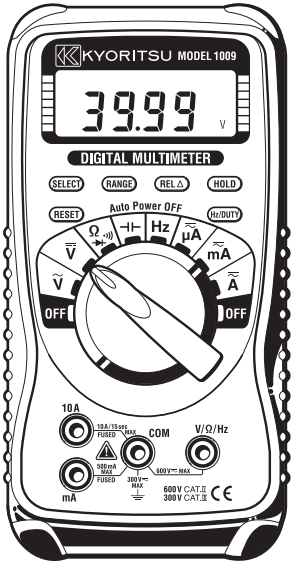
INSTRUCTION MANUAL



AUTO RANGE DIGITAL MULTIMETER

MODEL 1009

KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD.

1. Safety Warnings

This instrument has been designed, manufactured and tested according to the following standards.

IEC 61010-1, IEC61010-2-033 Measurement voltage CAT Ⅲ 300V Pollution degree 2
IEC 61010-031
IEC 61326-1, 61326-2-2 (EMC)

This instruction manual contains warnings and safety rules which must be observed by the user to ensure safe operation of the instrument and retain it in safe condition. Therefore, read through these operating instructions before using the instrument.

⚠ WARNING

- Read through and understand instructions contained in this manual before starting using the instrument.
- Save and keep the manual handy to enable quick reference whenever necessary.
- This instrument should only be used by suitably trained person and be sure to follow measurement procedures described in the manual. Kyoritsu assumes no responsibility for damage and injury caused by misuse or not following instructions in the manual.
- Be sure to understand and follow all safety instructions contained in the manual.

Failure to follow the instructions may cause injury, instrument damage and/or damage to equipment under test. Kyoritsu is by no means liable for any damage resulting from the instrument in contradiction to this cautionary note.

The symbol ⚠ indicated on the instrument means that the user must refer to related parts in the manual for safe operation of the instrument.
Be sure to carefully read the instructions following each ⚠ symbol in the manual.

⚠ **DANGER** is reserved for conditions and actions that are likely to cause serious or fatal injury.
⚠ **WARNING** is reserved for conditions and actions that can cause serious or fatal injury.
⚠ **CAUTION** is reserved for conditions and actions that can cause injury or instrument damage.

⚠ DANGER

- Never make measurement on the circuit in which electrical potential to ground over 300V AC/DC exists.
- Do not attempt to make measurement in the presence of flammable gasses. Otherwise, the use of the instrument may cause sparking, which can lead to an explosion.
- Be sure to keep your fingers behind the Protective fingerguard part of test lead.
- Never attempt to use the instrument if its surface or your hand is wet.
- Do not open the battery cover and the instrument case when making measurement.
- Do not exceed the maximum allowable input of any measurement range.
- The instrument should be used only in its intended applications or conditions. Otherwise, safety functions equipped with the instrument do not work, and instrument damage or serious personal injury may be caused.
- Verify proper operation on a known source before use or taking action as a result indication of the instrument.

⚠ WARNING

- Never attempt to make any measurement if any abnormal conditions are noted, such as broken case, cracked test leads and exposed metal parts.
- Do not turn the function selector switch with test leads connected to the instrument. Return the instrument to Kyoritsu or your distributor for repair or recalibration.
- Do not install substitute parts or make any modification to the instrument.
- Do not try to replace the batteries if the surface of the instrument is wet.
- Make sure to disconnect test leads from the device under test when opening the Battery cover for battery replacement.
- Always attach the Cap onto the tip metal parts when using the test lead in the Measurement Category III. (CAT III) or higher environments.
- When the test leads are connected to the instrument, the lower category (voltage) either of them belongs to is applied.
- Stop using the test lead if the outer jacket is damaged and the inner metal or color jacket is exposed.

⚠ CAUTION

- Always make sure to check Function switch is setting to the appropriate range before starting measurement.
- Do not expose the instrument to the direct sun, high temperature and humidity or dewfall.
- When the instrument will note be in use for a long period, place it in storage after removing the batteries.
- Use a cloth dipped in water or neutral detergent for cleaning the instrument. Do not use abrasives or solvents.
- Allowable measurement time at 10A range of current function is 15seconds. If you carry on making measurement continuously over 15seconds, it can cause instrument damage.
- Always make sure to insert each plug of the test leads fully into the appropriate terminal on the instrument.
- This instrument isn't dust & water proofed. Keep away from dust and water.

Please refer to following explanation of the symbols marked on the instrument or in the manual.

- Symbols

  ⏚ : Ground　～ : AC　⎓ : DC
  ⎓ : AC and DC　Ω : Resistance
  ⭲ : Diode　·)) : Buzzer
  ⊣⊢ : Capacitor　Hz : Frequency
  ⧈ : Double or reinforced insulation

- Measurement category

  CAT Ⅱ : Primary electrical circuit of equipment with power cord for connection to outlet.
  CAT Ⅲ : Primary electrical circuit of the equipment, which issupplied power from a distribution board, and cable run from a distribution board to an outlet.

2. Features

This instrument, 1009, is a Digital Multimeter which designed for making measurement of the low-voltage equipment.

(1) Designed to international safety standards.
IEC 61010-1, IEC61010-2-033 Measurement CAT Ⅲ 300V Pollution degree 2
IEC61010-031 (Requirements for the hand-held probe)
(2) REL function to check the difference of measured values
(3) Auto power off function to save battery consumption
(4) Data hold function
(5) Diode and Continuity check function
(6) Auto-ranging function
(7) Frequency measurement function
(8) DUTY measurement function
(Express Pulse width / Pulse period as a percentage)
(9) Current function is protected by fuse
(10) Instrument is protected from mechanical shock by holster.

3. Specification

● Measuring ranges and accuracy (23 ± 5℃ , under the 45%～75%RH)

Ranges		Measuring range	Accuracy
DCV	400 m V	0～600V (5 Autoranging) Input impedance approx. 10M Ω	± 0.6%rdg ± 4dgt
	4 V		
	40 V		
	400 V		
	600 V		± 1.0%rdg ± 4dgt
ACV	400 m V	20～399.9mV Input impedance approx. 10M Ω	± 1.6%rdg ± 4dgt (50 / 60Hz) ± 2.0%rdg ± 4dgt (～400Hz)
	4 V	0～600V (4 Autoranging) Input impedance approx. 10M Ω	± 1.3%rdg ± 4dgt (50 / 60Hz) ± 1.7%rdg ± 4dgt (～400Hz)
	40 V		
	400 V		± 1.6%rdg ± 4dgt (50 / 60Hz) ± 2.0%rdg ± 4dgt (～400Hz)
	600 V		
DCA	400 u A	0～4000uA (2 Autoranging)	± 2.0%rdg ± 4dgt
	4000 u A		
	40 m A	0～400mA (2 Autoranging)	± 1.0%rdg ± 4dgt
	400 m A		

DCA	4 A	0～10A (2 Autoranging)	± 1.6%rdg ± 4dgt
	10 A		
	Allowable measurement time : 10A(15seconds max)		
ACA	400 u A	0～4000uA (2 Autoranging)	± 2.6%rdg ± 4dgt (50 / 60Hz) ± 3.0%rdg ± 4dgt (～400Hz)
	4000 u A		
	40 m A	0～400mA (2 Autoranging)	± 2.0%rdg ± 4dgt (50 / 60Hz) ± 3.0%rdg ± 4dgt (～400Hz)
	400 m A		
	4 A	0～10A (2 Autoranging)	
	10 A		
	Allowable measurement time : 10A(15seconds max)		
Ω Resistance	400 Ω	0～40M Ω (6 Autoranging)	± 1.0%rdg ± 4dgt
	4 k Ω		
	40 k Ω		
	400 k Ω		
	4 MΩ		
	40 MΩ		± 2.0%rdg ± 4dgt
Diode check		Test current approx. 0.4mA	Unspecified
Continuity check		0～400 Ω	Buzzer beeps below about 100 Ω
Capacity	40 n F	～100uF (5 Autoranging)	± 3.5%rdg ± 10dgt
	400 n F		± 3.0%rdg ± 5dgt
	4 u F		
	40 u F		± 3.5%rdg ± 5dgt
	100 u F		
Frequency	5.12 H z	～10MHz (8 Autoranging) Input sensitivity: ～1MHz / more than 1.5V(RMS.) over 1MHz / more than 2V(RMS.)	± 0.1%rdg ± 5dgt
	51.2 H z		
	512 H z		
	5.12 k H z		
	51.2 k H z		
	512 k H z		
	5.12 M H z		
	10 M H z		
	D U T Y	0.1～99.9% (Pulse width / Pulse period)	± 2.5%rdg ± 5dgt

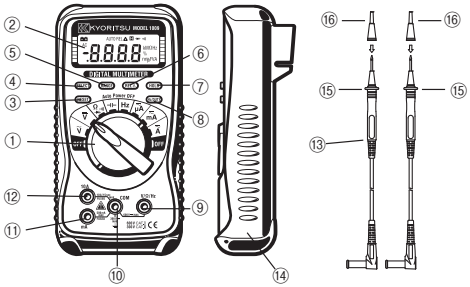
- ● Standards — IEC61010-1, IEC61010-2-033 Measurement CAT Ⅲ 300V, pollution degree 2 / Measurement CAT Ⅱ 600V, pollution degree 2
  IEC61010-031
  IEC 61326-1, 61326-2-2 (EMC)
- ● Environmental standard — EU RoHS directive compliant
- ● Mode of operation — △Σ mode
- ● Indication — LCD maximum value 3999 (ACV/A, DCV/A, Ω , F) / maximum value 5119 (Hz) / units, symbols
- ● Over range display — "OL" symbol is displayed on the LCD.
  In case that the value is beyond effective measuring range at the position of Ω function range and manual range.
- ● Auto-ranging — Range shifts to upper range when indicated value is more than 3999.
  Range shifts to lower range when indicated value is less than 360.
- ● Sampling rate — approx. 400mS

● Operating Environmental conditions	− indoor use − altitude up to 2000m
● Temperature & Humidity range (guaranteed accuracy)	23℃± 5℃ Relative humidity: less than 75%
● Operating Temperature & Humidity range	0℃～+40℃ Relative humidity: less than 80%
● Storage Temperature & Humidity range	-20℃～+60℃ Relative humidity: less than 70%
● Insulation Resistance	It should be more than 10M Ω /DC1000V between electrical circuit and enclosures.
● Withstand Voltage	It should be more than AC3470V/ for five seconds between electrical circuit and enclosures.
● Overload Protection	Voltage function : 400mV range : 250V(RMS.) 10seconds except for 400mV range : 600V(RMS.) 10seconds Resistance function : 250V (RMS.) 10seconds Capacity function : 250V (RMS.) 10seconds Frequency function : 250V (RMS.) 10seconds Current function : uA, mA : Protected by 600V0.5A fuse A : Protected by 600V/10A fuse
● Dimensions / Weight	approx. 155(L) x 75(W) x 33(D) mm / approx. 260g(including batteries)
● Power source	Two R6P(AA)1.5V or equivalent
● Accessories	Test lead M-7066A / R6P (AA) 2p.c.s / Holster / Instruction manual
● Fuse	M-8918 F 600V/500mA(fast acting type), ϕ 6.3 x 32mm / M-8919 F 600V/10A(fast acting type), ϕ 6.3 x 32mm

⚠ CAUTION

The voltage shown above is the overload protection (overvoltage protection) for the instrument.
Make sure not to exceed the value of voltage shown above.

4. Instrument Layout



① Function Selector Switch
② Display
③ RESET Key
④ SELECT Key
⑤ RANGE Key
⑥ REL Key
⑦ HOLD Key
⑧ Hz/DUTY Key
⑨ Measuring terminal (V/ Ω /Hz)
⑩ Measuring terminal (COM)
⑪ Measuring terminal (mA)
⑫ Measuring terminal (A)
⑬ Test Leads
⑭ Holster
⑮ Protective fingerguard
⑯ Cap

Protective fingerguard: provides protection against electrical shock and ensuring the minimum required air and creepage distances.

Cap:Choose and use the test leads and caps that are suitable for the measurement category. When the instrument and the test lead are combined and used together, whichever lower category either of them belongs to will be applied.

5. Preparation

5-1 Checking Battery Voltage

Set the Function Selector Switch to other positions except the OFF position.
Battery Voltage is enough if indication is clear and symbol is not indicated in this bout.
If symbol is indicated or no indication on the display, follow to the Battery
Replacement procedures shown in item8 in this document and replace with new batteries.

6. Measurements

6-1 Voltage Measurement (DCV, ACV)

⚠ DANGER

- To avoid the danger of getting electrical shock, never make measurement on a circuit over 600V AC/DC. (electrical potential to ground 300V AC/DC)
- Do not operate Function Selector Switch during measurement.
- Do not make measurement when opening the battery cover and the instrument case.
- Keep your fingers and hands behind the protective fingerguard during a measurement.

6-1-1 DC Voltage Measurement (DCV)

(1) Insert the black test lead plug into the COM terminal and the red test lead plug into the V Ω Hz terminal.
(2) Set the Function Selector Switch to " $\overline{\text{V}}$ " position.(Then, "AUTO" and "mV" symbols are indicated on the display.)
(3) Connect the black test lead to the negative side of the circuit under the test and the red test lead to the positive side of the circuit, then the measured value is indicated on the display. If you connect the test leads the other way, " − " symbol is indicated on the display.

6-1-2 AC Voltage Measurement (ACV)

(1) Insert the black test lead plug into the COM terminal and the red test lead plug into the V Ω Hz terminal.
(2) Set the Function Selector Switch to " $\tilde{\text{V}}$ " position.(Then, "AC", "AUTO", and "V" symbols are indicated on the display.)
(3) Connect the test leads to the circuit under test.
Measured value is indicated on the display.

Note) When you make measurement of the voltage less than 20mV at the AC400mV range, the measurement value cannot be indicated correctly.
Even if short-circuit the input line at the range of AC4V, 1～3dgt may remain indicated.
In that case, by pressing REL key, "0" will be indicated.

6-2 Current Measurement (DCA/ACA)

⚠ DANGER

- Do not apply voltage to the current measuring terminals.
- To avoid the danger of getting electrical shock, never make measurement on a circuit over 300V AC/DC. (electrical potential to ground 300V AC/DC)
- Do not operate Function Selector Switch during measurement.
- Do not make measurement when opening the battery cover and the instrument case.

6-2-1 DC Current Measurement (up to 400mA)

(1) Insert the black test lead plug into the COM terminal and the red test lead plug into the mA terminal.

(2) Set the Function Selector Switch to the appropriate "uA" or "mA" position.
In case that the measurement current is 3999uA or less, set the Function Selector Switch to "uA" position, and it is 399.9mA or less, set the Function Selector Switch to "mA" position.(Then, "AUTO", and "uA"or "mA" symbols are indicated on the display.)
(3) Power off the circuit under test.
(4) Connect the black test lead to the negative side of the circuit under the test and the red test lead to the positive side of the circuit so the instrument is in the series with the circuit.
(5) Power on the circuit under test.
(6) Measured value is indicated on the display.
If you connect the test leads the other polarity, " − " symbol is indicated on the display.

6-2-2 DC Current Measurement (up to 10A)

⚠ CAUTION

● For safety sake, the measuring time on 10A range should be 15 seconds or less. Interval time between 2 measurements should be greater than 15 minutes. If you carry on making measurement continuously over 15 seconds, or make measurement in short interval time, it may cause error of measurement and instrument damage.

(1) Insert the black test lead plug into COM terminal and the red test lead plug into the A terminal.
(2) Set the Function Selector Switch to the "A" position.(Then, "AUTO", and "A" symbols are indicated on the display.)
(3) Power off the circuit under test.
(4) Connect the black test lead to the negative side of the circuit under the test and the red test lead to the positive side of the circuit so the instrument is in the series with the circuit.
(5) Power on the circuit under test.
(6) Measured value is indicated on the display.
If you connect the test leads the other polarity, " − " symbol is indicated on the display.

6-2-3 AC Current Measurement (up to 400mA)

(1) Insert the black test lead plug into the COM terminal the red test lead plug into the mA terminal.
(2) Set the Function Selector Switch to the appropriate "uA" or "mA" position.
In the case of the measurement current is 3999uA or less, set the Function Selector Switch to "uA" position, and it is 399.9mA or less, set the Function Selector Switch to "mA" position.(Then, "AUTO", and "uA"(or "mA") symbols are indicated on the display.)
(3) Set the instrument to AC mode by pressing SELECT Key.(Then, "AC" symbol is indicated on the display.)
(4) Power off the circuit under test.
(5) Connect the test leads to the circuit under test so the instrument is in the series.
(6) Power on the circuit under test.
(7) Measured value is indicated on the display.

6-2-4 AC Current Measurement (up to 10A)

⚠ CAUTION

● For safety sake, the measuring time on 10A range should be 15 seconds or less. Interval time between 2 measurements should be greater than 15 minutes. If you carry on making measurement continuously over 15 seconds, or make measurement in short interval time, it may cause error of measurement and instrument damage.

(1) Insert the black test lead plug into the COM terminal and the red test lead plug into the A terminal.
(2) Set the Function Selector Switch to "A" position.(Then, "AUTO" and "A" symbols are indicated on the display.)
(3) Set the instrument to AC mode by pressing SELECT Key.(Then, "AC" symbol is indicated on the display.)

(4) Power off the circuit under test.
(5) Connect the test leads to the circuit under test so the instrument is in the series.
(6) Power on the circuit under test.
(7) Measured value is indicated on the display.

6-3 Resistance Measurement (Ω / Diode check/ Continuity Check)

⚠ DANGER
- To avoid the danger of getting electrical shock, never make measurement of the circuit in which electric potential exists.
- Do not make measurement when opening the battery cover and the instrument case.
- Keep your fingers and hands behind the protective fingerguard during a measurement.

6-3-1 Resistance Measurement

(1) Insert the black test lead plug into the COM terminal and the red test lead plug into the V Ω Hz terminal.
(2) Set the Function Selector Switch to " Ω " position.(Then, "AUTO" and "M Ω " symbols are indicated on the display.)
Make sure that the "O.L" symbol is indicated on the display at this bout, then short the test lead tips and check "0" is indicated on the display.
(3) Connect the test leads to both ends of the resistance under test.
Measured value is indicated on the display.

Note) Even if short the test lead tips, indicated value may not be "0". But this is because of the resistance of test leads and not a failure.
In that case, by pressing REL key, "0" will be indicated.

6-3-2 Diode Check

(1) Insert the black test lead plug into the COM terminal the red test lead plug into the V Ω Hz terminal.
(2) Set the Function Selector Switch to " Ω " position.(Then, "AUTO" and "M Ω " symbols are indicated on the display.)
(3) Press the SELECT Key one time and set the instrument to Diode Check mode.
(Then, " ⊣◀ " and "V" symbols are indicated on the display.)
Make sure that the ".OL" symbol is indicated on the display at this bout, then short the test lead tips and check "0" is indicated on the display.
(4) Connect the black test lead to the cathode side of the Diode and the red test lead to the anode side of the Diode.
Forward voltage of Diode is indicated on the display.
(5) Connect the black test lead to the anode side of the Diode and the red test lead to the cathode side of the Diode.
Normally, ".OL" symbol is indicated on the display.
Conclusion : Diode is OK if the instrument complies with above items(3) and (4).

Note) Open-circuit voltage between measuring terminals is approx.1.5V.(measuring current approx. 0.4mA)

6-3-3 Continuity Check

(1) Insert the red test lead plug into the V Ω Hz terminal and the black test lead plug into COM terminal.
(2) Set the Function Selector Switch to " Ω " position.(Then, "AUTO" and "M Ω " symbols are indicated on the display.)
(3) Press the SELECT Key twice and set the instrument to Continuity Check mode.
(Then, " ·)) " and " Ω " symbols are indicated on the display.)
Make sure that the "OL." symbol is indicated on the display at this bout, then short the test lead tips and check "0" is indicated on the display and check if the buzzer beeps.
(4) Connect the test leads to both ends of the resistance under test.
Measured value is indicated on the display. The buzzer beeps below about 100 Ω .

Note) Even if short the test lead tips, indicated value may not be "0". But this is because of the resistance of test leads and not a failure. In that case, by pressing REL key, "0" will be indicated.

6-4 Capacitance Measurement

⚠ DANGER
- To avoid the danger of getting electrical shock, never make measurement of the circuit in which electric potential exists.
- Do not make measurement when opening the battery cover and the instrument case.
- Make sure to discharge the capacitor before making measurement.

(1) Insert the black test lead plug into the COM terminal and the red test lead plug into the V Ω Hz terminal.
(2) Set the Function Selector Switch to " ⊣⊢ " position.(Then, "AUTO" and "nF" symbols are indicated on the display.)
(3) Press the REL key and "0" shall be indicated.(Then, "REL △ " symbol is indicated on the display.)
(4) Connect the test leads to both ends of the resistance under test.
Measured value is indicated on the display.
Measuring unit "nF" / "uF" is automatically chosen and indicated due to the measured value.

Note) It may take some time according to the measuring capacitance.
Measuring capacitance < 4uF ---------- Measuring time is about 2seconds
Measuring capacitance < 40uF ---------- Measuring time is about 7seconds
Measuring capacitance < 100uF ---------- Measuring time is about 15seconds

6-5 Frequency Measurement

⚠ DANGER
- To avoid the danger of getting electrical shocks, never make measurement on a circuit over 300V AC/DC. (electrical potential to ground 300V AC/DC)
- Do not operate Function Selector Switch during measurement.
- Do not make measurement when opening the battery cover and the instrument case.
- Keep your fingers and hands behind the protective fingerguard during a measurement.

(1) Insert the black test lead plug into COM terminal and the red test lead plug into the V Ω Hz terminal.
(2) Set the Function Selector Switch to "Hz" position.(Then, "Hz" symbol is indicated on the display.)
(3) Connect the test leads to the circuit under test.
Measured value is indicated on the display.
Frequency can be measured at ACV, DCV, ACA and DCA functions by pressing "Hz/DUTY" Switch.
Concerning with the direction for use of "Hz/ DUTY" Switch, please reference to the item7-6 Hz/DUTY in this document.

Note) The minimum input can be measured is approx. 1.5V.
Readings of frequency may fluctuate or be influenced under noisy environment.

7. How to use Function Switches

7-1 SELECT Key

This key is to chose the measuring function at Ω / Diode Check/ Continuity function and Current function(uA, mA, A). Actions at each function are as below.

- Ω / Diode Check/ Continuity function

When setting the instrument to " Ω / Diode Check/ Continuity" function, " Ω "measuring mode has been selected in the initial condition. By pressing "SELECT" Key, measuring mode changes.

" Ω " → "Diode Check" → "Continuity Check"

● Current function (uA, mA, A)
When setting the instrument to any function of the "uA", "mA", and "A", DC Current Measuring mode has been selected in the initial condition.
By pressing "SELECT" Key, measuring mode changes.
"DC" → "AC"

7-2 RESET Key
By pressing "RESET" Key, all functions can be reset to their initial conditions.
Range setting, Mode setting and Data hold are all released and every function is back to its initial condition.

7-3 RANGE Key
At each "ACV", "DCV", " Ω ", "uA", "mA" and "A" function, setting for the measuring ranges can be done manually by pressing "RANGE" Key. ("AUTO" symbol disappears from the display.)
Every time when pressing "RANGE" Key, range moves.
In order to change from manual mode to Auto-ranging, there are following 3ways.
1) Press "RANGE" Key for 2seconds
2) Change to the other functions.
3) Press "RESET" Key

7-4 REL Key
The difference between measured values can be indicated on the display at each "ACV", "DCV", " Ω ", "Capacitance", "ACA" and "DCA" function.
When pressing "REL" Key, "REL △ "symbol lights up and the value under measuring is stored.
After that, the difference between stored value and measuring value is indicated on the display.
It can be released by pressing the "REL" Key again, changing to the other functions or pressing the "RESET" Key.

7-5 HOLD Key
The measured value can be hold at all functions.
By pressing "HOLD" Key, "H" symbol indicated on the display and the indicated value can be held.
By pressing "HOLD" Key again, "H" symbol disappears from the display and held data is released.

7-6 Hz/DUTY Key
Making measurement for frequency of input signal and DUTY(Pulse width / Pulse period).
(1) Change from normal measurement to "Frequency Measurement" and "DUTY Measurement".
Every time when pressing "Hz/DUTY" Key, it changes in the following sequence from normal measurement.
"Frequency" → "DUTY" → "Normal measurement"
To measure a frequency, measure the voltage on the electrical circuit in advance. Then press the "Hz/DUTY" Key to enter into frequency measurement.
Readings of frequency may fluctuate or be influenced under noisy environment.
Caution: Frequency measuring range at ACV, DCV, ACA, DCA Functions by pressing the Hz/DUTY Key is as follows.
Measurable frequency range: 1 to 10kHz
(2) Change Frequency and DUTY at "Hz/DUTY" function.
By pressing "Hz/DUTY" Key, it changes in the sequence : "Frequency" → "DUTY".

8. Auto Power Off

Auto power off function operates when about 30minutes passed after power on this instrument.
When Auto power off function operates and the instrument powered off, the power-off statue returns to normal by pressing any key.
And it is possible to release the Auto power off function.
Turn the function switch from OFF position to the function you want with pressing SELECT key, and power on the instrument.

9. Battery & Fuse Replacement

⚠ DANGER

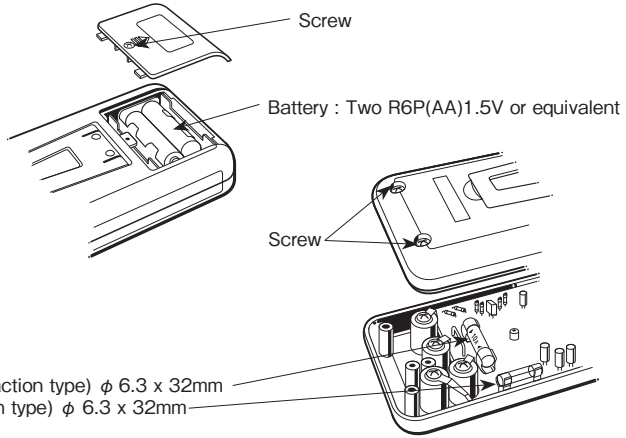
- Never open the battery cover and the instrument case when making measurement.
- To avoid getting electrical shock, be sure to remove test leads from the instrument when opening the battery cover in order to replace batteries and fuses.

9-1 Battery replacement

(1) Remove test leads from the instrument.
(2) Remove the holster from the instrument.
(3) Loosen one screw on the bottom of the Instrument and open the battery Cover then replace batteries.

9-2 Fuse replacement

(1) Remove test leads from the instrument.
(2) Remove the holster from the instrument.
(3) Loosen two screws on the bottom of the instrument and open the battery cover, then replace fuses.



10. Maintenance

Use a cloth dipped in water or neutral detergent for cleaning the instrument. Do not use abrasives or solvents.

DISTRIBUTOR

Kyoritsu reserves the rights to change specifications or Designs described in this manual without notice and without obligations.

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保　証　書

MODEL　1009	製造番号
保証期間　ご購入日（	年　月　日）より１年間

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お名前
ご住所　〒 ＴＥＬ

◎ 本保証書に製造番号、ご購入日、およびお名前、ご連絡先をご記入の上、大切に保管してください。
◎ 本保証書の再発行はいたしません。
◎ 本保証書は日本国内でのみ有効です。This warranty is valid only in Japan.

保証規定

保証期間内に生じました故障は無償で修理いたします。
但し、下記事項に該当する場合は対象から除外させていただきます。

1. 取扱説明書と異なる不適切な取扱い、または使用方法が原因で発生した故障。
2. お買い上げ後の持ち運びや輸送の間に、落下させるなど異常な衝撃が加わって生じた故障。
3. 弊社サービス担当者以外による改造、修理が原因で生じた故障。
4. 火災、地震、水害、公害及びその他の天変地異が原因で生じた故障。
5. 傷など外観上の変化。
6. その他弊社の責任と見なされない故障。
7. 電池など消耗品の交換、補充。
8. 保証書のご提出がない場合

共立電気計器株式会社

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