3287  CLAMP ON 
3288  AC/DC HiTESTER
3288-20

Instruction Manual

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EN

Notation

Classified as follows.

Acute or chronic systemic health effects.

In this document

Notation

Standards

This instrument is designed to conform to IEC 61010 Safety Standards, and has been thoroughly tested for safety prior to shipment. However, using the instrument in a way not described in this manual may negate the provided safety features. Before using the instrument, be certain to carefully read the following safety notes.

Introduction

Thank you for purchasing the Hioki 3287/3288/3288-20 AC Clamp Meter. To obtain maximum performance from the instrument, please refer to this manual first, and keep it handy for future reference.

Safety Notes

This instrument is designed to conform to IEC 61010 Safety Standards, and has been thoroughly tested for safety prior to shipment. However, using the instrument in a way not described in this manual may negate the provided safety features. Before using the instrument, be certain to carefully read the following safety notes.

Notation

In this document, the risk seriousness and the hazard levels are classified as follows.

WARNING

Imminent risk of operator death or serious injury

Potential for operator death or serious injury

Potential for minor operator injury or device damage or malfunction

Risk of electric shock

Prohibited actions

Actions that must be performed

Symbols affixed to the device

Precaution or hazard (See corresponding topic.)

Risk of electric shock

Protected throughout by double insulation or reinforced insulation

Device may be connected to or disconnected from a live conductor

Grounding terminal

DC (direct current)

AC (alternating current)

Accuracy

We define measurement tolerances in terms of rdg. (reading) and dgt. (digit) values, with the following meanings:

rdg. (reading or displayed value)

The value currently being measured and indicated on the measuring instrument.

dgt. (resolution)

The smallest displayable unit on a digital measuring instrument, i.e., the input value that causes the digital display to show a ‘1’ as the least-significant digit.

Measurement categories

This instrument’s current measurement part conforms to the safety requirements for CAT III 600 V and the voltage measurement part conforms to the safety requirements for CAT II 600 V, CAT III 300 V

measurement instruments.

To avoid electric shock, do not touch the portion beyond the protective barrier during use.

Never apply voltage to the test leads when the measuring instrument is in use.

Do not allow weak batteries to remain in the instrument.

Do not turn the adjustment screw inside the battery case.

Do not use batteries after their recommended expiry date.

Do not allow batteries to remain in the instrument.

Replace batteries only with the specified type.

Replace batteries with those specified by your authorized Hioki distributor or reseller.

If damaged, replace them with those specified by your authorized Hioki distributor or reseller.

Exposure to direct sunlight or high temperature

Exposure to high humidity or condensation

Exposure to high quantities of dust particles

WARNING

• Installing the instrument in inappropriate locations may cause a malfunction of instrument or may give rise to an accident. Avoid the following locations:

Exposed to direct sunlight or high temperature

Exposed to corrosive or combustible gases

Exposed to a strong electromagnetic field or electrostatic charge

Near induction heating systems (such as high-frequency induction heating systems and IH cooking equipment)

Susceptible to vibration

Exposed to water, oil, chemicals, or solvents

Exposed to high humidity or condensation

Exposed to high quantities of dust particles

WARNING

• Since there is a risk of electric shock, check that the insulation on the test lead are neither ripped nor torn, and no metal conductor inside the wire are exposed before using the instrument. If damaged, replace them with those specified by your company.

To prevent a short circuit accident, be sure to use the test leads with the sleeves attached when performing measurements in the CAT III measurement category.

If the sleeves are inadvertently removed during measurement, stop the measurement.

With regard to the electricity supply, there are risks of electric shock, heat generation, fire, and arc flash due to short circuits. If persons unfamiliar with electricity measuring instrument are to use the instrument, another person familiar with such instruments must supervise operations.

• This instrument is measured on a live line. To prevent electric shock, use appropriate protective insulation and adhere to applicable laws and regulations.

• Handle and dispose of batteries in accordance with local regulations.

CAUTION

• Do not place foreign objects between the jaws or insert foreign objects into the gaps of the jaws (or flexible loop couplings). Doing so may worsen the performances of the sensor or interfere with clamping action.

• Be careful to avoid dropping the instrument or otherwise subjecting them to mechanical shock, which could damage the jaw and adversely affect measurement.

Poor performance or damage from battery leakage could result. Observe the cautions listed below.

• Do not use batteries after their recommended expiry date.

• Do not allow batteries to remain in the instrument.

• Replace batteries only with the specified type.

• Remove the batteries from the instrument if it is to be stored for a long time.

• Replace the battery immediately.

• Replace battery depletion, turn the rotary switch OFF after use (the auto power save feature consumes a small amount of current).

Inspection Before Measurement

• Verify that the instrument operates normally to ensure that no damage occurred during storage or shipping. If you find any damage, contact your authorized Hioki distributor or reseller.

• If damage is suspected, check the section below before contacting your authorized Hioki distributor or reseller.

(1) Check that the test lead is not broken.

Replace with the specified L9208 Test Lead.

(2) Check that the resistance measurement and continuity test operates normally.

Have the instrument repaired by the your authorized Hioki distributor or reseller. The instrument may have been subject to a voltage of greater than 600 V during resistance measurement or continuity testing.

(3) Check that the battery voltage is not low.

Replace the batteries.

Maintenance/Inspection

Cleaning

• Measurements are degraded by dirt on the mating surfaces of the jaw, so keep the surfaces clean by gently wiping with a soft, dry cloth.

• To clean the device, wipe it gently with a soft cloth moistened with water or mild detergent.

• Wipe the LCD display gently with a soft, dry cloth.

Insert/Replace Batteries

Necessary tool: Phillips screwdriver and CR2032 Coin-shaped lithium battery

Do not turn the adjustment screw inside the battery case. Doing so will cause the instrument to report abnormal measured values.

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Percborate Material - special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate

1. LED indicator lights up when the remaining battery capacity is low. In this case, the instrument’s reliability is not guaranteed. Replace the battery immediately.

2. To avoid battery depletion, turn the rotary switch OFF after use (the auto power save feature consumes a small amount of current).
### Functions

**Display** will automatically turn off if the instrument is not used for 30 min. (Auto power-saving function)

- The auto power save function is activated automatically when the power is turned on. (Not possible to cancel)
- To resume instrument operation in the previous state, select the "OFF" position with the rotary switch and then move the switch to the desired function.

 Automatically sets the range measurement to the most appropriate range (Auto-range function)

**Displays (AUTO)**

To set the measurement range arbitrarily (Manual-range function):

- Power on the tester while holding down the **HOLD** key to step to the next range.

- To switch between AC voltage [~V] and DC voltage [V], press and hold the **HOLD** key for at least one second.

- Indication when input exceeds the measurement range (Overflow indication)

- The auto power save function is activated automatically when the instrument is not used for 30 min. (Not possible to cancel)

**Zero-adjust Function**

- The zero adjustment function compensates for sensor magnetization and changes in current display over time.

- Before measuring DC current [~A], you must perform zero adjustment by simultaneously pressing the **HOLD** and **OK** keys while there is no input to the instrument.

- This function is only effective with measurement of DC current [~A].

#### Parts Names

- **Jaw**
- **Barrier**
- **Operation grip**
- **LCD Display**
- **HOLD (key)**
- **key**
- **Switch**
- **RATING**
- **Test lead plug**
- **OHM key**
- **Test lead grip**
- **Battery cover**
- **OK**
- **NO**
- **Sleeves**

### Measurement Methods

#### Current Measurement

**AC Current Measurement [~A]**

1. Jaw
2. Barrier
3. Operation grip
4. LCD Display
5. HOLD (key)
6. key
7. Switch
8. RATING
9. Test lead plug
10. OHM key
11. Test lead grip
12. Battery cover
13. OK
14. NO
15. Sleeves

**DC Current Measurement [~A]**

1. Jaw
2. Barrier
3. Operation grip
4. LCD Display
5. HOLD (key)
6. key
7. Switch
8. RATING
9. Test lead plug
10. OHM key
11. Test lead grip
12. Battery cover
13. OK
14. NO
15. Sleeves

### Specifications

#### General Specifications

- **Operating environment**
  - Indoors, pollution degree 2, altitude up to 2000 m (6562 ft.)
  - 0°C to 40°C (32°F to 104°F)
  - 80% RH or less (no condensation)

- **Storage temperature and humidity**
  - −10°C to 50°C (14°F to 122°F)
  - 80% RH or less (no condensation)

- **Standards**
  - EN61010
  - EMC: EN61326

#### Accuracy Specifications

- **Conditions of guaranteed accuracy**
  - Guaranteed accuracy period: 1 year (Number of jaw open/close cycles: 10,000 or less)
  - Guaranteed accuracy period after adjustment made by Hiioki: 1 year
  - Battery warning indicator is not lighting
  - Temperature and humidity for guaranteed accuracy: 23°C±5°C (73.0°F±9.0°F), 80% RH or less (no condensation)
  - Temperature characteristic: 0°C to 40°C
  - Measurement accuracy × 0.1%/°C is added

#### Power supply

- **CR2032 Con-shaped lithium battery** × 1 (3 V DC)
- **Maximum rated power**: 15 mW

- **Continuous operating time**
  - 3287: Approx. 25 hours, 3288: Approx. 60 hours, 3288-20: Approx. 35 hours (continuous, unloaded)

- **Dimensions**
  - Approx. 153(W)×180(H)×40(D) mm (2.24″×7.09″×1.61″)

- **Mass**
  - 3287: Approx. 170 g (6.0 oz.)
  - 3288, 3288-20: Approx. 150 g (5.3 oz.)

- **Product warranty period**
  - 3 years

#### Accessories

- **CR2032 Con-shaped lithium battery**
- **9209 Test Leads Holder**
- **L9208 Test lead**
- **Instruction Manual**

#### DC Current measurement (DCA)

- **Range**
  - 3287
    - Accuracy
    - 1% Rdg. ±5dgt.
    - ±2.0% Rdg. ±5dgt.
  - 3288
    - Accuracy
    - 1% Rdg. ±5dgt.
    - ±2.0% Rdg. ±5dgt.

- **3288/3288-20**
  - Accuracy
  - 100 A
  - 1000 A

#### DC voltage measurement (DCV)

- **Range**
  - 600 V
  - 1000 V
  - 10000 V

#### AC voltage measurement (ACV)

- **Range**
  - Accuracy
    - 2.0 V
    - 20.0 V
    - 400 V
    - 600 V
  - Accuracy
    - ±1.5% Rdg. ±5dgt.
    - ±2.0% Rdg. ±5dgt.

#### DC voltage measurement (DVM)

- **Range**
  - Accuracy
    - 0.05 V
    - 0.40 V
    - 4.00 V
    - 40.0 V
    - 400 V
    - 4000 V
  - Accuracy
    - ±1.5% Rdg. ±5dgt.

#### Resistance measurement (Ω)

- **Range**
  - Accuracy
    - 2.0 Ω
    - 40.0 Ω
    - 4.00 kΩ
    - 40.0 kΩ
    - 0.400 MΩ
    - 4.00 kΩ
    - 400 MΩ
  - Accuracy
    - ±40 ±5%

- **Inputs**
  - Voltage: 600 V
  - Current: 1000 A
  - Input impedance: 10 MΩ or more

#### Continuity test

- **Range**
  - Accuracy
    - Open terminal voltage
    - 420.0 V
    - 420.0 kV
    - 420.0 MΩ
  - Accuracy
    - ±2.3% Rdg. ±8dgt.

- **Input impedance**
  - Voltage: 600 V
  - Current: 1000 A
  - Input impedance: 10 MΩ or more

- **Residential voltage**
  - Accuracy
    - 220 V
    - 230 V
  - Accuracy
    - ±2.0% Rdg. ±5dgt.