

**New**

**HIOKI**

# INSULATION TESTER IR4052-10, IR4051-10

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



**Integrated  
hard case  
with sliding  
cover**

**Model IR4051-10**



**with Bar Graph**

**Model IR4052-10**

## 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  
JOA-E-90091



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# Efficient, Safe Measurement with Digital Insulation Resistance Testers

*Solar Power*

*Periodic Inspection*

*Hybrid Electric Vehicles*

*Electric Vehicles*



## ★ 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 IR4051-10 and IR4052-10 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 IR4051-10 and IR4052-10 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



## 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.

## Easy-to-see LCD

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

## 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).



IR4052-10

## Backlight (White LED)

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



## 200 mA grounding line continuity check function

The IR4051-10 and IR4052-10 can perform EV and HEV continuity checks as well as resistance measurement of safety conductors in building electrical equipment as defined by IEC 60364.

## Safety-oriented double-action

500 V/1000 V range only



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



Press the flashing "RELEASE" key.

## Test Lead L9787



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

## IR4052-10 **Bar graph** for visual judgments Includes a semi-hard case High-speed model



Carrying Case C0100



Example of storage configuration

5 ranges 50/125/250/500/ 1000 V	Rated output voltage (DC)	5 ranges 50/125/250/500/ 1000 V
✓	Voltage measurement	✓
✓	Resistance measurement	✓
Approx. 0.3 s	Comparator judgment result response time	Approx. 0.8 s
✓	200 mA continuity	✓
✓ (See below)	Bar graph	-
✓ (See below)	Switching of number of digits	-
152W×92H×40D	Dimensions(mm)	159W×177H×53D
440	Mass(g)	600
Accessories Semi-hard case	Case	Integrated hard case with sliding cover

## IR4051-10 **Economic model** with integrated hard case



With cover closed

## Exclusive IR4052-10 features



### 1 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.

### 2 Round down the displayed value

Number of display digits	Example display
1000 count	<b>57.9 MΩ</b>
100 count	<b>57 MΩ</b>
10 count	<b>50 MΩ</b>

The insulation resistance values of insulators are inherently unstable. The ability to switch the number of display digits when you are concerned about fluctuations in the lower digits of the display value increases work efficiency.

# 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.
IR4052-10 Functions	Bar graph, Switching of number of digits, 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) 90% RH or lower (non-condensating)
Storage temperature and humidity	-10 to 50°C (14 to 122°F) 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 JIS C 1302:2002 (Insulation resistance testers)
Drop proof	On concrete: 1 m
Dimensions	IR4051-10: Approx. 159W×177H×53D mm (6.26"W×6.97"H×2.09"D) (excluding protrusions) IR4052-10: Approx. 152W×92H×40D mm (5.98"W×3.62"H×1.57"D) (excluding protrusions)
Mass	IR4051-10: Approx. 600g (21.2 oz.), IR4052-10: Approx. 440g (15.5 oz.) (including battery, excluding test lead)

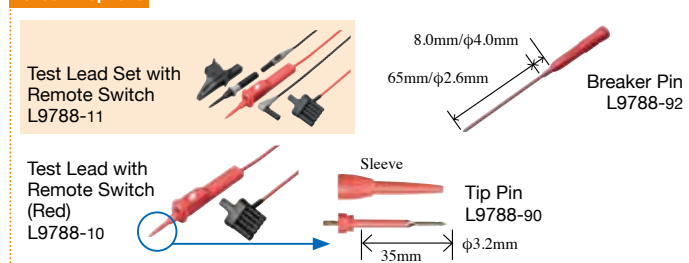
\* Subclause 4.3 of Part 4 (Interchanging of test leads) is not applicable when L9788-10 is used.

## Accessories

IR4052-10	IR4051-10
Test Lead L9787 Carrying Case C0100	Test Lead L9787 Neck strap
Instruction manual×1, LR6 alkaline battery×4	

## Options

### L9788-11 options



## Voltage Measurement

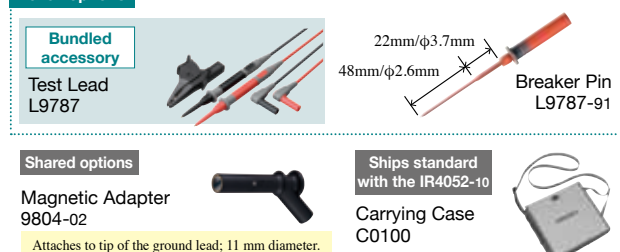
DC V	Display range (Auto range)	4.2 V	42 V	420 V	600 V
	Maximum indicated value	4.200 V	42.00 V	420.0 V	750 V
	Resolution	0.001 V	0.01 V	0.1 V	1 V
	Accuracy	±1.3 % rdg. ±4 dgt. *			
AC V	Display range (Auto range)	420 V (Minimum indicated value: 30.0 V)		600 V	
	Maximum indicated value	420.0 V		750 V	
	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. 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)		

### L9787 options



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