

# Instruction Manual



KYORITSU ELECTRICAL INSTRUMENTS  
WORKS, LTD.

## K2031

# Digital AC Clamp Meter



 DANGER

- Never make measurement on a circuit above 300V AC. The instrument is designed for measurement on a low-voltage circuit below 300V AC.
- Do not attempt to make measurement in an explosive atmosphere (i.e. in the presence of flammable gasses or fumes, vapor or dust).
- The transformer jaws are made of metal and their tips are not insulated. Be especially careful about the hazard of possible shorting where equipment under test has exposed conductive parts.
- Never attempt to use the instrument if the instrument or your hand is wet.
- Do not exceed the maximum allowable input value of any measurement range.
- Never open the battery compartment cover when making measurement.
- Keep your fingers and hands behind the Barrier during 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 install substitute parts or make any modification to the instrument. Return the instrument to Major Tech or your distributor for service and repair to ensure that safety features are maintained.
- Always switch off the instrument before opening the battery compartment cover for battery replacement.

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# 1 . FEATURES

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- ① Pocket-size, miniature AC clamp meter
- ② Tear drop shaped jaws for ease of use in crowded cable areas and other tight places
- ③ Designed to international safety standard IEC 61010-1 (CAT III 300V)
- ④ A wide range of frequency response from 40 Hz to 1 kHz
- ⑤ Data hold function to allow for easy readings in dimly light or hard-to-read locations
- ⑥ Auto-power-off function to conserve battery power

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# 2 . SAFETY WARNINGS

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- This instrument has been designed and tested according to IEC Publication 61010, Safety Requirements for Electronic Measuring Apparatus. 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.

 CAUTION

- Make sure that the range switch is set to an appropriate position before making measurement.
- Be sure to set the range switch to the OFF position after use. When the instrument will not be in use for a long period of time, place it in storage after removing the batteries.
- Do not expose the instrument to the direct sun, extreme temperatures or dew fall.
- Use a damp cloth and detergent for cleaning the instrument. Do not use abrasives or solvents.



### 3 . SPECIFICATIONS


Range		Accuracy
20A	0~19.99 A	$\pm 2.0\% \text{rdg} \pm 5 \text{dgt}$ (50Hz~1kHz)
200A	0~199.9 A	$\pm 2.0\% \text{rdg} \pm 5 \text{dgt}$ (50~60Hz) $\pm 3.0\% \text{rdg} \pm 10 \text{dgt}$ (40Hz~1kHz)


#### **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.
- The instrument is to be used only in its intended applications.
- Understand and follow all the safety instructions contained in the manual.

Failure to follow the instructions may cause injury, instrument damage and/or damage to equipment under test. Major tech 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 instructions following each  symbol in this manual.

 **DANGER** : Conditions and actions that are likely to cause serious or fatal injury.

 **WARNING** : Conditions and actions that could cause serious or fatal injury.

 **CAUTION** : Conditions and actions that could cause minor injury or instrument damage.

Operating System	Dual integration
Display	Field effect liquid crystal display
Measuring Ranges	20A/200A AC
Low Battery Indication	"BATT" symbol appears on the display
Overrange Indication	"1" flashes on the highest digit
Response Time	Approx. 1 second
Auto Power Off	The instrument automatically shuts off approx. 10 minutes after being turned on.
Data Hold	For all ranges
Location for use	Indoor use, Altitude up to 2000m
Storage Temperature & Humidity	-10~50°C, relative humidity up to 75% (without condensation)
Operating Temperature & Humidity	0~40°C, relative humidity up to 90% (without condensation)
Conductor Size	Approx. 24mm in diameter
Safety Standard	IEC 61010-1 CAT III, 300V IEC 61010-2-032 EMC IEC 61326-1 RoHS EN 50581
Dimension	147(L)×58.5(W)×26(D)mm
Weight	Approx. 100g(battery included)
Power Source	Two LR-44(3V) or SR-44 batteries
Battery Life	Approx. 100 hours in continuous use
Current Consumption	Approx. 1 mA
Accessories	Instruction Manual Two LR-44 batteries Carrying Case Model 9090

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## 4 . OPERATING INSTRUCTIONS

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### 4 — 1 Battery Check

- ① Set the range switch to 20A or 200A
- ② If the display is clear without showing symbol "BATT", battery voltage is OK.
- ③ If the display remains blank or symbol "BATT" appears, replace the batteries in accordance with the battery replacement procedures as outlined in section 5.

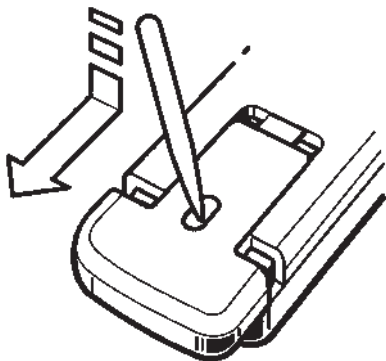


### 4 — 2 AC Current Measurement

**⚠ CAUTION**

- The maximum size conductor to be tested is approx. 24 mm in diameter. An accurate measurement cannot be made when the transformer jaws are not fully closed on a conductor larger than 24mm.
- When measuring a large current, the transformer jaws may buzz. This is not a fault and does not affect the accuracy.
- About 10 minutes after the instrument is turned on, the Auto Power Off function turns the instrument off even during current measurement. To continue measurement, turn the range switch to OFF, then to 20A or 200A again.

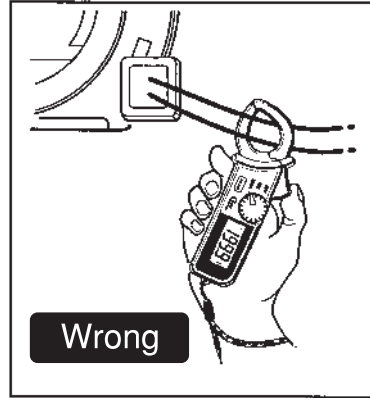
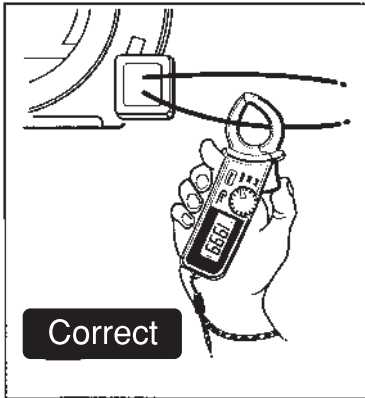
- ① Set the range switch to the OFF position.
- ② Press in the hole on the battery compartment cover with the tip of a pointed object, then slide open the cover.
- ③ Replace the batteries with new ones, observing correct polarity. Replacement batteries should be type LR-44 or SR-44.
- ④ Slide the battery compartment cover in place.



**⚠ DANGER**

- Never use the instrument on a circuit above 300V AC.
- The transformer jaws are made of metal and their tips are not insulated. Be especially careful about the hazard of possible shorting where equipment under test has exposed conductive parts.
- Do not attempt to make measurement with the battery compartment cover removed from the instrument.
- Keep your fingers and hands behind the Barrier during measurement.

- ① Set the range switch to 20A or 200A.
- ② Press the jaw trigger to open the transformer jaws and clamp onto one conductor only. Try to place the conductor at the center of the transformer jaws.



#### 4 — 3 Using Data Hold Function

- ① Press the Data Hold button to freeze the reading. Symbol "H" is displayed to indicate the instrument being in the Data Hold mode.
- ② Press the button again to cancel the Data Hold mode. The Data Hold function is available on both 20A and 200A ranges for measurement in hard-to-read locations.



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## 5 . BATTERY REPLACEMENT

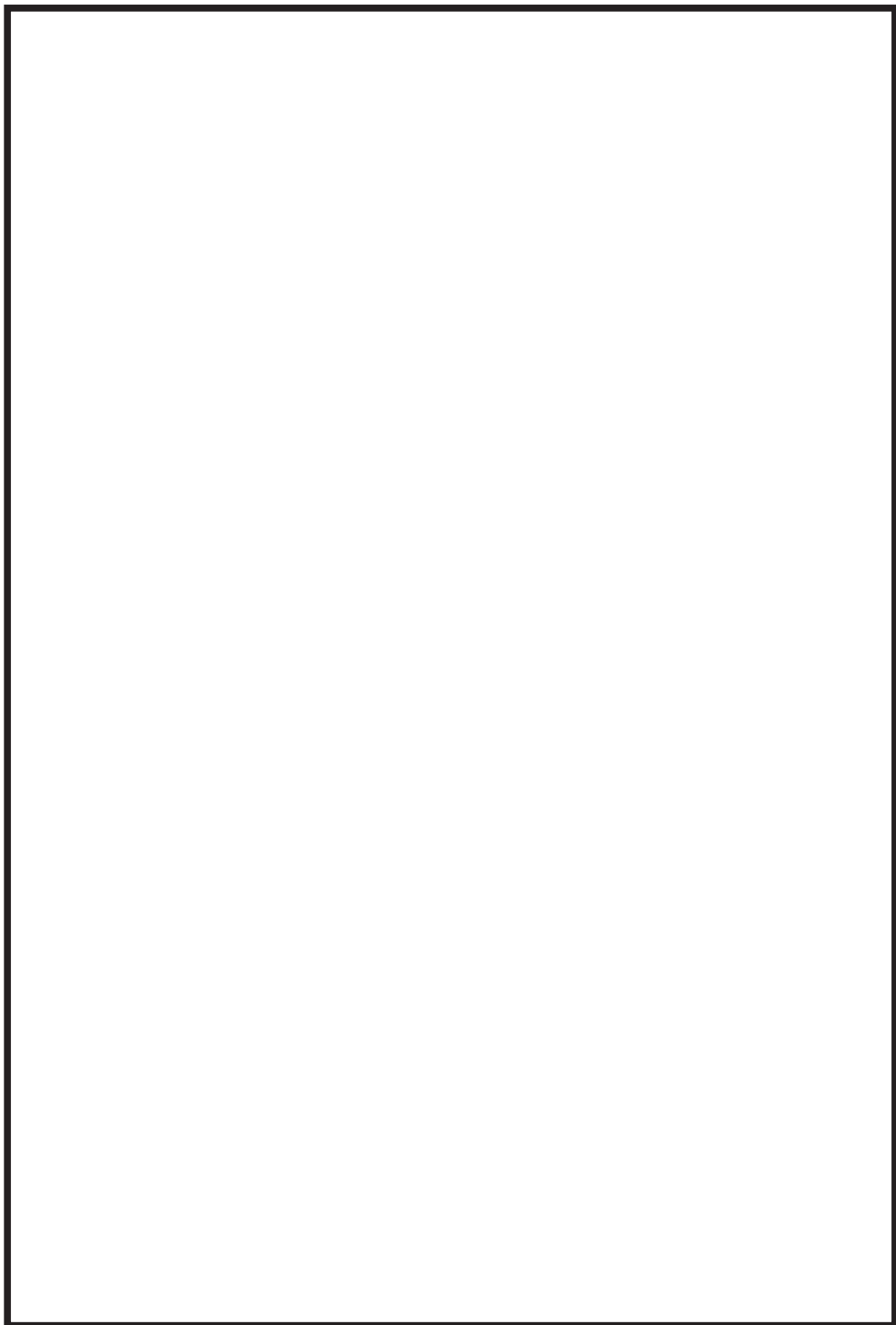
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When the display remains blank or symbol "BATT" appears, replace the batteries.

**⚠ DANGER**

Never replace the batteries while making measurement.







Major Tech reserves the rights to change specifications or designs described in this manual without notice and without obligations.

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