



TECHNO VIETNAM 8124 Load Current Clamp Sensors Instruction Manual

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TECHNO VIETNAM 8124 Load Current Clamp Sensors



Product Information

POWER CLAMP SENSOR Series MODEL 8124/8125/8126/8127

The POWER CLAMP SENSOR Series is a product manufactured by KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD., TOKYO, JAPAN. The series includes four models: 8124, 8125, 8126, and 8127. This product is used for measuring current in electric circuits.

Safety Warnings

It is important to follow safety measures when using this product. Failure to do so may result in electric shock or other hazards. The following safety warnings should be observed:

- Do not touch live parts or conductors with wet hands or while standing on a wet surface.
- Do not use the product in explosive or flammable environments.
- When measuring current, ensure that the product is properly connected to the circuit and that the current range is appropriate for the circuit being measured.
- Do not attempt to repair or modify the product. Contact a qualified technician if repairs are necessary.

Product Usage Instructions

To use the POWER CLAMP SENSOR Series, follow these steps:

1. Select the appropriate model for the circuit being measured.
2. Connect the product to the circuit being measured, ensuring that the clamps are properly attached to the conductors.
3. Turn on the product and select the appropriate current range for the circuit being measured.
4. Read the current measurement from the display.
5. When finished, turn off the product and disconnect it from the circuit being measured.

It is important to follow all safety instructions and product usage instructions to ensure that the product is used safely and effectively.

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 passing quality control tests. This instruction manual contains warnings and safety rules which have to be observed by the user to ensure safe operation of the instrument and to maintain 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 using the instrument.
- Keep the manual at hand to enable quick reference whenever necessary.
- The instrument is to be used only in its intended applications.
- The operating instructions described in the manual must be observed.
- Understand and follow all the safety instructions contained in the manual. It is essential that the above instructions are adhered to. Failure to follow the above instructions may cause injury and or instrument damage. 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 the related parts in the manual for safe operation of the instrument. It is essential to read the instructions wherever the A symbol appears 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 minor injury or instrument damage.

DANGER

- Never make measurements on a circuit in which the electrical potential exceeds AC300V using MODEL8127 and AC600V using MODEL8124, 8125 and 8126.
- Do not make measurements when thunder rumbling. If the instrument is in use, stop the measurement immediately and remove the instrument from the measured object.

- Do not attempt to make measurements in the presence of flammable gasses. Otherwise, the use of the instrument may cause sparking, which can lead to an explosion.
- The transformer jaws are made of metal and their tips are not completely insulated. Be especially careful about the possible shorting where the measured object has exposed metal parts.
- Never attempt to use the instrument if it's surface or your hand are wet.
- Do not exceed the maximum allowable input of any measuring range.





WARNING

- Never attempt to make any measurement, if any abnormal conditions are noted, such as broken case, and exposed metal parts.
- Do not install substitute parts or make any modifications to the instrument. Return the instrument to the distributor from who you purchased this instrument for repair or re-calibration in case of suspected faulty operation.
- Always keep your fingers and hands behind the barrier on the instrument to avoid the possible shock hazard.

CAUTION

- Do not step on or pinch the cord to prevent the jacket of cord from being damaged.
- The output connector shall be removed or connected without clamping a conductor. Otherwise, it may cause a failure.
- Do not expose the instrument to direct sunlight, high temperatures, humidity or dew.
- Never give shocks, such as vibration or drop, which may damage the instrument.
- Use a damp cloth and detergent for cleaning the instrument. Do not use abrasives or solvents.

Safety symbols

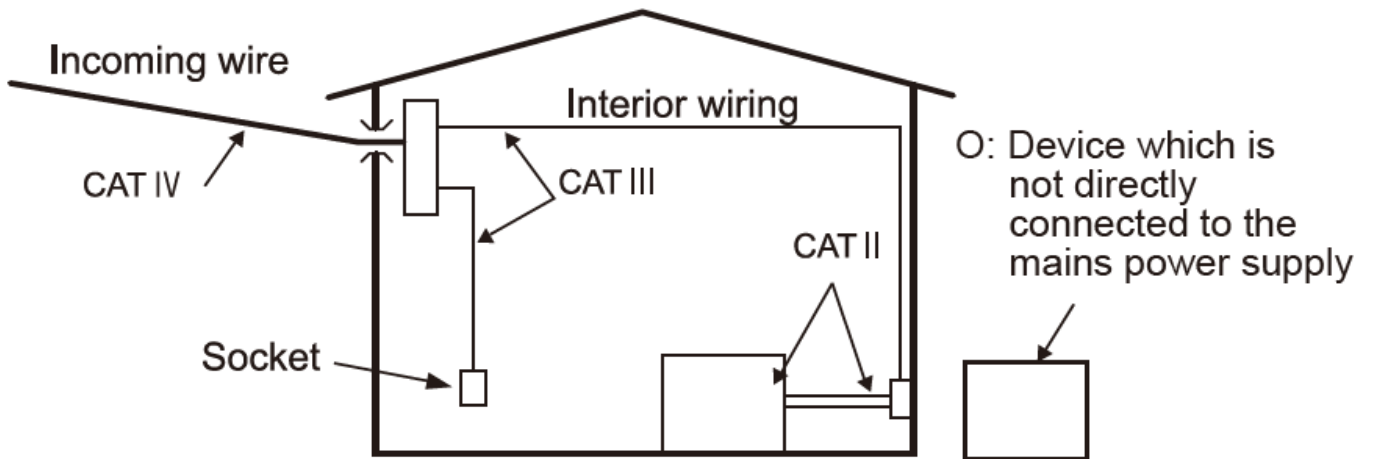
-  Refer to the instructions in the manual.
-  Indicates an Instrument with double or reinforced insulation
-  Indicates that this instrument can clamp on bare conductors.
-  Indicates AC

Measurement Category

To ensure safe operation of measuring instruments, IEC 61010 establishes safety standards for various electrical environments, categorized as O to CAT IV, and called measurement categories. Higher-numbered categories correspond to electrical environments with greater momentary energy, so a measuring instrument designed for CAT III environments can endure greater momentary energy than one designed for CAT II.

- **O:** Circuits which are not directly connected to the mains power supply.
- **CAT II:** 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.

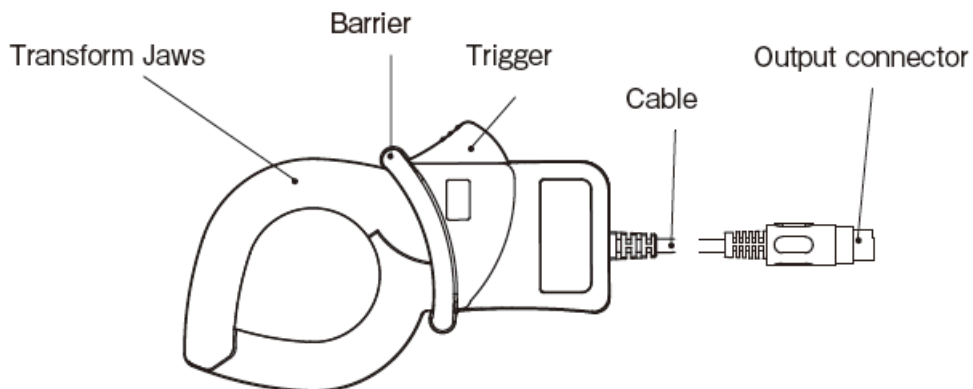
- **CAT IV:** The circuit from the service drop to the service entrance, and to the power meter and primary overcurrent protection device (distribution panel).



Features

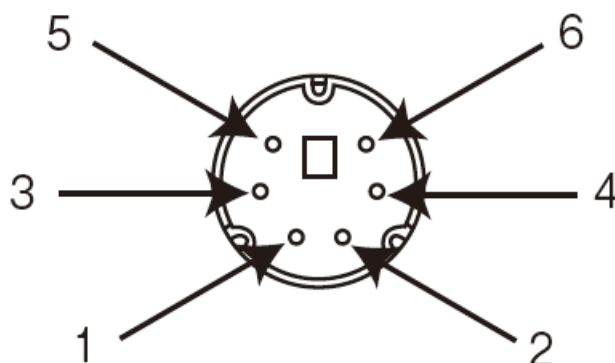
- This is a clamp sensor for our Power meter.
- Designed to international safety standard IEC61010-2-032 CAT III Pollution Degree 2

Instrument layout



Barrier: It is a part providing protection against electrical shock and ensures the minimum required air and creepage distances.

Din plug pin assignment



- 3: GND pin
- 5: Output signal pin
- 1, 2, 4 and 6: No use

Above figure shows the pin assignment seeing the Clamp sensor from output connector part. The figure of the pin assignment of the connection terminal is symmetrical to above figure.

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

Specifications

| Model | 8124 | 8125 | 8126 | 8127 |
|---|---|--|---|--|
| Rated voltage | AC1000Arms(1414Apeak) | AC500Arms(707Apeak) | AC200Arms(283Apeak) | AC100Arms(141Apeak) |
| Output voltage | AC0~500mV (AC500mV/AC1000A):0.5mV/A | AC0~500mV (AC500mV/AC500A):1mV/A | AC0~500mV (AC500mV/AC200A):2.5mV/A | AC0~500mV (AC500mV/AC100A):5mV/A |
| Measuring range | AC0~1000A | AC0~500A | AC0~200A | AC0~100A |
| Accuracy (Input: sine wave) | ±0.5%rdg±0.2mV(50/60Hz) ±1.5%rdg±0.4mV(40~1kHz) | ±0.5%rdg±0.1mV(50/60Hz) ±1.0%rdg±0.2mV(40~1kHz) | ±0.5%rdg±0.1mV(50/60Hz) ±1.0%rdg±0.2mV(40~1kHz) | ±0.5%rdg±0.1mV(50/60Hz) ±1.0%rdg±0.2mV(40~1kHz) |
| Phase characteristics | ±1deg within(at 10~1000A / 45~65Hz) | ±1deg within(at 5~500A / 45~65Hz) | ±1deg within(at 2~200A / 45~65Hz) | ±2deg within(at 1~100A / 45~65Hz) |
| Temperature & humidity range (Guaranteed accuracy) | 23±5°C , relative humidity: 85% or less (no condensation) | | | |
| Operating temperature range | 0~50°C , relative humidity: 85% or less (no condensation) | | | |
| Storage temperature range | -20~60°C , relative humidity: 85% or less (no condensation) | | | |
| Maximum permissible input | AC1000Arms continuous (50/60Hz) | AC500Arms continuous (50/60Hz) | AC200Arms continuous (50/60Hz) | AC100Arms continuous(50/60Hz) |
| Output impedance | Approx. 1Ω | Approx. 2Ω | Approx. 5Ω | Approx. 11Ω |
| Location for use | Altitude up to 2000m, Indoors | | | |
| Applicable standards | IEC 61010-1, IEC 61010-2-032 Measurement CAT III (600Vrms) Pollution degree 2 IEC 61326-1 (EMC) | | IEC 61010-1, IEC 61010-2-032 Measurement CAT III (300Vrms) Pollution degree 2 IEC 61326-1 (EMC) | |
| Environmental standards | EU RoHS Directive compliant | | | |
| Withstand voltage | AC5160Vrms (50/60Hz)for 5 sec. between Jaw and enclosure between enclosure and output terminal between Jaw and output terminal | | AC3470Vrms (50/60Hz)for 5 sec. between Jaw and enclosure between enclosure and output terminal between Jaw and output terminal | |
| Insulation resistance | 50MΩ or greater at 1000V between Jaw and enclosure between enclosure and output terminal between Jaw and output terminal | | | |
| Conductor Size | Approx.68mm in diameter (max.) | Approx.40mm in diameter (max.) | Approx.40mm in diameter (max.) | Approx.24mm in diameter (max.) |
| Dimension | 186(L)×129(W)×53(D) mm | 128(L)×81(W)×36(D) mm | 128(L)×81(W)×36(D) mm | 100(L)×60(W)×26(D) mm |
| Cable length | Approx. 3m | | | |
| Output terminal | MINI DIN 6PIN | | | |
| Weight | Approx. 510g | Approx. 260g | Approx. 260g | Approx. 160g |
| Accessories | Instruction manual Cable marker | | | |
| Option | MODEL 7146 (Banans Φ4 adjuster plug) MODEL 7147 (Extension cable) | | | |

Operating instructions

DANGER

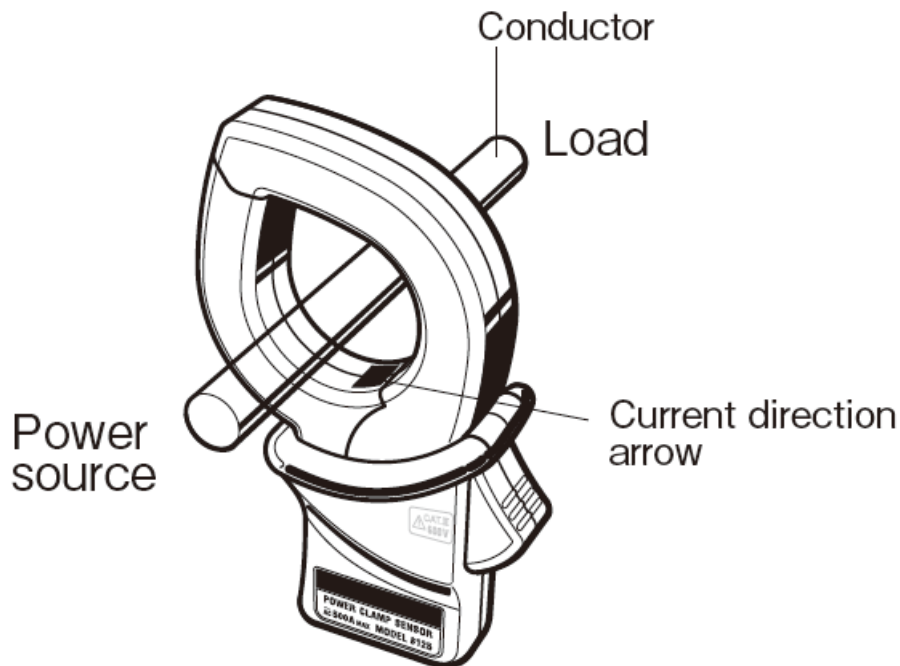
- Never make measurements on a circuit in which the electrical potential exceeds AC300V using MODEL8127 and AC600V using MODEL8124, 8125 and 8126 in order to avoid possible shock hazard.
- The transformer jaws are made of metal and their tips are not completely insulated. Be especially careful about the possible shorting where the measured object has exposed metal parts.

CAUTION

- Take sufficient care to avoid shock, vibration or excessive force when handling the instrument. Otherwise, precisely adjusted transformer jaws will be damaged.
- When transformer jaws do not fully close, never try to close them by force, but make them free to move and try again. If a foreign substance is stuck in the jaw tips, remove it.
- When making current measurements, keep the transformer jaws fully closed. Otherwise, accurate measurements cannot be taken.
- The maximum conductor size is as follows.
- MODEL8124: 68mm in diameter
- MODEL8125/ 8126: 40mm in diameter
- MODEL8127: 24mm in diameter
- Hold the inserting part (except for the cable) and disconnect the Output connector from the measuring instrument so as not to cause a break in the cord.

Measurement procedures

1. Connect the Output connector to the Input terminal of the measuring instrument.
2. Press the Trigger to open the transformer jaws and clamp onto one conductor. In this case, the measured conductor shall be at the center of the jaws. When connecting a sensor with a Power meter (our Power meter, MODEL6300, etc.) match the arrow mark (Power source to load), which is indicated on the transformer jaws, with the current flowing direction in order to synchronize the phases of measured current and output voltage.
3. Ensure that the tips of the transformer jaws are firmly closed.



Setting for Power meter

When using any of these sensors with KEW6305 or 6315, please refer to the instruction manual, either of which you're using, and carefully check sensor type settings and available current ranges.


This instrument satisfies the marking requirement defined in the WEEE Directive (2002/96/EC). This symbol

indicates separate collection for electrical and electronic 5-22 92-1640E equipment.

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Documents / Resources

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|---|--|
|  | <p>TECHNO VIETNAM 8124 Load Current Clamp Sensors [pdf] Instruction Manual 8124 Load Current Clamp Sensors, 8124, Load Current Clamp Sensors, Current Clamp Sensors, Clamp Sensors</p> |
|---|--|

References

[Manuals+](#).