




## 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 1010 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**

High Power Line is very dangerous and/or lethal to measure. 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. When measuring dangerous voltages of High Power Line or High Voltage Circuit, always place the instrument away from your body without holding it with your hands.

Do not touch the Clamp Meter, its Test Leads, or any part of the circuit while it is on.

## CONTENTS

<b>1. INTRODUCTION</b> . . . . .	2
1-1. GENERAL . . . . .	2
1-2. FEATURES . . . . .	2
1-3. UNPACKING AND INSPECTION . . . . .	2
<b>2. SPECIFICATIONS</b> . . . . .	3
2-1. GENERAL SPECIFICATIONS . . . . .	3
2-2. MEASUREMENT SPECIFICATIONS . . . . .	4
<b>3. NAME ILLUSTRATION</b> . . . . .	6
<b>4. SAFETY PRECAUTIONS</b> . . . . .	10
4-1. WARNINGS . . . . .	10
4-2. GENERAL WARNINGS AND CAUTIONS . . . . .	15
<b>5. MEASUREMENT PROCEDURES</b> . . . . .	16
5-1. PREPARATION FOR USE . . . . .	16
5-2. CURRENT (---A / ~A / Hz) MEASUREMENTS . . . . .	18
5-3. VOLTAGE (---A / ~A / Hz / %) MEASUREMENTS . . . . .	20
<b>6. MAINTENANCE</b> . . . . .	22
6-1. WARRANTY STATEMENT . . . . .	22
6-2. BATTERY REPLACEMENT . . . . .	22
6-3. PERIODICAL CHECK AND CALIBRATION . . . . .	24
6-4. REPAIR . . . . .	24

## 1. INTRODUCTION

### 1-1. GENERAL

The SK-7682 is a micro-computer controlled, autoranging AC/DC Digital Clamp Meter with 4 digit LCD.

It is a slimly compact, lightweight, useful Clamp Meter for testing and maintaining multifarious electrical appliances, apparatus, factory equipments and facilities. It is also a very easy to use Automotive Clamp Meter for testing/repairing battery systems of motorcars.

The instrument presents the reliability and convenience for the users in the field of electrical and automobile industries.

### 1-2. FEATURES

1. Autoranging AC/DC Clamp Meter with 4 digit LCD. Very compact, lightweight, easy to handle.
2. 400A AC/DC measurements.
3. Peak Hold, Maximum/Minimum, Difference and Display Hold functions.
4. Battery power is saved by Auto Power Off.

### 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. Clamp Meter                     | 4. Two 1.5V R6P Batteries |
| 2. One pair of Test Leads (100-57) | 5. 1011 Carrying Case     |
| 3. Alligator Clips (940)           | 6. Instruction Manual     |

## 2. SPECIFICATIONS

### 2-1. GENERAL SPECIFICATIONS

1. **DISPLAY** :
  - a. **Numerical Display** ; 4000 count LCD, Max. reading(4050), 12mm high.
  - b. **Units and Symbols** ; A, mV, V, Hz, %, ---, -, ~, AUTO, BAT, APO, DH, PH, DIFF, MAX, MIN, OL and decimal point.
2. **OPERATING PRINCIPLE** :  $\Sigma \Delta$  conversion.
3. **SAMPLING RATE** : 3 times/sec.
4. **RANGE SELECTION** : Autoranging.
5. **POLARITY** : Autopolarity, - symbol when minus, + symbol is implied.
6. **OVERRANGE INDICATION** : OL symbol is shown. (no symbol on --- / ~600V)
7. **BATTERY WARNING** : BAT symbol is shown.
8. **DISPLAY HOLD** : Display is held by DH Key.
9. **MAX/MIN** : Maximum and Minimum Values are measured by using MAX/MIN Key.
10. **PH (Peak Hold)** : Current ; up to --- 400A Peak.  
Peak Value is measured at 10m sec.
11. **DIFF** : Difference Measurements can be made by DIFF Key. Desired value being measured is stored and converted to read zero on LCD and only difference is shown with proceeding measurements. When random digits remain on A or V measurements, the random digits can be zeroed by this Key
12. **OVERLOAD PROTECTION** :
  - a. **Current** ; ~ / --- 700A (600V Line).
  - b. **Voltage** ; ~ / --- 1000V.
13. **OPERATING TEMPERATURE & HUMIDITY** :  
0°C to 40°C, less than 80% RH in non-condensing.

**14. STORAGE TEMPERATURE & HUMIDITY :**

-20°C to 60°C, less than 70% RH in non-condensing.

**15. DIELECTRIC STRENGTH :** 3.7kV (Sine Wave) for one minute.  
(between Case and Input Terminals).

**16. SAFETY LEVEL :** IEC-1010-1 Overvoltage Category III. 300V, EMCD test passed.

**17. POWER SUPPLY :** Two 1.5V R6P(or AA) batteries.

**18. POWER CONSUMPTION :** less than 10mA, approx. 90 hours continuous operation.

**19. AUTO POWER OFF :** Power is automatically turned off after about 12 minutes on.

**NOTE :** SK-7682 consumes 1~2 μA under Auto Power OFF condition.

**20. CONDUCTOR DIAMETER :** 19mm φ.

**21. DIMENSIONS & WEIGHT :** 196(H) × 59(W) × 30(D)mm, 180g.

**2-2. MEASUREMENT SPECIFICATIONS**

(23°C ± 5°C, less than 80% RH)

**1. CURRENT ( : A / ~ A / Hz ) MEASUREMENTS**

**1-1. DC CURRENT ( : A )**

Range	Accuracy	Resolution	Maximum Input
40.00A	±1.5%rdg±3dgt	0.01A	400A DC
400.0A	40A~200A:±2.0%rdg±3dgt 200A~400A:±4.0%rdg±3dgt	0.1A	

**1-2. AC CURRENT ( ~ A )**

True RMS

Range	Accuracy(50/60Hz)(>0.5A)	Resolution	Maximum Input
40.00A	±1.5%rdg±5dgt	0.01A	400A AC
400.0A	36.0A~200A:±2.0%±5d 200.0A~400A:±5.0%±5d	0.1A	

40Hz~400Hz: 40A; add 0.5%、400A; add 1%.

Crest Factor: 200A> ; 3、200A~400A; 1.5

**1-3. Frequency (Hz)**

Range	Accuracy	Resolution	Input Sensitivity	Maximum Input
5.00Hz~49.99Hz	±0.2%rdg ±2dgt	10m Hz	10A rms	400A rms
50.0Hz~499.9Hz		100m Hz		
0.500kHz~1.000kHz		1 Hz		

**1-4. Peak Hold ( : A FUNCTION)**

Range	Accuracy	Resolution	Maximum
400.0A	±5.0%rdg±5dgt	0.1A	400A DC

**2. VOLTAGE ( : V / ~ V / Hz / % ) MEASUREMENTS**

**2-1. DC Voltage ( : V )**

Range	Accuracy	Resolution	Input Impedance	Maximum
400.0mV	±1.0%rdg±3dgt	0.1 mV	≥100M Ω	600V DC
4.000V		1 mV	≒11M Ω	
40.00V		10 mV	≒10M Ω	
400.0V		100 mV		
600.0V		1 V		

**2-2. AC Voltage ( ~ V )**

True RMS

Range	Accuracy(>0.1V)	Resolution	Input Impedance	Maximum
4.000V	±1.5%rdg±5dgt (40~400Hz)	1 mV	≒11M Ω	600V AC
40.00V		10 mV	≒10M Ω	
400.0V		100 mV		
600V		1 V		

Crest Factor : 3

**2-3. Frequency (Hz)**

Range	Accuracy	Resolution	Input Sensitivity	Maximum Input
1.000Hz~4.999Hz	±0.2%rdg ±2dgt	1m Hz	3V rms	300V rms
5.00Hz~49.99Hz		10m Hz		
50.0Hz~499.9Hz		100mHz		
0.500kHz~4.999kHz		1 Hz		
5.00kHz~49.99kHz		10 Hz		

**2-4. Duty Cycle (%)**

Range	Accuracy	Resolution	Input Sensitivity	Maximum Input
0.0% ~99.9%	±0.5%rdg ±5dgt	0.1%	3V rms	600V rms

Frequency Range : 1Hz ~ 1kHz

**3. NAME ILLUSTRATION**

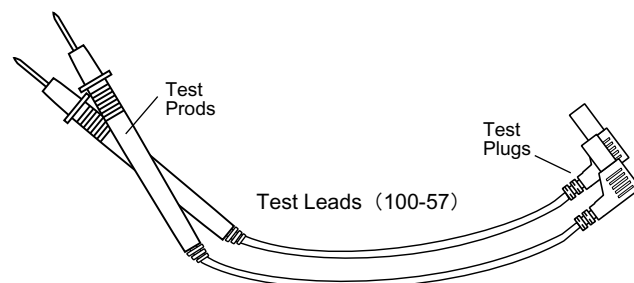
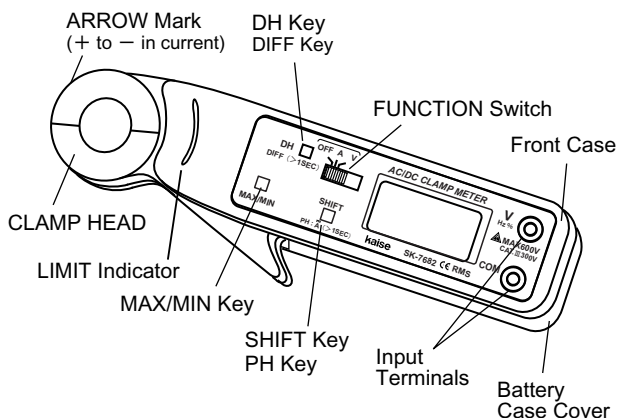


fig. 1

**1. CLAMP HEAD**

Open CLAMP HEAD and clamp on a single conductor. When measuring DC current, make sure of the polarity so that the current should flow in the conductor from Front Case (+) to Rear Case (-) according to the ⇒ (arrow) mark on the CLAMP HEAD.

**NOTE :** If two or three conductors are clamped into CLAMP HEAD at a time, the measurement becomes impossible.

**2. FUNCTION Switch**

Set FUNCTION Switch to a desired position, A or V position, and set it to OFF position when measurements are finished.

**3. SHIFT Key : : → ~ → Hz → %**

Press this Key to select : (DC) or ~ (AC). After that press this Key to select Hz and %.

**Note :** When continuous measurements more than 10 minutes are necessary, set Function Switch to A or V position with SHIFT Key pressed on for less than one second.

APO symbol is not displayed on LCD and Auto Power Off does

**4. PH Key : Peak Value Measurements up to  $\pm$ 400A**

- 4-1. Clamp Head is placed away from conductor and Input is zero. Set FUNCTION Switch to A position.
- 4-2. Under this condition, press PH Key for more than 1 second. About 30 digits (3.0A) and PH symbol are shown on LCD.
- 4-3. Open Clamp Head and clamp on a single conductor and read Peak Value on LCD.
- 4-4. Remove Clamp Head from the conductor and press PH Key for more than 1 second. PH symbol disappears and PH Key is canceled.

**5. DH Key : Display Hold**

Press this Key for less than 0.5 second. DH symbol is shown and display is held. To cancel this Key, press it again.

**6. DIFF Key : Difference Measurements**

Press this Key for more than one second and DIFF symbol is shown on LCD. LCD will show  $0 \pm 1$  digit when measurement value is stable. To cancel DIFF Key, press this Key for more than one second again.

**NOTE:** When PH Key or MAX/MIN Key is on, DIFF Key cannot operate.

**7. MAX/MIN Key : Maximum and Minimum Measurements**

- 1. Press this Key when taking measurements. LCD shows MAX MIN symbol and measurement value then.
- 2. Each press of this Key shows Maximum value, Minimum Value and the measuring value then in turn.
- 3. To cancel this Key, press this Key for more than 1 second and MAX MIN symbol disappears.

**8. Auto Power Off Cancellation**

To make long time, continuous measurements more than 10 minutes, set FUNCTION Switch to A or V position with pressing SHIFT Key for less than 1 second.

APO symbol does not appear on LCD.

Also, long time measurements are available when MAX/MIN Key is operating.

**9. LCD**

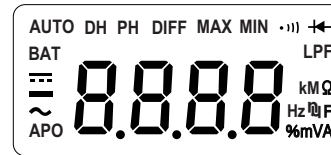


fig. 2

- AUTO : Autoranging
- BAT : Battery Warning
- $\pm$  : Direct Current (DC) on Current and Voltage
- : Minus symbol automatically shown when polarity is minus
- ~ : Alternating Current (AC) on Current and Voltage
- APO : Auto Power Off
- DH : Display Hold
- PH : Peak Hold
- DIFF : Difference Measurements
- MAX MIN : Max/Min measurements go on. Measuring Value then is shown
- MAX : Maximum Value
- MIN : Minimum Value
- mV, V : Units of Voltage
- A : Unit of Current
- Hz : Frequency
- % : Duty Cycle

**10. Input Terminals**

To measure DC/AC Voltage, use COM and V Terminals. Insert Black Test Plug of Test Leads into COM Terminal and Red Test Plug of Test Leads into V Terminal.

**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 precautions, take safe measurements.

**4-1. WARNINGS**

**WARNING 1. Checks of Body and Test Leads**

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

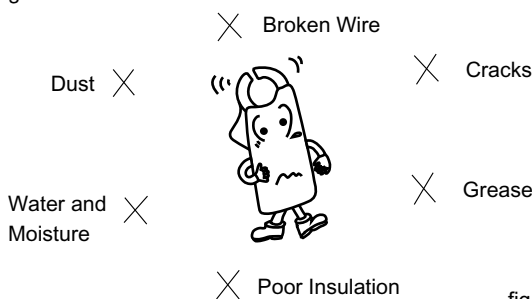


fig. 3

**WARNING 2. Warning for High Power Line Measurements**

High Power Lines (High Energy Circuits) such as Distribution Transformers, Bus Bars, Large Motors, etc. are very dangerous. High Power Line sometimes includes High Surge Voltage that could induce explosive short in the instrument and could result in shock hazard. When measuring voltage of High Power Line, do not touch the Clamp Meter, its Test Leads or any part of the Circuit while it is on.

**WARNING 3. Warning for High Voltage Measurements**

Even if with Low Energy Circuits of electric/electronic appliances, heating elements, small motors, line cords and plugs, etc., High Voltage Measurements are very dangerous. Do not touch the Clamp Meter, its Test Leads or any part of the Circuit while it is on. Generally, shock hazard shall be considered to 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. Dangerous Voltage Measurement Procedure**

Always observe strictly the following measurement procedure when measuring dangerous voltage.

- 1. Before measurement, turn off power to the circuit to be measured.
- 2. Insert Black Test Plug of Test Leads into COM Terminal and Red Test Plug of Test Leads into V Terminal.
- 3. Attach Black and Red Alligator Clips to both Test Prods of Test Leads.
- 4. Set FUNCTION Switch to V position.
- 5. Press SHIFT Key to select  $\pm$  or ~.

6. 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.
7. Place the instrument away from your body, and do not touch it with your hands. Also, take safety distance from the power source or the circuit to prevent any part of your body from touching dangerous voltage.
8. Turn on power to the circuit to be measured and read the voltage on LCD. Refer to the figure 4.

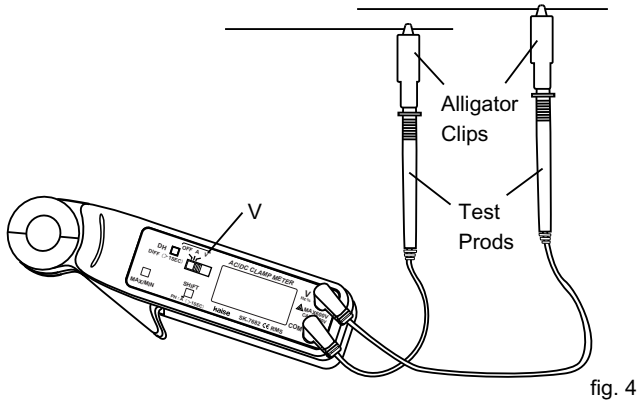


fig. 4

9. When the measurement is finished, turn off power to the circuit to be measured and discharge all capacitors in the circuit.
10. Disconnect Alligator Clips of Test Prods from the circuit.

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

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

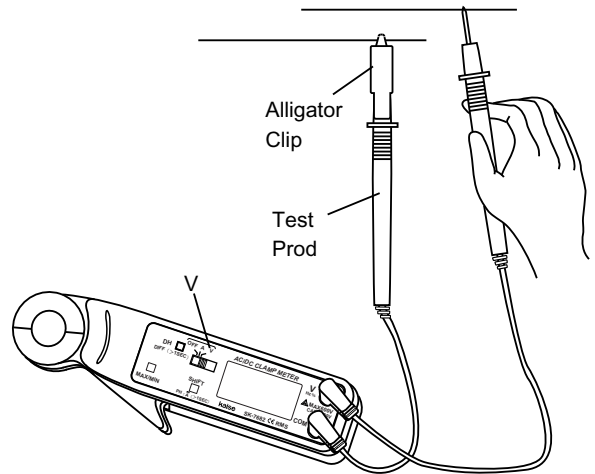


fig. 5

8. When the measurement is finished, disconnect Red Test Prod from the circuit and then disconnect Black Alligator Clip from the circuit.

**⚠ WARNING 5. Correct Selection of FUNCTION Switch**  
When taking measurements, always confirm that FUNCTION Switch is set to correct position. Do not measure voltage on A position. Refer to the figure 6.

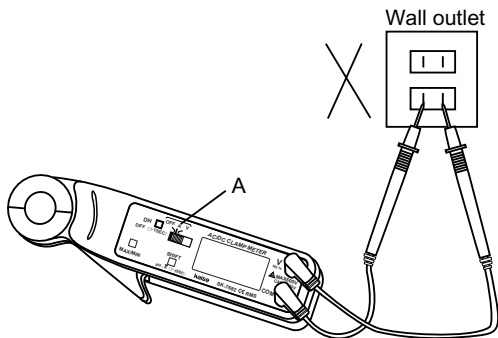


fig. 6

**⚠ WARNING 6. Maximum Input Observance**  
Do not attempt to measure voltage or current that might exceed the specified maximum input of the function being used.

**⚠ WARNING 7. Test Leads Disconnection**  
Prior to changing FUNCTION Switch to another position when measuring, or opening Battery Case Cover for replacement of batteries, always disconnect 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.
- ⚠ WARNING 2.** Do not make electric measurements in a naked or barefooted state. This will give electric shock hazard to the operator.
- ⚠ WARNING 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, benzine, etc. If necessary, use silicon oil or antistatic fluid.
- ⚠ CAUTION 2.** Avoid severe mechanical shock or vibration, extreme temperature or very strong magnetic field.
- ⚠ CAUTION 3.** Remove the batteries when not in use for an extended time since the exhausted batteries might leak electrolyte and corrode the internal components.



Avoid severe mechanical shock or vibration.

fig. 7

## 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. BATTERIES

Two 1.5V R6P batteries are furnished with this instrument. Before placing the Clamp Meter into use, open Battery Case Cover and install the batteries making sure of the polarity. Refer to 「6-2. BATTERY REPLACEMENT」 on page 22 to 23.

#### 3. TEST LEADS

1. One pair of Test Leads which consists of a Red Test Lead and a Black Test Lead is furnished with this instrument.
2. Each Test Lead consists of one Test Plug of a short insulator and one Test Prod of a long handle insulator.
3. The Test Plugs fit in the Terminals on the lower side of the case and the Test Prods are used to make contact with the circuit to be measured.

It is good practice to use Black Test Lead for COM Terminal (– polarity) and Red Test Lead for V Terminal (+ polarity).

#### 4. OVERRANGE INDICATION

If an input more than  $\approx 400A$  is measured, OL symbol is displayed on LCD. If the input voltage more than 600V is applied, OL symbol does not appear on LCD.

#### WARNING

Do not attempt to make any measurements that might exceed the maximum value of the function ( $\approx 400A$  or 600V) to avoid electrical shock hazard and/or damage to the instrument.

### 5-2. CURRENT ( $\overline{\text{A}}$ / $\sim$ A / Hz ) MEASUREMENTS

#### WARNING

Maximum Current is  $\approx 400A$ ( $\approx 600V$  Line). Do not attempt to make any current measurements that might exceed  $\approx 400A$ , the Maximum Current. Prior to measurements, read carefully 「4. SAFETY PRECAUTIONS」 of this instruction manual to avoid electrical shock hazard and/or damage to the instrument.

1. Set FUNCTION Switch to A position.

#### WARNING

Test Leads are not required for Current Measurements. For safety, remove Test Leads from INPUT Terminals. For safety, Finger-tips must be placed on the instrument not to exceed the LIMIT Indicator. Do not touch any part of the Power Line or the Circuit while it is on.









2. Press SHIFT Key to select  $\overline{\text{A}}$  (DC) or  $\sim$  (AC).  
On DC, if 3 digits or more is indicated on LCD, press DIFF Key to show  $0\pm 1$  digit. On AC, LCD shows random digits, but this does not matter with the specified accuracy.
3. Open CLAMP HEAD and clamp on a single conductor.  
**NOTE** : If two or three conductors are clamped on at a time, the measurement cannot be made.  
**NOTE** : ARROW Mark on the right side of CLAMP HEAD shows + to – polarity of current flow. In case of DC Current, clamp on a conductor so that Front Case should face to + polarity.
4. Read the current on LCD.
5. Press SHIFT Key to measure Hz.

### 5. AUTO POWER OFF

After about 12 minutes of last operation of FUNCTION Switch or the other Keys, power turns off automatically (goes down in sleep condition and  $1\sim 2\mu A$  consumption) with LCD display off. This function prevents battery consumption when power off is forgotten.

### 6. SYMBOL MARK

The following symbols shown on the instrument and in the instruction manual are listed in IEC 1010 and ISO 3864.

-  : Caution (refer to instruction manual).
-  : Direct Current (DC)
-  : Alternating Current (AC)
-  : DC and AC
-  : Diode
-  : Earth (Ground) Terminal
-  : Fuse
-  : Double Insulation

### 7. POWER-ON INITIALIZE

The instrument performs POWER-ON INITIALIZE automatically when turning on the power.

This function is effective when turning on the power without any inputs. If any inputs are applied to the instruments, it does not work correctly. LCD will display  $0\pm 1$  digit when INITIALIZE was done correctly. If LCD does not display it, turn the power on again or press DH Key.

**NOTE** : INITIALIZE sometimes does not work correctly due to some CPU error even if no inputs are applied. If LCD displays 3 digits or more, use DH Key.

**NOTE** : For current measurements near the high current conductor, INITIALIZE does not work correctly. In this case, take the instruments away from the conductor, and turn the power on again.

6. Display Hold : Press DH Key once and the display is held with DH symbol shown on LCD. To cancel Display Hold, press it again.
7. MAX/MIN : To measure Maximum and Minimum Values, press MAX/MIN Key while making measurements and start measurements.  
When a required time passed, press DH Key to hold MAX and MIN Values.  
**NOTE** : In case measurement time is longer than 10 minutes, cancel AUTO POWER OFF and make measurements.  
**NOTE** : In case MAX/MIN Key is pressed before clamping on a conductor, Maximum Value can be measured, but Minimum Value becomes zero.
8. PH (Peak Hold) : up to  $\overline{\text{A}}$  400A. To measure Peak Value, set FUNCTION Switch to A position before clamping on a conductor. Clamp on a single conductor and start measurements. To hold Peak Value, press DH Key once.
9. DIFF : To measure Difference Values, press DIFF Key for 1 second and longer while making measurements. The measuring value is stored and converted to read  $0\pm 1$  digit with DIFF symbol displayed on LCD.
10. When measurements are finished, remove CLAMP HEAD from the conductor and set FUNCTION Switch to OFF position.

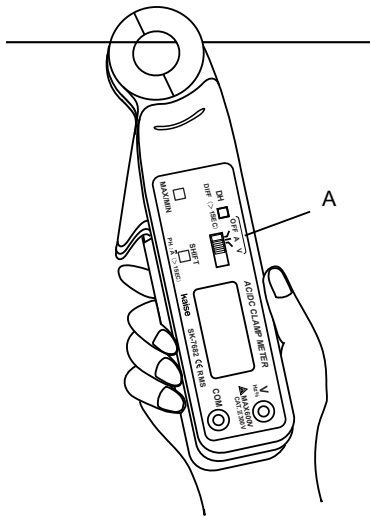


fig. 8

### 5-3. VOLTAGE (DC / ~V / Hz / %) MEASUREMENTS

#### ⚠ WARNING

Maximum Input Voltage of V function is  $\approx 600V$ . Do not attempt to measure voltage that might exceed  $\approx 600V$ . Prior to measurements, read carefully 「4. SAFETY PRECAUTIONS」 of this instruction manual to avoid electrical shock hazard and/or damage to the instrument.

1. Insert Black Test Plug into COM Terminal and Red Test Plug into V Terminal.
2. Set FUNCTION Switch to V position.
3. Press SHIFT Key to select DC (—) or AC (~).  
LCD reads random digits on DC and AC. But measurements are made within specified accuracy.

4. Connect Black Test Prod to the negative (earth) side of the circuit to be measured and Red Test Prod to the positive (high potential) side of the circuit.

**NOTE :** When taking voltage measurements, always connect the instrument **IN PARALLEL** with the circuit being measured.

#### ⚠ WARNING

When measuring dangerous voltage more than 220V, turn off power to the circuit to be measured and connect Test Prods to the circuit using Alligator Clips. Do not touch the Clamp Meter, its Test Leads or any part of the Circuit while it is on. Refer to 「WARNING 4. Dangerous Voltage Measurement Procedure」 on page 11 to 14.

5. Read the voltage on LCD.
6. Press SHIFT Key to measure Hz and %.
7. Display Hold : Press DH Key once and the display is held with DH symbol shown on LCD. To cancel Display Hold, press it again.
8. MAX/MIN : To measure Maximum and Minimum Values, press MAX/MIN Key while making measurements. When an adequate time passed, press DH Key to hold MAX and MIN Values.  
**NOTE :** In case measurement time is longer than 10 minutes, use MAX/MIN Key to cancel AUTO POWER OFF.
9. DIFF : To measure Difference Values, press DIFF Key for more than 1 second while making measurements.  
The measuring value is stored and converted to read  $0 \pm 1$  digit with DIFF symbol displayed on LCD.

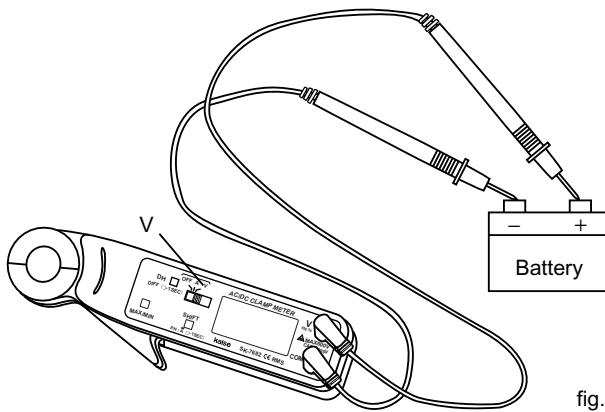


fig. 9

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

## 6. MAINTENANCE

### 6-1. WARRANTY STATEMENT

The warranty statement for the Clamp Meter 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 Leads from external circuit connections and from the Input Terminals before removing Battery Case Cover to replace the batteries.

1. If the batteries are consumed and BAT symbol is shown on LCD, replace the batteries.
2. Remove both Test Leads from the circuit and from the Terminals.
3. Set FUNCTION Switch to OFF position.
4. Unscrew the screw on the Battery Case Cover.
5. Replace the consumed batteries with fresh ones, two 1.5V R6P (UM-3) or type AA.  
**NOTE :** Place the batteries in the correct polarity.
6. Replace Battery Case Cover and screw. Refer to the figure 10.

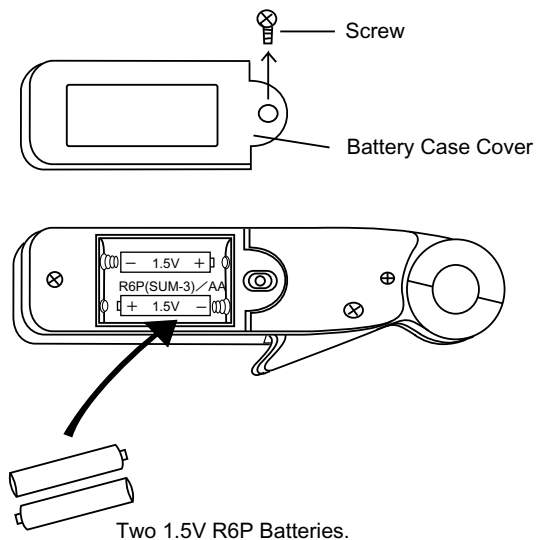


fig. 10

### 6-3. PERIODICAL CHECK AND CALIBRATION

Periodical check and calibration are necessary to make safety measurements as well as to maintain the specifications described on page 3 to 6.

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 carton 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 batteries if they are installed in the correct polarity.
3. Check the batteries if they are 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 Leads 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 Clamp Meter, SK-7682 is warranted in its entirety against any defects of material or workmanship under normal use and service within a period of one year 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 Clamp Meter SK-7682 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 wiring by others, or installation or use not in accord with instructions furnished by the manufacturer.

KAISE AUTHORIZED DEALER

**kaise**

**INSTRUCTION MANUAL**

**AC / DC  
DIGITAL CLAMP METER**

**MODEL SK-7682**

**KAISE CORPORATION**

422 Oaza Hayashinogo, Ueda City,  
Nagano Pref., 386-0156, Japan

TELEPHONE : +81-268-35-1600(REP.)  
FAX : +81-268-35-1603  
E-mail : sales@kaise.com  
http : //www.kaise.com

1201-7682-1 0410

**KAISE CORPORATION**