

HIOKI



NEW
3118 MΩ Hi TESTER

INSULATION TESTER· EARTH TESTER·PHASE DETECTOR

Product Group
Catalog

Insulation Testers·Earth Testers

The measurement of insulation and earth resistance for power lines, electrical apparatus and electrical equipment is extremely important for the prevention of leakage-caused fire and shock. HIOKI provides a variety of insulation resistance, earth resistance and phase detector instrumentation, all providing excellent operability and durability for on-site application.

(INSULATION TESTER)

3119-11 Digital MΩ Hi Tester

3117 MΩ Hi Tester

3118 MΩ Hi Tester

(EARTH TESTER)

3150 Earth Tester

(PHASE DETECTOR)

3123 Phase Detector

3126 Phase Detector

(COMPREHENSIVE TEST SET)

3124 Field Hi Testpack



Insulation tester·Earth tester

Three-range types for wide measurement ranges

3119-11 DIGITAL MΩ HI TESTER Insulation Tester



With three voltage measurement ranges (250V, 500V and 1000V), resistance can be measured up through 2000MΩ. And it also features a 600V AC voltmeter. This single unit can be used as an insulation ohmmeter, and also for line voltage measurement and live-wire checks.

Easy to read even in the dark

The liquid crystal display is easy to read in bright illumination, and the LCD backlight assured you of high readability in even dark places.

Compact and lightweight

Features unsurpassed operability and function with a compact body for portability, a wide display for readability, and a neckstrap carrying case to let you use both hands.

Probes fit in case



Display value hold (MΩ meter)

When the MΩ meter switch is turned off, all values are held automatically, making it possible for you to read the resistance later.

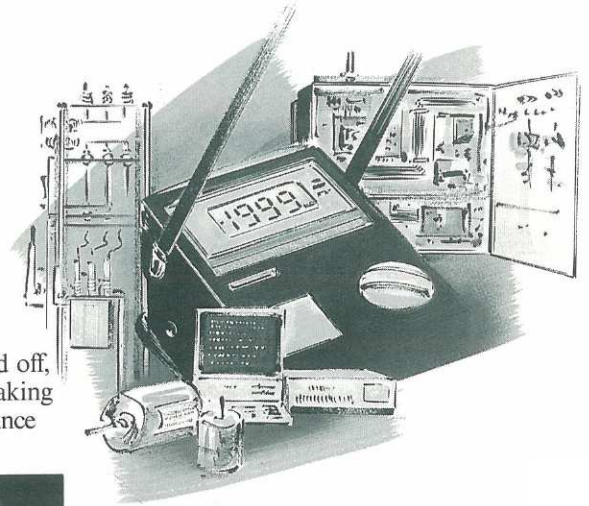


Live wire lamp

When voltage is present in the object being measured the live wire lamp will light to warn you. It lights when the MΩ measurement switch is pressed to let you know that the measurement voltage is being output.

(Note)

For measurement of insulation between communication cables, or in other locations with large DC components, the display may not stabilize. In this case, use the display hold function.



Breaker pin

The optional 9282 breaker pin (sold separately) allows you to measure insulation resistance deep inside, without removing the breaker cover (length 80mm).



Insert and rotate to mount securely.

Switched probe

The optional 9284 switched probe (sold separately) gives you immediate switch control of the probe.



General specifications

Operation: Double integration
 Display: Max. 1999 LCD (except in 600V AC range) Unit and symbol marks provided
 Range select: Only autoranging
 Sampling rate: twice/s
 Accessory function: Display hold (MΩ only), live wire check, illumination lamp
 Power supply: Six SUM-3 (AA) cells
 Continuous operating time and measurement count: MΩ wait, about 30h. MΩ ON/OFF, about 400 times (1MΩ/1000V. ON 5s, OFF 25s)
 Dimensions and weight: Approx. 145H × 106W × 52D (mm). 450g
 Accessories: 9286 Test probe, 9361 Carrying case

Specifications (at 23°C ±5°C 45 to 70% RH)

Rated voltage	250V	500V	1000V
Measurement range	2M·20M·200M·2000MΩ auto-range		
Accuracy	Up to 19.99MΩ	Up to 500MΩ	Up to 1000MΩ
	±2% rdg. ±8dgt.		
Accuracy	20.0MΩ or greater	501MΩ or greater	1001MΩ or greater
	±5% rdg. ±8dgt.		
AC voltage			
Range	600V AC		
Accuracy	±1% rdg. ±6dgt.		
Frequency range	40 to 100Hz		
Measurement terminal voltage accuracy	0.25MΩ	0.5MΩ	1MΩ
Measurement terminal voltage accuracy	90% or more of rated measurement voltage		
	±10% at infinite measurement		
Optional accessories	9282 breaker pin, 9284 switched probe 9286 test probe (provided), 9361 carrying case (provided)		

Note: Breaker pin cannot be used with switched probe.

Insulation resistance meter with durability and operability

3117 MΩ HI TESTER

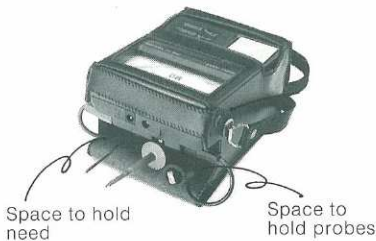
Insulation Tester



The 3117 MΩ Hi-tester offers the same quality of the previous models in a smaller size, and is easier than ever to use. Five types are available for every application from telephone installation and computer wiring to high-voltage distribution board insulation resistance checks... select the one that meets your needs.

Carrying case holds all accessories

Because the design is compact, the probe and other accessories will fit in the compartment at the back of the case. You can also case the unit with them still connected for instant measurement. The neck strap keeps your hands free for action.



Space to hold need

Space to hold probes



The meter mechanism is a wear-free internally resists impact and external magnetic fields. The left and ∞ at the right... an insulation resis

◆Stable measurement

Uses HIOKI's exclusive stabilized power supply and DC-DC converter technology to eliminate the effects of load and power supply fluctuation on measurement voltage, for maximum measurement precision.

◆Dust-proof, drip-proof measurement switch

The MΩ measurement switch is dust-proof and drip-proof, preventing misoperation due to entry of dust or water droplets.

◆Live wire line check function

With the measurement switch set to off AC voltage measurement is possible, and this meter lets you check in advance to see if the line is live or not, preventing accidents before they happen.

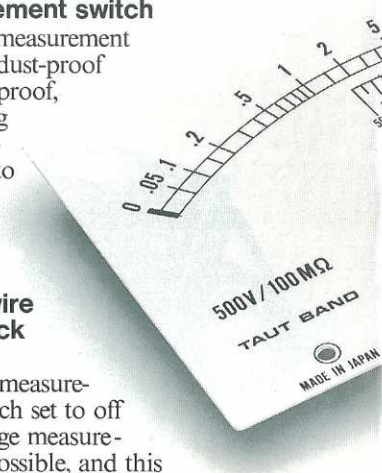
Simple and large scale

The scale is large in spite of small unit size, and has a left-edge zero for ease in reading.

General specifications

Measurement terminal voltage accuracy: 90% min. of rated measurement voltage at center scale, 110% max. of rated measurement voltage on ∞ scale.

Response time: 3 seconds max. on center and zero scales. Continuous operation time: at least 15 hours on center scale (with manganese cells)



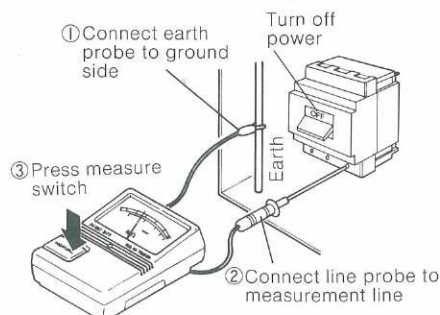
Breaker pin

The 9282 breaker pin (sold separately) allows you to measure resistance without having to take off the breaker cover (length 80mm).



Insert and rotate to mount securely.

Measurement with breaker pin



Measurement range (at 23°C ±5°C, 45 to 75% RH)

	For low voltage lines	Communication lines	For general applications		For high voltage equipment
Model	3117-11	3117-12	3117-13	3117-14	3117-15
Rated voltage/maximum effective scale value	100V/20MΩ	250V/50MΩ	500V/100MΩ	500V/1000MΩ	1000V/2000MΩ
1st effective measurement range	0.02-10MΩ	0.05-20MΩ	0.1-50MΩ	1-500MΩ	2-1000MΩ
	Nominal deviation ±5% indicated value				
2nd effective measurement range	10-20MΩ	20-50MΩ	50-100MΩ	500-1000MΩ	1000-2000MΩ
	Nominal deviation ±10% indicated value				
Other accuracy	0.7% of scale length outside of 1st or 2nd measurement range (including 0 and infinity scales)				
Central scale	0.5MΩ	1MΩ	2MΩ	20MΩ	50MΩ
AC voltage scale (50/60 Hz)	0-250V	0-300V	0-500V	0-500V	0-500V
	Nominal deviation ±10% of scale maximum				
Power supply	SUM-3×6 or AC adapter (6.5V-600mA)				
Dimensions and weight	approx. 145H×106W×49Dmm/480g				
Accessories	9285 Test probe, 9359 Carrying case				
Optional accessories	9282 Breaker pin, 9285 test probe (provided), 9359 carrying case (provided)				



NEW

3118 MΩ Hi TESTER Insulation Tester

Two ranges

The 2-range 3118 MΩ Hi Tester provides the functions of two insulation testers in one unit. In addition to its two ranges, the 3118 offers compact design for easier carrying, greater ease of use, and well durability. Two variations ensure utility in a broad range of applications; from field to assembly line, a 3118 MΩ Hi Tester can meet your needs.

3118-11: 250V-50MΩ/500V-100MΩ
3118-12: 500V-200MΩ/1000V-2000MΩ

Handy Carrying Case for Greater Operability

Case accommodates probes when not in use. Neckstrap provides easy meter visibility, increases work efficiency.

Runs on battery or AC adapter

Flexible twin power supply system, useful even on production lines.

Breaker pin

The optional 9282 breaker pin is useful. (Refer to the 3117)

◆ Battery low check

By inserting the line probe tip into the B-CHECK terminal you can check the battery condition instantly.

◆ Measurement probe

High-voltage is applied to the measurement lead when used as an insulation resistance

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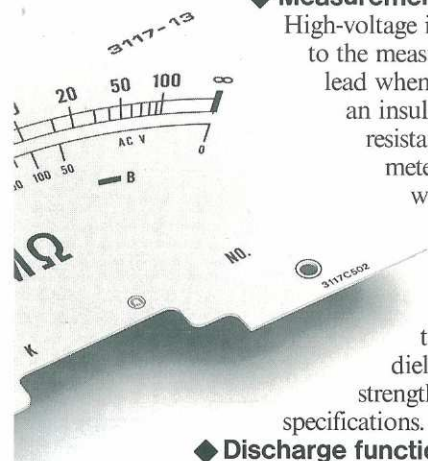
strength

specifications.

◆ Discharge function

For maximum safety this function discharges capacitance into the unit body before resistance measurement.

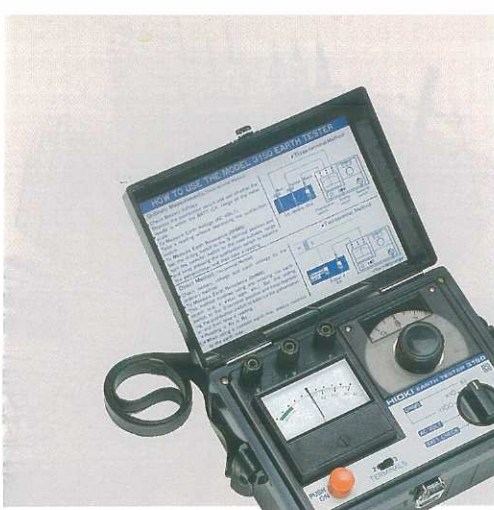
Discharge is accomplished by merely holding the measurement probe into contact with the object to be measured.



Measurement range (at 23°C ±5°C 45 to 75% RH)

	Communication circuits	General insulation testing		High voltage equipment
No. of models	3118-11		3118-12	
Rated voltage/ max. effective scale value	250V/50MΩ	500V/100MΩ	500V/200MΩ	1000V/2000MΩ
1st effective measurement range	0.05M to 20MΩ	0.1M to 50MΩ	0.1M to 50MΩ	2M to 500MΩ
	Accuracy: scale displayed value ±5%			
2nd effective measurement range	20M to 50MΩ	50M to 100MΩ	50M to 20MΩ	500M to 2000MΩ
	Accuracy: scale displayed value ±10%			
Other accuracy	0.7% f.s. except for 1st and 2nd effective measurement ranges (including zero and infinity)			
Accuracy of measurement terminal V	90% min. of rated measurement voltage at 1MΩ		90% min. at 20MΩ	
	±10% of rated measurement voltage at ∞ scale			
AC voltage scale (50/60Hz)	0 to 600V※			
	Accuracy: ±7% of max. value			
Resistance measurement range	0 to 100Ω			
	Accuracy: less than ±3% of scale length			
Discharge voltage	310mV			
Power supply	SUM-3(AA)×6 or AC adapter (8.5V 600mA)			
Dimensions and weight	Approx. 145H×106W×52Dmm·500g			
Accessories	9285 test probe (1), 1A fuse (1)			
	9363 carrying case			9364 carrying case
Optional Accessories	9282 breaker pin, 9285 test probe (provided)			
	9363 carrying case (provided)			9364 carrying case (provided)

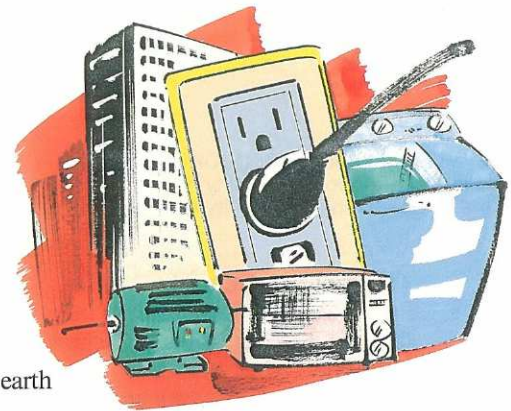
※ Can be used on power lines carrying voltages less than 250V.



Internal simple measurement function (two-pole method)

3150 EARTH TESTER

Earth Tester



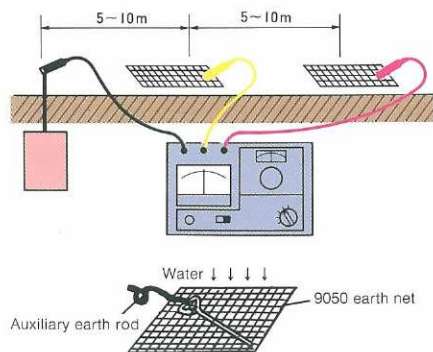
Earthing construction for electrical equipment is essential in preventing accidents and protecting equipment. The 3150 uses an AC potential difference measurement technique to essentially eliminate the effects of earth voltage and auxiliary earth resistance, delivering accurate insulation resistance measurement.

Stable measurement with AC potential difference

The internal reference resistance and the earth resistance are compared through AC potential difference comparison to yield earth resistance. Because a constant internal resistance is used for comparison, there is little time-related change, essentially no effect from external factors such as the environment and the earth resistance of auxiliary earth rods, providing stable measurement performance.

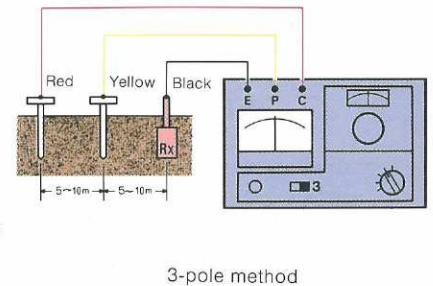
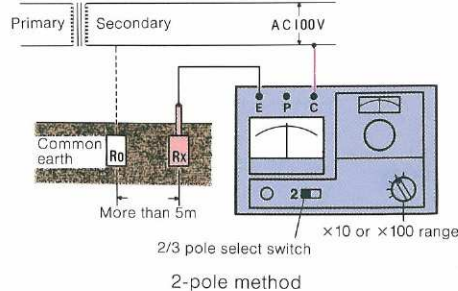
Measurement with earth net

For concrete and other sites where an auxiliary earth rod cannot be planted, the earth net (sold separately) makes measurement possible.



Simple internal measurement function

The two-pole method with existing earth rods provides simple measurement for places like high-rise buildings where earth rods cannot be planted, through a provided internal function. The unit will not activate leakage breakers in the event it is used with a common earth line running to other equipment.



Specifications Comparable with JIS C-1304

Earth resistance	$\times 1$ (0 to 10 Ω) $\times 10$ (0 to 100 Ω) $\times 100$ (0 to 1000 Ω)
Accuracy	$\pm 2.5\%$ of max. scale value
Earth voltage	0 to 30V [*]
Accuracy	$\pm 3\%$ of max. scale value
Effect of auxiliary earth rod resistance	$\pm 5\%$ max. for 0 to 5k Ω

Effect of earth voltage	$\pm 2\%$ max. for 0 to 5V, $\pm 5\%$ max. for 5 to 10V
Power supply	SUM-2 \times 4 (6 hour continuous operation)
Dimensions and weight	approx. 125H \times 170W \times 110Dmm 1.1kg
Accessories	9049 auxiliary test rods (two), accessory carrying case, 9040 measurement code (black 5 meter, yellow 10 meter, red 20 meter, one each)

Optional accessories

9050 earth net (set of 2)

For maintenance, inspection and analysis of electrical equipment and apparatus



3124 FIELD HI TEST PACK

Comprehensive Test set

Nine Roles in One System

Provides the nine essential functions needed for maintenance and inspection of electrical equipment and apparatus: insulation resistance meter, earth resistance meter, AC voltmeter, DC voltmeter, ohmmeter, conductance checker, phase detector, live wire

checker, AC ammeter (with optional 9006 sensor).

Optional accessories

- 9006 True rms clamp on current convertor (with case)
- 9050 Earth net (set of two)

Specifications

Insulation resistance	250V/50MΩ (±5%) 500V/100MΩ (±5%)
Earth resistance	10/100/1000Ω (±3%)
AC V	30 (±3%)/130/260/520V (±1.5%)
AC A	3/10/30/100/300A (±2%) with 9006, sold separately
DC V	3/30/300V (±3%)
Resistance	0 to 500Ω (±3%)
Conductance checker	Buzzer at about 100Ω or less
Phase detector	LED display. Positive phase green, reverse phase red, missing phase none. Operation range 70 to 450V AC
Live wire checker	LED display and buzzer. Use range 80 to 300V AC
Power supply	SUM-3×8
Dimensions and weight	approx. 145H×230W×147Dmm 1.8kg
Accessories	9046 test lead (one set), 9027 switched probe, 9040 earthing resistance measurement cord (one set), 9049 auxiliary each rod (two), 9047 connector for phase detector, 9031 illumination light (one), 1A midget fuse (one), accessory carrying case, shoulder strap (one)



3123 PHASE DETECTOR

with Voltmeter

Phase detector, voltmeter and live wire checker

- Phase detector, voltmeter and live wire check functions are integrated in one unit.
- Detector handy for checking earth leads and missing phases.
- 500V AC voltmeter handy for single-phase three-wire circuits.

Specifications

Phase detector	
Use voltage range	220 to 480V
Permissible use time	220V 30 minutes, 480V 4 minutes
Use frequency	40 to 70Hz
Voltmeter	
Measurement range	500V AC f.s. (±2.5%)
Live wire checker	
Max. voltage	250V AC
Dimensions and weight	approx. 150H×165W×75Dmm 860g



3126 PHASE DETECTOR

Rotary type can be read at a glance

- Rotating disk technique
Direction of disk rotation identifies first phase in triple-phase systems.
- Compact and light weight.
- Soft case for protection.
- With fuse (0.5A, non-arcing)

Specifications

Use voltage	110 to 480V
Permissible use time	220V 30 minutes/480V 4 minutes
Use frequency	40 to 70Hz
Connecting cord	1.2m (R: red, S: white, T: blue) with clip
Dimensions/weight	approx. 95H×75W×55Dmm 280g

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