



## Automotive Testers Index (Digital Multimeters)

|                                 |   |   |
|---------------------------------|---|---|
|                                 |  |  |
| <b>Model</b>                    | <b>KT-2021</b>  | <b>SK-6166</b>  |
| <b>Display Counts</b>           | 6000  | 2000  |
| <b>Bargraph</b>                 | ●   | —   |
| <b>DC Voltage</b>               | 60mV  | 200mV   |
|                                 | 600mV   | 2V  |
|                                 | 6V  | 20V   |
|                                 | 60V   | 200V  |
|                                 | 600V  | 300V  |
|                                 | 1000V   | —   |
| <b>AC Voltage</b>               | 60mV  | 2V  |
|                                 | 600mV   | 20V   |
|                                 | 6V  | 200V  |
|                                 | 60V   | 300V  |
|                                 | 600V  | —   |
|                                 | 1000V   | —   |
| <b>DC Current</b>               | 600 $\mu$ A   | 20mA  |
|                                 | 6000 $\mu$ A  | 20A   |
|                                 | 60mA  | —   |
|                                 | 600mA   | —   |
|                                 | 6A  | —   |
|                                 | 10A   | —   |
| <b>AC Current</b>               | 600 $\mu$ A   | 20mA  |
|                                 | 6000 $\mu$ A  | 20A   |
|                                 | 60mA  | —   |
|                                 | 600mA   | —   |
|                                 | 6A  | —   |
|                                 | 10A   | —   |
| <b>Resistance</b>               | 600 $\Omega$  | 200 $\Omega$  |
|                                 | 6k $\Omega$   | 2k $\Omega$   |
|                                 | 60k $\Omega$  | 20k $\Omega$  |
|                                 | 600k $\Omega$   | 200k $\Omega$   |
|                                 | 6M $\Omega$   | 2M $\Omega$   |
|                                 | 60M $\Omega$  | 20M $\Omega$  |
| <b>Frequency</b>                | ●   | —   |
| <b>Duty Cycle</b>               | ●   | —   |
| <b>Pulse Width</b>              | ●   | —   |
| <b>Continuity Test</b>          | ●   | ●   |
| <b>Diode Test</b>               | ●   | ●   |
| <b>Capacitance</b>              | ●   | —   |
| <b>Temperature</b>              | ●   | —   |
| <b>Revolutions Per Minute</b>   | ●   | ●   |
| <b>Dwell Angle</b>              | ●   | —   |
| <b>Auto Ranging</b>             | ●   | ●   |
| <b>Manual Ranging</b>           | ●   | ●   |
| <b>Range Hold</b>               | ●   | ●   |
| <b>Display Hold</b>             | ●   | ●   |
| <b>Current by Clamp Adapter</b> | ●   | ●   |
| <b>Error input warning</b>      | ●   | —   |
| <b>Backlight</b>                | ●   | —   |
| <b>Auto Power Save (Off)</b>    | ●   | ●   |

Clamp Meters

Insulation Testers / Earth Tester

Digital Multimeters

Analog Multimeters

Automotive Testers

Other Testers

Accessories

## Battery Checker

Quick and Accurate Car Battery & System Test with Single Hand-Held Equipment

12V  
Battery Test

12V & 24V Start Performance,  
Charging System Test

**NEW SK-8535**

### FEATURES

- For the automotive batteries with EN/DIN, SAE/BCI, and JIS standards.
- Applicable to the vehicles with Charge Controller or Idle Reduction systems.
- Auxiliary battery test for TOYOTA-Hybrids.
- Attention (Caution) result added. **Improved**
- Double Differential Pulse Test Method for more accurate testing.
- Unused Battery Test Mode. **New Function**
- Carrying Case for Protection. **New Accessory**
- On-Site Printing with Built-in Printer.
- Easy Database Upgrade through KAISE Website.

### SPECIFICATIONS

|                            |  |
|----------------------------|--|
| Display                    | : LCD (dot matrix display : 128×64 dots)   |
| Language (display & print) | : Japanese, English, Chinese (Default setting : Japanese)  |
| Printer                    | : Built-in Printer   |
| Power Supply               | : from Test Battery or USB connection  |
| Testable Battery           | : 12V Battery<br>※24V battery : engine startability test and charging system test are available.             |
| Battery Standard           | : JIS, EN/DIN, SAE/BCI<br>※CCA input or Industrial battery selectable  |
| Measurement Range          | : 100 to 1400CCA, Industrial: 1.0mΩ to 50.0mΩ  |
| CE Mark                    | : EN61326-1  |
| Dimensions                 | : 248(H) x 96(W) x 50(D) mm  |
| Weight                     | : Approx. 550g   |
| Accessories                | : 937 USB Cable, Printer Paper (x 2, for testing sample, 1 roll is attached in the unit), 1035 Carrying Case |

### OPTIONAL ACCESSORIES

851 Printer Paper

#### Printer Paper ※Option (10 rolls per set)

Please Purchase this printer paper for replacement.

Model No. : 851  
Width : Approx. 57mm  
Length : Approx. 5.8m



### Advantages of SK-8535

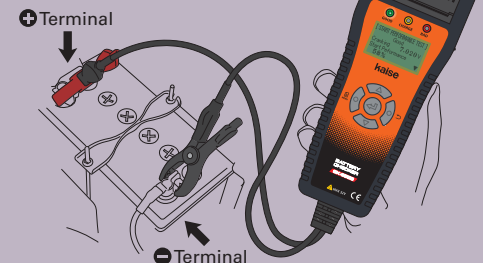
#### For the automotive batteries with EN/DIN SAE/BCI, and JIS standards

##### What tests available?

- ① Battery Test
  - Battery Charging Level (SOC)
    - ※SOC : State of Charge
  - Battery Condition (SOH)
    - ※SOH : State of Health
- ② Battery System Test
  - Engine Start Performance (Starting ability of the battery)
  - Charging System (Generating condition of alternator)

##### How to Test

- ① Connect battery clips to +/− terminals.
- ② Set the testing condition in SK-8535.
- ③ Start a Battery Test.
- ④ Start a Battery System Test.



#### Applicable to the vehicles with Charge Controller or Idle Reduction systems

Accurate testing with the specific test program and standard numbers which are designed for their testing purpose.

#### Industrial Battery Testing

#### Auxiliary battery test for TOYOTA-Hybrids

Applicable to auxiliary batteries like models S34B20 or S46B24 that are used on TOYOTA-Hybrid vehicles such as Prius, or Prius C.

#### Easy Database Upgrade through KAISE Website

※PC and internet connection are required.

#### Attention (Caution) result added **Improved**

Easy-to-see testing results by LCD display and LED lamp. Newly added "Attention (caution)" result is useful to let the customer know the necessity of battery replacement to prevent unexpected battery-down.

#### Unused Battery Test Mode **New Function**

Special mode for testing unused (new) batteries which are stocked in car dealers or garages. This is effective to keep them in good condition preventing unexpected battery aging during storage.

#### Carrying Case for Protection **New Accessory**

Enhanced portability and dust protection for the instrument. New Accessory.

#### Double Differential Pulse Test Method for more accurate testing

#### Test Result Saving & PC Connection

Up to 99 data can be saved to the internal memory. Onforwarding to PC in text data is possible.

#### High-Intensity Polycarbonate Body

#### Display & Print Language Selectable

English / Chinese / Japanese are available.

#### Built-in Printer

Quick-and-easy printing of the test results from built-in printer.



#### Printing sample

| Battery Test Report              |                                       |
|----------------------------------|---------------------------------------|
| Store Name                       | Field to fill in the store name       |
| Person in Charge                 |                                       |
| Date and Time                    | 2013/5/15 15:00 • Testing date & time |
| BATTERY TEST                     |                                       |
| (Aging Test Mode) •              | Testing mode                          |
| Test Result : Good •             | Battery judgement result              |
| Battery Type — JIS               |                                       |
| Battery Size — Q-85              |                                       |
| Rated CCA — 530CCA               |                                       |
| Measured CCA — 615CCA            | Testing battery conditions            |
| Battery Voltage — 12.780V        |                                       |
| Battery Temperature — 24°C       |                                       |
| Testing Mode                     |                                       |
| Charge Controller/Idle Reduction |                                       |
| SOC (State of Charge) : 100%     | Battery charging level(SOC)           |
| SOH (State of Health) : 100%     | Battery conditions(SOH)               |
| START PERFORMANCE TEST           |                                       |
| Test Result : Good •             | Result of engine startability test    |
| Cranking — 8.619V                |                                       |
| Start Performance — 100%         | Engine start performance level        |
| CHARGING SYSTEM TEST             |                                       |
| Test Result : Good •             | Result of charging system test        |
| Charging Voltage — 14.523V       |                                       |
| Ripple Voltage — 0.110V          | Battery condition when charging       |
| Periodical test is recommended.  | Comment for testing results           |

## Handy mΩ Tester

Low resistance measurement for the motors. Ideal for the maintenance of Hybrid and Electric vehicles.



### NEW SK-3800

#### FEATURES

- Automotive mΩ Tester focusing on the testing of Hybrid and Electric vehicles.
- Easy-to-use handheld unit useful for automotive mechanics.
- 4-terminal method for accurate measurement

#### SPECIFICATIONS

|               |   |
|---------------|---|
| Display       | : 4199 count LCD, Maximum reading 4199  |
| Sampling Rate | : 2 times / sec   |
| Power Supply  | : 1.5V R6P or AA Batteries (x 8)  |
| Fuse          | : F22 (0.5A/600V) x 1   |
| CE Mark       | : EN61326-1   |
| Dimensions    | : 140(H) x 130(W) x 70(D) mm  |
| Weight        | : 600g  |
| Accessories   | : Holster, 100-71 Test Leads (x 1 set),<br>1035 Carrying Case, 1.5V R6P Batteries (x 8) |

|           | Range | Accuracy      | Resolution | Test Current | Maximum Applied Power | Open Circuit Voltage |
|-----------|-------|---------------|------------|--------------|-----------------------|----------------------|
| LOW Ω / Ω | 40mΩ  | ±0.3%rdg±3dgt | 10 μΩ      | 200mA        | 1.7mW                 | <5V                  |
|           | 400mΩ |               | 100 μΩ     |              | 17mW                  |                      |
|           | 4Ω    |               | 1mΩ        |              | 17 μW                 |                      |
|           | 40Ω   |               | 10mΩ       | 2mA          | 170 μW                |                      |
|           | 400Ω  |               | 100mΩ      |              | 420 μW                |                      |
|           | 4kΩ   | ±0.3%rdg±2dgt | 1Ω         | 20 μA        | 1.7 μW                |                      |
|           | 40kΩ  |               | 10Ω        |              | 4.2 μW                |                      |
|           |       |               |            |              |                       |                      |
|           |       |               |            |              |                       |                      |
|           |       |               |            |              |                       |                      |

#### Advantages of SK-3800

##### Color-coded input terminals and test plugs

Easy plug-in to the input terminals by colors. Also helpful in preventing the wrong insertion.



##### Accurate testing with 4-terminal measurement

Effective for eliminating the impedance contribution of the wiring and contact resistances to ensure the accurate measurement.

##### Rubber holster for shock protection

Covered with rubber holster for slip-proof and to prevent scratching on the vehicle body.

##### Comparator Function

High/Low judgement by LCD display and buzzer comparing with the preset reference value.

##### Clip-on test lead tips

Hands-free measurement without holding the test leads.

##### Large backlit LCD



#### Car Measurement with SK-3800

##### Low resistance measurement of the hybrid vehicle motor

Low resistance measurement is required for hybrid vehicle motor and generator if the DTC code "P0A78 (Drive Motor "A" Inverter Performance) is detected.

In this testing, the resistance to be measured is very low around 100mΩ.

2-terminal measurement like normal Digital Multimeters is not suitable for this level of resistance due to the errors of impedance contribution of the wiring and contact resistances.

SK-3800 can eliminate such errors by 4-terminal measurement which assures the accurate testing.

##### Measurement Example (with TOYOTA Prius)

※Observe the procedures in maintenance manual.

- 1 Turn the power switch of the vehicle OFF. Remove the service plug grip.



- 2 Remove the inverter cover.

- 3 Disconnect the three-phase alternating current cable of the hybrid vehicle motor from the inverter.



- 4 Set the measurement range of the SK-3800.

- 5 Make the zero-adjustment for SK-3800. (Press "MEASURE" key with the test lead tips short-circuit. Then, press "0Ω ADJ" key.)

- 6 Connect the test leads to the three-phase alternating current cable terminals of the hybrid vehicle motor.



- 7 Press "MEASURE" key and read the resistance on LCD.





### KT-2021

#### FEATURES

- For various automotive measurements.  
Battery voltage / RPM\* / Injection pulse width /  
Charging current for alternator (with optional clamp adapter) /  
Temperature  
\*Except for rotary engine, diesel engine, and vehicle equipped  
with MSD or MDI systems.
- Large LCD with backlight and bar graph.
- Display hold, Auto power off functions.
- Error input warning.
- Equipped with holster and hard carrying case.

#### OPTIONAL ACCESSORIES

- 660 AC/DC Clamp Adapter
- 817-01 to 817-25 Temperature Probes
- 100-41 Test Lead Kit
- 100-62 Test Lead Set
- 944 Test Pin
- 946 Battery Clip
- 793 Coil-Type Contact Pin

#### SPECIFICATIONS

- Display : 6000 count LCD
- Sampling Rate : (Numerical) 5 times / sec  
(Bargraph) 40 times / sec
- Range Selection : Auto / Manual Ranging
- Power Supply : 1.5V R03 or AAA Batteries (x 2)
- Fuse : F20 (0.63A/500V) x 1  
F32 (6.3A/500V) x 1
- CE Mark : V : CAT II 1000V, uA/mA/A : CAT II 450V  
and EMC
- Dimensions : 161(H) x 80(W) x 50(D) mm
- Weight : 340g
- Accessories : Holster, 100-66 Test Leads (x 1 set)  
653 RPM Sensor (for Direct Ignition)  
654 RPM Sensor (for High Tension Code)  
818-02 Temperature Probe  
943 Alligator Clip, 1024 Carrying Case  
1.5V R03 Batteries (Installed) x 2  
Spare Fuses F20 (0.63A/500V) &  
F32 (6.3A/500V) x 1 each



#### Equipped with an Useful Carrying Case



|            | Range  | Resolution | Accuracy                         | Input Impedance       |
|------------|--------|------------|----------------------------------|-----------------------|
| DC Voltage | 60mV   | 0.01mV     | ±0.4%rdg±3dgt                    | ≈ 10MΩ,<br>50pF       |
|            | 600mV  | 0.1mV      | ±0.3%rdg±3dgt                    |                       |
|            | 6V     | 1mV        | ±0.4%rdg±3dgt                    |                       |
|            | 60V    | 10mV       | ±0.4%rdg±3dgt                    |                       |
|            | 600V   | 100mV      | ±0.4%rdg±3dgt                    |                       |
|            | 1000V  | 1V         | ±0.7%rdg±3dgt                    |                       |
| AC Voltage | 60mV   | 0.01mV     | ±2.0%rdg±5dgt<br>(50Hz to 500Hz) | ≈ 10MΩ,<br>50pF       |
|            | 600mV  | 0.1mV      | ±2.0%rdg±5dgt<br>(50Hz to 500Hz) |                       |
|            | 6V     | 1mV        | ±2.0%rdg±5dgt<br>(50Hz to 500Hz) |                       |
|            | 60V    | 10mV       | ±2.0%rdg±5dgt<br>(50Hz to 500Hz) |                       |
|            | 600V   | 100mV      | ±2.0%rdg±5dgt<br>(50Hz to 500Hz) |                       |
|            | 1000V  | 1V         | ±2.2%rdg±5dgt<br>(50Hz to 500Hz) |                       |
|            | Range  | Resolution | Accuracy                         | Voltage Drop          |
| DC Current | 600μA  | 0.1μA      | ±0.7%rdg±3dgt                    | 0.25mV/μA<br>2.5mV/mA |
|            | 6000μA | 1μA        | ±0.5%rdg±3dgt                    |                       |
|            | 60mA   | 0.01mA     | ±0.7%rdg±3dgt                    |                       |
|            | 600mA  | 0.1mA      | ±0.5%rdg±3dgt                    |                       |
|            | 6A     | 1mA        | ±0.7%rdg±3dgt                    |                       |
|            | 10A    | 10mA       | ±0.5%rdg±3dgt                    |                       |
| AC Current | 600μA  | 0.1μA      | ±2.0%rdg±5dgt                    | 0.25mV/μA<br>2.5mV/mA |
|            | 6000μA | 1μA        | ±2.0%rdg±5dgt                    |                       |
|            | 60mA   | 0.01mA     | ±2.0%rdg±5dgt                    |                       |
|            | 600mA  | 0.1mA      | ±2.0%rdg±5dgt                    |                       |
|            | 6A     | 1mA        | ±2.2%rdg±5dgt                    |                       |
|            | 10A    | 10mA       | ±1.2%rdg±5dgt                    |                       |
|            | Range  | Resolution | Accuracy                         | Open Circuit Voltage  |
| Resistance | 600Ω   | 0.1Ω       | ±0.5%rdg±6dgt                    | 0.45V DC              |
|            | 6kΩ    | 1Ω         | ±0.5%rdg±3dgt                    |                       |
|            | 60kΩ   | 10Ω        | ±0.8%rdg±4dgt                    |                       |
|            | 600kΩ  | 100Ω       | ±1.0%rdg±5dgt                    |                       |
|            | 6MΩ    | 1kΩ        | ±1.0%rdg±5dgt                    |                       |
|            | 60MΩ   | 10kΩ       | ±1.5%rdg±5dgt                    |                       |

|                            | Function   | Range               | Accuracy                       | Input Sensitivity |
|----------------------------|--|---------------------|--------------------------------|-------------------|
| Frequency                  | 6V   | 10Hz to 10kHz       | ±0.1%rdg±3dgt                  | 0.5V rms          |
|                            | 60V  | 10Hz to 50kHz       |                                | 5V rms            |
|                            | 600V   |                     |                                | 50V rms           |
|                            | 1000V  | 45Hz to 1kHz        |                                | 500V rms          |
|                            | Function   | Range               | Accuracy                       |                   |
| IP-RPM                     | RPM4   | 240 to 20000RPM     | ±0.2%rdg±20dgt                 |                   |
|                            | RPM2   | 120 to 10000RPM     |                                |                   |
|                            | RPM2-M   | 60 to 5000RPM       |                                |                   |
|                            | RPM4   | 60 to 20000RPM      |                                |                   |
| IG-RPM                     | RPM2   | 30 to 10000RPM      | ±0.2%rdg±20dgt                 |                   |
|                            | RPM2-M   | 15 to 5000RPM       |                                |                   |
|                            |  |                     |                                |                   |
|                            |  |                     |                                |                   |
| Dwell Angle                | 0° to 360°   | ±1.2°/krpm±1dgt     | Selectable Number of Cylinders |                   |
| Duty Cycle                 | 0% to 100%   | ±0.04%krpm/cyl±2dgt | 1,2,3,4,5,6,8,10,12            |                   |
|                            | Function   | Range               | Accuracy                       |                   |
| Fuel Injection Pulse Width | 0.05ms to 250.0ms  | ±0.05ms±1dgt        |                                |                   |
|                            |  |                     |                                |                   |
| Duty Cycle                 | 0% to 100%   | ±0.04%krpm±2dgt     |                                |                   |
|                            | Range  | Accuracy            | Test Current                   |                   |
| Diode Test                 | 1.000V   | ±1.0%rdg±3dgt       | 0.50mA                         |                   |
|                            | Open Circuit Voltage : <1.6V DC  |                     |                                |                   |
|                            | Range  | Resolution          | Accuracy                       |                   |
| Temperature                | -50°C to 1000°C  | 1°C                 | ±0.5%rdg±3dgt                  |                   |
|                            | -58°F to 1832°F  | 1°F                 | ±0.5%rdg±6dgt                  |                   |
|                            |  |                     |                                |                   |
| Continuity Test            | Buzzer Sound : Approx. 10 to 200Ω or less  |                     |                                |                   |
|                            | Range  | Resolution          | Accuracy                       |                   |
| Capacitance                | 6.000μF  | 0.001μF             | ±2.0%rdg±5dgt                  |                   |
|                            | 60.00μF  | 0.01μF              | ±3.5%rdg±5dgt                  |                   |
|                            | 600.0μF  | 0.1μF               | ±4.0%rdg±5dgt                  |                   |
|                            | 2000μF   | 1μF                 | ±4.0%rdg±5dgt                  |                   |
| Functions                  | Bargraph, Range Hold, Display Hold, Auto Power Off, Backlight, Error input warning |                     |                                |                   |

#### Accessories, Optional Accessories

##### MODEL 660 AC / DC Clamp Adapter (Optional Accessories)

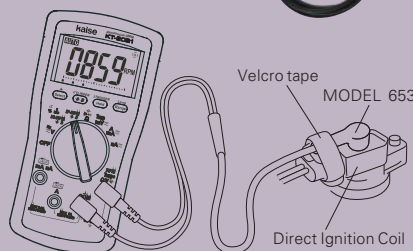
The charge current of alternator can be measured just clamping.



- Range : DC/AC 40A/400A
- Output : DC/AC 100mA/mV(40A Range)  
DC/AC 1A/mV(400A Range)
- Accuracy : ±1.5% to 7.0%rdg±0.5mV
- Power Supply : 1.5V R6P or AA Batteries (x2)
- Conductor Diameter : φ19mm Max.
- CE Mark : CAT II 300V, CAT I 600V, class 2  
and EMC
- Dimensions : 180(H) x 43(W) x 31(D)mm
- Weight : 210g
- Cable length : 145cm

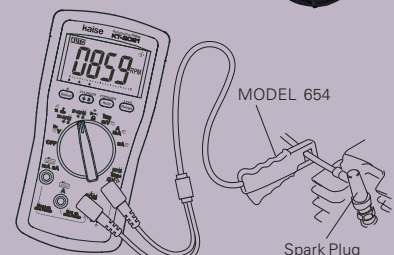
##### MODEL 653 RPM Sensor (Accessories)

For engine speed measurement of direct ignition engine that is equipped for the most of gas-powered car recently.



##### MODEL 654 RPM Sensor (Accessories)

For engine speed measurement by clamping on the high tension cord.







### SK-6166

#### FEATURES

- RPM, 20mA and 20A DC / AC, and Continuity Tests.  
(Non-usable for Harley-Davidson V-twin engine 45° angle)
- 200A DC / AC measurements by optional 660 Clamp Adapter.

#### SPECIFICATIONS

Display : 2000 count LCD, Maximum Reading 1999  
 Sampling Rate : 2 times / sec  
 Range Selection : Auto / Manual Ranging  
 Power Supply : 1.5V R6P or AA Batteries (x 2)  
 Fuse : F12 (0.3A / 250V) x 1, F18 (15A / 250V) x 1  
 CE Mark : CAT II 300V and EMC  
 Dimensions : 160(H) x 75(W) x 34(D) mm  
 Weight : 180g  
 Accessories : 100-57 Test Leads (x 1 set)  
 650 RPM Sensor (x 1), 940 Alligator Clips (x 1 set)  
 995 Carrying Case (x 1), 1.5V R6P Batteries (x 2)  
 Spare Fuses F12 (0.3A / 250V) &  
 F18 (15A / 250V) x 1 each

#### OPTIONAL ACCESSORIES

660 AC / DC Clamp Adapter  
 100-41 Test Lead Kit  
 100-62 Test Lead Set  
 948 Alligator Clips  
 944 Test Pin  
 946 Battery Clip  
 793 Coil-Type Contact Pin



|                 | Range   | Resolution   | Accuracy                 | Input Impedance     |
|-----------------|---|--------------|--------------------------|---------------------|
| DC Voltage      | 200mV   | 0.1mV        | $\pm 1.2\%rdg \pm 2dgt$  | $\geq 100M\Omega$   |
|                 | 2V  | 1mV          |                          | $\approx 11M\Omega$ |
|                 | 20V   | 10mV         |                          | $\approx 10M\Omega$ |
|                 | 200V  | 100mV        |                          |                     |
|                 | 300V  | 1V           |                          |                     |
| AC Voltage      | 2V  | 1mV          | $\pm 2.3\%rdg \pm 7dgt$  | $\approx 11M\Omega$ |
|                 | 20V   | 10mV         |                          | $\approx 10M\Omega$ |
|                 | 200V  | 100mV        |                          |                     |
|                 | 300V  | 1V           |                          |                     |
|                 | Range   | Resolution   | Accuracy                 | Voltage Drop        |
| DC Current      | 20mA  | 10 $\mu A$   | $\pm 1.0\%rdg \pm 4dgt$  | $\leq 0.5V$         |
|                 | 20A   | 10mA         | 0 to 10.00A              | $< 0.5V$            |
|                 |   |              | $\pm 1.5\%rdg \pm 2dgt$  |                     |
| 10.01 to 20A    |   |              |                          |                     |
| AC Current      | 20mA  | 10 $\mu A$   | $\pm 2.5\%rdg \pm 4dgt$  |                     |
|                 | 20A   | 10mA         | $\pm 2.0\%rdg \pm 8dgt$  |                     |
|                 |   |              | 0 to 10.00A              |                     |
|                 |   |              | $\pm 2.0\%rdg \pm 7dgt$  |                     |
|                 |   |              | 10.01 to 20A             |                     |
|                 |   |              | $\pm 3.0\%rdg \pm 10dgt$ |                     |
|                 | Range   | Resolution   | Accuracy                 | Test Current        |
| Resistance      | 200 $\Omega$  | 0.1 $\Omega$ | $\pm 1.5\%rdg \pm 4dgt$  | $\leq 0.4mA$        |
|                 | 2k $\Omega$   | 1 $\Omega$   |                          | $\leq 0.2mA$        |
|                 | 20k $\Omega$  | 10 $\Omega$  |                          | $\leq 30\mu A$      |
|                 | 200k $\Omega$   | 100 $\Omega$ |                          | $\leq 3\mu A$       |
|                 | 2M $\Omega$   | 1k $\Omega$  | $\pm 1.8\%rdg \pm 4dgt$  | $\leq 0.3\mu A$     |
|                 | 20M $\Omega$  | 10k $\Omega$ | $\pm 5.0\%rdg \pm 4dgt$  | $\leq 0.03\mu A$    |
|                 | Open Circuit Voltage : approx. $\leq 0.43V$               |              |                          |                     |
|                 | Range   | Resolution   | Accuracy                 | Sparks              |
| RPM             | 12000RPM  | 10RPM        | $\pm 2\%rdg \pm 10dgt$   | 1spark/1revolution  |
|                 | 6000RPM   |              |                          | 2sparks/1revolution |
| Continuity Test | 2k $\Omega$ (Buzzer Sound : Approx. 500 $\Omega$ or less) |              |                          |                     |
|                 | Range   | Resolution   | Test Current             |                     |
| Diode Test      | 2V  | 1mV          | $\leq 0.6mA$             |                     |
|                 | Open Circuit Voltage : $\leq 1.7V$                        |              |                          |                     |
| Functions       | Range Hold   Display Hold   Auto Power Save               |              |                          |                     |

# Digital Tachometer



### SK-8401 DIGITAL TACHOMETER

#### FEATURES

- Quick and Easy Measurement.
- Measurable with Various Types of Engines.  
(except for rotary engine, diesel engine, and vehicle equipped with MSD or MDI systems.)

#### OPTIONAL ACCESSORIES

650 RPM Sensor (for High Tension Cord)

#### SPECIFICATIONS

Display : Maximum Reading 9999  
 Power Supply : 1.5V R6P or AA Batteries (x 2)  
 CE Mark : EMC test passed  
 Dimensions : 148(H) x 83(W) x 33(D) mm  
 Weight : 180g  
 Accessories : 653 RPM Sensor (x 1)  
 995 Carrying Case (x 1)  
 1.5V R6P (AA) batteries x 2

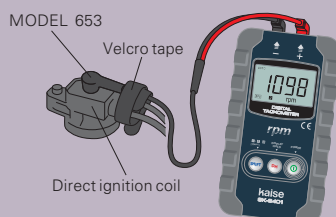
|                              | Range           | Resolution | Accuracy                                 | Maximum Input |
|------------------------------|-----------------|------------|--|---------------|
| rpm                          | 100 to 9999 rpm | 1 rpm      | $\pm 0.2\% \text{rdg} \pm 10 \text{rpm}$ | 10000 rpm     |
| Display Hold, Auto Power Off |                 |            |  |               |



#### Quick and Easy Measurement

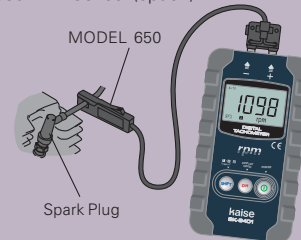
##### Measurement of Direct Ignition Engine

Use 653 RPM Sensor (provided)  
 Sensor head is fixable by using velcro tape attached.



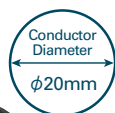
##### Measurement of High Tension Cord Type Engine

Use 650 RPM Sensor (option)



## Low Current DC Clamp Meter

Quick and Easy Dark Current Measurement Just Clamping-On



DC 4000mA DC 40A/200A DIFF AUTO ZERO DISP HOLD APO

### SK-7830

#### FEATURES

- Automatic Zero-Adjustment function to adjust LCD indications into 0±1 digit when powered on.
- Stable LCD reading even in low current.
- Shielded clamp core prevents external noise or effect of external magnetic field.

|            | Range   | Accuracy     |
|------------|---|--------------|
| DC Current | 4000mA  | from 5mA     |
|            | 40A   | 0A to 100A   |
|            | 200A  | 101A to 200A |
| Functions  | Difference, Power-on Initialize, Display Hold, Auto Power OFF |              |

#### SPECIFICATIONS

Display : 4000 count LCD, Maximum reading 4050  
 Sampling Rate : 64 times/sec (Display : 1 time/sec)  
 Range Selection : Manual (4000mA), Auto (40A/200A)  
 Conductor Diameter : φ 20mm Max.  
 Power Supply : 1.5V R6P or AA Batteries (x 2)  
 CE Mark : CAT III 300V and EMC  
 Dimensions : 203(H) x 61(W) x 30(D) mm  
 Weight : 230g  
 Accessories : 1011 Carrying Case (x 1)  
 1.5V R6P Batteries (x 2)

#### Car Measurement with SK-7830

##### Dark Current Measurement

Dark Current : mA-level low current that is used after turning off the engine by such as car security system or audio settings back-up. Too much dark current causes battery runs out, but its measurement was difficult. SK-7830 solved this problem and make it quick and easy.

- 1 Leave the engine turned off for about 15 minutes. All electric components (headlights or lamps) must be turned off.
- 2 Clamp-on a minus cable of car battery.
- 3 Read the measurement value. If it is higher than the specified value, check 1 once again.



##### Car Alternator's Charging Current Measurement

Car Alternator : Engine generator that outputs DC electricity. Measuring its charging current is effective to find the trouble that might cause battery runs out or battery damages.

- 1 Clamp B-terminal cable from car alternator.
- 2 Start the engine.
- 3 Alternator has no problem if 20A to 40A is displayed first, and then it slowly becomes lower.



## O2 Sensor Checker

Deterioration level of O2 sensor can be checked easily by bar-graph

DC DISP HOLD APO

### SK-8402 O<sub>2</sub> SENSOR CHECKER

#### FEATURES

- Deterioration level of O2 sensor can be checked easily by bar-graph
- Rich, Lean, Average voltages and Cycle are displayed respectively.
- Simulated sensor signal output is available.

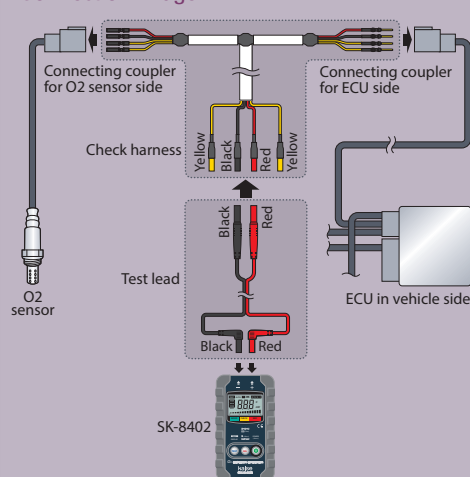
SK-8402 is the O2 Sensor Checker for the O2 sensor of Zirconia, Titania 1V/5V. SK-8402 can not check deterioration judgment of A/F (air-fuel ratio) Sensor or Rear O2 Sensor.

#### SPECIFICATIONS

Display : (Numerical) 999 count LCD,  
(Bargraph) 13 segments  
 Sampling Rate : 500 times/second  
(LCD : 1 time/second in stand-by mode)  
 Range Selection : Auto Ranging  
 Power Supply : 1.5V R6P or AA Batteries (x 2)  
 CE Mark : EMC test passed  
 Dimensions : 148(H) x 83(W) x 33(D) mm  
 Weight : 220g  
 Accessories : 100-65 Test Lead (x 1 set)  
 911 Check Harness (x 1)  
 947B Black Alligator Clip (x 1)  
 795 Test Pins: Red & Black (x 1 set)  
 1030 Carrying case (x 1)  
 1.5V R6P Batteries (x 2)

|            | Range  | Accuracy                    | Resolution |
|------------|--|-----------------------------|------------|
| DC Voltage | 999mV  | 0 to 200mV: ±1.5%rdg±10dgt  | 1mV        |
|            | 6.00V  | 201 to 999mV: ±1.5%rdg±5dgt | 10mV       |
| Functions  | Display mode changing, Simulation Test, Display Hold, Auto Power Off |                             |            |

#### Connection image



#### Bar-Graph Display

Deterioration level of O2 sensor can be checked easily by bar-graph.

