INSULATION TESTER IR4000 series

ΗΙΟΚΙ



From Basic Testing to High Performance Analysis

² INSULATION TESTER SERIES Selection guide



Die	nlov	Digital	Digital	Digital	A	Analog Mete	er	Analog Meter	Digital
DIS	splay	Digitai	(Bar graph)	Digitai	IR4016	IR4017	IR4018	Analog Weter	(Bar graph)
Display bac	cklight function	1	1	1	1	1	1	 Image: A second s	1
	50V DC	1	1	1	N/A	N/A	N/A	N/A	N/A
	125V DC	✓	1	1	N/A	N/A	N/A	N/A	N/A
	250V DC	1	1	1	N/A	N/A	N/A	 Image: A second s	1
Testing voltage	500V DC	1	1	1	1	1	N/A	 Image: A start of the start of	1
voltage	1000V DC	1	1	1	N/A	N/A	1	 Image: A second s	1
	2500V DC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1
	5000V DC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1
	e maximum ed value	100 MΩ (50 V) 250 MΩ (125 V) 500 MΩ (250 V) 2000 MΩ (500 V) 4000 MΩ (1000 V)	100 MΩ (50 V) 250 MΩ (125 V) 500 MΩ (250 V) 2000 MΩ (500 V) 4000 MΩ (1000 V)	100 MΩ (50 V) 250 MΩ (125 V) 500 MΩ (250 V) 2000 MΩ (500 V) 4000 MΩ (1000 V)	100 MΩ (500 VDC)	1000 MΩ (500 VDC)	2000 MΩ (1000 VDC)	100 ΜΩ (250, 500 VDC) 4000 ΜΩ (1000 VDC)	250 GΩ (250 V) 500 GΩ (500 V) 1.00 ΤΩ (1 kV) 2.50 ΤΩ (2.50 kV) 5.00 ΤΩ (5.00 kV)
Low re	sistance	1	1	N/A	N/A	N/A	N/A	 Image: A second s	N/A
AC V	/oltage	✓	1	1	1	1	1	 Image: A second s	1
DC V	/oltage	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A
PV dedica	ated function	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A
Function	າຣ								
Comp	parator	✓	✓	1	N/A	N/A	N/A	N/A	N/A
Mei	mory	N/A	N/A	N/A	N/A	N/A	N/A	N/A	 ✓

INSULATION TESTER





Our most popular model offering reading stability in medium-speed digital format

- 5-range testing voltage 50 V/100 M Ω to 1000 V/4000 M Ω
- Drop proof onto concrete from 1m (3.28 feet)
- Continuity check via 200 mA testing
- Complies with EN61557

Order Code: IR4056-20 (economic model)

Specifications (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

		anaey guaranteed for 1 year, 1 ost adjustine.						
	Testing voltage Effective maximum indicated value		50 VDC	125 VDC	250 VDC	500 VDC	1000 VDC	
			100 MΩ	250 ΜΩ	500 MΩ	2000 MΩ	4000 MΩ	
	First				±4 % rdg.			
	effective me	easurement range [M Ω]	at 0.200 to 10.00	at 0.200 to 10.00 at 0.200 to 25.00 at 0.200 to 50.0 at 0.200 to 500				
		Second	±8% rdg.					
Insulation resistance		easurement range [M Ω]	at 10.1 to 100.0	at 25.1to 250	at 50.1 to 500	at 501 to 2000	at 1010 to 4000	
	Other measurment range [MΩ]				±2 %rdg. ±6dgt.			
	Other mea	isurment range [M122]	at 0 to 0.199					
	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 (
resistance Accuracy (after zero ad)			00 Ω / 100.0 Ω / 1000 Ω Measuring current: 200 mA or more (at 6 Ω or less) ustment) : ±3%rdg. ±2dgt. (0 to 0.19 Ω: ±3dgt. 0.20 to 10.00 Ω: ±3%rdg. ±2dgt.) 0 VAC (10s, using Fuse)					
AC voltage	e	Display indication range	e: 0 to 750 V Accuracy: ±2.3 %rdg. ±8 dgt.(up to 600V), Frequency range: 50/60 Hz					
DC voltage	e	Display indication range	e: 0 to 750 V Accuracy: ±1.3 %rdg. ±4 dgt.(up to 600V)					
Functions Live circuit indicator, Aut		tomatic electric discharge, Automatic DC/AC detection, Comparator, Built-in battery power indicator etc.						
Power supply LR6 alkaline battery × 4								
Inmensions and Mass		Approx. 159W×177H×5 excluding test lead)	3D mm(6.26"W×6.9	7"H×2.09"D) (exclud	ing protrusions), App	orox. 600g (21.2 oz)	(including battery,	
Accessories Test Lead L9787 × 1, Neck strap × 1, Instruction manual × 1, LR6 alkaline battery × 4								



OPTIONS

BREAKER PIN (for Models L9787) L9787-91 MAGNETIC ADAPTER (for Models L9788, L9787) 9804-02

BREAKER PIN L9787-91 (for Model L9787) 22mm/ φ3.7mm 48mm/ φ2.6mm

Extra long tips extend deep into the breaker openings for more reliable testing

MAGNETIC ADAPTER (L9787 / L9788 Option) 9804-02

φ11mm



Magnetic tip for use with the standard Models L9788-11, L9788-10, L9787 (generally compatible with M6 pan screws)

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.

Test Lead Set with Remote Switch L9788-11 Test Lead with Remote Switch(Red) L9788-10

Accessories

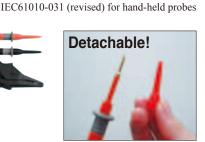
TEST LEAD

Breaker Pin L9788-92 Tip Pin L9788-90

Conforms to safety standard

• Refer to P.7 \rightarrow



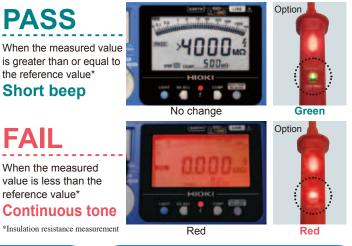


included as a standard accessory (This sleeve cannot be attached to previous products)

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

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.





Backlight (White LED)



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

INSULATION TESTER



Quick response comparator offering reading stability in high-speed digital format

- 5-range testing voltage 50 V/100 MΩ to 1000 V/4000 MΩ
- Stable & high-speed digital readings, response time at PASS/ FAIL decision 0.3 second
- Drop proof onto concrete from 1m (3.28 feet)
- Bright LED luminous LCD, Test lead with bright LED lamp to illuminate near hand (Option L9788-11 or L9788-10)
- Continuity check via 200 mA testing
- Built in AC/DC voltage meter, useful for testing solar power generation systems and electric vehicles
- Complies with EN61557

Order Code: IR4057-20 (with bar graph display)

Specifications (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)



	Testing voltage		50 VDC	125 VDC	250 VDC	500 VDC	1000 VDC			
	Effective maximum indicated value		100 MΩ	250 MΩ	500 MΩ	2000 MΩ	4000 MΩ			
	First effective measurement range [M Ω]		±4 % rdg.							
			at 0.200 to 10.00	at 0.200 to 25.00	at 0.200 to 50.0	at 0.200 to 500	at 0.200 to 1000			
T T (T		Second	±8% rdg.							
Insulation resistance	effective me	asurement range [M Ω]	at 10.1 to 100.0	at 25.1to 250	at 50.1 to 500	at 501 to 2000	at 1010 to 4000			
					±2 %rdg. ±6dgt.					
	Other mea	surment range [MΩ]			at 0 to 0.199					
	Lower limit resistance value to maintain nominal output voltage		0.05 MΩ	0.125 MΩ	0.25 MΩ	0.5 MΩ	1 MΩ			
	Over	load protection			1200 VAC (10 s)					
resistance Measurement range: 10. Accuracy (after zero adj Overload protection: 60			ustment) : ±3%rdg. ±	2dgt. (0 to 0.19 Ω: ±.						
AC voltage	<u>,</u>	Display indication range: 0 to 750 V Accuracy: ±2.3 %rdg. ±8 dgt.(up to 600V), Frequency range: 50/60 Hz								
DC voltage		Display indication range: 0 to 750 V Accuracy: ±1.3 %rdg. ±4 dgt.(up to 600V)								
Functions Live circuit indicator, Aut		tomatic electric discharge, Automatic DC/AC detection, Comparator, Built-in battery power indicator etc.								
Power sup	ply	LR6 alkaline battery × 4	4							
Limensions and Mass		Approx. 159W×177H×5 excluding test lead)	53D mm(6.26"W×6.97"H×2.09"D) (excluding protrusions), Approx. 640g (22.6 oz) (including battery,							

 Accessories
 Test Lead L9787 × 1, Neck strap × 1, Instruction manual × 1, LR6 alkaline battery × 4

OPTIONS

BREAKER PIN (for Models L9787) L9787-91 MAGNETIC ADAPTER (for Models L9788, L9787) 9804-02

Test Lead Set with Remote Switch L9788-11 Test Lead with Remote Switch (Red) L9788-10 Breaker Pin L9788-92 Tip Pin L9788-90

• Refer to P.7 \rightarrow

Double Action for Safety





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



Press the flashing "RELEASE" key.

INSULATION TESTER **IR4053**

Measure PV Insulation Resistance Safely, Accurately and Quickly

Safely and accurately measure PV insulation resistance even while generating solar power

- Built-in PV dedicated function, display measurements in 4 seconds
- Five ranges (50/125/250/500/1000V) built in for normal insulation resistance measurement
- Built-in 1000 VDC voltage measurement for open voltage tests of PV systems that support 1000 V
- Built-in comparator function
- Drop proof design withstands drop onto concrete from a height of 1 meter

Order Code: IR4053-10

Specifications (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

PVΩ measurement								
Rated output voltage	500 VDC	1000 VDC						
Effective maximum indicated value	2000 ΜΩ	4000 ΜΩ						
Measuring range/ Accuracy	$\begin{array}{c} 0.200 \text{ to } 500 \text{ M}\Omega / \pm 4\% \text{ rdg.} \\ 501 \text{ to } 2000 \text{ M}\Omega / \pm 8\% \text{ rdg.} \end{array}$	0.200 to 1000 MΩ / ±4% rdg. 1010 to 4000 MΩ / ±8% rdg.						
Other measuring range / Accuracy	0 to 0.199 M Ω / ±2% rdg. ±6 dgt.							

Insulation resistance measurement						
Rated output voltage	50 VDC	125 VDC	250 VDC	500 VDC	1000 VDC	
Effective maximum indicated value	100 MΩ	250 MΩ	500 MΩ	2000 ΜΩ	4000 ΜΩ	
Accuracy 1st effective measuring range M Ω	±4% rdg. 0.200 to 10.00	±4% rdg. 0.200 to 25.0	±4% rdg. 0.200 to 50.0	±4% rdg. 0.200 to 500	±4% rdg. 0.200 to 1000	
Lower limit resistance	0.05 ΜΩ	0.125 MΩ	0.25 MΩ	0.5 MΩ	1 MΩ	
DC voltage measurement	4.2 V (0.001 V resolution) to 1000 V (1 V resolution), 4 ranges, Accuracy: ±1.3% rdg. ±4 dgt., (Ranges in excess of 1000 V are not guaranteed for accuracy.)					
AC voltage measurement	420 V (0.1 V resolution)/600 V (1 V resolution), 2 ranges, 50/60 Hz, Accuracy: ±2.3% rdg. ±8 dgt., (Ranges in excess of 600 V are not guaranteed for accuracy.)					
Display	Semi-transmissive FSTN LCD with back lighting, Backlight					
Response time	Insulation resistance range: 1 second, PV Ω function: 4 seconds (based on in-house tests)					
Other functions	Live circuit indicator, automatic electric discharge, automatic DC/AC detection, comparator, drop proof, auto power save					
Power supply	AA alkaline batteries (LR6) ×4, Continuous operating time: Approx. 20 hours (based on in-house tests)					
Dimensions and mass	159 mm (6.26 in) W × 177 mm H (6.97 in) H × 53 mm (2.09 in) D, Approx. 600 g (21.2 oz) (including batteries, excluding test lead)					
Accessories	TEST LEAD L9787 ×	TEST LEAD L9787 ×1, Neck strap ×1, Instruction manual ×1, AA alkaline batteries (LR6) ×4				

Shared options for the Insulation Tester IR4057, IR4056, IR4053



Bundled with Line/ Earth lead, alligator clip, 1.2 m (3.94 ft) length

BREAKER PIN I 9787-91 For checking breaker terminal, Detachable for tip of the L9787, 48 mm (1.89 in) length, q 2.6 mm (0.10 in)



g

SWITCH L9788-11 Bundled with Remote switch type test lead L9788-10/ Earth lead, alligator clip, 1.2 m (3.94 ft) length

TEST LEAD SET WITH REMOTE TEST LEAD WITH REMOTE SWITCH (RED) L9788-10 Lighting LED lamp & comparator indicator, 1.2 m (3.94 ft) length

TIP PIN I 9788-90 Spare parts for tip of the L9788/L9788-10, Tip length 35 mm (1.38 in)

BREAKER PIN I 9788-92 For checking breaker terminal, Detachable for tip of the L9788-10, 65 mm (2.56 in) length, φ 2.6 mm (0.10 in)

MAGNETIC ADAPTER 9804-02

Attached to the Earth side lead tip, Tip diameter 11 mm (0.43 in)







TEST LEAD SET WITH REMOTE SWITCH L9788-11

Bundled with Test Lead with Remote Switch L9788-10 / earth lead and alligator clip, 1.2 m (3.94 ft)

ANALOG MΩ HITESTER IR4016 to IR4018

Reliable and Effecient Insulation Testing in the field

- Single range insulation resistance meters
- Luminous scale lets you see better in the dark
- Drop proof (1m)
- Complies with EN61557





Order Code:	IR4016-20	
	IR4017-20	
	IR4018-20	

Specifications	(Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)
----------------	----------------------------------------------------------------------------------

Model	IR4016-20	IR4017-20	IR4018-20		
Testing voltage	500 V DC 500 V DC		1000 V DC		
Effective maximum indicated value	100 MΩ	1000 MΩ	2000 ΜΩ		
First	±5 % of scale indication	±5 % of scale indication	±5 % of scale indication		
effective measurement range and tolerances	at 0.1 to 50 $M\Omega$	at 1 to 500 M Ω	at 2 to 1000 M Ω		
Second	±10 % of scale indication	±10 % of scale indication	±10 % of scale indication		
effective measurement range and tolerances	at 0.01 to 0.1 M Ω , 50 to 100 M Ω	at 0.5 to 1 M Ω , 500 to 1000 M Ω	at 1 to 2 M Ω , 1000 to 2000 M Ω		
Lower limit measurement resistance value	0.5 MΩ	0.5 MΩ	1 MΩ		
to be maintained reted output voltage	0.5 W1S2 0.5 W1S2		1 10152		
Open circuit voltage	1 to 1.2 times of rated output voltage				
Rated current	1mA (Tolerance: 1 to 1.2 times of the rating value)				
AC voltage range	0 to 600 V (50/60 Hz), ±5% of maximum scale value accuracy				
Input resistance	500 kΩ or more (50/60Hz)				

Common Specifications

Discharge function : effective Power supply : Rated power voltage: 1.5 VDC × 4, AA alkaline (LR6) battery × 4 Dimensions and mass : Approx. 159W × 177H × 53D mm, 610 g (6.26"W × 6.97"H × 2.09"D, 21.5 oz.) including battery, not including test lead Accessories : TEST LEAD L9787 ×1, Shoulder strap ×1 Safety : EN61010, EMC EN61326, EN61557-1/-2

OPTIONS

• Refer to P.3 \rightarrow

BREAKER PIN (for Models L9787) L9787-91 MAGNETIC ADAPTER (for Models L9788, L9787) 9804-02

• Refer to P.7 \rightarrow

Test Lead Set with Remote Switch L9788-11 Test Lead with Remote Switch(Red) L9788-10 Breaker Pin L9788-92 Tip Pin L9788-90

Advanced Features (IR4016 to IR4018 and 3490)

Flip the Cover



Quick and easy storage without disconnecting the leads





See better in the dark

Bright LED

- Work safely knowing that when the RED is lit, live wires, high voltage or electrical discharge is present
- The super bright light at the tip of the optional 9788 Test Leads adds to efficiency

Check for Live Circufts



The LIVE CIRCUIT LED will light up in red whenever the voltage exceeds 20V AC between the LINE and EARTH terminals, and when at least 20V DC is still remaining during the auto discharge.



ANALOG M Ω HITESTER 3490

Insulation Testing in 3 Easy Steps Flip the Cover, Select Range & Test

- 3-range testing voltage, Insulation meter
- Luminous scale
- Check for live circuits
- Check for the battery status
- Complies with EN 61557





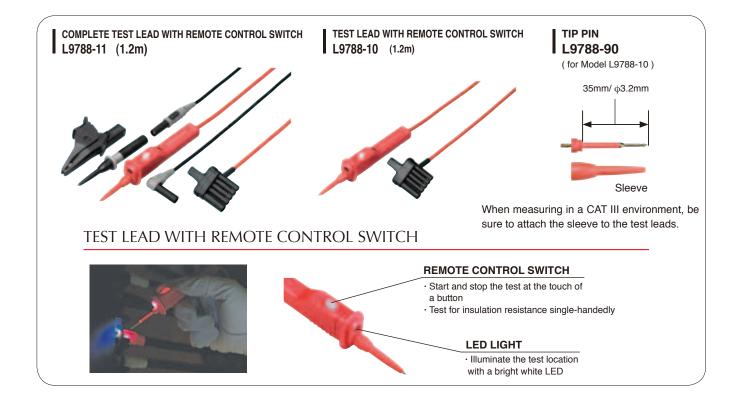
Order Code: 3490

Specifications (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

Testing voltage	ye 250 V DC 500 V DC			1000 V DC	
Rated resistance	100 MΩ	100 MΩ		4000 ΜΩ	
Accuracy 1st effective measuring range	± 5 % of indicated value 0.05 to 50 M Ω	± 5 % of indicated value 0.05 to 50 M Ω		± 5 % of indicated value 2 to 1000 MΩ	
Rated measurement current		1 mA			
3 Ω range, ±0.0 Low resistance 200 mA DC mea 4.1 to 6.9 V oper		ng current,	20	 30 Ω range, ±0.9 Ω accuracy, 20 mA DC measuring current, 4.1 to 6.9 V open-circuit voltage 	
AC voltage range	0 to 600 V (50/60 Hz), ±5 % of maximum scale value accuracy			lue accuracy	
Functions	Luminous scale, Battery status check, Live circuit check				
Power supply	AA alkaline (LR6) battery × 4, Continuous use: 20 hours (at 500 V range, no load)				
Dimensions and mass	159 mm (6.26 in) W × 177 mm (6.97 in) H × 53 mm (2.09 in) D, 610g (21.5 oz.)				
Accessories	TEST LEAD L9787 × 1, Operation manual × 1, Shoulder strap × 1, AA alkaline battery (LR6) × 4				

OPTIONS

BREAKER PIN (for Models L9787) L9787-91 MAGNETIC ADAPTER (for Models L9788, L9787) 9804-02 ● Refer to P.3 → Test Lead Set with Remote Switch L9788-11 Test Lead with Remote Switch (Red) L9788-10 ● Refer to P.7 → Breaker Pin L9788-92 Tip Pin L9788-90



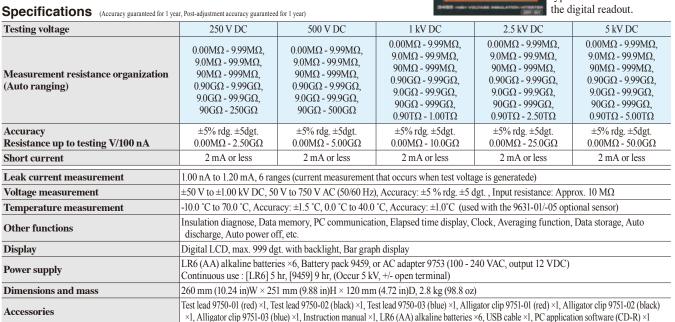
HIGH VOLTAGE INSULATION TESTER

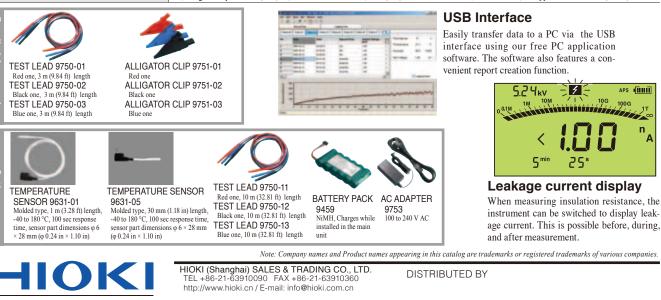
HIGH VOLTAGE INSULATION HITESTER 3455

Maximum 5kV Test Voltage - Up to $5T\Omega$ of Insulated Resistance Testing

- Measure insulation of high-voltage equipment (such as transformers, cables, and motors)
- Wide testing voltage range, up to 5.00 kV from 250 V DC
- Adjustable testing voltage in 25 V steps up to 1 kV, and 100 V steps from 1 kV to 5 kV
- Wide measurement insulation range, up to 5 T Ω (at 5 kV testing voltage, 1 T Ω =10¹² Ω)
- Diagnose the insulation of various equipment with the built-in memory for data storage

Order Code: 3455





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.com / 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 INDIA PRIVATE LIMITED TEL +91-124-6590210 E-mail: hioki@hioki.in

HIOKI SINGAPORE PTE. LTD. TEL +65-6634-7677 FAX +65-6634-7477 E-mail: info-sg@hioki.com.sg

HIOKI KOREA CO., LTD.

TEL +82-2-2183-8847 FAX +82-2-2183-3360 E-mail: info-kr@hioki.co.jp

All information correct as of Jan. 5, 2016. All specifications are subject to change without notice.



The display is backlit and features a logarithmic bar graph similar to an analog type indicator in addition to the digital readout.

E and