

kaise




# INSTRUCTION MANUAL

DIGITAL MULTIMETER




MODEL SK-6555

KAISE CORPORATION

## FOR SAFETY MEASUREMENTS

Prior to use, to avoid an electrical shock hazard to the operator and/or damage to the instruments, read carefully the WARNINGS with the symbol  listed in 「4. SAFETY PRECAUTIONS」, 「5. MEASUREMENT PROCEDURES」 and 「6. MAINTENANCE」 of this instruction manual.

### Important Symbol

	The symbol listed in IEC 61010 and ISO 3864 means "Caution (refer to instruction manual)".
 WARNING	The symbol in this manual advises the user of an electrical shock hazard that could result in serious injury or even death.
 CAUTION	The symbol in this manual advises the user of an electrical shock hazard that could cause injury or material damages.

### WARNING

SK-6555 is designed to comply with CAT II 600V. But, do not measure High Power Line of more than 6kVA power. High Power Line sometimes includes High Surge Voltage that could possibly induce dangerous arcs of explosive short in the instrument and could result in serious injury to the operator. Even if it is Low Power Line, use extreme care when measuring high voltage.

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## 1. INTRODUCTION

### 1-1. GENERAL

SK-6555 is a reliable, compact Digital Multimeter. It has new looks that present simple, easy operation. Measuring functions are Voltage AC/DC, Hz, %, Resistance, Continuty, Diode and Capacitance measurements. In addition, it provides very useful functions of MAX/MIN and DIFF as well as Autoranging and Display HOLD. This instrument will surely play an important role in trouble-shooting, field-maintenance, etc.

### 1-2. FEATURES

1. **Easy Operation and Reading** : Auto and Manual-ranging with 4000 count LCD with units and symbols.
2. **Voltage, Frequency and Duty Cycle measurements**
3. **MAX / MIN and Difference measurements**
4. **Continuity by Buzzer, Diode Tests and Capacitance measurements**
5. **Auto Power Save** : prevents battery consumption.
6. **Safety Design** : IEC 61010-1 CAT II 600V and EMC.

### 1-3. UNPACKING AND INSPECTION

Before unpacking, examine the shipping carton for any sign of damage. Unpack and inspect the instrument and accessories for any damage from mechanical shock, water leakage, or other causes. If any damage or missing item is found, consult the local dealer for replacement.

Make certain that following items are included in the box.

1. Digital Multimeter
2. One 3V CR2032 Battery (installed)
3. Instruction Manual

## 2. SPECIFICATIONS

### 2-1. GENERAL SPECIFICATIONS

#### 1. DISPLAY :

- a. **Numerical Display** : 4000 count LCD, 14mm high.
- b. **Units and Symbols** : mV, V, Hz, %,  $\Omega$ , k $\Omega$ , M $\Omega$ , nF,  $\mu$ F,  $\rightarrow$ ,  $\rightarrow$ , DIFF, MAX, MIN, BAT, DH, OL, AUTO, APS,  $\approx$ ,  $\sim$ ,  $-$  and decimal point.

#### 2. OPERATING PRINCIPLE : $\Sigma \Delta$ .

#### 3. RANGE SELECTION

 : Auto and Manual-ranging.

#### 4. SAMPLING RATE

 : 3 times per second.

#### 5. POLARITY

 : Autopolarity,  $-$  symbol when minus.

#### 6. OVERRANGE INDICATION

 : OL symbol appears. (excluding DC/AC 600V)

#### 7. DISPLAY HOLD / DIFF (Zero Adjustment) :

- a. Press DH / DIFF Key for less than 0.5 second  
→ **Display HOLD**
  - b. Press DH / DIFF Key for more than 1 second  
→ **Difference Measurement**
  - c. Press DH / DIFF Key for more than 1 second same as above before measuring Capacitance → **Zero Adjustment**
- 8. MAX / MIN Value** : When measuring  $\approx$  V,  $\sim$  V,  $\Omega$ , press MAX/MIN Key for more than 1 second.

#### 9. CONTINUITY TEST

 : Buzzer sounds in case less than approx. 60 $\Omega$ .

#### 10. BATTERY WARNING

 : BAT symbol appears when battery voltage goes down below approx. 2.4V.

#### 11. OPERATING TEMPERATURE & HUMIDITY

 : 0°C to 40°C, less than 80%RH in non-condensing.

#### 12. STORAGE TEMPERATURE & HUMIDITY

 :  $-20^{\circ}\text{C}$  to 60°C less than 80% RH in non-condensing.

#### 13. POWER SUPPLY

 : One 3V CR2032 Battery.

#### 14. POWER CONSUMPTION

 : 4.5mW typically.

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#### 15. BATTERY LIFE

 : 70 hours continuous operation.

#### 16. AUTO POWER SAVE

 : Power turns off automatically in 15 minutes after any switch operation. ( see. P18 )

#### 17. DIELECTRIC STRENGTH

 : 3.7kV rms for one minute between Input Terminal and Cases.

#### 18. OVERLOAD PROTECTION :

- a. V : 900V DC or AC rms max. for 1 minute. (400mV Range is 600V rms)
- b.  $\Omega$  /  $\rightarrow$  /  $\rightarrow$  /  $\rightarrow$  : 300V rms max. for 1 minute.

#### 19. DIMENSIONS & WEIGHT

 : 118(H)  $\times$  78(W)  $\times$  16(D)mm, 110g

#### 20. SAFETY LEVEL

 : IEC-61010-1 Overvoltage CAT. III 300V CAT. II 600V and EMC Test passed.

#### 21. ACCESSORY

 : Test Leads provided, Battery (Installed), Instruction Manual.

#### 22. OPTIONAL ACCESSORY

 : 940 Alligator Clips.

### 2-2. MEASUREMENT SPECIFICATIONS

(23°C  $\pm$  5°C, less than 80% RH in non-condensing)

#### 1. DC Voltage ( $\approx$ V)

Range	Accuracy	Resolution	Input Impedance	Max Input Voltage
400.0mV		100 $\mu$ V	$\geq$ 100M $\Omega$	600V DC
4.000 V	$\pm$ 0.5%rdg $\pm$ 3dgt	1mV	$\approx$ 11M $\Omega$	
40.00 V		10mV		
400.0 V		100mV	$\approx$ 10M $\Omega$	
600 V	$\pm$ 1.0%rdg $\pm$ 3dgt	1 V		

Overload Protection : 900V rms for 1 minute

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#### 2. AC Voltage ( $\sim$ V)

Average Rectification

Range	Accuracy	Resolution	Input Impedance	Max Input Voltage
4.000 V	$\pm$ 1.5%rdg $\pm$ 5dgt	1mV	$\approx$ 11M $\Omega$	600V rms
40.00 V		10mV		
400.0 V		100mV	$\approx$ 10M $\Omega$	
600 V		1 V		

Overload Protection : 900V rms for 1 minute

Frequency Response : 50Hz  $\sim$  400Hz

#### 3. Frequency ( Hz )

Range	Accuracy	Resolution	Input Sensitivity	Max. Input Voltage
1.000Hz $\sim$ 100.0kHz	$\pm$ 0.2%rdg $\pm$ 2dgt	0.001Hz $\sim$ 100Hz	< 10kHz : 3V rms $\geq$ 10kHz : not specified	300V rms

#### 4. Duty Cycle (%)

Range	Accuracy	Resolution	Input Sensitivity	Max. Input Voltage
0.0% $\sim$ 99.9%	$\pm$ 0.5%rdg $\pm$ 5dgt	0.1%	3V rms	300V rms

Frequency Scope : 1Hz  $\sim$  1kHz

#### 5. Resistance ( $\Omega$ )

Range	Accuracy	Resolution	Test Current	Open Circuit Voltage
400.0 $\Omega$	$\pm$ 1.5%rdg $\pm$ 4dgt	0.1 $\Omega$	$\leq$ 0.2mA	$\approx$ 0.44V
4.000k $\Omega$		1 $\Omega$	$\leq$ 50 $\mu$ A	
40.00k $\Omega$		10 $\Omega$	$\leq$ 5 $\mu$ A	
400.0k $\Omega$		100 $\Omega$	$\leq$ 0.5 $\mu$ A	
4.000M $\Omega$	$\pm$ 3.0%rdg $\pm$ 3dgt	1 k $\Omega$	$\leq$ 50 nA	
40.00M $\Omega$	$\pm$ 7.0%rdg $\pm$ 3dgt	10 k $\Omega$		

Overload Protection : 300V rms

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#### 6. Continuity Tests ( $\rightarrow$ )

Range	Buzzer Sound	Response Time	Open Circuit Voltage	Overload Protection
400.0 $\Omega$	less than 60 $\Omega$	1m sec	$\approx$ 0.44V	300V rms

#### 7. Diode Tests ( $\rightarrow$ )

Range	Accuracy	Test Current	Open Circuit Voltage	Overload Protection
1.000V	$\pm$ 5.0%rdg $\pm$ 3dgt	$\leq$ 0.7mA	$\leq$ 1.7V	300V rms

#### 8. Capacitance ( $\rightarrow$ )

Range	Resolution	Accuracy	Test Voltage
50.00nF	10pF	$\pm$ 5.0%rdg $\pm$ 10dgt	$\leq$ 1.7V
500.0nF	100pF		
5.000 $\mu$ F	1nF		
50.00 $\mu$ F	10nF		
100.0 $\mu$ F	100nF		

Overload Protection : 300V rms

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### 3. NAME ILLUSTRATION

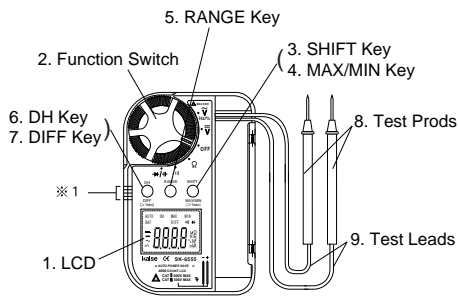
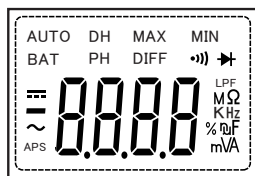


Fig.1

※1) When open the case cover, please push here.

#### 1. LCD



$\overline{=}$	: Direct Current (DC) on Voltage
$\sim$	: Alternating Current (AC) on Voltage
-	: Minus symbol automatically shown when polarity is minus.
APS	: Auto Power Save
AUTO	: Autoranging
BAT	: Battery Warning
DH	: Display Hold
DIFF	: Difference Measurements
MAX	: Maximum Value Measurements
MIN	: Minimum Value Measurements
•••••	: Continuity Tests
▶▶	: Diode Tests
mV, V	: Units of Voltage
Hz, kHz	: Frequency
%	: Duty Cycle
$\Omega$ , k $\Omega$ , M $\Omega$	: Units of Resistance
nF, $\mu$ F	: Units of Capacitance

#### 2. Function Switch

Set FUNCTION Switch to a desired position of  $\overline{V}$  to  $\overline{V}$  /  $\overline{H}$  position and to OFF position when measurements are finished. AC/DC Voltage, Frequency, Duty Cycle, Resistance, Continuity Test, Diode and Capacitance measurements are available.

#### 3. SHIFT Key

Each press of this Key for less than 0.5 second works in the following order.

$\overline{=}$  /  $\sim$  V :  $\overline{V}$  or  $\overline{V}$  → Hz → % →  $\overline{V}$  or  $\overline{V}$  →

$\overline{V}$  /  $\overline{H}$  :  $\overline{V}$  →  $\overline{H}$  →  $\overline{V}$  →

#### 4. MAX / MIN Key

When measuring  $\overline{=}$  V,  $\sim$  V or  $\Omega$ , press MAX/MIN Key for more than 1 second, MAX MIN symbol appears on LCD and MAX /MIN measurement starts.

Each press of this Key displays MAX MIN, MAX, MIN, MAX MIN.....

To cancel this Key, press it for more than 1 second and MAX MIN symbol disappears.

#### 5. RANGE Key

When measuring AC/DC Voltage, Resistance or Capacitance, press this Key to select and fix a desired range. AUTO symbol disappears. There are two ways in Range Hold.

1. Just press RANGE Key several times to select a desired range watching the position of decimal point. The decimal point moves from the lowest range to the highest range and circulates with each press.
2. When taking Voltage, Resistance or Capacitance measurement, press RANGE Key. The range to which the input value belongs is held.
3. To cancel Range Key, press it for more than 1 second and AUTO symbol appears again on LCD.

#### 6. DH Key (Display Hold)

Press DH / DIFF Key for less than 0.5 second to hold display. DH symbol shows on LCD. To cancel this function, press this Key again and DH symbol disappears.

#### 7. DIFF Key

**1. Difference Measurement :** When measuring functions except Hz (Frequency), % (Duty Cycle), press DIFF Key for more than 1 second and DIFF symbol appears on LCD.

When measuring a value or applying a desired value into the instrument, press DIFF Key for more than 1 second and input value is stored and converted to read  $0 \pm 1$  digit on LCD with DIFF symbol displayed. The difference between the stored value and a measuring value is displayed on LCD with proceeding measurements.

Stored Value = X<sub>0</sub>, Measuring Value proceeding = X<sub>n</sub>, Difference = X<sub>n</sub> - X<sub>0</sub>

**2. Zero Adjustment :** When measuring Capacitance, if LCD doesn't show less than 00.00nF  $\pm$  3dgt, press DIFF Key for more than 1 second to make Zero Adjustment.

**3.** To cancel this function, press this Key for more than 1 second again and DIFF symbol disappears.

#### 4. SAFETY PRECAUTIONS

Correct knowledge about electric measurements is necessary because electric measurement is sometimes a very dangerous work.

To eliminate possibility of injury to the operator and damage to the instrument, the following precautions and measurement procedures must be taken. Misuse, abuse and carelessness cannot be prevented by any written word and is fully the operator's responsibility. Observing the following warnings and cautions, take safe measurements.

##### 4-1. WARNINGS

#### ⚠ WARNING

##### 1. Checks of Body and Test Leads

Before every measurement, do not fail to confirm that the body of this instrument and handle insulator of the attached Test Prods have no cracks nor any other damage on them. Make sure that the body and the handle insulator are free of dust, grease and moisture.

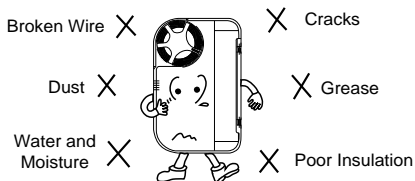


Fig.2

#### ⚠ WARNING

##### 2. Measurements of High Power Line Prohibited

Do not measure with this instrument High Power Line ( High Energy Circuits ) more than 6kVA power such as Distribution Transformers, Bus Bars, Power Line for Big Motors, etc. High Power Line is very dangerous as it sometimes includes High Surge Voltage that will induce short in the instrument and results in shock hazard. Use the special instrument designed to measure High Power Line.

##### 3. Cares of High Voltage Measurements

Even if Low Energy Circuits of electric/electronics appliances, heating elements, small motors, line cords and plugs, etc., High Voltage Measurements are very dangerous. Do not touch the instrument, its Test Leads or any part of the circuit while it is on. Generally, shock hazard shall be exist at any part involving a potential in excess of 30V rms or 42.4V DC or peak and where a leakage current from that part to ground exceeds 0.5mA.

#### ⚠ WARNING

##### 4. Safety Measurement Procedure

When measuring a circuit that will possibly include dangerous voltage, keep strictly the following measuring procedures.

1. Before measurement, turn off power to the circuit to be measured.
2. Attach Black Alligator Clip (optional) to Black Test Prod and Red Alligator Clip (optional) to Red Test Prod of the instrument.
3. Set FUNCTION Switch to  $\bar{V}$  or  $\check{V}$  position.
4. Confirm that the power of the circuit to be measured is OFF. Then, connect Black Alligator Clip to - (earth) side and Red Alligator Clip to + (positive) side of the circuit to be measured.
5. Do not touch Test Prods and the multimeter with your hands. Also, take safety distance from the power source or the circuit to prevent any part of your body from touching high voltage.
6. Turn on power to the circuit to be measured and read the voltage on LCD.
7. Turn off power to the circuit being measured. Confirm that the reading became zero on LCD.
8. Disconnect Alligator Clips of Test Prods from the circuit.

#### ⚠ WARNING

**In case you want to measure live line, observe the following procedure.**

1. Set FUNCTION Switch to  $\bar{V}$  or  $\check{V}$  position.
2. Take safety distance from the power or the circuit to be measured to prevent any part of your body from touching dangerous voltage.
3. Attach Black Alligator Clip to Black Test Prod. Then, connect Black Alligator Clip to - (earth) side of the circuit to be measured.
4. Hold the Red Test Prod with one hand and connect it to + (positive) side of the circuit to be measured.
5. Read the voltage on LCD. Refer to the figure.

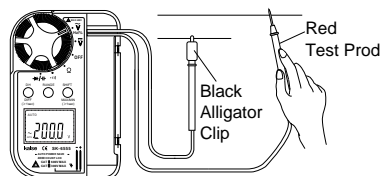


Fig. 3

**WARNING**

**5. Correct Selection of FUNCTION Switch**

When making measurements, always confirm that FUNCTION Switch is set to correct position. Measuring voltage on  $\Omega$ ,  $\cdot$ ,  $\rightarrow$  or  $\uparrow$  position will cause serious damage to the instrument.

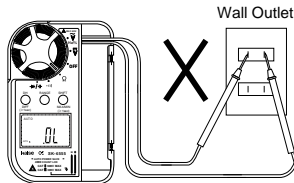


Fig. 4

**6. Maximum Input Observance**

Do not attempt to measure voltage that might exceed the specified maximum voltage of this instrument.

**7. Test Prod Disconnection**

Prior to changing FUNCTION Switch to another function during measurements, or opening Battery Case for replacement of battery, always disconnect Test Prods of Test Leads from the circuit being measured.

**4-2. GENERAL WARNINGS AND CAUTIONS**

**WARNING**

1. Do not let the children use the instrument or those people who are unable to recognize the dangers of electric measurements.
2. Do not make electric measurements in a naked or barefooted state. This will give electric shock hazard to the operator.
3. The points of Test Prods are sharp and dangerous. Do not get hurt with them.

**CAUTION**

1. Do not polish the meter case, or attempt to clean it with any cleaning fluid, gasoline, benzene, etc. If necessary, use silicon oil or antistatic fluid.
2. Avoid severe mechanical shock or vibration, extreme temperature or very strong magnetic field.
3. Remove the battery when not in use for an extended time since the exhausted battery might leak electrolyte and corrode the internal components.

**5. MEASUREMENT PROCEDURES**

**5-1. PREPARATION FOR USE**

**1. INSTRUCTION MANUAL**

Prior to use, read INSTRUCTION MANUAL carefully and acquaint yourself with the specifications and functions of the instrument. Especially, read and observe strictly the 「4. SAFETY PRECAUTIONS」.

**2. BATTERY**

One 3V CR2032 battery is installed in this instrument. When battery is consumed and BAT symbol is shown on LCD, unscrew the mounting screw of Battery Cover and remove the cover. Then, replace the battery with fresh one and place it in correct polarity, + side up. Refer to 「6-2. BATTERY REPLACEMENT」.

**3. TEST PRODS**

Connect Black Test Prod to - (earth) side of the circuit and Red Test Prod to + (high potential) side of the circuit being measured.

**4. POWER ON**

Set FUNCTION Switch to a desired position to turn on power. All segments appear on LCD for 1 sec. In case that LCD is not turned on, battery contacts might be bad, battery might be set in the wrong polarity or might be worn out. Take necessary action. Do not fail to turn off power after measurements.

**5. OVERRANGE INDICATION**

OVERRANGE INDICATION does not show on Voltage measurements, even if voltage value exceeds 600V. On Resistance range, OL symbol is displayed on LCD when ohm value is infinite.



**WARNING**

To avoid injury to the operator and/or damage to the instrument, do not make measurements that might exceed 600V, the maximum input voltage.

**6. AUTORANGING AND MANUAL - RANGING**

When Voltage, Resistance or Capacitance measurement is made, range is selected automatically with AUTO symbol shown on LCD. Also, Manual-ranging is available. When making Continuity and Diode Tests, autoranging does not work as they consist of only one range.

**7. AUTO POWER SAVE**

After 15 minutes of last operation with FUNCTION Switch or Keys, LCD turns off automatically. This function prevents battery consumption when power off is forgotten. When continuous measurements more than 15 minutes are necessary, set FUNCTION Switch to a desired position with SHIFT Key pressed on for less than one second, or use MAX/MIN Key. In this case, APS symbol is not displayed on LCD and Auto Power Save does not work during measurements.

**8. SYMBOL MARK**

The following symbols shown on the instrument and in the instruction manual are listed in IEC 61010 and ISO 3864.

- $\triangle$  : Caution (refer to instruction manual).
- $\rightarrow$  : Direct Current (DC)
- $\sim$  : Alternating Current (AC)
- $\perp$  : Earth (Ground)
- $\square$  : Double Insulation

### 5-2. VOLTAGE, FREQUENCY, DUTY CYCLE ( $\overline{\sim}$ V or $\sim$ V / Hz / % ) MEASUREMENTS

#### **⚠ WARNING**

Do not measure High Power Line of more than 6kVA power with this instrument. Maximum Input Voltage of Voltage Function is 600V. Do not measure voltages that might exceed 600V to avoid electrical shock hazard and/or damage to the instrument. Prior to use, read carefully 「4. SAFETY PRECAUTIONS」 of this instruction manual.

1. Set FUNCTION Switch to  $\overline{\sim}$ V or  $\sim$ V position.  
**NOTE** : Under this no input condition, random numerals may appear on LCD. This phenomena is caused by high internal resistance of the instrument and not the trouble.
2. Connect Black Test Prod to  $-$  (earth) side and Red Test Prod to  $+$  (High potential) side of the circuit to be measured.  
**NOTE** : For safety measurements, connect Alligator Clips (optional) to Test Prods of Test Leads.  
**NOTE** : When taking voltage measurements, always connect the instrument **IN PARALLEL** with the circuit being measured.

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3. Read the voltage on LCD.
4. **Hz and %** : When measuring  $\overline{\sim}$ V or  $\sim$ V, press SHIFT Key to measure Hz (Frequency) and press this Key again to measure % (Duty Cycle). Each press of this Key works in the following order.

$\overline{\sim}$ V or  $\sim$ V  $\rightarrow$  Hz  $\rightarrow$  %  $\rightarrow$   $\overline{\sim}$ V or  $\sim$ V  $\rightarrow$

- MAX/MIN** : Press MAX/MIN Key for more than 1 second to make MAX/MIN measurements. To cancel this key, press it again for more than 1 second.
5. **DH/DIFF Key** : Press this key for less than 0.5 second to hold display. Press this Key for more than one second to make Difference Measurements. See page 9.
  6. After measurements, set FUNCTION Switch to OFF position.

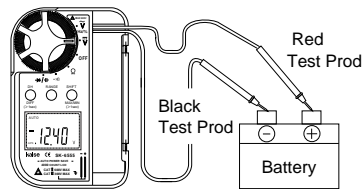


Fig. 5

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### 5-3. RESISTANCE ( $\Omega$ ) MEASUREMENTS

#### **⚠ WARNING**

Do not measure Voltage on  $\Omega$  position. This will cause shock hazard to the operator and/or damage to the instrument. In case in-circuit resistance is measured, turn off power to the circuit being measured and discharge all capacitors in the circuit. Prior to measurements, read carefully 「4. SAFETY PRECAUTIONS」 of this instruction manual.

1. Set FUNCTION Switch to  $\Omega$  position.
2. If the resistor to be measured is connected in a circuit, turn off power to the circuit and discharge all capacitors in the circuit.
3. Open one side of the resistor to be measured and connect Test Prods to both sides of the resistor (or circuit).
4. Read the resistance on LCD.
5. DH, DIFF, RANGE and MAX/MIN Keys are available. Refer to page 9 to 10.
6. When measurements are finished, remove Test Prods from the resistor (circuit) and set FUNCTION Switch to OFF position. Then restore the circuit as it was.

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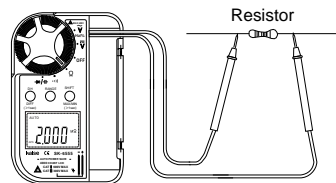


Fig. 6

### 5-4. CONTINUITY ( $\cdot$ || ) TESTS

#### **⚠ WARNING**

Do not measure Voltage on  $\cdot$ || position. This will cause shock hazard to the operator and damage to the instrument. In case continuity test is made, turn off power to the circuit being measured and discharge all capacitors in the circuit. Prior to measurements, read carefully 「4. SAFETY PRECAUTIONS」 of this instruction manual.

1. Set FUNCTION Switch to  $\cdot$ || position.  $\cdot$ || symbol appears on LCD.
2. Turn off power to the circuit and discharge all capacitors in the circuit.
3. Connect Test Prods of Test Leads to the circuit to be tested. Buzzer sounds when the resistance value is less than approx. 60  $\Omega$

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- When measurements are finished, remove Test Prods from the circuit and set FUNCTION Switch to OFF position.

### 5-5. DIODE (→|←) TESTS

#### ⚠ WARNING

If the diode is connected in a circuit, turn off power to the circuit and discharge all capacitors in the circuit. Disconnect one side of the diode and test it. Do not measure voltage on →|← / ←|→ position.

- Set FUNCTION Switch to →|← / ←|→ position.
- |← symbol appears on LCD.
- If the diode is connected in a circuit, turn off power to the circuit and discharge all capacitors in the circuit and disconnect one side of diode from the circuit.
- Connect Black Test Prod to Anode and Red Test Prod to Cathode of the diode being measured. This is Reverse Connection. Confirm that the LCD displays OL symbol. Refer to the figure7, 8.
- Reverse Test Prod connection to the diode being tested. This is Forward Connection. In case of Silicon diodes, LCD displays 0.4V to 0.7V, Germanium diodes, 0.1V to 0.4V, and the diodes are judged good.
- When measurements are finished, remove Test Prods from the diode and set FUNCTION Switch to OFF position.

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#### <Reverse Connection>

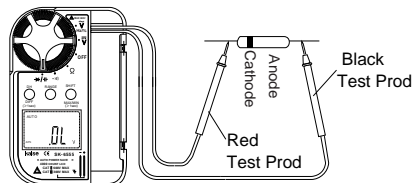


Fig. 7

#### <Forward Connection>

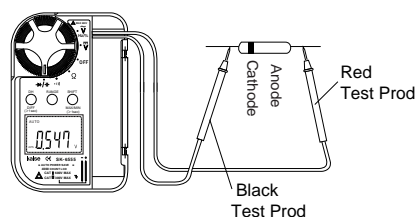


Fig. 8

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### 5-6. CAPACITANCE (←|→) MEASUREMENTS

#### ⚠ WARNING

Do not measure Voltage on ←|→ / →|← position. That will cause electrical shock hazard to the operator and damage to the instrument. Before taking Capacitance measurements, remove power to the circuit being measured and discharge all capacitors.

- Set FUNCTION Switch to ←|→ / →|← position.
- Press SHIFT Key to display nF unit on LCD.
- Press DIFF Key for more than 1 second to display 00.00nF on LCD in case it shows more digits.
- Remove power to the circuit being tested and discharge all capacitors in the circuit.
- Connect Test Prods to the capacitor being measured.
- Read capacitance on LCD.
- After measurements, set FUNCTION Switch to OFF position.

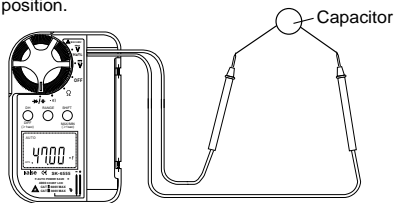


Fig. 9

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## 6. MAINTENANCE

### 6-1. WARRANTY STATEMENT

The warranty statement for the Digital Multimeter is printed on the last page of the manual. Read it carefully before requesting a warranty repair.

### 6-2. BATTERY REPLACEMENT

#### ⚠ WARNING

Remove both Test Prods from external circuit connections before removing Battery Cover to replace the battery.

- If the battery is consumed and BAT symbol is shown on LCD, replace the battery.
- Remove Both Test Prods from the circuit. Set FUNCTION Switch to OFF position.
- Unscrew the screw on Battery Cover. Push and turn Battery Cover with ◁ mark set to **OPEN** position. Remove Battery Cover.
- Replace the consumed battery with a fresh 3V CR2032 battery.  
**NOTE** : Place the battery in the correct polarity, + side up.
- Replace Battery Cover. Push and turn it to **LOCK** position.
- Screw the screw.

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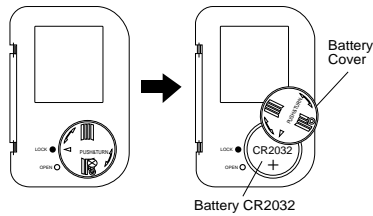


Fig. 10

### 6-3. PERIODICAL CHECK AND CALIBRATION

Periodical check and calibration are necessary to make safety measurements as well as to maintain the specifications.

It is recommended that the instrument may be checked and calibrated once each year and/or after it is repaired. Periodical Check and Calibration Services are available at KAISE AUTHORIZED SERVICE AGENCY through your local dealer at a cost basis charge.

Pack the instrument securely in its original carton together with descriptions of your name, address, telephone number and the service required, and ship prepaid to your local dealer.

### 6-4. REPAIR

Repair service, warranty or non-warranty, is available at KAISE AUTHORIZED SERVICE AGENCY through your local dealer. Warranty repair is executed free of charge, but, non-warranty repair is charged on the cost basis.

Pack the instrument securely in its original package together with descriptions of your name, address, telephone number, problem encountered and the service required, and ship prepaid to your local dealer.

When the instrument does not operate properly, the following steps should be taken before returning the instrument for repair, warranty or non-warranty.

1. Check the battery connection.
2. Check the battery if it is installed in the correct polarity.
3. Check the battery if it is alive and usable.
4. Make sure that FUNCTION Switch is set to correct position.
5. Make sure that the body of this instrument and the handle insulators of the Test Prods have no cracks nor any other damage on them.
6. Be careful of noise from the equipment under test or the ambient environment in which the instrument is being used. The instrument is fully shielded against noise, but may read error due to very strong noise.

### WARRANTY

The Digital Multimeter SK-6555 is warranted in its entirety against any defects of material or workmanship under normal use and service within a period of six months after the date of purchase of the instrument by the original purchaser. This warranty is extended by **KAISE AUTHORIZED DEALER** only to original purchaser or original user of the instrument on condition that the Warranty Registration Card is completed and returned to the authorized dealer within two weeks after the purchase of the instrument new from the dealer. The obligation under this warranty to be executed by **KAISE AUTHORIZED DEALER** is limited to repairing or replacing the Digital Multimeter SK-6555 returned intact to it, with transportation charge prepaid, and which to its satisfaction is judged by it to have been thus defective.

**KAISE AUTHORIZED DEALER** and **KAISE CORPORATION**, the manufacturer shall not otherwise be liable for any damages or loss, consequential or otherwise. The foregoing warranty is exclusive and in lieu of all other warranties including any warranty of merchantability, whether expressed or implied.

This warranty shall not apply to any instrument or other article of equipment which shall have been repaired or altered outside **KAISE AUTHORIZED SERVICE AGENCY**, nor which has been subject to misuse, negligence or accident, incorrect repair by users, or installation or use not in accord with instructions furnished by the manufacturer.

### KAISE AUTHORIZED DEALER



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