Introduction

Thank you for purchasing the HIOKI "Model 9132, 9132-10 CLAMP ON PROBE". To obtain maximum performance from the device, please read this manual first, and keep it handy for future reference.

Inspection

When you receive the device, inspect it carefully to ensure that no damage occurred during shipping. In particular, check the panel switches. If damage is evident, or if it fails to operate according to the specifications, contact your dealer or Hioki representative.

Safety

⚠ WARNING

Mishandling this device during use could result in injury or death, as well as damage to the device. Be certain that you understand the instructions and precautions in the manual before use. We disclaim any responsibility for accidents or injuries not resulting directly from device defects.

This manual contains information and warnings essential for safe operation of the device and for maintaining it in safe operating condition. Before using it, be sure to carefully read the following safety precautions.

Safety symbols

⚠	• In the manual, the ⚠ symbol indicates particularly important information that the user should read before using the device. • The ⚠ symbol printed on the device indicates that the user should refer to a corresponding topic in the manual (marked with the ⚠ symbol) before using the relevant function.

The following symbols in this manual indicate the relative importance of cautions and warnings.

⚠ DANGER	Indicates that incorrect operation presents an extreme hazard that could result in serious injury or death to the user.
⚠ WARNING	Indicates that incorrect operation presents a significant hazard that could result in serious injury or death to the user.
⚠ CAUTION	Indicates that incorrect operation presents a possibility of injury to the user or damage to the device.
NOTE	Indicates advisory items related to performance or correct operation of the device

Notes on Use ⚠

Follow these precautions to ensure safe operation and to obtain the full benefits of the various functions.

Preliminary Checks

- Before using the device the first time, verify that it operates normally to ensure that the no damage occurred during storage or shipping. If you find any damage, contact your dealer or Hioki representative.
- Before using the device, make sure that the insulation on the probes is undamaged and that no bare conductors are improperly exposed. Using the device in such conditions could cause an electric shock, so contact your dealer or Hioki representative for repair.

⚠ DANGER

- **To avoid short circuits and potentially life-threatening hazards, never attach the device to a circuit that operates at more than 600 Vrms, or over bare conductors.**
- **Connect the device to the instrument first, and then to the active lines to be measured.**
  Observe the following to avoid electric shock and short circuits.
  When the clamp jaws are opened, do not allow the metal part of the jaws to touch any exposed metal, or to short between two lines, and do not use over bare conductors.
- **This device should only be connected to the secondary side of a breaker, so the breaker can prevent an accident if a short circuit occurs. Connections should never be made to the primary side of a breaker, because unrestricted current flow could cause a serious accident if a short circuit occurs.**

⚠ WARNING

- **Do not allow the device to get wet, and do not take measurements with wet hands. This may cause an electric shock.**
- **To avoid electric shock when measuring live lines, wear appropriate protective gear, such as insulated rubber gloves, boots and a safety helmet.**

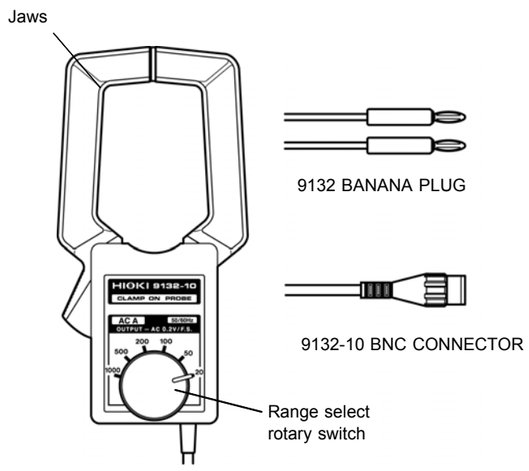
⚠ CAUTION

- Check the position of the range switch before taking measurements. Note that the device may be damaged if current exceeding the selected measurement range is applied for a long time.
- To prevent damage to the connected instruments, never connect or disconnect a sensor while the power is on, or while the sensor is clamped around a conductor.
- Do not store or use the device where it could be exposed to direct sunlight, high temperature or humidity, or condensation. Under such conditions, the device may be damaged and insulation may deteriorate so that it no longer meets specifications.
- To avoid damage to the device, protect it from physical shock when transporting and handling. Be especially careful to avoid physical shock from dropping.
- Keep the clamp jaws and core slits free from foreign objects, which could interfere with clamping action.

NOTE

Correct measurement may be impossible in the presence of strong magnetic fields, such as near transformers and high-current conductors, or in the presence of strong electromagnetic fields such as near radio transmitters.

Part Names



Measurement Procedure (AC A)

⚠ CAUTION

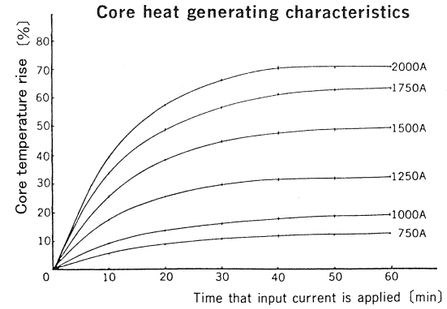
When disconnecting the BNC connector, be sure to release the lock before pulling off the connector. Forcibly pulling the connector without releasing the lock, or pulling on the cable, can damage the connector.

When input to our recorder or tester, use 0.2 VAC range.

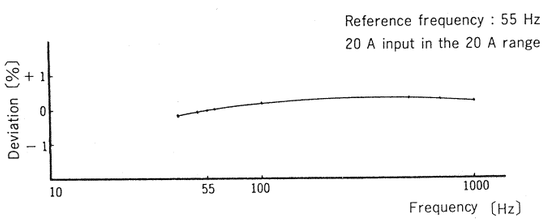
1. Connect the output terminals to the input terminal. When using the BNC connector, align the BNC connector with the connector guide notch on the current input connector. While pushing the connector in, turn it to the right to lock it.
2. When input the unknown amount of measuring current, set the range to the largest one (1000 A).
3. Open the jaws and clamp the conductor.
4. Confirm whether the jaws tip connection part is closed certainly.
5. Set the proper range of the clamp on probe according to the measurement value.
   Do not set the range from the measurement equipment (the recorder etc.)

NOTE

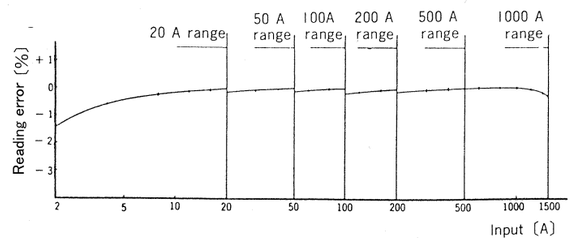
Attach the clamp around only one conductor. Single-phase (2-wire) or three-phase (3-wire) cables clamped together will not produce any reading.



Frequency response



Linearity f=55Hz



Specifications

Accuracy is guaranteed for 1 year at 23±5℃ (73±9℉), 80%rh and 45 to 66 Hz.

Measuring range	AC 20/50/100/200/500/1000 A
Output voltage	0.2 V AC f.s. (The output resistance is approx. 150Ω; in the range of 20 A)
Measurement time	Continuous measurement possible below 1000 A and within 2 minutes at 1500 A
Accuracy	±3%rdg. ±0.5 mV
Frequency response	±1% at 40 to 1 kHz (with respect to 55 Hz reference)
Effect of conductor position	±3.5% (in accordance with JEMIS-020 method)
Effect of external magnetic field	Equivalent to 3 A or lower (within a 400 A/m AC field)
Withstand voltage	2200 Vrms for 1 minute (between jaws and electric circuit, electric circuit and case, case and jaws)
Maximum rated voltage to earth	600 Vrms max.
Measurable conductor diameter	Accommodates conductors up to 55 mm dia. and bus bar up to 80 mm wide.
Operating temperature	-10 to 50℃ (14 to 122℉)
Cord length	Approx. 3 m (118.11")
External dimensions and mass	Approx. 99W×192H×33D mm (3.90"W×7.56"H×1.30"D) (excluding knob) Approx. 580 g (20.5 oz.)
Accessories	Instruction manual, 9148 CARRYING CASE

f.s. : maximum display value or scale length (This is usually the maximum value of the currently selected range.)
rdg. : reading value (The value currently being measured and indicated on the measuring device)

Maintenance and Service

Cleaning the device

To clean the device, wipe it gently with a soft cloth moistened with water or mild detergent. Never use solvents such as benzene, alcohol, acetone, ether, ketones, thinners or gasoline, as they can deform and discolor the case.

Service

If the device seems to be malfunctioning, confirm that the probes is not open circuited before contacting your dealer or Hioki representative. Pack the device so that it will not sustain damage during shipping, and include a description of existing damage. We cannot accept responsibility for damage incurred during shipping.

HIOKI
HIOKI E.E. CORPORATION
HEAD OFFICE
81 Koizumi, Ueda, Nagano 386-1192, Japan
TEL +81-268-28-0562 / FAX +81-268-28-0568
E-mail: os-com@hioki.co.jp/
URL http: //www.hioki.co.jp/
HIOKI USA CORPORATION
6 Corporate Drive, Cranbury, NJ 08512, USA
TEL +1-609-409-9109 / FAX +1-609-409-9108