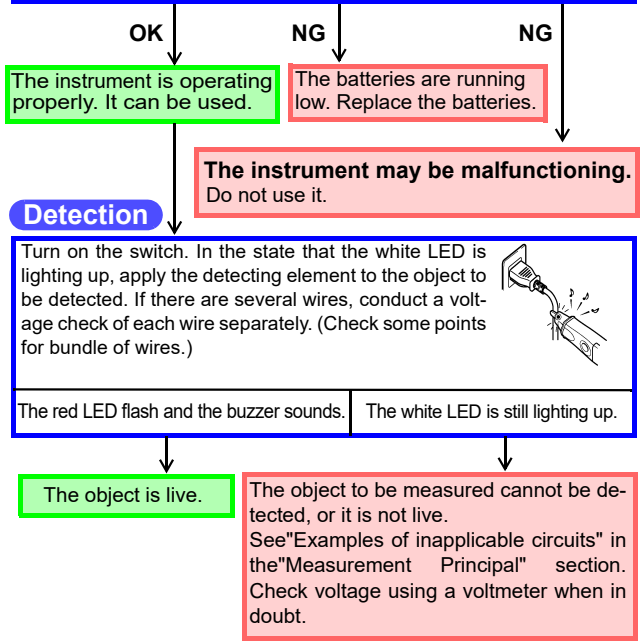
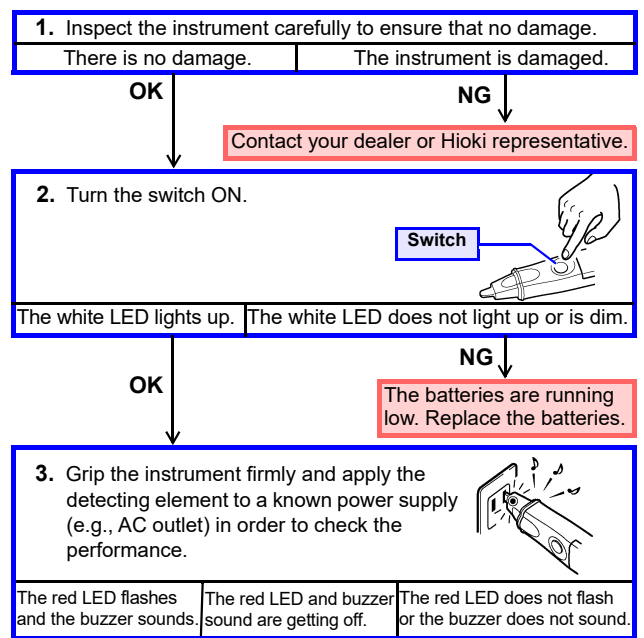


Performance Check

Be sure to check the following before and after use to avoid electrical shock.



VOLTAGE DETECTOR	Object to be Measured
The white LED still lighting up, and the red LED flashes and the buzzer sounds.	Live.
Only the white LED lights up.	Not live or below the Operating-voltage range.

Information on download site

For details on the product application, the update file for the instrument, and the instruction manual, please check Hioki's website:
<https://cloud.gennect.net/dl>

Request for product user registration

We kindly request that you visit the following link to register your product to receive critical updates and information about the product:
<https://www.hioki.com/global/support/myhioki/registration/>

Adjusting sensitivity

- Slide the battery cover to the position where the sensitivity adjustment trimmer appears.
- Turn the trimmer with a precision screwdriver to adjust the sensitivity, placing the detecting element into contact with an object to be detected.

Sensitivity adjustment trimmer

1 → 2

Clockwise: Increase the sensitivity to detect a relatively low voltage.
Counterclockwise: Decrease the sensitivity to detect a relatively high voltage

NOTE

The sensitivity will vary according to wire types or operating environments. Please adjust the sensitivity appropriately depending on your operating environment.

Replacing the batteries

WARNING

- Do not mix old and new batteries, or different types of batteries. Also, be careful to observe battery polarity during installation. Otherwise, poor performance or damage from battery leakage could result.
- Battery may explode if mistreated. Do not short-circuit, recharge, disassemble or dispose of in fire.
- Handle and dispose of batteries in accordance with local regulations.
- Keep batteries away from children to prevent accidental swallowing.

NOTE

- Use LR44 button alkaline battery.
- After use, always turn OFF the power to prevent battery drain.

Replacing the batteries

- Turn the switch off.
- Unlock the battery cover by pressing in the opening with the tip of a pen, screwdriver or other thin apparatus and slide the cover towards the end of the voltage detector.
- Replace the old batteries with new ones. Confirm correct polarity when installing the new batteries.
- Slide the battery cover back into locked position.

Name of Parts

Model 3481-20

Detecting element

Barrier

Switch

ON OFF

OPEN

Specifications

Basic Specifications

Function	Detection
Operating Voltage Range	40V to 600 V AC (When brought into contact with a 2-mm ² insulated cable equivalent to 600 V polyvinyl chloride insulated wire) Maximum sensitivity variable range 40 V to 80 V AC
Operating frequency	50 Hz/60 Hz
Pilot light	The red LED flashes and the buzzer sounds when the wire is live.
Additional Functions	Light Battery check (The white LED is dim or out when the batteries are low.)
Power supply	Three LR44 button alkaline batteries.
Dimensions	Approx. 20W× 126H × 15D mm (0.79"W × 4.96"H × 0.59"D)(excluding projections)
Mass	Approx. 30 g (1.1 oz.) (including three LR44 button alkaline batteries)
Operating environment	Indoors, altitude up to 2000 m (6562 ft.)
Operating temperature and humidity	0°C to 40°C (32°F to 104°F), 80% RH or less. (no condensation)
Storage temperature and humidity	-20°C to 60°C (-4°F to 140°F), 80% RH or less. (no condensation)
Product warranty period	3 years
Accessories	Instruction manual (Please visit Hioki's website to check for versions in other languages.) Three LR44 button alkaline batteries (Installed in the instrument, for operation check)
Standards	Safety EN61010, Pollution degree2, Measurement category IV 600 V (anticipated transient overvoltage 8000 V) EMC EN61326

Electrical Specifications

Maximum rated voltage to earth	CAT IV 600 V
Rated voltage	600 V AC
Dielectric strength	8.54 kV rms(between the detecting element and main body)
Rated supply voltage	1.5 V DC × 3

Operating supply-voltage range	From 4.95 V to the voltage at which the white LED goes out (central value: 3.6 V)
Maximum rated power	550 mVA (Max.)
Continuous operating time	Approx.5 hours (Power ON Standby state)
Auto power off	The power will be turned off automatically if the instrument remains idle for 3 minutes after the power is turned on. To reset, turn the power on again using the Power ON switch.

If a malfunction is suspected

Although the following phenomena, which are unavoidable in the detection principle, can be observed, the instrument has no malfunction.

Phenomenon	Cause
Even after the sensitivity adjustment or at a distance of tens of millimeters from circuits, the instrument detects the live circuits with a voltage of 200 V AC or higher.	Model 3481-20 is intended mainly to detect circuits with a voltage of 100 V AC. The sensitivity variable range is specified as from 40 V to 80 V AC in consideration of safety. Thus, the instrument may detect circuits with a voltage of 200 V AC or higher even after the sensitivity adjustment or at a distance from the circuit.
The instrument incorrectly detects metalware including steel desks as live.	Metalware close to AC power may charge AC potential (induced potential) to ground due to the influence of electrostatic capacitance, resulting in incorrectly detecting.
If the instrument is rapidly moved closer to or away from non-live circuits or DC circuits, the instrument detects live state temporarily.	The non-live circuits or DC circuits may charge static electricity, temporarily resulting in incorrectly detecting.

Warranty Certificate

Model Serial number Warranty period

Three (3) years from date of purchase (____ / ____ / ____)

Customer name: _____

Customer address: _____

Important

- Please retain this warranty certificate. Duplicates cannot be reissued.
- Complete the certificate with the model number, serial number, and date of purchase, along with your name and address. The personal information you provide on this form will only be used to provide repair service and information about Hioki products and services.

This document certifies that the product has been inspected and verified to conform to Hioki's standards. Please contact the place of purchase in the event of a malfunction and provide this document, in which case Hioki will repair or replace the product subject to the warranty terms described below.

Warranty terms

- The product is guaranteed to operate properly during the warranty period (three [3] years from the date of purchase). If the date of purchase is unknown, the warranty period is defined as three (3) years from the date (month and year) of manufacture (as indicated by the first four digits of the serial number in YYMM format).
- If the product came with an AC adapter, the adapter is warranted for one (1) year from the date of purchase.
- The accuracy of measured values and other data generated by the product is guaranteed as described in the product specifications.
- In the event that the product or AC adapter malfunctions during its respective warranty period due to a defect of workmanship or materials, Hioki will repair or replace the product or AC adapter free of charge.
- The following malfunctions and issues are not covered by the warranty and as such are not subject to free repair or replacement:
 - 1. Malfunctions or damage of consumables, parts with a defined service life, etc.
 - 2. Malfunctions or damage of connectors, cables, etc.
 - 3. Malfunctions or damage caused by shipment, dropping, relocation, etc., after purchase of the product
 - 4. Malfunctions or damage caused by inappropriate handling that violates information found in the instruction manual or on precautionary labeling on the product itself
 - 5. Malfunctions or damage caused by a failure to perform maintenance or inspections as required by law or recommended in the instruction manual
 - 6. Malfunctions or damage caused by fire, storms or flooding, earthquakes, lightning, power anomalies (involving voltage, frequency, etc.), war or unrest, contamination with radiation, or other acts of God
 - 7. Damage that is limited to the product's appearance (cosmetic blemishes, deformation of enclosure shape, fading of color, etc.)
 - 8. Other malfunctions or damage for which Hioki is not responsible
- After disassembly, such as opening the product, has been performed by the customer without permission by Hioki
- The warranty will be considered invalidated in the following circumstances, in which case Hioki will be unable to perform service such as repair or calibration:
 - 1. If the product has been repaired or modified by a company, entity, or individual other than Hioki
 - 2. If the product has been embedded in another piece of equipment for use in a special application (aerospace, nuclear power, medical use, vehicle control, etc.) without Hioki's having received prior notice
- If you experience a loss caused by use of the product and Hioki determines that it is responsible for the underlying issue, Hioki will provide compensation in an amount not to exceed the purchase price, with the following exceptions:
 - 1. Secondary damage arising from damage to a measured device or component that was caused by use of the product
 - 2. Damage arising from measurement results provided by the product
 - 3. Damage to a device other than the product that was sustained when connecting the device to the product (including via network connections)
- Hioki reserves the right to decline to perform repair, calibration, or other service for products for which a certain amount of time has passed since their manufacture, products whose parts have been discontinued, and products that cannot be repaired due to unforeseen circumstances.

HIOKI E. E. CORPORATION

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