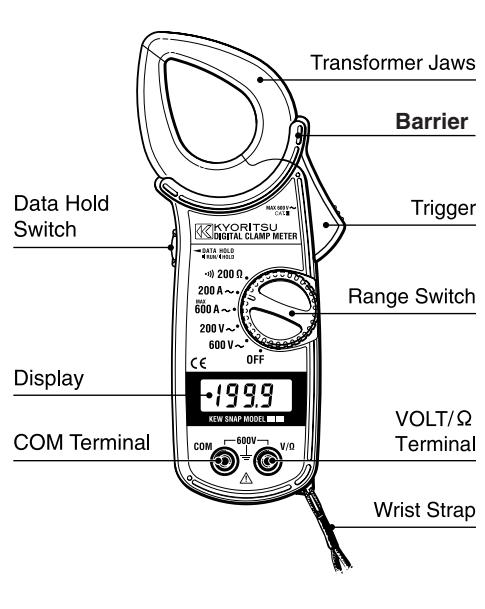


DIGITAL AC CLAMP METER

KEW SNAP SERIES

KEW SNAP 2017
KEW SNAP 2027 RMS

1. Safety Warnings

This instrument has been designed, manufactured, and tested according to IEC 61010: Safety requirements for Electronic measuring apparatus, and delivered in the best condition after passed the inspection. This instruction manual contains warnings and safety rules which must be observed by the user to ensure safe operation of the instrument and to retain it in safe condition. Therefore, read through these operating instructions before using the instrument.

WARNING

- Read through and understand the instructions contained in this manual before starting to use the instrument.
- Save and keep the manual at hand to enable quick reference whenever necessary.
- Be sure to use the instrument only in its intended applications.
- Be sure to understand and follow all safety instructions contained in the manual.

Be sure to observe the above instructions. Failure to follow the above 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 these cautionary notes.

○ The symbol **⚠** indicated on the instrument means that the user must refer to the 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.

○ Please refer to following explanation of the symbols used on the instrument and in this manual.

⚠ User must refer to the explanations in the instruction manual.

□ Indicates an instrument with double or reinforced insulation.

⚡ Indicates that this instrument can clamp on bare conductor when measuring a voltage corresponding to the applicable Measurement category, which is marked next to this symbol.

~ Indicates AC (Alternating Current).

⏚ Indicates Earth.

○ Read through the following safety instructions contained in this manual before using the instrument.

DANGER

- Never make measurement on the circuit in which electrical potential to ground over 600V 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.
- Transformer jaw tips are designed not to short the circuit under test. If equipment under test has exposed conductive parts, however, extra precaution should be taken to minimize the possibility of shorting.
- Never attempt to use the instrument if its surface or your hand is wet. Otherwise, you may get electrical shock.
- Never open the Bottom case and Battery cover during a measurement.

WARNING

- Never attempt to make any measurement if the instrument has any structural abnormality such as cracked case and exposed metal part.
- Do not turn the range switch with test leads connected to the instrument.
- Do not install substitute parts or make any modification to the instrument. Return the instrument to the distributor from whom you purchased this instrument for repair or re-calibration.
- Always switch off the instrument before opening the battery compartment cover for battery replacement.

CAUTION

- Always make sure to set the Range switch to the appropriate position before making measurement.
- Always make sure to insert the plug of each lead fully into the appropriate terminal on the instrument.
- Be sure to set the Range switch to "OFF" position after use. When the instrument will not be in use for a long period, place it in storage after removing the batteries.
- Do not expose the instrument to the direct sun, high temperature and humidity or dewfall.
- Use a damp cloth and detergent for cleaning the instrument. Do not use abrasives solvents.

○ Measurement categories (Over-voltage categories)

To ensure safe operation of measuring instruments, IEC61010 establishes safety standards for various electrical environments, categorized as CAT I to CAT IV, and called measurement categories. These are defined as indicated on the next.

CAT. I : Secondary electrical circuits connected to an AC electrical outlet through a transformer or similar device.

CAT. II : Primary electrical circuits of equipment connected to an AC electrical outlet by a power cord.

CAT. III : Primary electrical circuits of the equipment connected directly to the distribution panel, and feeders from the distribution panel to outlets.

CAT. IV : The circuit from the service drop to the service entrance, and to the power meter and primary over-current protection device (distribution panel).

2. Features

- Designed to CAT. III 600V and pollution degree 2 specified by the international safety standard, IEC 61010-1.
- Tear-drop-shaped jaws for ease of use in crowded cable areas and other tight places.
- Data Hold function.
- Wide frequency range from 40Hz to 1kHz.
- KEW SNAP 2027 is a true RMS Type that permits most accurate measurements independent of waveforms.

3. Specification

KEW SNAP 2017

Ranges	Frequency	Accuracy	Crest Factor
AC200A	50/60Hz	1.5%rdg+4dgt	sin
	40Hz~1kHz	2.0%rdg+5dgt	↑
AC600A	50/60Hz	1.0%rdg+3dgt	↑
	40Hz~1kHz	2.0%rdg+5dgt	↑
AC200V	50/60Hz	1.0%rdg+2dgt	↑
	40Hz~1kHz	1.5%rdg+4dgt	↑
AC600V	50/60Hz	1.0%rdg+2dgt	↑
	40Hz~1kHz	1.5%rdg+4dgt	↑
200Ω	1.2%rdg+2dgt	Beeps below about 30Ω.	

KEW SNAP 2027(True RMS Type)

Ranges	Frequency	Accuracy	Crest Factor
AC200A	50/60Hz	1.5%rdg+4dgt	≤3
	40Hz~1kHz	2.0%rdg+5dgt	sin
AC600A	50/60Hz	1.5%rdg+4dgt	≤3
	40Hz~1kHz	2.0%rdg+5dgt	sin
AC200V	50/60Hz	1.0%rdg+2dgt	≤3
	40Hz~1kHz	1.5%rdg+4dgt	sin
AC600V	50/60Hz	1.0%rdg+2dgt	≤3
	40Hz~1kHz	1.5%rdg+4dgt	sin
200Ω	1.2%rdg+2dgt	Beeps below about 30Ω.	

- Operating System : Dual Integration
- Display : Liquid crystal with a max count of 1999
- Over range indication : "1" is displayed on the highest digit.
- Response time : Approx. 2 seconds.
- Location for use : Altitude up to 2000m or less, in-door use
- Temperature and Humidity : 23°C ± 5°C relative humidity (Guaranteed Accuracy) 75% or less. (no condensation)
- Operating temperature : - 10 ~ 50°C, up to 30°C, 95% relative humidity up to 40°C, 75% relative humidity up to 50°C, 45% relative humidity
- Storage temperature and Humidity : - 20 ~ 60°C, (no condensation) relative humidity 75% or less

- Effect of conductor position : 2017 Within 2% of indicated value at the center to a 10mm dia conductor carrying 100A, at every part inside the jaws. 2027 Within 3% of indicated value at the center to a 10mm dia conductor carrying 100A, at every part inside the jaws.
- Effect of external : 2 A or less in AC magnetic field of magnetic field 400A/m
- Power Source : 6F22(9V DC) or equivalent battery
- Battery Life : Approx. 200 hours (continuous)
- Current consumption : Approx. 2mA
- Withstanding Voltage : 5550V AC for 1 minute between housing case and metal part of jaws
- Insulation Resistance : 50MΩ or greater at 1000V between housing case and metal part of jaws
- Conductor Size : Approx. 30mm diameter max.
- Dimensions : Approx. 91(W)×208(H)×40(D)mm
- Weight : Approx. 400g(batteries included)
- Safety Standard : EN61010-1
EN61010-031
EN61010-2-032
(600V AC CAT. III, Pollution degree2, indoor use)
- EMC Standard : EN 55022
- Accessories : Test leads Model 70661set
6F22 battery1
Carrying case Model 90791
Instruction Manual1
- Optional Accessories : Clamp adapter Model 8004, 8008

4. Operating Instruction

4-1 Preparation to check battery voltage;

- Set the range switch to a desired position
- If the display is clear without symbol "B" showing, proceed to measurement, Battery voltage is OK.
- If the Display blinks or symbol "B" is indicated, replace the battery in accordance with Section 5 for Battery Replacement.

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4-2 AC Current Measurement

WARNING

(1) Set the range switch to 200Ω.

(2) Short the test leads. The display should read nearly 0 and the beeper should sound. (Test lead have a resistance of about 0.2Ω)

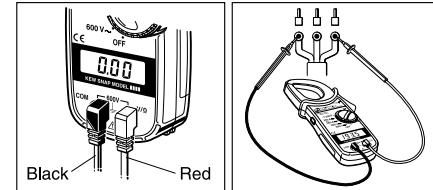
(3) Set the range switch to 200A or 600A.

(4) Set the range switch to 200V or 600V.

(5) Insert the red plug of the test lead into the V/Ω terminal and the black plug into the COM terminal.

(6) Touch the tips of the test leads to the circuit under test.

(7) Read the display.



4-3 AC Voltage Measurement

WARNING

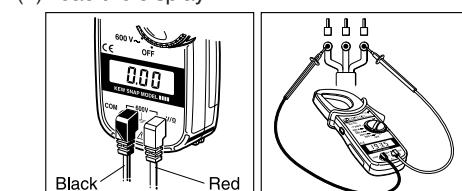
- Never use the instrument on a circuit above 600Vrms AC. Measurement on circuits above this voltage to the instrument or equipment under test.
- Keep your fingers and hands behind the batteries during measurement.
- Do not operate the range switch during a measurement.
- Do not open the battery cover when making measurement.

(1) Set the range switch to 200V or 600V.

(2) Insert the red plug of the test lead into the V/Ω terminal and the black plug into the COM terminal.

(3) Touch the tips of the test leads to the circuit under test.

(4) Read the display.



4-4 Resistance Measurements and Continuity Check

WARNING

- To avoid possible electrical shock and instrument damage, make sure that a circuit to be tested is de energized.
- Keep your fingers and hands behind the batteries during measurement.
- Do not operate the range switch during a measurement.
- Do not open the battery cover when making measurement.

(1) Set the range switch to 200Ω.

(2) Short the test leads. The display should read nearly 0 and the beeper should sound. (Test lead have a resistance of about 0.2Ω)

(3) Set the range switch to 200A or 600A.

(4) Set the range switch to 200V or 600V.

(5) Insert the red plug of the test lead into the V/Ω terminal and the black plug into the COM terminal.

(6) Touch the tips of the test leads to the circuit under test.

(7) Read the display.

(8) Set the range switch to 200Ω.

(9) Short the test leads. The display should read nearly 0 and the beeper should sound. (Test lead have a resistance of about 0.2Ω)

(10) Set the range switch to 200A or 600A.

(11) Set the range switch to 200V or 600V.

(12) Insert the red plug of the test lead into the V/Ω terminal and the black plug into the COM terminal.

(13) Touch the tips of the test leads to the circuit under test.

(14) Read the display.

(15) Set the range switch to 200Ω.

(16) Short the test leads. The display should read nearly 0 and the beeper should sound. (Test lead have a resistance of about 0.2Ω)

(17) Set the range switch to 200A or 600A.

(18) Set the range switch to 200V or 600V.

(19) Insert the red plug of the test lead into the V/Ω terminal and the black plug into the COM terminal.

(20) Touch the tips of the test leads to the circuit under test.

(21) Read the display.

(22) Set the range switch to 200Ω.

(23) Short the test leads. The display should read nearly 0 and the beeper should sound. (Test lead have a resistance of about 0.2Ω)

(24) Set the range switch to 200A or 600A.

(25) Set the range switch to 200V or 600V.

(26) Insert the red plug of the test lead into the V/Ω terminal and the black plug into the COM terminal.

(27) Touch the tips of the test leads to the circuit under test.

(28) Read the display.

(29) Set the range switch to 200Ω.

(30) Short the test leads. The display should read nearly 0 and the beeper should sound. (Test lead have a resistance of about 0.2Ω)

(31) Set the range switch to 200A or 600A.

(32) Set the range switch to 200V or 600V.

(33) Insert the red plug of the test lead into the V/Ω terminal and the black plug into the COM terminal.

(34) Touch the tips of the test leads to the circuit under test.

(35) Read the display.

(36) Set the range switch to 200Ω.

(37) Short the test leads. The display should read nearly 0 and the beeper should sound. (Test lead have a resistance of about 0.2Ω)

(38) Set the range switch to 200A or 600A.

(39) Set the range switch to 200V or 600V.

(40) Insert the red plug of the test lead into the V/Ω terminal and the black plug into the COM terminal.

(41) Touch the tips of the test leads to the circuit under test.

(42) Read the display.

(43) Set the range switch to 200Ω.

(44) Short the test leads. The display should read nearly 0 and the beeper should sound. (Test lead have a resistance of about 0.2Ω)

(45) Set the range switch to 200A or 600A.

(46) Set the range switch to 200V or 600V.

(47) Insert the red plug of the test lead into the V/Ω terminal and the black plug into the COM terminal.

(48) Touch the tips of the test leads to the circuit under test.

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