

AUTOMOTIVE TESTER

Model : DM-9131

ISO-9001, CE, IEC1010



Holster, HS-03



(optional)

Inductive pick up sensor
Model : IP-09

Lutron

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, Tachometer adapter, Pressure adapter, Humidity Adapter, Sound level adapter, Anemometer adapter, Light adapter, EMF adapter. |

GENERAL SPECIFICATIONS

| | |
|------------------------------------|---|
| Display | 60 mm x 39.5 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 of 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 RS232 cable to USB connector...UPCB-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 |

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

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/600 uF /100 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 100 uF/600 uF ± (5% + 5d) |
| 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 60 H/100 H ± (2.5% + 5d) |
| 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

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

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

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|-------------|--|-------------------|
| Auto Range | -100.0 °C to 199.9 °C | 200 °C to 1000 °C |
| Resolution | 0.1 °C | 1 °C |
| Accuracy | ± (1% + 1 °C) | |
| 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 | ACCURACY |
| 60V DC | change | good | ± (1.2% + 2d) |
| 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 | |

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