1KHz /10KHz * Auto frequency configuration
Accuracy	600 uH ± (5% + 5d) 6 mH/60 mH/600 mH/ ± (1.5% + 5d) 6 H ± (2.5% + 5d) 60 H/100 H
Over load protection	± 30 DCV, 30 ACV.

Frequency

Range	600 Hz/6 KHz/60 KHz/600 KHz/6 MHz/20 MHz
Resolution	0.1 Hz/0.001 KHz/0.01 KHz/0.1 KHz/0.001 MHz/0.01 MHz
Accuracy	± (0.5% + 2d)
Sensitivity	Min. 1 V rms, Max. 5 V rms.

OHMS

Range	600 Ω /6 KΩ /60 KΩ /600 KΩ /6 MΩ /60 MΩ
Resolution	0.1Ω /0.001 KΩ /0.01 KΩ /0.1 KΩ /0.001 MΩ /0.01 MΩ
Accuracy	600 ohm : ± (1 % + 2d) 6K/60K/600K/6 M : ± (1.5 % + 2d) 60 M : ± (3 % + 5d)
Over load protection	± 350 DCV, 350 ACV.

Continuity Beeper

Beeper will sound if measured resistance less than 20 ohm.
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Max. & Min. Measurement

During the operation can memorize the maximum and the minimum measurement value.
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Temperature

Auto Range	Resolution	Accuracy
-100.0 °C to 199.9 °C	0.1 °C	± (1% + 1 °C)
200 °C to 1000 °C	1 °C	
-148.0 °F to 391.9 °F	0.1 °F	± (1% + 2 °F)
392 °F to 1832 °F	1 °F	
Temp. probe	The temperature probe (TP-11) is the optional accessory.	

TACH (Secondary tach , no matter what cylinder no. is)

Range	500 -3000RPM
Resolution	10RPM
Accuracy	± (1% + 2d)
Over load protection	24V DC/AC RMS (within 1 min)

DWELL

CYLINDER	3 CYL	4CYL	5CYL	6CYL	8CYL	DUTY CYCLE
Range	0-120°	0-90°	0-72°	0-60°	0-45°	0-100 %
Resolution	0.1°	0.1°	0.1°	0.1°	0.1°	0.1 %
Accuracy	± (1 % + 2d)					
Over load protection	± 200 DC/AC RMS (within 15 sec)					

Point

Range	≥ 0.2V	< 0.2V
60V DC	change	good
Resolution	0.01V DC	
Accuracy	± (1.2% + 2d)	

Optional adapter

Range	Max. display capacity	Per digit equal	Accuracy
2000A	2000	1mV DC/AC	± (1.2%+2d)
IR TEMP	600.0	0.1mV DC	

* Appearance and specifications listed in this brochure are subject to change without notice.

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