

# HIOKI

**New**

## INSULATION TESTER IR4056-20, IR4057-20

Field Measuring Instruments



### 5-range INSULATION & CONTINUITY

**CAT III 600V**  
**IEC/EN 61557**

**DROP PROOF**



**5 Ranges**  
50/125/250  
/500/1000V

**200mA**  
continuity

**AC/DC**  
**600V**

AC/DC automatic  
detection range



Model **IR4056-20**



with Bar Graph

Model **IR4057-20**

## QUICK & EASY

### Comparator Function Improves Work Efficiency

- Identify the Insulation and Low Resistance Conditions with the PASS/FAIL Icon
- FAIL Alert** with **Red LCD** and Audio Buzzer

### Stable Digital Readings are Easy to Read



ISO 9001  
JMI-0216



ISO 14001  
JQA-E-90091



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# Efficient, Safe Measurement with Digital Insulation Resistance Testers



## Comparator function provides PASS/FAIL decisions at a glance

- The comparator function compares measured values to pre-set reference values to generate a pass or fail judgment. (Can be used with insulation resistance measurement and low-resistance measurement.)
- The stable display is easy to read, increasing work efficiency.

### Instant judgment

Since the IR4056-20 and IR4057-20 generate judgments as soon as the test lead makes contact, it is possible to make a rapid series of measurements in the manner of a continuity check.



\*In some cases, the capacitance component may prevent a judgment from being made until charging completes.

### Identify PASS/FAIL using light and sound

The IR4056-20 and IR4057-20 notify the operator of pass and fail judgments using a beeping sound, LCD light, and comparator indicator on the test lead with remote control switch (optional accessory), allowing determinations of compliance to be made without looking at the instrument.

### PASS

When the measured value is greater than or equal to the reference value\*

**Short beep**



No change



Green

### FAIL

When the measured value is less than the reference value\*

**Continuous tone**



Red



Red

\*Insulation resistance measurement

# Designed for safety and peace of mind Featuring improved convenience and ease of use

## DROP PROOF

Testers are built tough to withstand a 1-meter drop onto a concrete floor



## AC/DC voltage measurement (With AC/DC automatic detection function)

Use as a tester replacement thanks to DC voltage measurement functionality, which is useful in applications involving solar power and electric vehicles (EVs).



## 200 mA grounding line continuity check function

The IR4056-20 and IR4057-20 can perform EV and HEV continuity checks as well as resistance measurement of safety conductors in building electrical equipment as defined by IEC 60364.



IR4056-20

## Integrated hard case with sliding cover



With cover closed

## Test Lead L9787



Connect either the test probe or alligator clip for the earth side

## Easy-to-see LCD

An FSTN LCD ensures the instrument's display is easy to read from any angle.

## Effective maximum display value

A ">" mark is displayed when the measured value is greater than the effective maximum display value for the function in use.

## Backlight (White LED)

A backlight makes it possible to work in dark or poorly lit locations.



## Safety-oriented double-action

500 V/1000 V range only



1 Set the function key to either 500 V or 1000 V.



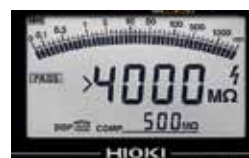
2 Press the flashing "RELEASE" key.

## IR4056-20 | Economic model



| 5 ranges<br>50/125/250/500/ 1000 V | Rated output voltage (DC)                | 5 ranges<br>50/125/250/500/ 1000 V |
|------------------------------------|--|------------------------------------|
| ✓                                  | Voltage measurement                      | ✓                                  |
| ✓                                  | Resistance measurement                   | ✓                                  |
| Approx. 0.8 s                      | Comparator judgment result response time | Approx. 0.3 s                      |
| ✓                                  | 200 mA continuity                        | ✓                                  |
| -                                  | Bar graph                                | ✓                                  |
| 159W×177H×53D                      | Dimensions(mm)                           | 159W×177H×53D                      |
| 600                                | Mass(g)                                  | 640                                |

## IR4057-20 | Bar graph for visual judgments High-speed model



## Bar graph

Useful in determining compliance of circuits with a large capacitance component, for example solar panels, due to the ability to illustrate charging status behavior.

# Specifications

Guaranteed accuracy period: 1 year, Accuracy guarantee for temperature and humidity: 23°C±5°C (73°F ±9°F) and 90% RH

## Insulation Resistance Measurement

| Rated output voltage (DC)                                       | 50V               | 125V          | 250V          | 500V         | 1000V           |
|---|-------------------|---------------|---------------|--------------|-----------------|
| Effective maximum indicated value                               | 100 MΩ            | 250 MΩ        | 500 MΩ        | 2000 MΩ      | 4000 MΩ         |
| Effective medium value  | 2 MΩ              | 5 MΩ          | 10 MΩ         | 50 MΩ        | 100 MΩ          |
| 1st effective measuring range [MΩ]                              | 0.200 to 10.00    | 0.200 to 25.0 | 0.200 to 50.0 | 0.200 to 500 | 0.200 to 1000   |
| Accuracy  | ±4 % rdg.         |               |               |              |                 |
| 2nd effective measuring range [MΩ]                              | 10.1 to 100.0     | 25.1 to 250   | 50.1 to 500   | 501 to 2000  | 1010 to 4000    |
| Accuracy  | ±8 % rdg.         |               |               |              |                 |
| Other measuring range [MΩ]                                      | 0 to 0.199        |               |               |              |                 |
| Accuracy  | ±2 % rdg. ±6 dgt. |               |               |              |                 |
| Lower limit resistance value to maintain nominal output voltage | 0.05 MΩ           | 0.125 MΩ      | 0.25 MΩ       | 0.5 MΩ       | 1 MΩ            |
| Overload protection   | 600 VAC (10 s)    |               |               |              | 1200 VAC (10 s) |

### Test leads with sleeves

When measuring in a CAT IV or CAT III environment, be sure to attach the sleeve to the test leads.

When the CAT (measurement category) rating of the main unit is lower than that of test leads, the CAT of the main unit takes precedence.



Sleeves can be removed.

## Basic Specifications

|                                    |  |
|------------------------------------|--|
| Indicator                          | Indicator: Semi-transmissive FSTN LCD, positive Backlight  |
| Functions                          | Live circuit indicator, Automatic electric discharge, Automatic DC/AC detection, Comparator, Built-in battery power indicator etc. |
| IR4057-20 Functions                | Bar graph, Displaying 1-min. Values  |
| Power source                       | LR6 alkaline battery × 4   |
| Continuous operating time          | Approx. 20 hours (Comparator off, backlight off, 500 V range, no load)   |
| Auto Power Save                    | The power will go off automatically 10 minutes after the last operation.   |
| Operating temperature and humidity | 0 to 40°C (32 to 104°F)<br>90% RH or lower (non-condensating)  |
| Storage temperature and humidity   | -10 to 50°C (14 to 122°F)<br>90% RH or lower (non-condensating)  |
| Maximum rated voltage to earth     | 600 V AC/DC, Measurement Category III, Anticipated Transient Overvoltage: 6000 V   |
| Dielectric strength                | 7060 V AC, 50/60 Hz, Measurement terminals - electrical enclosure, 1 min, current sensitivity 1 mA                                 |
| Degree of protection               | IP40   |
| Standards                          | EN61326 (EMC), EN61557-1/ -2/ -4*/ -10   |
| Drop proof                         | On concrete: 1 m   |
| Dimensions                         | Approx. 159W×177H×53D mm (6.26"W×6.97"H×2.09"D) (excluding protrusions)  |
| Mass                               | IR4056-20: Approx. 600g (21.2 oz)<br>IR4057-20: Approx. 640g (22.6 oz) (including battery, excluding test lead)                    |
| Accessories                        | Test Lead L9787 × 1, Neck strap × 1, Instruction manual × 1, LR6 alkaline battery × 4  |

\* Subclause 4.3 of Part 4 (Interchanging of test leads) is not applicable when L9788-10 is used.

## Voltage Measurement

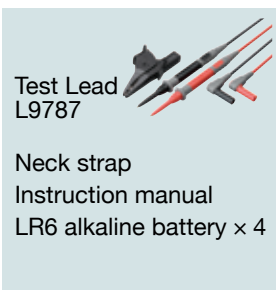
|                                 |   |   |         |         |       |
|---------------------------------|---|---|---------|---------|-------|
| DC V                            | Display range (Auto range)  | 4.2 V                                   | 42 V    | 420 V   | 600 V |
|                                 | Maximum indicated value   | 4.200 V                                 | 42.00 V | 420.0 V | 750 V |
|                                 | Resolution  | 0.001 V                                 | 0.01 V  | 0.1 V   | 1 V   |
|                                 | Accuracy  | ±1.3 % rdg. ±4 dgt. *                   |         |         |       |
| AC V                            | Display range (Auto range)  | 420 V (Minimum indicated value: 30.0 V) |         | 600 V   |       |
|                                 | Maximum indicated value   | 420.0 V                                 |         | 750 V   |       |
|                                 | Resolution  | 0.1 V                                   |         | 1 V     |       |
|                                 | Accuracy  | ±2.3 % rdg. ±8 dgt. *                   |         |         |       |
|                                 | Measurement Principles  | Average responding type                 |         |         |       |
|                                 | Frequency range   | 50/60 Hz                                |         |         |       |
| AC/DC automatic detection range | AC detected at 30 V or greater (50/60 Hz) (Pulsating currents with an overlapping AC component of 30 V or greater are detected as AC) |   |         |         |       |
| Effect of temperature           | Measurement accuracy per 1°C × 0.1 (Applicable to the operating temperature range other than 18 to 28°C)                              |   |         |         |       |

\* Ranges in excess of 600 V are outside the accuracy guarantee.

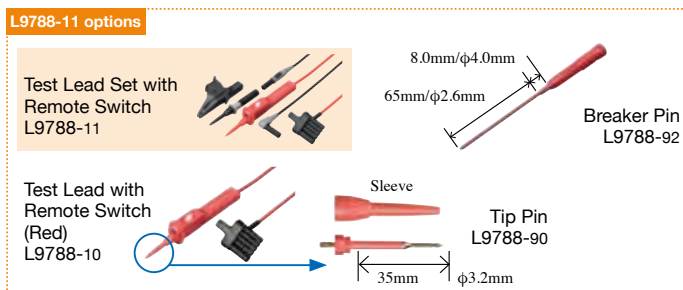
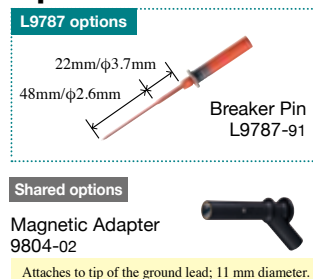
## Resistance Measurement

|                                  |  |         |                |
|----------------------------------|--|---------|----------------|
| Display range (Auto range)       | 10 Ω   | 100 Ω   | 1000 Ω         |
| Maximum indicated value          | 10.00 Ω  | 100.0 Ω | 1000 Ω         |
| Resolution                       | 0.01 Ω   | 0.1 Ω   | 1 Ω            |
| Accuracy (after zero adjustment) | 0 to 0.19 Ω: ±3dgt.<br>0.20 to 10.00 Ω: ±3%rdg. ±2dgt.                 |         | ±3%rdg. ±2dgt. |
| Measuring current                | 200 mA or more (at 6 Ω or less) (Display value before zero adjustment) |         |                |
| Overload protection              | 600 VAC (10s, using Fuse)  |         |                |

## Accessories



## Options



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**HIOKI**  
HIOKI E. E. CORPORATION

Headquarters :  
81 Koizumi, Ueda, Nagano, 386-1192, Japan  
TEL +81-268-28-0562 FAX +81-268-28-0568  
http://www.hioki.co.jp / E-mail: os-com@hioki.co.jp

HIOKI USA CORPORATION :  
TEL +1-609-409-9109 FAX +1-609-409-9108  
http://www.hiokiusa.com / E-mail: hioki@hiokiusa.com

HIOKI (Shanghai) Sales & Trading Co., Ltd. :  
TEL +86-21-63910090 FAX +86-21-63910360  
http://www.hioki.cn / E-mail: info@hioki.com.cn  
Beijing Office : TEL +86-10-84418761  
FAX +86-10-84418763 / E-mail: info-bj@hioki.com.cn  
Guangzhou Office : TEL +86-20-38392673  
FAX +86-20-38392679 / E-mail: info-gz@hioki.com.cn  
Shenzhen Office : TEL +86-755-83038357  
FAX +86-755-83039160 / E-mail: info-sz@hioki.com.cn  
HIOKI INDIA PRIVATE LIMITED :  
TEL +91-731-6548081 FAX +91-731-4020083  
E-mail: info@hioki.in  
HIOKI SINGAPORE PTE. LTD. :  
TEL +65-6634-7677 FAX +65-6634-7477  
E-mail: info@hioki.com.sg

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