HIOKI

Field Measuring Instruments

90 ANNIVERSARY
1935 - 2025

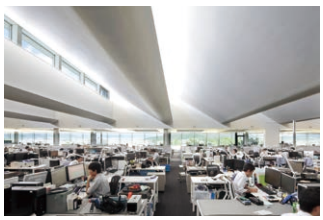
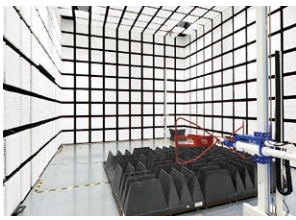
2025

Field-Proven Strength.

90 Years of Tradition and Innovation:

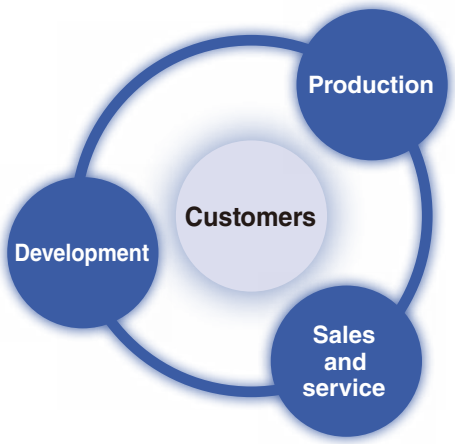
Celebrating a Milestone Anniversary of Excellence



In our mission to provide measurement technologies that protect the safety of society, we seek to contribute to the advancement of a brighter and more prosperous future.

Hioki's measurement technology is widely used in the maintenance, repair and operation of factories, businesses and infrastructures, contributing to the safety and security of our daily lives. We also support the development of next generation technologies in the automotive and new energy sectors by delivering high quality instruments at a reasonable cost.



Founded in 1935, Hioki has grown to become a world leader in providing consistent delivery of tests and measuring instruments. By integrating both R&D and manufacturing in a central facility, we succeed in implementing a fully sustainable end-to-end product innovation life cycle to deliver instruments characterized by precision, safety, and quality to customers around the world.

HIOKI, an R&D-focused company

Technology advances on a daily basis, making possible safer and more comfortable human lifestyles and helping make dreams come true. The measuring instruments that underpin these advances also continue to evolve. To develop electrical measuring instruments that meet the changing needs of our times, one-third of all HIOKI employees work in research and development, an area where we invest approximately 10% of all revenue.

Pursuing agile production

HIOKI works to implement optimal production structures that are capable of meeting changing market needs with high-quality products.Due to the nature of electrical measuring instruments, which serve as yardsticks for measuring electricity, it is necessary to ensure a high level of quality in their production. Working with the cooperation of suppliers, we continuously strive to ensure our manufacturing operations conform to the world's highest standards of product quality.

Practicing customer-centric sales

Working with distributors, we actively visit customers to resolve their concerns. Information obtained during these visits is also utilized in product development, laying the groundwork for our ability to create products that satisfy our customers.

Contents

About the Catalog

About the Marks

CE	**Compliant with CE**
C SP® US	**Compliant with CSA**
New	**New product**

Download on the App Store | GET IT ON Google Play | Bluetooth®

CAT S	**Safety standard measurement categories***
	Drop proof Robust design capable of withstanding a drop from a height of 1 m onto concrete
	Backlight
AUTO OFF	**Auto power OFF** Automatically turns off after a certain time
DISPLAY HOLD	**Display hold**
TRUE RMS	**True RMS** True RMS measurement for accurate measurement of even distorted current waveforms
FILTER	**Low-pass filter** Cuts high frequency content to provide stable numerical values for measurement
AUTO AC/DC	**AUTO AC/DC** Automatically detects and measures AC and DC voltage
dB	**Decibel conversion** Displays AC voltage measurements converted to decibel values (dbm/dbv)
MIN MAX	**MAX/MIN/AVG value*** Displays the maximum, minimum, and average of the displayed values
PEAK	**Peak measurement*** Displays the wave maximum and minimum peak values
REL	**Relative display** Pressing the REL button displays subsequent measurements as values relative to that displayed when the button was pressed
	Current sensor can be connected
	Flexible current sensor can be connected

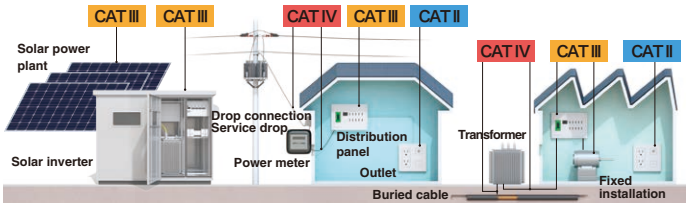
*For more detailed information, please refer to the next page.

~V	**AC voltage**
⎓V	**DC voltage**
±V	**DCV + ACV**
Hz	**Frequency**
Ω	**Resistance**
⊣⊢	**Capacitance**
°C	**Temperature**
~A	**ACA current**
⎓A	**DCA current**
±A	**DCA + ACA**
⎓VA	**DC Power**
	Continuity check Buzzer sounds when continuity is detected
	Diode check Displays voltage if in the correct direction, and OVER if in the reverse direction
NCV	**Voltage detection** Buzzer sounds when AC voltage is detected
INRUSH	**Inrush (rush current)** Measures inrush current when power is turned on, etc.

Measurement Category and Anticipated Transient Overvoltage

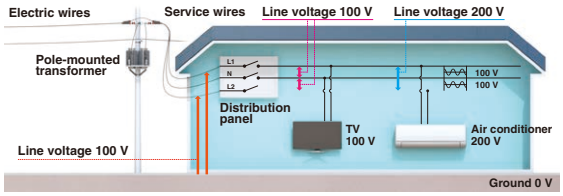
Under safety standards (EN61010 Series, JIS C 1010 Series), measurement is classified into Categories II to IV according to the measurement point's rated voltage to ground, current capacity (size of current that flows in a short-circuit fault), etc., and the transient overvoltage that occurs at the measurement point.

Measurement category



Rated voltage to ground

This illustration shows the case of single-phase 3-wire system, 100 V line.



CAT II	Measurement at a point from the power plug to the equipment's power circuits, where equipment is directly connected to an outlet.
CAT III	Measurement at a point on the power distribution cabling or power supply circuits, or at a point from the distribution panel to a distribution terminal behind an outlet, where equipment (for example a fixed installation) takes electricity directly from a distribution panel.
CAT IV	Measurement at a point on a service drop to a building, or on the line from the drop connection to the power meter or distribution panel.

Anticipated Transient Overvoltage

Rated voltage to ground	Transient overvoltage		
	CAT II	CAT III	CAT IV
300 V	2500 V	4000 V	6000 V
600 V	4000 V	6000 V	8000 V
1000 V	6000 V	8000 V	12000 V
1500 V	8000 V	10000 V	15000 V
2000 V	12000 V	15000 V	18000 V

Power lines in factories and similar facilities will at times include transient overvoltage (impulse voltage) that is around 10 times the power source voltage.
The transient overvoltage of the measurement points must be predicted in advance, and the instrument will need a safety design that will enable it to withstand such overvoltage.

Marks

CAT IV — Measurement Category

600 V — Rated voltage to ground

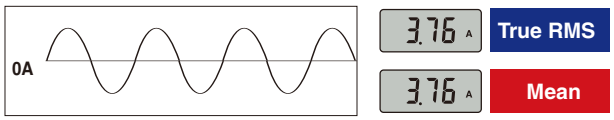
Assuming 600 V for the measurement point's voltage to ground, a Category IV location could potentially include transient overvoltage of 8000 V. Hence, CAT IV measurement instruments are designed to withstand transient overvoltage of 8000 V. CAT III measurement instruments can only withstand up to 6000 V, so if 8000 V transient overvoltage enters, it will cause insulation breakdown that could result in electric shock.

Never measure a measurement point with a higher category number than the category indicated on the measuring instrument. Doing so could lead to a serious accident such as electric shock.

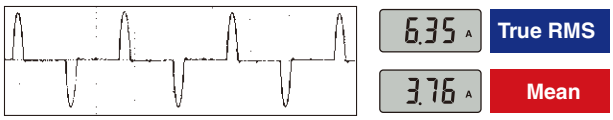
Rectification Methods: True RMS and Mean

A measuring instrument uses one of two rectification methods, “True RMS" or “Mean”. Using mean rectification assumes that the signal is based on a sine wave without distortions in order to calculate the value. Distorted waveforms cannot be measured accurately using this method. As the performance of equipment increases, so do distorted waveforms. In order to accurately measure in these situations, using the True RMS method is necessary.

Non-distorted current waveforms



Waveforms distort due to switching power supplies and similar technologies



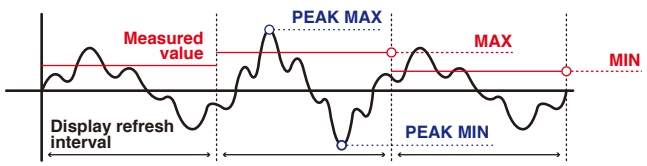
Low-Pass Filter Reduces the Effects of Harmonics and Measures the Fundamental Wave Component Accurately

Switching power supplies and the secondary side of inverters include harmonic components. Waveforms containing harmonics are distorted and difficult to measure with accuracy. By using a low-pass filter to remove harmonic components, accurate measurement values can be obtained.

Occurs during AC/DC switching

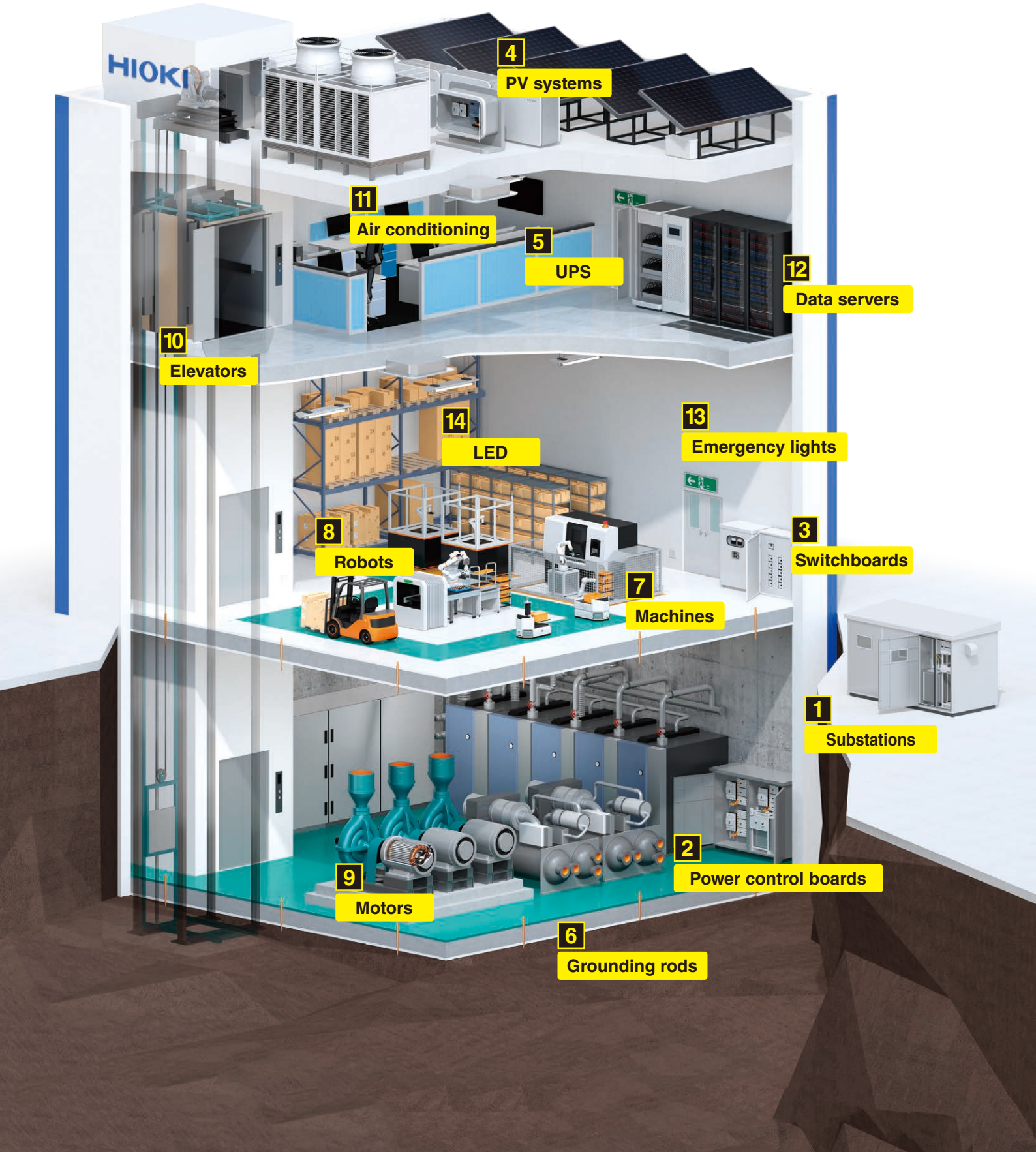
Harmonics are removed by the low-pass filter

MAX/MIN/AVG/PEAK value



The ability to identify the maximum, minimum, average, and crest maximum and minimum values for equipment like machine tools whose load current fluctuates is useful in preventive maintenance and quality control.

Applications
Factory



1 2 3 Power Receiving and Transforming Equipment, Power Control Boards, Switchboards

Verify phase rotation	Test insulation	Test supply voltage	Verify load current	Detect leakage current	Detect electrical disturbances, Analyze power quality	Record and analyze electrical consumption	Test 5kV insulation
							
p. 36	p. 22	p. 28	p. 12	p. 12	p. 44	p. 46	p. 22

4 PV Systems

5 UPS

6 Earth, Ground

Test bypass diodes	Test PV insulation	Verify string voltage	Verify string voltage	Verify string current	Test battery resistance and voltage	Verify grounding
						
p. 52	p 22	p. 28	p. 12	p. 12	p. 50	p. 38

7 8 9 Machines, Robots, Motors

10 Elevators

Test supply voltage	Test load current	Check temperature	Verify motor insulation	Test supply voltage	Test load current	Verify phase rotation
						
p. 28	p. 12	p. 58	p. 22	p. 28	p. 12	p. 36

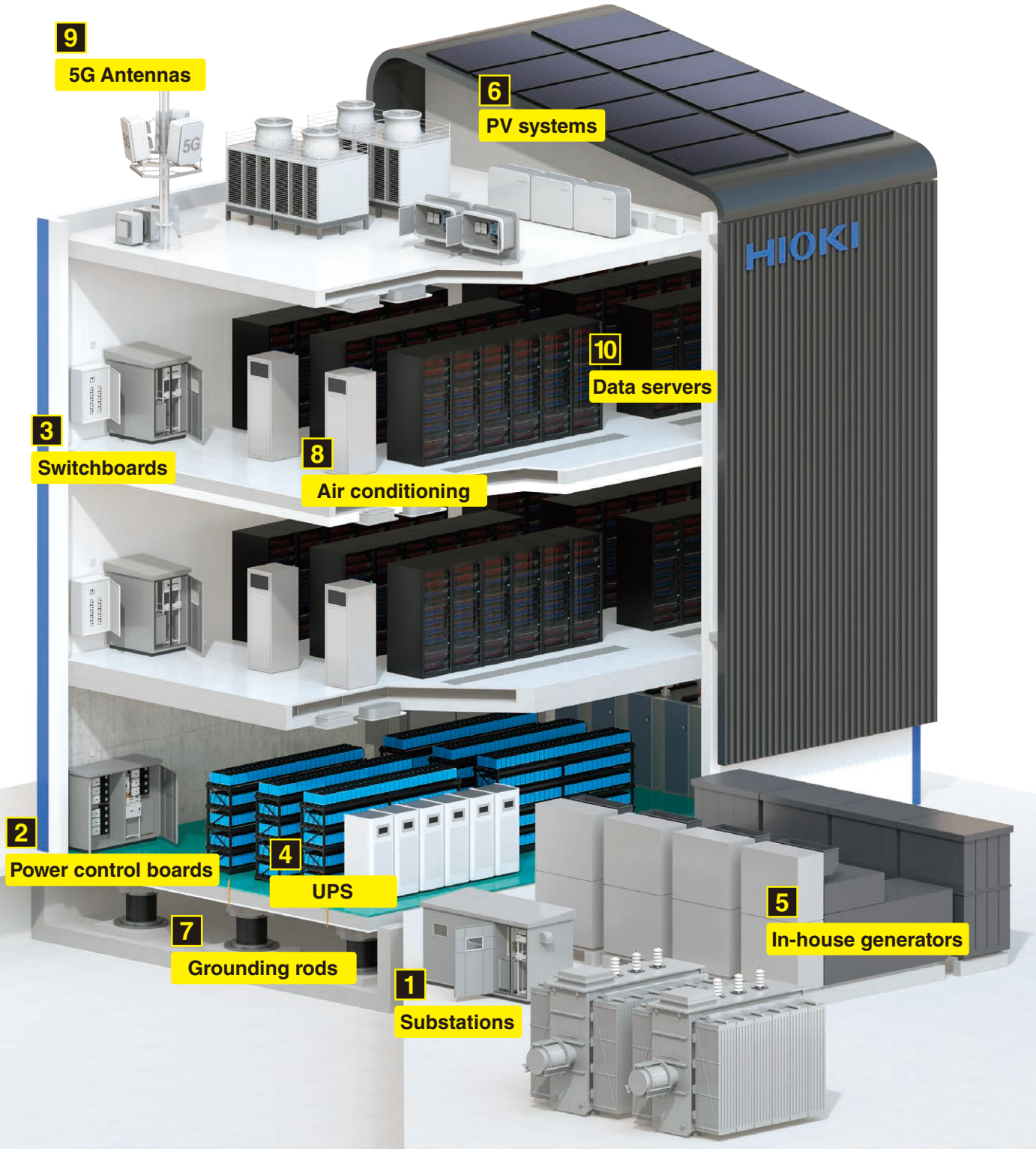
11 Air Conditioning

12 Servers

13 14 Emergency Lights

Check temperature and humidity	Check temperature	Test insulation	Test supply voltage	Test load current	Verify LAN wiring	Measure illuminance
						
p. 54	p. 58	p. 22	p. 28	p. 12	p. 57	p. 58

Applications
Data Centers



1 2 3 Power Receiving and Transforming Equipment, Power Control Boards, Switchboards

Verify phase rotation	Test insulation	Test supply voltage	Verify load current	Detect leakage current	Detect electrical disturbances, Analyze power quality	Record and analyze electrical consumption	Test 5kV insulation
							
p. 36	p. 22	p. 28	p. 12	p. 12	p. 44	p. 46	p. 22

4 UPS

5 Power Generators

Test battery resistance and voltage	Verify motor insulation	Test supply voltage	Test load current	Verify phase rotation
				
p. 50	p. 22	p. 28	p. 12	p. 36

6 PV Systems

7 Earth, Ground

Test bypass diodes	Test PV insulation	Verify string voltage	Verify string voltage	Verify string current	Verify grounding
					
p. 52	p. 22	p. 28	p. 12	p. 12	p. 38

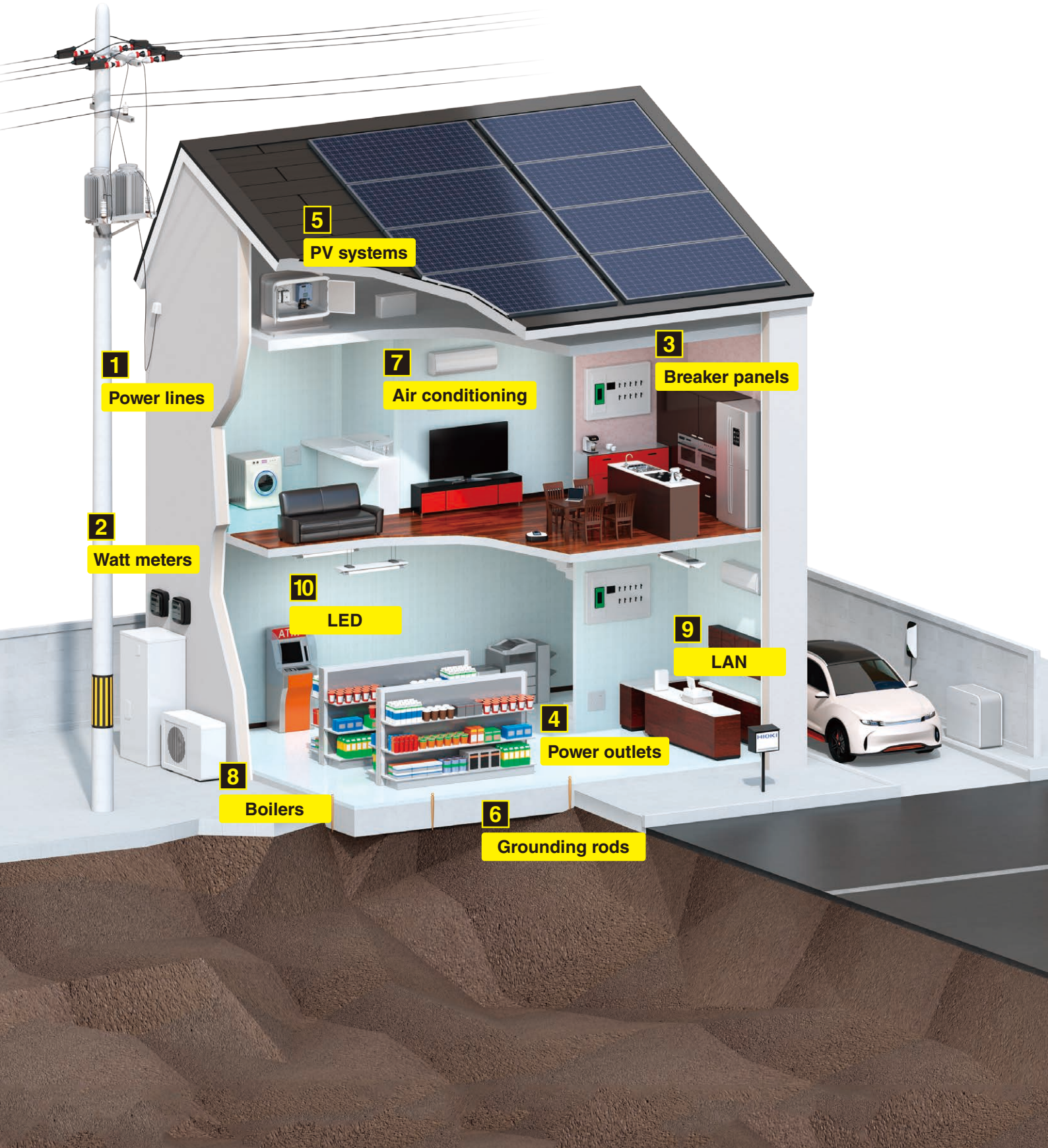
8 9 Air Conditioning, 5G Antennas

10 Servers

Check temperature and humidity	Check temperature	Test insulation	Test supply voltage	Test load current	Verify LAN wiring
					
p. 54	p. 58	p. 22	p. 28	p. 12	p. 57

Applications

Residences & Commercial Buildings



1 2 3 Power Lines, Watt Meters, Breaker Panels

Test insulation	Test supply voltage	Verify load current	Detect leakage current	Record and analyze electrical consumption
				
p. 22	p. 28	p. 12	p. 12	p. 46

4 Power Outlets

Verify absence of voltage	Test supply voltage	Verify load current
		
p. 36	p. 28	p. 12

5 PV Systems

Test bypass diodes	Test PV insulation	Verify string voltage	Verify string voltage	Verify string current
				
p. 52	p. 22	p. 28	p. 12	p. 12

6 Earth, Ground

Verify grounding

p. 38

7 Air Conditioning

Check temperature and humidity	Check temperature	Test insulation	Test supply voltage	Test load current	Detect leakage current
					
p. 54	p. 58	p. 22	p. 28	p. 12	p. 12

8 Boilers

Test insulation	Test supply voltage	Test load current	Detect leakage current
			
p. 22	p. 28	p. 12	p. 12

9 LAN

Verify LAN wiring

p. 57

10 LED

Measure illuminance

p. 58

Manage Data on Mobile Devices and PC

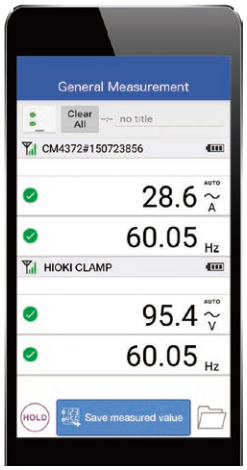
GENNECT Cloud

for mobile devices
GENNECT Cross

GENNECT Cloud expands your potential.

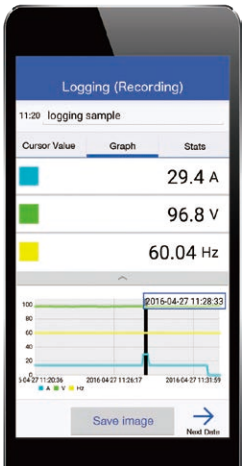
GENNECT Cross Dedicated website

Checking and saving measured values



The measurement values displayed on the instrument can be displayed and saved on the tablet in real time.

Record fluctuations in measured values



Measurement values can be saved at set recording intervals. You can also check the maximum, minimum, and average values.

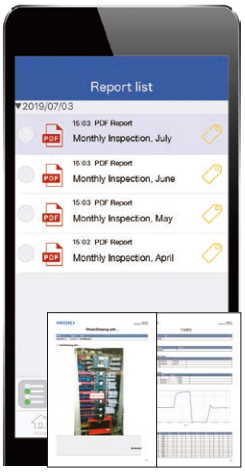
Waveform observation, FFT analysis

Waveforms such as current and voltage, and FFT analysis waveforms can be displayed.

Record on photos and drawings

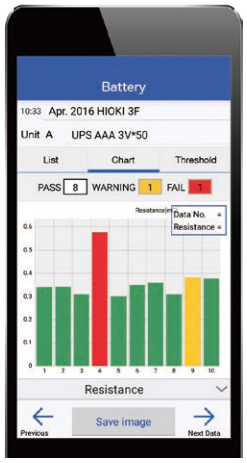
Measurements can be recorded on top of captured photos or imported drawing data.

Report writing



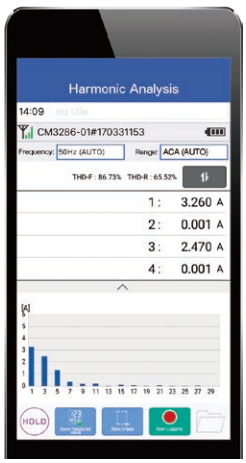
You can create reports from saved data, exporting them as PDF, JPG, or CSV.

Display judgment results in color and bar graph



The measured value is compared with the judgment value, and the result is displayed in PASS/ WARNING/FAIL.

Check power quality by analyzing harmonics up to the 30th order



Calculate and display harmonic levels for individual orders, content percentages, and total harmonic distortion (THD-F and THDR).

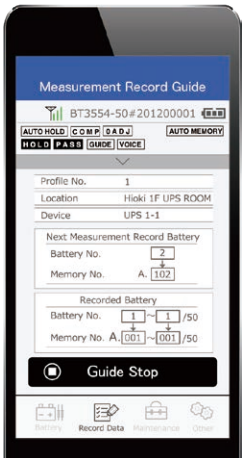
Record the occurrence of intermittent leakage current

When a value greater than the threshold is measured, the time of occurrence, end time, and the maximum value for that period are recorded.

Display of disequilibrium rates and vector diagrams

Displays the disequilibrium rate and vector diagram.

Audio guidance about the battery measurement sequence



The app provides audio guidance about the battery measurement sequence.And, automatically saves the measurement results.

Supported instruments (available functions vary depending on the measurement device. For details, please visit the GENNECT Cross special website.)

Wireless adapter Z3210 (optional) must be attached to use GENNECT Cross.

WIRELESS ADAPTER Z3210


IR4059


IR4057-50


IR5050, IR5051


DT4261


FT6041


FT6031-50


FT6380-50


PD3259-50


BT3554-50


CM4371-50


CM4373-50


CM4375-50


CM4141-50


CM3286-50


CM4001


CM4002


CM4003


FT3425


FT4310

Downloading GENNECT Cross

Data can be downloaded to tablets and smartphones using Hioki's dedicated appsavailable from the Google Play™ or App Store.
Search for "HIOKI" and download the "GENNECT Cross" app.

GENNECT Cloud

for PCs

GENNECT One

GENNECT Cloud expands your potential.

GENNECT One dedicated website

HUB

Connect each measuring instrument with LAN cable
(BT3554-50 series is USB connection)

LAN

Power Analysis

LAN

Monitoring Power Quality

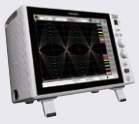
LAN

Understanding Power Consumption

LAN

Voltage and temperature management

LAN



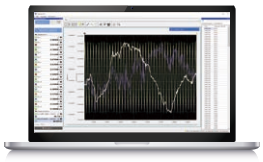
Waveform Analysis

USB

UPS Inspection

Connect To and Manage Instruments With a Computer

Collect and display measured values by instrument



Collect values in graphs and lists

Logging: When logging is started, measurement data is acquired at regular intervals from multiple measuring instruments. The acquired data is displayed and stored on the PC in real time.

Combine images and other elements

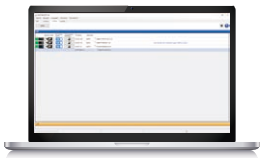
Dashboard: Create a dashboard by laying out measurements, background images, and other parts on the screen. You can display the measured values on the dashboard in real time.

Change instrument settings from your office

Change instrument settings from a computer

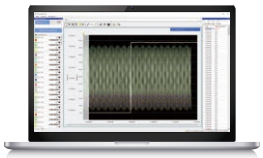
Remote control: Available to change the settings of the instrument and start and stop the measurement from the PC.
Instrument clock synchronization: The clock of the measuring instrument can be synchronized with the PC clock.

Collect and organize measurement files from scattered locations



Transfer measurement files to a computer

Automatic file transfer: Measurement data stored in the instrument can be automatically transferred to the PC.
Data import: The measurement data stored in the instrument can be transferred to the PC manually.



Review acquired files on a single time axis

Time-series viewer: After acquiring the measurement data stored in the main unit of the instrument, the data can be checked in a single time series.

Supported instruments (available functions vary depending on the measurement device. For details, please visit the GENNECT One special website.)

PW8001
PW6001
PW3390

PW3335
PW3336
PW3337

PQ3198
PQ3100

PW3365
PW3360

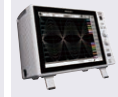
LR8400
LR8401
LR8402

LR8101
LR8102

LR8450
LR8450-01

LR5001
LR5011
LR5021
LR5031
LR5041
LR5042
LR5043
LR5051
LR5061

BT3554-50



MR6000

BT5525

IM3523A

RM3545A

BT4560-50

BT6065
BT6075

DM7275
DM7276

Downloading GENNECT One

GENNECT One is a free PC application.Please download from the HIOKI website by going to the "GENNECT One" landing page.

CLAMP METERS

Remarkable Ease of Use, New "Slim Jaw" Design

Traditional design

Slim jaw

Easily clamp within crowded cables with new slim jaw design

Innovative slim jaw resolves worksite issues such as crowded wiring to deliver safe, accurate and high-performance testing.

CM4375-50 CM4141-50 CM3289 CM3281 CM3291 CM4001

Manage Measurement Data Using Z3210*1

Bluetooth®

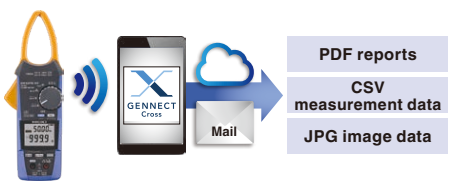
WIRELESS ADAPTER Z3210 (option)

Attach to enable Bluetooth® wireless technology

Transport to the Excel® file

Open an Excel® file and select a cell. The measured value being held on the instrument's display will be transferred to the computer and entered into the selected cell.

Learn more Z3210



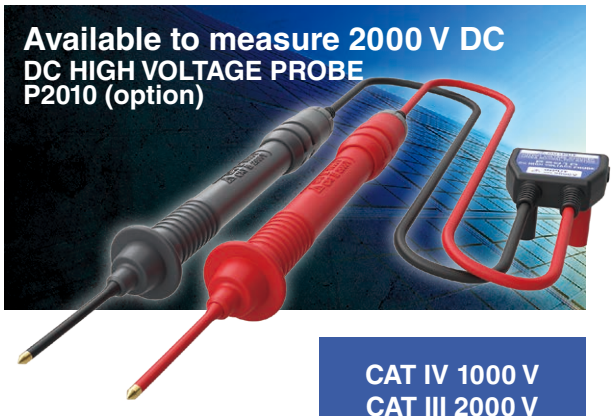
Transport to GENNECT Cross

GENNECT Cross, a free app designed specifically for use with Hioki measuring instruments, lets you check and manage measurement results and create reports. The software provides a range of functionality that helps manage data in the field, including photographing measurement sites, placing measurement results on photographs, and saving hand written memos.

Learn more GENNECT Cross

Verify current waveforms on your mobile device

Safe PV Measurement Using P2010*2



CAT IV 1000 V
CAT III 2000 V

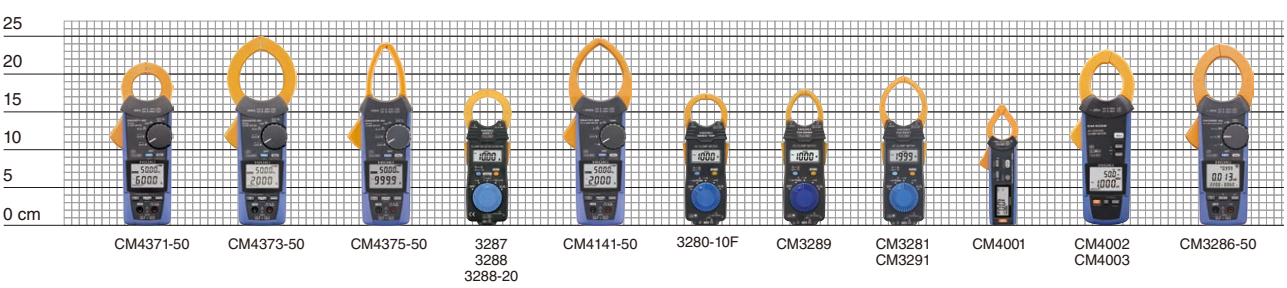
CM4371-50 CM4373-50 CM4375-50 CM4141-50

*1: Supported models: CM4371-50, CM4373-50, CM4375-50, CM4141-50, CM4001, CM4002, CM4003, CM3286-50 (requires attaching WIRELESS ADAPTER Z3210)
*2: Supported models: CM4371-50, CM4373-50, CM4375-50, CM4141-50 (requires using DC HIGH VOLTAGE PROBE P2010)

Lineup

Measurement type		AC/DC current				
Model		**CM4371-50**	**CM4373-50**	**CM4375-50**	**3287**	**3288 3288-20**
Appearance						
Core jaw diameter		Φ33 mm (1.30 in.)	Φ55 mm (2.17 in.)	Φ34 mm (1.34 in.)	Φ35 mm (1.38 in.)	Φ35 mm (1.38 in.)
AC measurement system		True RMS	True RMS	True RMS	True RMS	Mean value True RMS (-20)
Frequency characteristics		10 Hz to 1 kHz	10 Hz to 1 kHz	10 Hz to 1 kHz	10 Hz to 1 kHz	10 Hz to 500 Hz
Measurement parameters	AC current (resolution) Guaranteed accuracy range	600 A (0.01) 1 A to 600 A	2000 A (0.1) 1 A to 2000 A	1000 A (0.1) 1 A to 999.9 A	100 A (0.01) Full display range*5	1000 A (0.1) Full display range*5
	DC current (resolution)	600 A (0.01)	2000 A (0.1)	999.9 A (0.1)	100 A (0.01)	1000 A (0.1)
	AC Voltage	1000 V	1000 V	1000 V	600 V	600 V
	DC Voltage	1000 V, 2000 V*1	1000 V, 2000 V*1	1000 V, 2000 V*1	600 V	600 V
	Power	1200 kVA (DC)*1	4000 kVA (DC)*1	2000 kVA (DC)*1	N/A	N/A
	Resistance	6 MΩ	6 MΩ	6 MΩ	42 MΩ	42 MΩ
	Temperature	-40°C to 400°C	-40°C to 400°C	-40°C to 400°C	N/A	N/A
	Electrostatic capacity	✔	✔	✔	N/A	N/A
	Frequency	999.9 Hz	999.9 Hz	999.9 Hz	N/A	N/A
	Rush current	✔	✔	✔	N/A	N/A
	Continuity check	✔	✔	✔	✔	✔
	Diode check	✔	✔	✔	N/A	N/A
	Non-Contact Voltage	✔	✔	N/A	N/A	N/A
Low-pass filter		✔	✔	✔	N/A	N/A
Auto power off		✔	✔	✔	✔	✔
Auto range		✔	✔	✔	✔	✔
Data hold		AUTO/MANUAL	AUTO/MANUAL	AUTO/MANUAL	MANUAL	MANUAL
Automatic AC/DC detection		✔	✔	✔	N/A	N/A
MAX/MIN/AVG		✔	✔	✔	N/A	N/A
Output		N/A	N/A	N/A	N/A	N/A
Bluetooth® communication		✔ (with Z3210)	✔ (with Z3210)	✔ (with Z3210)	N/A	N/A
Backlight		✔	✔	✔	N/A	N/A
Display refresh rate		5 times/s	5 times/s	5 times/s	2.5 times/s	2.5 times/s
Safety standard category		CAT IV 600 V CAT III 1000 V	CAT IV 600 V CAT III 1000 V	CAT IV 600 V CAT III 1000 V	V: CAT III 300 V A: CAT III 600 V	V: CAT III 300 V A: CAT III 600 V
Safety standard category (with P2010)		CAT IV 1000 V CAT III 2000 V	CAT IV 1000 V CAT III 2000 V	CAT IV 1000 V CAT III 2000 V	N/A	N/A
CE		✔	✔	✔	✔	✔
Dustproof and waterproof		IP20*2 /IP54*3	IP20*2 /IP54*3	IP20*2 /IP54*3	N/A	N/A
Drop proof		N/A	N/A	N/A	N/A	N/A
Power supply		LR03 x 2 Alkaline	LR03 x 2 Alkaline	LR03 x 2 Alkaline	CR2032 x 1 Coin type	CR2032 x 1 Coin type
Dimensions (W × H × D)		65 × 215 × 35 mm 2.56 × 8.46 × 1.38 in.	65 × 250 × 35 mm 2.56 × 9.84 × 1.38 in.	65 × 242 × 35 mm 2.56 × 9.53 × 1.38 in.	57 × 180 × 16 mm 2.24 × 7.09 × 0.63 in.	57 × 180 × 16 mm 2.24 × 7.09 × 0.63 in.
Weight		340 g, 12.0 oz.	530 g, 18.7 oz.	350 g, 12.3 oz.	170 g, 6.0 oz.	150 g, 5.3 oz.

Size comparison



*1: Only when DC HIGH VOLTAGE PROBE P2010 is used *2: Voltage measurement in a completely dry condition. When jaw closes. *3: While in storage

*4: When measuring the current in an insulated conductor. Do not use it when wet. *5: Displayed 0 with below 0.06

Measurement type		AC current					Leakage current		AC power
Model		CM4141-50	3280-10F	CM3289	CM3281	CM3291	CM4001	CM4002 CM4003	CM3286-50
Appearance									
Core jaw diameter		Φ55 mm (2.17 in.)	Φ33 mm (1.30 in.)	Φ33 mm (1.30 in.)	Φ46 mm (1.81 in.)	Φ46 mm (1.81 in.)	Φ24 mm (0.94 in.)	Φ40 mm (1.57 in.)	Φ46 mm (1.81 in.)
AC measurement system		True RMS	Mean value	True RMS	Mean value	True RMS	True RMS	True RMS	True RMS
Frequency characteristics		45 Hz to 1 kHz	50/60 Hz	40 Hz to 1 kHz	50/60 Hz	40 Hz to 1 kHz	40 Hz to 1 kHz	15 Hz to 2 kHz	45 Hz to 1 kHz
Measurement parameters	AC current (resolution) Guaranteed accuracy range	2000 A (0.01) 1 A to 2000 A	1000 A (0.01) 4 A to 1000 A	1000 A (0.01) 4 A to 1000 A	2000 A (0.01) 4 A to 1999 A	2000 A (0.01) 4 A to 1999 A	600 A (0.01mA) 0.6 mA to 600 A	200 A (0.001mA) 0.06 mA to 200 A	600 A (0.001) 0.06 A to 600 A
	DC current (resolution)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	AC Voltage	1000 V	600 V	600 V	600 V	600 V	N/A	N/A	600 V
	DC Voltage	1000 V, 2000 V*1	600 V	600 V	600 V	600 V	N/A	N/A	N/A
	Power	N/A	N/A	N/A	N/A	N/A	N/A	N/A	360 kW (AC)
	Resistance	6 MΩ	42 MΩ	42 MΩ	42 MΩ	42 MΩ	N/A	N/A	N/A
	Temperature	-40°C to 400°C	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Electrostatic capacity	✔	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Frequency	999.9 Hz	N/A	N/A	N/A	N/A	999.9 Hz	2000 Hz	999.9 Hz
	Rush current	✔	N/A	N/A	N/A	N/A	✔	✔	N/A
	Continuity check	✔	✔	✔	✔	✔	N/A	N/A	N/A
	Diode check	✔	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Non-Contact Voltage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Low-pass filter		✔	N/A	N/A	N/A	N/A	✔	✔	N/A
Auto power off		✔	✔	✔	✔	✔	✔	✔	✔
Auto range		✔	✔	✔	✔	✔	✔	✔	✔
Data hold		AUTO/MANUAL	MANUAL	MANUAL	MANUAL	MANUAL	AUTO/MANUAL	AUTO/MANUAL	AUTO/MANUAL
Automatic AC/DC detection		✔ (voltage only)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAX/MIN/AVG		✔	N/A	N/A	N/A	N/A	✔	✔	✔
Output		N/A	N/A	N/A	N/A	N/A	N/A	✔ (CM4003 only)	N/A
Bluetooth® communication		✔ (with Z3210)	N/A	N/A	N/A	N/A	✔ (with Z3210)	✔ (with Z3210)	✔ (with Z3210)
Backlight		✔	N/A	N/A	N/A	N/A	✔	✔	✔
Display refresh rate		5 times/s	2.5 times/s	2.5 times/s	2.5 times/s	2.5 times/s	5 times/s	5 times/s	2 times/s
Safety standard category		CAT IV 600 V CAT III 1000 V	V: CAT III 300 V A: CAT IV 300 V	V: CAT III 300 V A: CAT IV 300 V	V: CAT III 300 V A: CAT IV 300 V	V: CAT III 300 V A: CAT IV 300 V	CAT III 300 V	CAT IV 300 V (CM4002) CAT III 600 V (CM4002) CAT III 300 V (CM4003)	CAT IV 600 V CAT III 1000 V
Safety standard category (with P2010)		CAT IV 1000 V CAT III 2000 V	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CE		✔	✔	✔	✔	✔	✔	✔	✔
Dustproof and waterproof		IP50*3*4	IP40*3	N/A	N/A	N/A	N/A	IP40	IP20*2 /IP50*3
Drop proof		N/A	✔	✔	✔	✔	N/A	N/A	N/A
Power supply		LR03 × 2 Alkaline	CR2032 x 1 Coin type	CR2032 ×1 Coin type	CR2032 x 1 Coin type	CR2032 x 1 Coin type	LR03 x 1 Alkaline	LR6 x 2 Alkaline	LR03 x 2 Alkaline
Dimensions (W × H × D)		65 × 247 × 35 mm 2.56 × 9.72 × 1.38 in.	57 × 175 × 16 mm 2.24 × 6.89 × 0.63 in.	57 × 181 × 16 mm 2.24 × 7.13 × 0.63 in.	57 × 198 × 16 mm 2.24 × 7.80 × 0.63 in.	57 × 198 × 16 mm 2.24 × 7.80 × 0.63 in.	37 × 160 × 27 mm 1.46 × 6.30 × 1.06 in.	64 × 233 × 36 mm 2.52 × 9.17 × 1.41 in.	65 × 241 × 35 mm 2.56 × 9.49 × 1.38 in.
Weight		300 g, 10.6 oz.	100 g, 3.5 oz.	100 g, 3.5 oz.	103 g, 3.6 oz.	103 g, 3.6 oz.	115 g, 4.1 oz.	400 g, 14.1 oz.	450 g, 15.9 oz.

Test leads with an integrated cap for greater convenience and safety

CAT IV 600V, CAT III 1000V

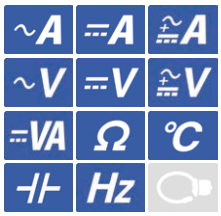
CAT II 1000V

The L9300 test lead with an integrated cap is included as a standard. The finger guard can be easily slid to switch between measurement categories without worrying about losing the cap.

AC/DC Current

AC/DC CLAMP METER CM4371-50, CM4373-50, CM4375-50

Product warranty for 3 years
Accuracy guaranteed for 1 year



Included accessories

L9300 C0203

- LR03 Alkaline battery × 2
- Instruction manual

WIRELESS ADAPTER
Z3210 (option)
Attach to enable Bluetooth® wireless technology

DC HIGH VOLTAGE PROBE
P2010 (option)
Available to measure 2000 V DC

Φ35 mm = 1.30 in.

CM4371-50

600 A AC/DC

True RMS

CAT IV 600 V
CAT III 1000 V

With P2010

CAT IV 1000 V DC
CAT III 2000 V DC

With Z3210

Bluetooth®

Please see www.hioki.com for list of supported regions.

GENNECT Cross

Φ55 mm = 2.17 in.

CM4373-50

2000 A AC/DC

True RMS

CAT IV 600 V
CAT III 1000 V

With P2010

CAT IV 1000 V DC
CAT III 2000 V DC

With Z3210

Bluetooth®

Please see www.hioki.com for list of supported regions.

GENNECT Cross

Φ34 mm = 1.34 in.

CM4375-50

1000 A AC/DC

True RMS

CAT IV 600 V
CAT III 1000 V

With P2010

CAT IV 1000 V DC
CAT III 2000 V DC

With Z3210

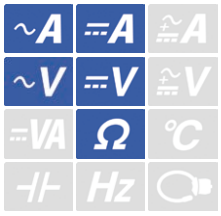
Bluetooth®

Please see www.hioki.com for list of supported regions.

GENNECT Cross

CLAMP ON AC/DC HiTESTER 3287, 3288, 3288-20

Product warranty for 3 years
Accuracy guaranteed for 1 year



Included accessories

L9208 9398

- Coin type lithium battery CR2032 × 1
- Instruction manual

Φ35 mm = 1.38 in.

3287

100 A AC/DC

True RMS

V: CAT III 300 V
A: CAT III 600 V

Φ35 mm = 1.38 in.

3288

1000 A AC/DC

True RMS

V: CAT III 300 V
A: CAT III 600 V

Φ35 mm = 1.38 in.

3288-20

1000 A AC/DC

True RMS

V: CAT III 300 V
A: CAT III 600 V

Clamp
Insulation
DMMs
Detectors
Earth
Power quality
Power loggers
Battery
PV
Logger
LAN
Signal
Lux
Temperature
Resistance

For more details

*1

Model		CM4371-50	CM4373 -50	CM4375-50		Basic accuracy
Measurement parameters	AC Current	✔	N/A	N/A	20.00 A, 600.0 A (guaranteed accuracy range: 1.00 A to 600.0 A)	±1.3% rdg. ±0.08 A
		N/A	✔	N/A	600.0 A, 2000 A (guaranteed accuracy range: 1.0 A to 2000 A)	±1.3% rdg. ±0.3 A
		N/A	N/A	✔	1000 A (guaranteed accuracy range: 1.0 A to 999.9 A)	±1.3% rdg. ±0.3 A
	DC Current	✔	N/A	N/A	20.00 A, 600.0 A (guaranteed accuracy range: ±1.00A to ±600.0 A)	±1.3% rdg. ±0.08 A
		N/A	✔	N/A	600.0 A, 2000 A (guaranteed accuracy range: ±1.0A to ±2000 A)	±1.3% rdg. ±0.3 A
		N/A	N/A	✔	1000 A (guaranteed accuracy range: ±1.0 A to ±999.9 A)	±1.3% rdg. ±0.3 A
	AC + DC Current	✔	N/A	N/A	20.00 A, 600.0 A (guaranteed accuracy range: 1.00 A to 600.0 A)	±1.3% rdg. ±0.13 A
		N/A	✔	N/A	600.0 A, 2000 A (guaranteed accuracy range: 1.0 A to 2000 A)	±1.3% rdg. ±1.3 A
		N/A	N/A	✔	1000 A (guaranteed accuracy range: 1.0 A to 999.9 A)	±1.3% rdg. ±1.3 A
	AC Voltage	✔	✔	✔	6.000 V, 60.00 V, 600.0 V, 1000 V	±0.9% rdg. ±0.003 V
	DC Voltage	✔	✔	✔	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V, 2000 V*2	±0.5% rdg. ±0.5 mV
	AC + DC Voltage	✔	✔	✔	6.000 V, 60.00 V, 600.0 V, 1000 V	±1.0% rdg. ±0.013 V
	DC Power	✔	N/A	N/A	0.0 VA to ±1200 kVA*2	±2.0% rdg. ±20 dgt.
		N/A	✔	N/A	0.000 kVA to ±4000 kVA*2	±2.0% rdg. ±20 dgt.
		N/A	N/A	✔	0.000 kVA to ±2000 kVA*2	±2.0% rdg. ±0.020 kVA
	Resistance	✔	✔	✔	600.0 Ω, 6.000 kΩ, 60.00 kΩ, 600.0 kΩ, 6.000 MΩ	±0.7% rdg. ±0.5 Ω
	Temperature	✔	✔	✔	-40.0°C to 400.0°C	±0.5% rdg. ±3.0°C
	Electrostatic capacity	✔	✔	✔	1.000 µF, 10.00 µF, 100.0 µF, 1000 µF	±1.9% rdg. ±0.005 µF
	Frequency	✔	✔	✔	9.999 Hz, 99.99 Hz, 999.9 Hz	±0.1% rdg. ±0.003 Hz

Other	Display refresh rate	5 times/s*3
	Operating temperature	-25°C to 65°C, 90% RH or less (non-condensating)
	Storage temperature	-30°C to 70°C, 90% RH or less (non-condensating)
	Dustproof and waterproof	IP20*4/IP54*5
	Power supply Continuous operating time	Alkaline battery LR03 × 2 40 hours*6
	Dimensions (W × H × D)	CM4371-50: 65 × 215 × 35 mm (2.56 × 8.46 × 1.38 in.) CM4373-50: 65 × 250 × 35 mm (2.56 × 9.84 × 1.38 in.) CM4375-50: 65 × 242 × 35 mm (2.56 × 9.53 × 1.38 in.)
	Weight	CM4371-50: 340 g (12 oz.) CM4373-50: 530 g (18.7 oz.) CM4375-50: 350 g (12.3 oz.)

Order code **CM4371-50**
Order code **CM4373-50**
Order code **CM4375-50**
Order code **Z3210**
Order code **P2010**

Includes Z3210
Order code **CM4371-90**
Order code **CM4373-90**
Order code **CM4375-90**

Includes Z3210 and P2010
Order code **CM4373-93**
Order code **CM4375-93**

*1: Excludes CM4375-50
*2: Only when DC HIGH VOLTAGE PROBE P2010 is used
*3: Excludes electrostatic capacity, frequency, and temperature
*4: Voltage measurement in a completely dry condition. When jaw closes.
*5: While in storage
*6: With backlight and Bluetooth® communications turned off

Model		3287	3288	3288-20		Basic accuracy
Measurement parameters	AC Current	✔	N/A	N/A	10.00 A, 100.0 A (display range: 0A to 10.00/100.0 A)	±1.5% rdg. ±5 dgt.
		N/A	✔	✔	100.0 A, 1000 A (display range: 0A to 100.0/1000 A)	±1.5% rdg. ±5 dgt.
	DC Current	✔	N/A	N/A	10.00 A, 100.0 A	±1.5% rdg. ±5 dgt.
		N/A	✔	✔	100.0 A, 1000 A	±1.5% rdg. ±5 dgt.
	AC Voltage	✔	✔	✔	4.200 V, 42.00 V, 420.0 V, 600 V	±2.3% rdg. ±8 dgt.
	DC Voltage	✔	✔	✔	420.0 mV, 4.200 V, 42.00 V, 420.0 V, 600 V	±1.3% rdg. ±4 dgt.
	Resistance	✔	✔	✔	420.0 Ω, 4.200 kΩ, 42.00 kΩ, 420.0 kΩ, 4.200 MΩ, 42.00 MΩ	±2.0% rdg. ±4 dgt.

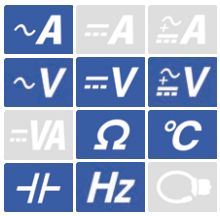
Other	Display refresh rate	2.5 times/s
	Operating temperature	0°C to 40°C, 80% RH or less (non-condensating)
	Storage temperature	-10°C to 50°C, 80% RH or less (non-condensating)
	Dustproof and waterproof	N/A
	Power supply Continuous operating time	Coin type lithium battery CR2032 × 1 25 hours
	Dimensions (W × H × D)	57 × 180 × 16 mm (2.24 × 7.09 × 0.63 in.)
	Weight	3287: 170 g (6.0 oz.), 3288, 3288-20: 150 g (5.3 oz.)

Order code **3287**
Order code **3288**
Order code **3288-20**

AC Current

AC CLAMP METER CM4141-50

Product warranty for 3 years
Accuracy guaranteed for 1 year



WIRELESS ADAPTER
Z3210 (option)
Attach to enable Bluetooth® wireless technology

DC HIGH VOLTAGE PROBE
P2010 (option)
Available to measure 2000 V DC

Φ55 mm = 2.17 in.

CM4141-50

2000 A AC

True RMS

CAT IV 600 V
CAT III 1000 V

With P2010

CAT IV 1000 V DC
CAT III 2000 V DC

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

Included accessories

L9300 **C0203**

- LR03 Alkaline battery × 2
- Instruction manual

AC CLAMP METER 3280-10F, CM3289, CM3281, CM3291

Product warranty for 3 years
Accuracy guaranteed for 1 year

Included accessories

L9208

Φ33 mm = 1.30 in.

3280-10F
3280-70F

1000 A AC

Mean value

V: CAT III 300 V
A: CAT IV 300 V

9398 (3280-10F)

C0205 (3280-70F)

Φ33 mm = 1.30 in.

CM3289

1000 A AC

True RMS

V: CAT III 300 V
A: CAT IV 300 V

9398

Φ46 mm = 1.81 in.

CM3281
CM3291

2000 A AC

CM3281: Mean value
CM3291: True RMS

V: CAT III 300 V
A: CAT IV 300 V

CARRYING CASE

- CARRYING CASE (models vary as shown on right)
- Coin type lithium battery CR2032 × 1
- Instruction manual

Leakage Current

AC LEAKAGE CLAMP METER CM4001, CM4002, CM4003

Product warranty for 3 years
Accuracy guaranteed for 1 year

WIRELESS ADAPTER
Z3210 (option)
Attach to enable Bluetooth® wireless technology

Φ24 mm = 0.94 in.

CM4001

0.6 mA to 600 A AC

True RMS

CAT III 300 V

Included accessories

CARRYING CASE

- Strap
- LR03 Alkaline battery × 1
- Instruction manual

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

Φ40 mm = 1.57 in.

CM4002

0.06 mA to 200 A AC

True RMS

CAT IV 300 V
CAT III 600 V

Included accessories

C0203

- LR6 Alkaline battery × 2
- Instruction manual

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

Φ40 mm = 1.57 in.

CM4003

0.06 mA to 200 A AC

True RMS

CAT III 300 V

Included accessories

C0203 **L9097**

- LR6 Alkaline battery × 2
- Instruction manual
- USB cable

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

Functions

- **External output**
- **External power supply**

For more details

CM4141-50

Model		CM4141-50		Basic accuracy
Measurement parameters	AC Current	✔	60.00A, 600.0 A, 2000 A (guaranteed accuracy range: 1.00A to 2000 A)	±1.5% rdg. ±0.08 A
	AC Voltage	✔	6.000 V, 60.00 V, 600.0 V, 1000 V	±0.9% rdg. ±0.003 V
	DC Voltage	✔	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V, 2000 V*1	±0.5% rdg. ±0.5 mV
	AC + DC Voltage	✔	6.000 V, 60.00 V, 600.0 V, 1000 V	±1.0% rdg. ±0.013 V
	Resistance	✔	600.0 Ω, 6.000 kΩ, 60.00 kΩ, 600.0 kΩ, 6.000 MΩ	±0.7% rdg. ±0.5 Ω
	Temperature	✔	-40.0°C to 400.0°C	±0.5% rdg. ±3.0°C
	Electrostatic capacity	✔	1.000 µF, 10.00 µF, 100.0 µF, 1000 µF	±1.9% rdg. ±0.005 µF
	Frequency	✔	9.999 Hz, 99.99 Hz, 999.9 Hz	±0.1% rdg. ±0.003 Hz

Other	Display refresh rate	5 times/s*2
	Operating temperature	-25°C to 65°C, 90% RH or less (non-condensating)
	Storage temperature	-30°C to 70°C, 90% RH or less (non-condensating)
	Dustproof and waterproof	IP50*3*4
	Power supply Continuous operating time	Alkaline battery LR03 × 2 48 hours*5
	Dimensions (W × H × D)	65 × 247 × 35 mm (2.56 × 9.72 × 1.38 in.)
	Weight	300 g (10.6 oz.)

Order code **CM4141-50**
Order code **CM4141-90**
Order code **Z3210**

Model CM4141-90 includes Z3210 as a set

*1: Only when DC HIGH VOLTAGE PROBE P2010 is used *2: Excludes electrostatic capacity, frequency, and temperature
*3: Voltage measurement in a completely dry condition. When jaw closes. *4: While in storage. *5 With backlight and Bluetooth® communications turned off

3280-10F, CM3289, CM3291, CM3281

*1

Model		3280-10F	CM3289	CM3281, CM3291		Basic accuracy
Measurement items	AC Current	✔	✔	N/A	42.00 A, 420.0 A, 1000 A (guaranteed accuracy range: 4.00A to 1000 A)	±1.5% rdg. ±5 dgt.
		N/A	N/A	✔	42.00 A, 420.0 A, 2000 A (guaranteed accuracy range: 4.00A to 1999 A)	±1.5% rdg. ±5 dgt.
	AC Voltage	✔	✔	✔	4.200 V, 42.00 V, 420.0 V, 600 V	±1.8% rdg. ±7 dgt.
	DC Voltage	✔	✔	✔	420.0 mV, 4.200 V, 42.00 V, 420.0 V, 600 V	±1.0% rdg. ±3 dgt.
	Resistance	✔	✔	✔	420.0 Ω, 4.200 kΩ, 42.00 kΩ, 420.0 kΩ, 4.200 MΩ, 42.00 MΩ	±2.0% rdg. ±4 dgt.

Other	Display refresh rate	2.5 times/s
	Operating temperature	-25°C to 65°C, 80% RH or less (non-condensating)
	Storage temperature	-25°C to 65°C, 80% RH or less (non-condensating)
	Dustproof and waterproof	IP40 (EN60529)*2*3
	Power supply Continuous operating time	Coin type lithium battery CR2032 × 1 3280-10F, CM3281: 120 hours CM3289: 70 hours CM3291: 70 hours
	Dimensions (W × H × D)	3280-10F: 57 × 175 × 16 mm (2.24 × 6.89 × 0.63 in.) CM3289: 57 × 181 × 16mm (2.24 × 7.13 × 0.63 in.) CM3281, CM3291: 57 × 198 × 16 mm (2.24 × 7.80 × 0.63 in.)
	Weight	3280-10F: 100 g (3.5 oz.) CM3289: 100 g (3.5 oz.) CM3281, CM3291: 103 g (3.6 oz.)

3280F, CM3289, CM3291 are compatible with the CT6280 AC Flexible Current Sensor

Φ130mm (5.1 in.), 4200 A AC

Model 3280-70F includes 3280-10F AC Clamp Meter and CT6280 AC Flexible Sensor as a set

Order code **3280-10F**
Order code **3280-70F**
Order code **CM3289**
Order code **CM3291**
Order code **CM3281**

*1: Excludes 3280-10F, 3280-70F
*2: Excludes CM3289, CM3281, CM3291
*3: While in storage

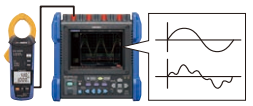
CM4001, CM4002, CM4003

Model		CM4001	CM4002	CM4003		Basic accuracy
Measurement items	AC Current	✔	N/A	N/A	60.00 mA, 600.0 mA, 6.000A, 60.00A, 600.0A (guaranteed accuracy range: 0.60 mA to 600.0A)	±1.5% rdg. ±0.05 mA
		N/A	✔	✔	6.000 mA, 60.00 mA, 600.0 mA, 6.000A, 60.00A, 200.0A (guaranteed accuracy range: 0.060 mA to 200.0A)	±1.0% rdg. ±0.005 mA
	Frequency	✔	N/A	N/A	999.9 Hz	±1.5% rdg. ±0.1 Hz
		N/A	✔	✔	999.9 Hz, 2000 Hz	±0.1% rdg. ±0.1 Hz

Other	Display refresh rate	5 times/s
	Operating temperature	-10°C to 65°C (non-condensating)
	Storage temperature	CM4001: -10°C to 65°C (non-condensating) CM4002, CM4003: -30°C to 70°C (non-condensating)
	Dustproof and waterproof	CM4002, CM4003: IP40 (EN60529)
	Power supply Continuous operating time	CM4001: LR03 Alkaline battery × 1, 32 hours CM4002, CM4003: LR6 Alkaline battery × 2, 48 hours (LR6, without Z3210) CM4003: AC ADAPTER Z1013 (option)
	Dimensions (W × H × D)	CM4001: 37 × 160 × 27 mm (1.46 × 6.30 × 1.06 in.) CM4002, CM4003: 64 × 233 × 36 mm (2.52 × 9.17 × 1.41 in.)
	Weight	CM4001: 115 g (4.1 oz.) CM4002, CM4003: 400 g (14.1 oz.)

Includes external output function
(CM4003 Only)

Pair with a recorder to capture instantaneous or current waveforms



*Using CONNECTION CABLE L9097 (included accessories)

RMS value output
(RMS mode)
DC 600 mV/f.s.
Waveform output
(WAVE mode)
AC 600 mV/f.s.

Order code **CM4001**
Order code **CM4001-90**
Order code **CM4002**
Order code **CM4002-90**
Order code **CM4003**
Order code **CM4003-90**
Order code **Z3210**

Model CM4001-90, CM4002-90, CM4003-90 includes Z3210 as a set

AC Power

For more details

AC CLAMP POWER METER CM3286-50

Product warranty for 3 years
Accuracy guaranteed for 1 year

Φ46 mm = 1.81 in.

CAT IV | DISPLAY HOLD | AUTO OFF | TRUE RMS | MIN/MAX | PEAK | AUTO AC/DC | INRUSH

Included accessories

L9257

C0203

- LR03 Alkaline battery x 2
- Instruction manual

CM3286-50

AC 600 A

True RMS

CAT IV 600 V
CAT III 1000 V

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

WIRELESS ADAPTER
Z3210 (option)
Attach to enable Bluetooth® wireless technology

Order code **CM3286-50**

Order code **CM3286-90**

Order code **Z3210**

Model CM3286-90 includes Z3210 as a set

Measurement parameters	Power (Active/ reactive/ apparent)	Single phase	3.600 kW, 36.00 kW, 360.0 kW Guaranteed accuracy range: 0.005 kW to 360.0 kW Basic accuracy: ±2.0% rdg. ±7 dgt.
		Balanced three-phase 3-wire	7.200 kW, 72.00 kW, 720.0 kW guaranteed accuracy range: 0.020 kW to 623.5 kW Basic accuracy: ±3.0% rdg. ±10 dgt.
		Balanced three-phase 4-wire	10.80 kW, 108.0 kW, 1080 kW guaranteed accuracy range: 0.040 kW to 1080 kW Basic accuracy: ±2.0% rdg. ±3 dgt.
	AC Current		6.000 A, 60.00 A, 600.0 A Basic accuracy: ±1.0% rdg. ±3 dgt.
	AC Voltage		600.0 V Basic accuracy: ±0.7% rdg. ±3 dgt.
	Power factor		Single-phase, Balanced three-phase 4-wire: [Regeneration] -1.000 to -0.001, [Consumption] 0.000 to 1.000 Balanced three-phase 3-wire: [Regeneration] -0.001, [Consumption] 0.000 to 1.000
	Phase angle		Single-phase, Balanced three-phase 4-wire: [lead] -180.0° to -0.1°, [lag] 0.0° to 179.9° Balanced three-phase 3-wire: [lead] -90.0° to -0.1°, [lag] 0.0° to 90.0°
	Frequency		45.0 Hz to 999.9 Hz
	Simple Active Energy Consumption (single-phase)		99.99 Wh, 999.9 Wh, 9.999 kWh, 99.99 kWh, 999.9 kWh, 9999 kWh
	Harmonic*1 (with Z3210)		Voltage or current harmonic levels up to 30th order, content factor, total harmonic distortion ratio
Other	Display refresh rate		2 times/s
	Operating temperature		-25°C to 65°C, 80% RH or less (non-condensating)
	Storage temperature		-25°C to 65°C, 80% RH or less (non-condensating)
	Dustproof and waterproof		IP20*2/IP50*3
	Power supply Continuous operating time		LR03 Alkaline battery x 2 25 hours
	Dimensions (W x H x D)		65 x 241 x 35 mm (2.56 x 9.49 x 1.38 inch)
	Weight		450 g (15.9 oz.)

*1: Harmonics can be displayed using dedicated application software (GENNECT Cross)
*2: Voltage measurement in a completely dry condition. When jaw closes.
*3: While in storage.

Options

3280-10F, CM3289, CM3291, 3287*1, 3288*1, 3288-20*1

**CM4371-50
CM4373-50
CM4375-50
CM4141-50
CM3286-50**

1 L9208
With caps: CAT IV 600 V, CAT III 1000 V
Without caps: CAT II 1000 V
Rated current: 10 A
Cable length: 70 cm (2.3 ft.)
Includes red and black caps (1 each)

2 CT6280*1
4200 A AC, Φ130 mm (5.12 in.)
*1: Not available to use with 3287, 3288, 3288-20

1 L9300
With sliding cap design:
- Extended cap/shorter pin: CAT IV 600 V, CAT III 1000 V
- Retracted cap/longer pin: CAT II 1000 V
Rated current: 10 A
Cable length: 95 cm (3.12ft.)

2 L9207-10
With caps: CAT IV 600 V, CAT III 1000 V
Without caps: CAT II 1000 V
Rated current: 10 A
Cable length: 90 cm (2.95 ft.)
Includes red and black caps (1 each)

3 L4930
Rated current: 10 A
Cable length: 1.2 m (3.94 ft.)

4 L4931
Rated current: 10 A
Cable length: 1.5 m (4.92 ft.)
Includes coupling connector

5 P2010*4
CAT IV 1000 V and CAT III 2000 V
Cable length 1.5 m (4.92 ft.)
*4: Not available to use with CM3286-50

6 DT4910*4
-40°C to 260°C
Sensor length 80 cm (2.62 ft.)

3 L4933*2
48 mm (1.89 in.)
Rated voltage: AC 30 V, DC 60 V
Rated current: 3 A

4 L4934*2
CAT III 300 V, CAT II 600 V
Rated current: 3 A

7 L4933*3
48 mm (1.89 in.)
Rated voltage: AC 30 V, DC 60 V
Rated current: 3 A

8 L4934*3
CAT III 300 V, CAT II 600 V
Rated current: 3 A

9 L9243
97 mm (3.82 in.)
CAT II 1000 V
Rated current: 1 A

10 L4932
With caps: CAT IV 600 V, CAT III 1000 V
Without caps: CAT II 1000 V
Rated current: 10 A
Includes red and black caps (1 each)

11 L4935
CAT IV 600 V and CAT III 1000 V
Rated current: 10 A

12 L4936
CAT III 600 V
Rated current: 5 A
30 mm (1.18 in.)

13 L4937
CAT III 1000 V
Rated current: 2 A
Magnet: Φ6 mm (0.24 in.)

14 9804
CAT IV 1000 V
Rated current: 2 A
Magnet: Φ11 mm (0.43 in.)

15 L4938
With caps: CAT III 600 V
Without caps: CAT II 600 V
Rated current: 10 A
Includes red and black caps (1 each)
22 mm (0.87 in.), Φ3.7 mm (0.15 in.)

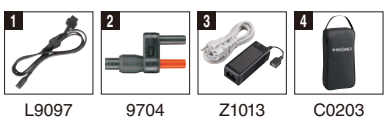
16 L4939
CAT III 600 V, Rated current 10 A
1 22 mm (0.87 in.), Φ3.7 mm (0.15 in.)
2 48 mm (1.89 in.), Φ2.6 mm (0.1 in.)

17 9290-10

3280-10F, CM3289, CM3291, 3287, 3288, 3288-20		
1	TEST LEAD L9208	With caps: CAT IV 600 V, CAT III 1000 V Without caps: CAT II 1000 V Rated current: 10 A
2	AC FLEXIBLE CURRENT SENSOR CT6280	For 3280-10F, CM3289, CM3281, CM3291 AC 4200 A, Φ130 mm (5.12 in.)
3	CONTACT PIN SET L4933	AC 30 V, DC 60 V, 3 A
4	SMALL ALLIGATOR CLIP SET L4934	CAT III 300 V, CAT II 600 V, 3 A
5	CARRYING CASE 9398	For 3280-10F, CM3289, 3287, 3288, 3288-20
6	CARRYING CASE C0205	Bundled accessory for CT6280
7	TEST LEADS HOLDER 9209	For 3280-10F, CM3289, 3287, 3288, 3288-20

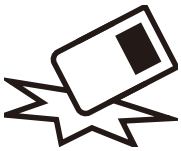
CM4371-50, CM4373-50, CM4375-50, CM4141-50, CM3286-50		
1	TEST LEAD L9300	CAT IV 600 V, CAT III 1000 V CAT II 1000 V Rated current: 10 A
2	TEST LEAD L9207-10	With caps: CAT IV 600 V, CAT III 1000 V Without caps: CAT II 1000 V 10 A
3	CONNECTION CABLE SET L4930	10 A
4	EXTENSION CABLE SET L4931	10 A
5	DC HIGH VOLTAGE PROBE P2010	Excluding CM3286-20 CAT IV 1000 V, CAT III 2000 V
6	THERMOCOUPLES (K) DT4910	Excluding CM3286-20
7	CONTACT PIN SET L4933	AC 30 V, DC 60 V, 3 A
8	SMALL ALLIGATOR CLIP SET L4934	CAT III 300 V, CAT II 600 V, 3 A
9	GRABBER CLIP L9243	CAT II 1000 V, 1 A
10	TEST PIN SET L4932	With caps: CAT IV 600 V, CAT III 1000 V Without caps: CAT II 1000 V 10 A
11	ALLIGATOR CLIP SET L4935	CAT IV 600 V, CAT III 1000 V, 10 A
12	BUS BAR CLIP SET L4936	CAT III 600 V, 5 A
13	MAGNETIC ADAPTER SET L4937	CAT III 1000 V, 2 A
14	MAGNETIC ADAPTER SET 9804	CAT IV 1000 V, 2 A
15	TEST PIN SET L4938	With caps: CAT III 600 V Without caps: CAT II 600 V 10 A
16	BREAKER PIN SET L4939	CAT III 600 V, 10 A
17	CLAMP ON ADAPTER 9290-10	For CM3286-50 AC 1000 A, Φ55 mm, CT ratio 10 : 1
18	CONNECTION CORD L9257	Combination of L4930 and L4935
19	CARRYING CASE C0203	

CM4002, CM4003		
1	CONNECTION CABLE L9097	For CM4003
2	CONVERSION ADAPTER 9704	For CM4003
3	AC ADAPTER Z1013	For CM4003
4	CARRYING CASE C0203	



INSULATION TESTERS

Drop proof



Built tough to withstand
a 1-meter
drop onto a concrete floor

5 ranges

Rated output voltage (DC)
Effective maximum indicated value

- 50 V , 100 MΩ
- 125 V , 250 MΩ
- 250 V , 500 MΩ
- 500 V , 2000 MΩ
- 1000 V , 4000 MΩ

Manage Measurement Data Using Bluetooth® Communication

WIRELESS ADAPTER
Z3210 (option)

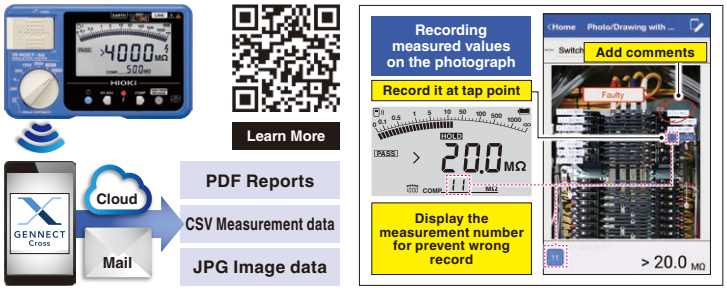
Attach to enable Bluetooth® wireless technology

Learn More

Transport to the Excel® file

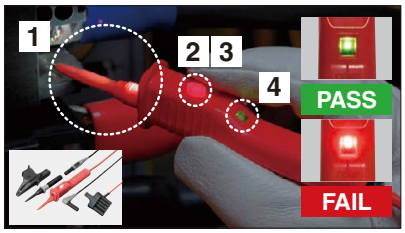
Open an Excel® file and select a cell. The measured value being held on the instrument's display will be transferred to the computer and entered into the selected cell.

Transport to GENNECT Cross



GENNECT Cross, a free app designed specifically for use with Hioki measuring instruments, lets you check and manage measurement results and create reports. The software provides a range of functionality that helps manage data in the field, including photographing measurement sites, placing measurement results on photographs, and saving handwritten memos.

Significantly Improve Testing Speed using Test Lead with Remote Switch



1. LED light shines a spotlight on the target
2. Red light warns of live voltage detection
3. Measurement start switch
4. Identify pass/fail decisions with red or green light

TEST LEAD SET WITH REMOTE SWITCH L9788-11 (option)
*Standard with the IR4059 and IR4056-21

Identify PASS/FAIL using Light and Sound

Compare measured values to pre-set reference values to generate a pass or fail decision with the Comparator function.

Convenient for Inspections

Low resistance measurement*1

Perform EV and HEV continuity checks as well as resistance measurement of protective conductors in facility electrical equipment as defined by IEC 60364.

AC/DC voltage measurement

Automatically detect AC or DC for testing. Use as a tester thanks to DC voltage measurement functionality.

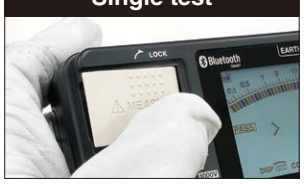
PV Ω dedicated function*2

Measurement is not affected even when the PV system is online.

*1 Excludes IR4053 *2 IR4053 Only

One-touch Start and Stop

Single test



Measurement voltage is applied while MEASURE key is pressed

Continuous test

Lift and lock the MEASURE key to apply a continuous stream of voltage

Prevent Accidental High Voltage Generation

Flashing light

Release lock

Under [500V], [1000V], or [PVΩ] settings, the RELEASE button will blink. Press to unlock the release of high voltages as an extra safety meaure.

Lineup - Digital

CE

Product warranty for 3 years
Accuracy guaranteed for 1 year

Measurement type	Low voltage (less than 1000 V)				High voltage (less than 5000 V)	
	Standard	High-speed	EV	PV		Standard
Model	**IR4056-20 IR4056-21**	**IR4057-50**	**IR4059**	**IR4053-10**	**IR5051**	**IR5050**
Appearance						
Number of ranges	5				5	
Applied voltage (DC) and effective maximum indicated value	50 V, 100 MΩ 125 V, 250 MΩ 250 V, 500 MΩ 500 V, 2000 MΩ 1000 V, 4000 MΩ				250 V, 500 GΩ 500 V, 1.00 TΩ 1000 V, 2.00 TΩ 2500 V, 5.00 TΩ 5000 V, 10.00 TΩ	
PV Ω measurement	N/A			500 V, 2000 MΩ 1000 V, 4000 MΩ	500 V, 100 GΩ 1000 V, 100 GΩ 1500 V, 100 GΩ	N/A
Leakage current measurement	N/A				0.00 nA to 2.00 mA	
DC voltage measurement	600 V			1000 V	2000 V	
AC voltage measurement	600 V				1000 V	
Low resistance measurement	✔			N/A	N/A	
Displaying 1-min. values	N/A	✔		N/A	N/A	
Comparator decision response time	✔ 0.8 second	✔ 0.3 second		✔ 0.8 second (PV: 4 second)	N/A	
AUTO power save	✔				✔	
Bluetooth® communication	N/A	✔ (with Z3210)		N/A	✔ (with Z3210)	
Resistance gauge	N/A	✔		N/A	✔	
Backlight	✔				✔	
Safety standard category	CAT III 600 V				CAT IV 1000 V CAT III 2000 V	
CE	✔*1				✔	
Dustproof and waterproof	IP40*2				IP40*2 *3, IP65*4	
Drop proof	✔				N/A	
Power supply	LR03 (AAA) alkaline battery × 4 HR6 (AA) NiMH rechargeable battery x4				LR6 (AA) alkaline battery × 8 HR6 (AA) NiMH rechargeable battery x8	
Dimensions (W × H × D)	159 × 177 × 53 mm 6.26 × 6.97 × 2.09 in.		160 × 98 × 46 mm 6.30 × 3.86 × 1.81 in.	159 × 177 × 53 mm 6.26 × 6.97 × 2.09 in.	195 × 254 × 89 mm 7.68 × 10 × 3.50 in.	
Weight	600 g (21.2 oz.)	640 g (22.6 oz.)	536 g (18.9 oz.)	600 g (21.2 oz.)	1.7 kg (59.97 oz.)	

*1 IR4056-21 excluded *2 Terminals are excluded *3 When the protector is attached *4 When stored in attached CARRYING CASE C0212

Lineup - Analog Meters

CE

Product warranty for 3 years
Accuracy guaranteed for 1 year

Measurement parameters

3 Ranges

3490

Applied voltage (DC)	250 V	500 V	1000 V
Effective maximum indicated value	100 MΩ		4000 MΩ
1st effective measuring range	0.05 MΩ to 50 MΩ		2 MΩ to 1000 MΩ
2nd effective measuring range	0.01 MΩ to 0.05 MΩ or less 50 MΩ to 100 MΩ		0.5 MΩ to 2 MΩ 1000 MΩ to 4000 MΩ

IR4016 -20

Applied voltage (DC)	500 V
Effective maximum indicated value	100 MΩ
1st effective measuring range	0.1 MΩ to 50 MΩ
2nd effective measuring range	0.01 MΩ to 0.1 MΩ or less 50 MΩ or more to 100 MΩ

1 Range

IR4017 -20

Applied voltage (DC)	500 V
Effective maximum indicated value	1000 MΩ
1st effective measuring range	1 MΩ to 500 MΩ
2st effective measuring range	0.5 MΩ to 1 MΩ or less 500 MΩ or more to 1000 MΩ

IR4018 -20

Applied voltage (DC)	1000 V
Effective maximum indicated value	2000 MΩ
1st effective measuring range	2 MΩ to 1000 MΩ
2nd effective measuring range	1 MΩ to 2 MΩ or less 1000 MΩ or more to 2000 MΩ

Accuracy (insulation)	±2% of scale length (1st effective measuring range) ±2% of scale length (2nd effective measuring range)
AC Voltage	0 to 600 V

Other

Operating temperature	0°C to 40°C, 90% RH or less (non-condensating)
Storage temperature	-10°C to 50°C, 90% RH or less (non-condensating)
Dustproof and waterproof	IP40 (terminal excluded)
Drop proof	YES
Backlight	YES
Safety standard category	CAT III 600 V
Standards	EN61010 (Safety), EN61326 (EMC)
Power supply Continuous operating time	LR6 alkaline battery × 4 20 hours
Dimensions (W × H × D)	3490: 162 × 167 × 52 mm (6.38 × 6.57 × 2.05 in.) IR4016, IR4017, IR4018: 162 × 182 × 57 mm (6.38 × 7.17 × 2.24 in.)
Weight	3490: 840 g (29.6 oz.), IR4016, IR4017, IR4018: 820 g (28.9 oz.)

Included accessories

L9787

- TEST LEAD L9787 (1.2 m)
- Neck strap
- LR6 alkaline battery × 4
- Instruction manual

Order code **3490**
Order code **IR4016-20**
Order code **IR4017-20**
Order code **IR4018-20**

INSULATION TESTER IR4056-20, IR4056-21

CE * IR4056-20 only
Product warranty for 3 years
Accuracy guaranteed for 1 year

Included accessories
• TEST LEAD L9787
• Neck strap
• LR6 alkaline battery × 4
• Instruction manual

IR4056-20

Included accessories
• TEST LEAD SET WITH REMOTE SWITCH L9788-11
• Neck strap
• LR6 alkaline battery × 4
• Instruction manual

IR4056-21 Not CE marked

CAT III | DISPLAY HOLD | AUTO OFF

Comparator decision response time : 0.8 s
5 ranges
CAT III 600 V

INSULATION TESTER IR4057-50, IR4059

CE C SP® US * IR4057-50 only
Product warranty for 3 years
Accuracy guaranteed for 1 year

IR4057-50

IR4059

L4930

L4938

L4935

WIRELESS ADAPTER Z3210 (option)
Attach to enable Bluetooth® wireless technology

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

CAT III | DISPLAY HOLD | AUTO OFF

Comparator decision response time : 0.3 s
Digital bar graph
5 ranges
CAT III 600 V

Included accessories
• CONNECTION CABLE L4930
• ALLIGATOR CLIP SET L4935
• TEST PIN SET L4938
• TEST LEAD SET WITH REMOTE SWITCH (RED) L9788-10 (IR4059 only)
• PROTECTOR Z5042 (IR4059 only)
• Neck strap
• LR6 alkaline battery × 4
• Instruction manual

CE
Product warranty for 3 years
Accuracy guaranteed for 1 year

INSULATION TESTER (for Photovoltaic Generation Systems) IR4053-10

Included accessories
• TEST LEAD L9787
• Neck strap
• LR6 alkaline battery × 4
• Instruction manual

IR4053-10

CAT III | DISPLAY HOLD | AUTO OFF

Comparator decision response time : 0.8 s
Comparator decision response time (PV) : 4 s
5 ranges
CAT III 600 V

Model	IR4056-20	IR4056-21	IR4057-50	IR4059	IR4053						Basic accuracy
Measurement parameters: Insulation resistance	✔				✔	**Applied voltage (DC)**	**50 V**	**125 V**	**250 V**	**500 V**	**1000 V**	-
						Effective maximum indicated value (MΩ)	100	250	500	2000	4000	-
						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	±2% rdg. ±2 dgt.
						2nd effective measuring range (MΩ)	10.1 to 100.0	25.1 to 250	50.1 to 500	501 to 2000	1010 to 4000	±5% rdg.
PV Ω measurement	N/A				✔	**Applied voltage (DC)**	**500 V**		**1000 V**			-
						Effective maximum indicated value (MΩ)	2000		4000			-
						1st effective measuring range (MΩ)	0.200 to 500		0.200 to 1000			±4% rdg.
						2nd effective measuring range (MΩ)	501 to 2000		1010 to 4000			±8% rdg.
DC Voltage	N/A				✔	4.200 V, 42.00 V, 420.0 V, 1000 V						±1.3% rdg. ±4 dgt. *1
	✔				N/A	4.200 V, 42.00 V, 420.0 V, 600 V						±1.3% rdg. ±4 dgt. *1
AC Voltage	✔				✔	420.0 V *2, 600 V						±2.3% rdg. ±8 dgt. *1
Low resistance measurement	✔				N/A	10.00 Ω, 100.0 Ω, 1000 Ω						±3% rdg. ±2 dgt.

Other	
Operating temperature	IR4056-20, IR4056-20, IR4057-50, IR4059: -25°C to 65°C, 90% RH or less (non-condensating) IR4053: 0°C to 50°C, 90% RH or less (non-condensating)
Storage temperature	IR4056-20, IR4056-20, IR4057-50, IR4059: -25°C to 65°C, 90% RH or less (non-condensating) IR4053: -10 °C to 50°C, 90% RH or less (non-condensating)
Dustproof and waterproof	IP40 (terminal excluded)
Standards	EN61326 (EMC), EN61557-1/2/4*3/10
Power supply Continuous operating time	LR6 alkaline battery × 4 20 hours
Dimensions (W × H × D)	IR4056-20, IR4056-21, IR4057-50, IR4053-10: 159 × 177 × 53 mm (6.26 × 6.97 × 2.09 in,)
	IR4059: 160 x 98 x 46 mm (6.30 x 3.86 x 1.81 in.)
Weight	IR4056-20, IR4056-21. IR4053: 600 g (21.2 oz.) IR4059: 536 (18.9 oz.) IR4057-50: 640 g (22.6 oz.)

*1 Ranges in excess of 600 V, 1000 V are outside the accuracy guarantee
*2 Minimum indicated value: 30.0 V
*3 Subclause 4.3 of Part 4 (interchanging of test leads) is not applicable when L9788-10 is used

Order code **IR4056-20**
Order code **IR4056-21**
Order code **IR4057-50**
Order code **IR4057-90**
Order code **IR4059**
Order code **IR4053-10**
Order code **Z3210**

Model IR4057-90 includes Z3210 as a set

HIGH VOLTAGE INSULATION TESTER IR5050, IR5051

Product warranty for 3 years
Accuracy guaranteed for 1 year

IR5050

IR5051
IR5051-90
(include Z3210 as a set)

Standard | **For PV systems**

5 ranges

CAT IV 1000 V, CAT III 2000 V

Order code **IR5050**

Order code **IR5051**

Order code **IR5051-90**

Included accessories

L9850, L9851

- TEST LEAD L9850-01 (red), -02 (black), -03 (blue), 3 m (9.84 ft.)
- ALLIGATOR CLIP L9851-01 (red), -02 (black) , -03 (blue)
- CARRYING CASE C0212
- LR6 alkaline battery × 8
- Instruction manual
- TEST PIN SET L9852 (IR5051 and IR5051-90 only)
- WIRELESS ADAPTER Z3210 (IR5051-90 only)

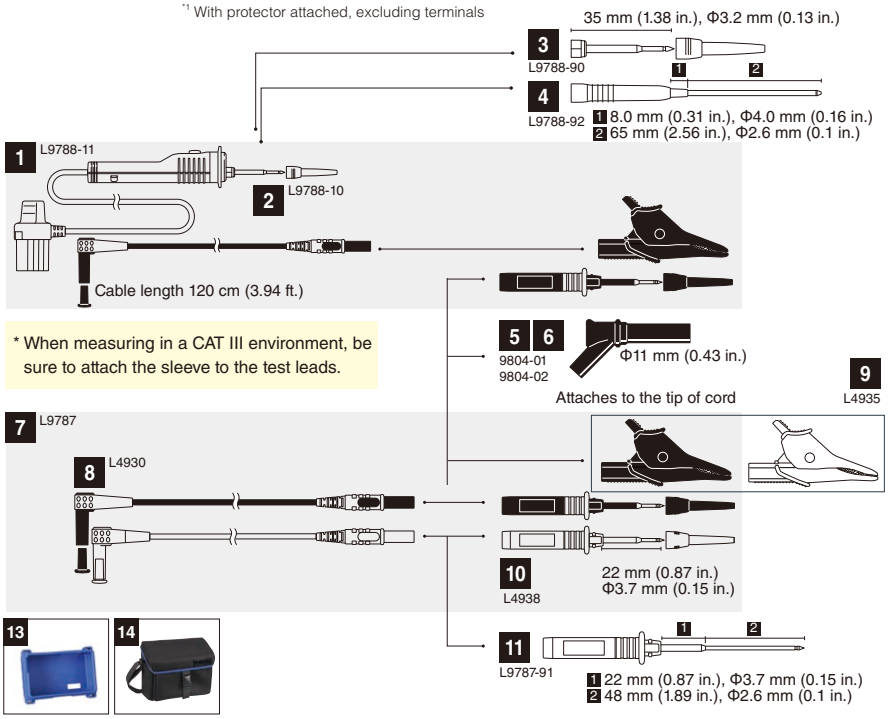
CAT III | CAT IV | DISPLAY HOLD | AUTO OFF

Measurement parameters	Insulation resistance	Applied voltage (DC) and measurement range	250 V: 0.00 MΩ to 500 GΩ
			500 V: 0.00 MΩ to 1.00 TΩ
			1000 V: 0.00 MΩ to 2.00 TΩ
			2500 V: 0.00 MΩ to 5.00 TΩ
			5000 V: 0.00 MΩ to 10.00 TΩ
		Rated current	1 mA to 1.2 mA
		Short-circuit current	2 mA or less
		Accuracy	±5% rdg. ±5 dgt., ±20% rdg.
		Induced noise removal	3 mA max.
	Leakage current		10 nA, 100 nA, 1000 nA, 10 µA, 100 µA, 1 mA Guaranteed accuracy range: 1.00 nA to 3.00 mA Accuracy: ±3% rdg. ±3 dgt.
	DC voltage		±10 V to ±2000 V Accuracy: ±3% rdg. ±3 dgt.
	AC voltage		30 V to 1000 V Accuracy: ±3% rdg. ±3 dgt.
	Capacitance		100 nF, 1000 nF, 10 µF Guaranteed accuracy range: 10.0 nF to 25.0 µF Accuracy: ±10% rdg. ±5 nF
	PV insulation resistance (IR5051 only)		500 V: 0.00 MΩ to 100 GΩ
			1000 V: 0.00 MΩ to 100 GΩ
			1500 V: 0.00 MΩ to 100 GΩ
Other	Operating temperature and humidity range		-20°C to 40°C, less than 80% RH (no condensation) 40°C to 45°C, less than 60% RH (no condensation) 45°C to 50°C, less than 50% RH (no condensation)
	Storage temperature and humidity range		-25°C to 65°C, less than 80% RH (no condensation)
	Dustproof/waterproof		IP40*1, IP65 (CARRYING CASE C0212)
	Standards		EN IEC61010 (safety), EN61326 (EMC), IEC61557-1, -2 (insulation resistence tester)
	Power supply Continuous operating time		• LR6 (AA) alkaline battery × 8: • Approx. 5 hours without Z3210 installed • Approx. 4 hours with Z3210 installed and using wireless communication • HR6 (AA) nickel-metal hydride (NiMH) rechargeable battery × 8
	Dimensions (W × H × D)		195mm (7.68 in.) × 254 mm (10 in.) × 89 mm (3.50 in.)
	Weight		1.7 kg (59.97 oz.)

*1 With protector attached, excluding terminals

Options

IIR4016-20, IR4017-20, IR4018-20, IR4056-20, IR4056-21, IR4057-50, IR4057-90, IR4053-10, IR4059, 3490	
1	TEST LEAD SET WITH REMOTE SWITCH L9788-11
2	TEST LEAD WITH REMOTE SWITCH (RED) L9788-10
3	TIP PIN L9788-90
4	BREAKER PIN L9788-92
5	MAGNETIC ADAPTER 9804-01
6	MAGNETIC ADAPTER 9804-02
7	TEST LEAD L9787
8	CONNECTION CABLE SET L4930
9	ALLIGATOR CLIP SET L4935
10	TEST PIN SET L4938
11	BREAKER PIN L9787-91
12	WIRELESS ADAPTER Z3210 (for IR4057-50, IR4059)
13	PROTECTOR Z5042 (for IR4059)
14	CARRYING CASE C0213 (EV MAINTENANCE MANUAL INCLUDED)



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

IR5050, IR5051		
1	TEST LEAD L9850 -01	Red, 3 m (9.84 ft.)
2	TEST LEAD L9850 -02	Black, 3 m (9.84 ft.)
3	TEST LEAD L9850 -03	Blue, 3 m (9.84 ft.)
4	TEST LEAD L9850 -11	Red, 10 m (32.81 ft.)
5	TEST LEAD L9850 -12	Black, 10 m (32.81 ft.)
6	TEST LEAD L9850 -13	Blue, 10 m (32.81 ft.)
7	ALLIGATOR CLIP L9851 -01	Red
8	ALLIGATOR CLIP L9851 -02	Black
9	ALLIGATOR CLIP L9851 -03	Blue
10	TEST PIN SET L9852	Red and black
11	CARRYING CASE C0212	
12	WIRELESS ADAPTER Z3210	
13	COMMUNICATION PACKAGE DT4900-01	USB

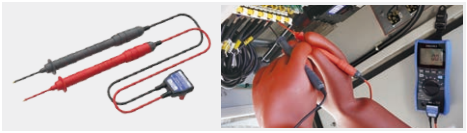

HIOKI
6000
V
APS
RANGE: AUTO
REL
RANGE
AUTO HOLD
HOLD
FILTER
OFF
~V
⎓V
Hz
Ω
V Input Protected
True RMS
DT4224
DIGITAL MULTIMETER

DMM TESTERS

Safely Inspects and Easily Manages Measurement Data for High-Voltage Solar Power Generation

High voltage measurement up to CAT III 2000 V by connecting "P2010"

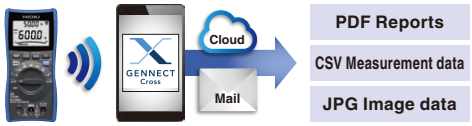
CAT IV 1000 V
CAT III 2000 V



DC HIGH VOLTAGE PROBE P2010 (options)

Supports wireless communication to increase work efficiency

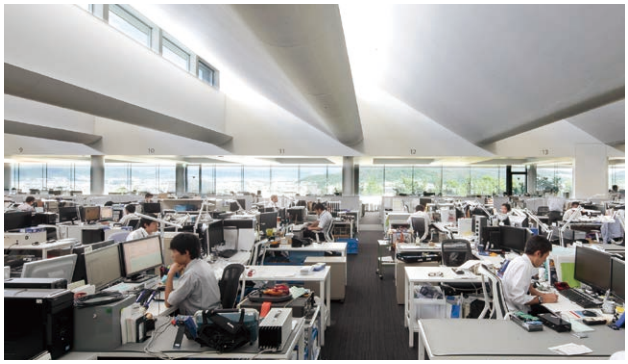
Cooperation with GENNECT Cross



WIRELESS ADAPTER Z3210 (options)

DT4261

Designed and Manufactured in Japan



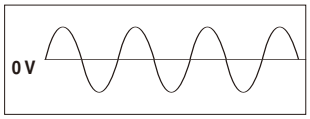
Development, design, and manufacturing processes for almost all Hioki digital multimeters are carried out at our headquarters in Nagano Prefecture.

Withstand a 1-meter Drop onto a Concrete Floor

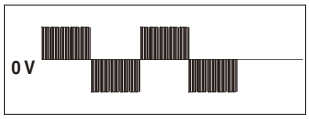
Products are dropped repeatedly until they are damaged in order to validate their impact performance. Test results are used to make design improvements and enhance durability.

Accurately Measure the Voltage of the Secondary Side of Inverters

Non-distorted current waveforms



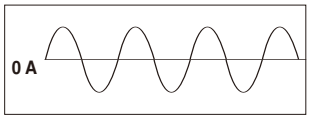
Voltage waveforms with harmonic components



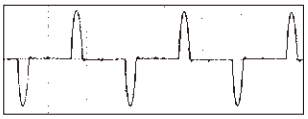
The secondary side of inverters include harmonic components. Waveforms containing harmonics are distorted and difficult to measure with accuracy. By using a low-pass filter to remove harmonic components, accurate measurement values can be obtained.

True RMS Measurement Correctly Captures Distorted Current Waveforms

Non-distorted current waveforms



Distorted waveforms due to switching power supplies



A measuring instrument uses one of two rectification methods, “True RMS" or “Mean”. Using mean rectification assumes that the signal is based on a sine wave without distortions in order to calculate the value. Distorted waveforms cannot be measured accurately using this method.

Lineup

Measurement type		Electrical work	General use	Solar power, General use	General use	Air conditioning, instrumentation	Electrical work	General use
Model		High-end models		New standard model	Standard models			
		DT4281	DT4282	DT4261	DT4252	DT4253	DT4255	DT4256
Appearance								
AC measurement system		True RMS	True RMS	True RMS	True RMS	True RMS	True RMS	True RMS
Display counts		60000	60000	6000	6000	6000	6000	6000
DCV typical accuracy		±0.025% rdg. ±2 dgt.	±0.025% rdg. ±2 dgt.	±0.15% rdg. ±2 dgt.	±0.2% rdg. ±5 dgt.	±0.3% rdg. ±5 dgt.	±0.3% rdg. ±3 dgt.	±0.3% rdg. ±3 dgt.
Frequency characteristics		20 Hz to 100 kHz	20 Hz to 100 kHz	40 Hz to 1 kHz	40 Hz to 1 kHz	40 Hz to 1 kHz	40 Hz to 1 kHz	40 Hz to 1 kHz
Measurement parameters	DC voltage (resolution)	1000 V (0.001 mV)	1000 V (0.001 mV)	1000 V, 2000 V*1 (0.1 mV)	1000 V (0.1 mV)	1000 V (0.1 mV)	1000 V (0.1 mV)	1000 V (0.1 mV)
	AC voltage (resolution)	1000 V (0.001 mV)	1000 V (0.001 mV)	1000 V (0.001 V)	1000 V (0.001 V)	1000 V (0.001 V)	1000 V (0.001 V)	1000 V (0.001 V)
	DCV + ACV	1000 V	1000 V	1000 V	N/A	N/A	N/A	N/A
	DC current (resolution)	600 mA (0.01µA)	10 A (0.01 µA)	10 A (0.1 mA)	10 A (0.001 A)	60 mA (0.01 µA)	N/A	10 A (0.01 mA)
	AC current (resolution)	600 mA (0.01 µA)	10 A (0.01 µA)	10 A (0.1 mA)	10 A (0.001 A)	N/A	N/A	10 A (0.1 mA)
	AC current (clamp)	1000 A	N/A	1000 A	N/A	1000 A	1000 A	1000 A
	Resistance	600 MΩ	600 MΩ	60 MΩ	60 MΩ	60 MΩ	60 MΩ	60 MΩ
	Temperature	-40°C to 800°C	-40°C to 800°C	N/A	N/A	-40°C to 400°C	N/A	N/A
	Capacitance	100 mF	100 mF	10 mF	10 mF	10 mF	10 mF	10 mF
	Frequency	500 kHz	500 kHz	99 kHz	99 kHz	99 kHz	99 kHz	99 kHz
	Continuity check	✔	✔	✔	✔	✔	✔	✔
	Diode check	✔	✔	✔	✔	✔	✔	✔
	Conductance	N/A	✔	N/A	N/A	N/A	N/A	N/A
	Voltage detection	N/A	N/A	N/A	N/A	N/A	✔	✔
Additional functions	AUTO AC/DCV	N/A	N/A	✔	N/A	✔	✔	✔
	MAX/MIN/AVG	MAX/MIN	MAX/MIN	✔	✔	✔	✔	✔
	PEAK display	✔	✔	✔	N/A	N/A	N/A	N/A
	Relative display	✔	✔	N/A	✔	✔	✔	✔
	Decibel conversion	✔	✔	N/A	N/A	N/A	N/A	N/A
	Percentage conversion display (4-20 mA)	✔	✔	N/A	N/A	✔	N/A	N/A
Display	AUTO range	✔	✔	✔	✔	✔	✔	✔
	Hold display value	AUTO /MANUAL	AUTO /MANUAL	AUTO /MANUAL	AUTO /MANUAL	AUTO /MANUAL	AUTO /MANUAL	AUTO /MANUAL
	Dual display	✔	✔	✔	✔	✔	✔	✔
	Bar graph display	N/A	N/A	✔	✔	✔	✔	✔
	Backlight	✔	✔	✔	✔	✔	✔	✔
Internal memory		✔	✔	N/A	N/A	N/A	N/A	N/A
USB communication*2		✔	✔	✔	✔	✔	✔	✔
Bluetooth® communication		N/A	N/A	✔ (with Z3210)	N/A	N/A	N/A	N/A
Safety	Mis-insertion prevention shutters	✔	✔	✔	N/A	N/A	N/A	N/A
	Circuit breaker false trip prevention	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Safety standard category	CAT IV 600 V CAT III 1000 V	CAT IV 600 V CAT III 1000 V	CAT IV 600 V CAT III 1000 V	CAT IV 600 V CAT III 1000 V	CAT IV 600 V CAT III 1000 V	CAT IV 600 V CAT III 1000 V	CAT IV 600 V CAT III 1000 V
	CE	N/A	N/A	✔	✔	✔	✔	✔
	Dustproof and waterproof	IP40	IP40	IP54*3	IP40 (when operating) IP42 (while in storage) *3 *4	IP40 (when operating) IP42 (while in storage) *3 *4	IP40 (when operating) IP42 (while in storage) *3 *4	IP40 (when operating) IP42 (while in storage) *3 *4
	Drop proof	✔	✔	✔	✔	✔	✔	✔
Auto power off		✔	✔	✔	✔	✔	✔	✔
Power supply		LR6 ×4 alkaline battery	LR6 ×4 alkaline battery	LR6 ×3 alkaline battery	LR03 ×4 alkaline battery	LR03 ×4 alkaline battery	LR03 ×4 alkaline battery	LR03 ×4 alkaline battery
Dimensions (W × H × D)		93 × 197 × 53 mm 3.66 × 7.76 × 2.09 in.	93 × 197 × 53 mm 3.66 × 7.76 × 2.09 in.	87 × 185 × 47 mm 3.43 × 7.28 × 1.85 in.	84 × 174 × 52 mm 3.31 × 6.85 × 2.05 in.	84 × 174 × 52 mm 3.31 × 6.85 × 2.05 in.	84 × 174 × 52 mm 3.31 × 6.85 × 2.05 in.	84 × 174 × 52 mm 3.31 × 6.85 × 2.05 in.
Weight		650 g, 22.9 oz.	650 g, 22.9 oz.	480 g, 16.9 oz.	390 g, 13.8 oz.	390 g, 13.8 oz.	390 g, 13.8 oz.	390 g, 13.8 oz.

*1: 2000 V is supported only when using the optional DC HIGH VOLTAGE PROBE P2010 *2: Requires optional COMMUNICATION PACKAGE (USB) DT4900-01 *3: Do not use in wet conditions.
*4: Excludes measuring terminals

Measurement type		Electrical work	General use	Electrical work	General use	Electrical work	Electrical work	Electrical work
Model		Pocket models				3030-10	3244-60	3246-60
		DT4221	DT4222	DT4223	DT4224			
Appearance								
AC measurement system		True RMS	True RMS	True RMS	True RMS	N/A	MEAN Value	MEAN Value
Display count		6000	6000	6000	6000	N/A	4199	4199
DCV typical accuracy		±0.5% rdg. ±5 dgt.	±0.5% rdg. ±5 dgt.	±0.5% rdg. ±5 dgt.	±0.5% rdg. ±5 dgt.	f.s. reading ±2.5%	±0.7% rdg. ±4 dgt.	±1.3% rdg. ±4 dgt.
Frequency characteristics		40 Hz to 1 kHz	40 Hz to 1 kHz	40 Hz to 1 kHz	40 Hz to 1 kHz	N/A	50 Hz to 500 Hz	50 Hz to 500 Hz
Measurement parameters	DC voltage (resolution)	600 V (0.1 mV)	600 V (0.1 mV)	600 V (0.1 mV)	600 V (0.1 mV)	600 V	500 V (0.1 mV)	600 V
	AC voltage (resolution)	600 V (0.001 V)	600 V (0.001 V)	600 V (0.001 V)	600 V (0.001 V)	600 V	500 V (0.001 V)	600 V
	DCV + ACV	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	DC current (resolution)	N/A	N/A	N/A	N/A	300 mA	N/A	N/A
	AC current (resolution)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	AC current (clamp)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Resistance	N/A	60 MΩ	60 MΩ	60 MΩ	3 kΩ	42 MΩ	42 MΩ
	Temperature	N/A	N/A	N/A	N/A	150°C	N/A	N/A
	Capacitance	N/A	10 mF	N/A	10 mF	N/A	N/A	N/A
	Frequency	9.9 kHz	9.9 kHz	9.9 kHz	9.9 kHz	N/A	N/A	N/A
	Continuity check	✔	✔	✔	✔	N/A	✔	✔
	Diode check	N/A	✔	N/A	✔	N/A	N/A	✔
	Conductance	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Voltage detection	✔	N/A	✔	N/A	N/A	N/A	N/A
Additional functions	AUTO AC/DCV	✔	N/A	✔	N/A	N/A	N/A	N/A
	MAX/MIN/AVG	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	PEAK display	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Relative display	✔	✔	✔	✔	N/A	N/A	N/A
	Decibel conversion	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Percentage conversion display (4-20 mA)	v	N/A	N/A	N/A	N/A	N/A	N/A
Display	AUTO range	✔	✔	✔	✔	N/A	✔	✔
	Hold display value	MANUAL	MANUAL	AUTO /MANUAL	AUTO /MANUAL	N/A	N/A	✔
	Dual display	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Bar graph display	✔	✔	✔	✔	N/A	N/A	N/A
	Backlight	✔	✔	✔	✔	N/A	N/A	✔
Internal memory		N/A	N/A	N/A	N/A	N/A	N/A	N/A
USB communication*2		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bluetooth® communication		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Safety	Mis-insertion prevention shutters	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Circuit breaker false trip prevention	N/A	N/A	✔	✔	N/A	N/A	N/A
	Safety standard category	CAT IV 300 V CAT III 600 V	CAT IV 300 V CAT III 600 V	CAT IV 300 V CAT III 600 V	CAT IV 300 V CAT III 600 V	CAT III 600 V	CAT III 300 V	CAT IV 300 V CAT III 600 V
	CE	✔	✔	✔	✔	N/A	N/A	N/A
	Dustproof and waterproof	IP40 (when operating) IP42 (while in storage) *3 *4	IP40 (when operating) IP42 (while in storage) *3 *4	IP40 (when operating) IP42 (while in storage) *3 *4	IP40 (when operating) IP42 (while in storage) *3 *4	N/A	N/A	N/A
	Drop proof	✔	✔	✔	✔	✔	N/A	N/A
Auto power off		✔	✔	✔	✔	N/A	✔	✔
Power supply		LR03 × 1 alkaline battery	LR03 × 1 alkaline battery	LR03 × 1 alkaline battery	LR03 × 1 alkaline battery	R6P × 2 manganese battery	CR2032 × 1 coin type battery	CR2032 × 1 coin type battery
Dimensions (W × H × D)		72 × 149 × 38 mm 2.83 × 5.87 × 1.50 in.	72 × 149 × 38 mm 2.83 × 5.87 × 1.50 in.	72 × 149 × 38 mm 2.83 × 5.87 × 1.50 in.	72 × 149 × 38 mm 2.83 × 5.87 × 1.50 in.	95 × 141 × 39 mm 3.74 × 5.55 × 1.54 in.	55 × 109 × 9.5 mm 2.17 × 4.29 × 0.37 in.	30 × 182 × 26.5 mm 1.18 × 7.17 × 1.04 in.
Weight		190 g, 6.7 oz.	190 g, 6.7 oz.	190 g, 6.7 oz.	190 g, 6.7 oz.	280 g, 9.9 oz.	60 g, 2.1 oz.	80 g, 2.8 oz.

Product warranty for 3 years
Accuracy guaranteed for 1 year

DIGITAL MULTIMETER DT4281, DT4282

DT4281

DT4282

Electrical work

General use

High-end models

60000 Counts

DCV typical accuracy: ±0.025% rdg. ±2 dgt.

CAT IV 600 V, CAT III 1000 V

Premium DMMs Deliver High Precision and Full Array of Features

extensive additional functionality

It is equipped with additional functions for more advanced measurements. It has a PEAK value display, useful for measuring ripple voltage in DC power supply systems, and a 4-20 mA and 0-20 mA conversion display, useful for measuring instrumentation signals.

- **Display of maximum/minimum values**
- **Display of PEAK value**
- **Relative display**
- **Percent conversion 4-20mA**

Product warranty for 3 years
Accuracy guaranteed for 1 year

DIGITAL MULTIMETER DT4261

DT4261

General use

New standard model

6000 Counts

DCV typical accuracy: ±0.15% rdg. ±2 dgt.

CAT IV 600 V, CAT III 1000 V

With P2010 **CAT IV 1000 V, CAT III 2000 V**

Safely inspects for high-voltage solar power generation

Safety and Convenience

measurable up to CAT III 2000 V.

DC HIGH VOLTAGE PROBE P2010 (options)

Bluetooth® communication is available

WIRELESS ADAPTER Z3210 (options)

DIGITAL MULTIMETER DT4252, DT4253, DT4255, DT4256

Product warranty for 3 years
Accuracy guaranteed for 1 year

DT4252

General use

DT4253

Air conditioning, instrumentation

DT4255

Electrical work

DT4256

General use

Standard models

6000 Counts

DCV typical accuracy: ±0.3% rdg. ±5 dgt.

CAT IV 600 V, CAT III 1000 V

Choose from 4 Models to Fit Your Application

Equipped with specialized functions catering to your needs

Air conditioning, instrumentation

- Measure low currents with 60 µA range
- Test temperature
- 4 to 20 mA % display

Electrical work

- Prevent short-circuit accidents with a fast-blow fuse and current-limiting resistor

Product warranty for 3 years
Accuracy guaranteed for 1 year

DIGITAL MULTIMETER DT4221, DT4222, DT4223, DT4224

To be discontinued

DT4221

Electrical work

DT4222

General use

DT4223

Electrical work

DT4224

General use

Pocket models

6000 Counts

DCV typical accuracy: ±0.5% rdg. ±5 dgt.

CAT IV 300 V, CAT III 600 V

Compact and Convenient

Circuit breaker false trip prevention (DT4223, DT4224 Only)

Eliminate accidents such as tripped earth leakage breakers or flash arcs even when mistakenly inputting voltage while in resistance measurement mode

CAT S | DISPLAY HOLD | AUTO OFF | TRUE RMS | REL | MIN MAX | PEAK | FILTER | INRUSH

	Model	DT4281	DT4282	Basic accuracy	Basic accuracy
Measurement parameters	DC voltage	✔	✔	60.000 mV, 600.00 mV, 6.0000 V, 60.000 V, 600.00 V, 1000.0 V	±0.025% rdg. ±2 dgt.
	AC voltage	✔	✔	60.000 mV, 600.00 mV, 6.0000 V, 60.000 V, 600.00 V, 1000.0 V	±0.2% rdg. ±25 dgt.
	DCV + ACV	✔	✔	6.0000 V, 60.000 V, 600.00 V, 1000.0 V	±0.3% rdg. ±30 dgt.
	DC current	✔	N/A	600.00 µA, 6000.0 µA, 60.000 mA, 600.00 mA	±0.05% rdg. ±5 dgt.
		N/A	✔	600.00 µA, 6000.0 µA, 60.000 mA, 600.00 mA, 6.0000 A, 10.000 A	±0.05% rdg. ±5 dgt.
	AC current	✔	N/A	600.00 µA, 6000.0 µA, 60.000 mA, 600.00 mA	±0.6% rdg. ±5 dgt.
		N/A	✔	600.00 µA, 6000.0 µA, 60.000 mA, 600.00 mA, 6.0000 A, 10.000 A	±0.6% rdg. ±3 dgt.
	AC current (clamp)	✔	N/A	10.00 A, 20.00 A, 50.00 A, 100.0 A, 200.0 A, 500.0 A, 1000 A	±0.6% rdg. ±2 dgt.
	Resistance	✔	✔	60.000 Ω, 600.00 Ω, 6.0000 kΩ, 60.000 kΩ, 600.00 kΩ, 6.0000 MΩ, 60.00 MΩ, 600.0 MΩ	±0.03% rdg. ±2 dgt.
	Temperature	✔	✔	-40.0°C to 800.0°C	±0.5% rdg. ±3°C
	Capacitance	✔	✔	1.000 nF, 10.00 nF, 100.0 nF, 1.000 µF, 10.00 µF, 100.0 µF, 1.000 mF, 10.00 mF, 100.0 mF	±1% rdg. ±5 dgt.
	Frequency	✔	✔	99.999 Hz, 999.99 Hz, 9.9999 kHz, 99.999 kHz, 500.00 kHz	±0.005% rdg. ±3 dgt.
	Continuity check	✔	✔	(Short detection) 20/50/100/500 Ω or less, (open detection) 220/250/300/600 Ω or more	-
	Diode check	✔	✔	0.15/0.5/1.0/1.5/2.0/2.5/3.0 V (continuous buzzer sound, flashing red light)	-
	Conductance	N/A	✔	600.00 nS	-

Other	Operating temperature	-15°C to 55°C (non-condensating)
	Storage temperature	-30°C to 60°C (non-condensating)
	Dustproof and waterproof	IP40
	Standards	EN61010 (Safety), EN61326 (EMC)
	Power supply Continuous operating time	LR6 alkaline battery ×4 100 hours (backlight OFF)
	Dimensions (W × H × D)	93 × 197 × 53 mm (3.66 × 7.76 × 2.09 in.)
	Weight	650 g (22.9 oz.)

Included accessories

L9207-10

- LR6 alkaline battery × 4
- Instruction manual

Order code **DT4281**

Order code **DT4282**

*1

CAT S | DISPLAY HOLD | AUTO OFF | TRUE RMS | REL | MIN MAX | PEAK | FILTER | INRUSH

	Model	DT4252	DT4253	DT4255	DT4256	DT4261		Basic accuracy
Measurement parameters	DC voltage	N/A	✔	✔	✔	N/A	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	±0.3% rdg. ±5 dgt.
		✔	N/A	N/A	N/A	N/A	600.0 mV, 6.000 V, 60.00 V, 600.0V, 1000 V	±0.2% rdg. ±5 dgt.
		N/A	N/A	N/A	N/A	✔	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V, 2000 V*2	±0.15% rdg. ±2 dgt.
	AC voltage	✔	✔	✔	✔	✔	6.000 V, 60.00 V, 600.0 V, 1000 V	±0.9% rdg. ±3 dgt.
	DCV + ACV	N/A	N/A	N/A	N/A	✔	6.000 V, 60.00 V, 600.0 V, 1000 V	±1.0% rdg. ±13 dgt.
	DC current	N/A	✔	N/A	N/A	N/A	60.00 µA, 600.0 µA, 6.000 mA, 60.00 mA	±0.8% rdg. ±5 dgt.
		N/A	N/A	N/A	✔	N/A	60.00 mA, 600.0 mA, 6.000 A, 10.00 A	±0.9% rdg. ±3 dgt.
		N/A	N/A	N/A	N/A	✔	600.0 mA, 6.000 A, 10.00 A	±0.5% rdg. ±3 dgt.
		✔	N/A	N/A	N/A	N/A	6.000 A, 10.00 A	±0.9% rdg. ±5 dgt.
	AC current	N/A	N/A	N/A	✔	✔	600.0 mA, 6.000 A, 10.00 A	±1.4% rdg. ±3 dgt.
		✔	N/A	N/A	N/A	N/A	6.000 A, 10.00 A	±1.4% rdg. ±3 dgt.
	AC current (clamp)	N/A	✔	✔	✔	✔	10.00 A, 20.00 A, 50.00 A, 100.0 A, 200.0 A, 500.0 A, 1000 A	±0.9% rdg. ±3 dgt.
	Resistance	✔	✔	✔	✔	✔	600.0 Ω, 6.000 kΩ, 60.00 kΩ, 600.0 kΩ, 6.000 MΩ, 60.00 MΩ	±0.7% rdg. ±5 dgt.
	Temperature	N/A	✔	N/A	N/A	N/A	-40.0°C to 400.0°C	±0.5% rdg. ±2°C
	Capacitance	✔	✔	✔	✔	✔	1.000 µF, 10.00 µF, 100.0 µF, 1.000 mF, 10.00 mF	±1.9% rdg. ±5 dgt.
	Frequency	✔	✔	✔	✔	✔	99.99 Hz, 999.9 Hz, 9.999 kHz, 99.99 kHz	±0.1% rdg. ±1 dgt.
	Continuity check	✔	✔	✔	✔	✔	(Short detection) 25 Ω or less, (open detection) 245 Ω or more	-
	Diode check	✔	✔	✔	✔	✔	0.15 V to 1.5 V (continuous buzzer sound, flashing red light)	-
	Voltage detection	N/A	N/A	✔	✔	N/A	(Detection voltage range) 40 V AC to 600 V AC, (Detection frequency range) 50/60 Hz	-

Other	Operating temperature	DT4255, DT4256, DT4261: -25°C to 65°C (non-condensating) DT4252, DT4253: -10°C to 50°C (non-condensating)
	Storage temperature	DT4255, DT4256, DT4261: -30°C to 70°C (non-condensating) DT4252, 53: -30°C to 60°C (non-condensating)
	Dustproof and waterproof	DT4252, DT4253, DT4255, DT4256: IP40 (when operating) IP42 (while in storage)*3*4 DT4261: IP54*3
	Standards	EN61010 (Safety), EN61326 (EMC)
	Power supply Continuous operating time	DT4252, DT4253, DT4255, DT4256: LR03 alkaline battery × 4 DT4261: LR6 alkaline battery × 3 130 hours (backlight OFF)
	Dimensions (W × H × D)	DT4252, DT4253, DT4255, DT4256: 84 × 174 × 52 mm (3.31 × 6.85 × 2.05 in.) DT4261: 87 × 185 × 47 mm (3.43 × 7.28 × 1.85 in.)
	Weight	DT4252, DT4253, DT4255, DT4256: 390 g (13.8 oz.) DT4261: 480 g (16.9 oz.)

Included accessories

L9207-10

Included with DT4252, DT4253, DT4253, DT4255
- L9207-10
- alkaline battery (LR03) × 4
- Instruction manual

L9300

Included with DT4261
- L9300
- alkaline battery (LR6) × 3
- Instruction manual

Order code **DT4252**

Order code **DT4253**

Order code **DT4255**

Order code **DT4256**

Order code **DT4261**

Order code **DT4261-90**

Order code **Z3210**

Model DT4261-90 includes Z3210 as a set

*1: DT4261 Only *2: Only when using the optional DC HIGH VOLTAGE PROBE P2010
*3: Do not use in wet conditions *4: Excludes measuring terminals

CAT S | DISPLAY HOLD | AUTO OFF | TRUE RMS | REL | MIN MAX | PEAK | FILTER | INRUSH

	Model	DT4221	DT4222	DT4223	DT4224		Basic accuracy
Measurement parameters	DC voltage	✔	✔	✔	✔	600.0 mV, 6.000 V, 60.00 V, 600.0 V	±0.5% rdg. ±5 dgt.
	AC voltage	✔	✔	✔	✔	6.000 V, 60.00 V, 600.0 V	±1.0% rdg. ±3 dgt.
	Resistance	N/A	✔	✔	✔	600.0 Ω, 6.000 kΩ, 60.00 kΩ, 600.0 kΩ, 6.000 MΩ, 60.00 MΩ	±0.9% rdg. ±5 dgt.
	Capacitance	N/A	✔	N/A	✔	1.000 µF, 10.00 µF, 100.0 µF, 1.000 mF, 10.00 mF	±1.9% rdg. ±5 dgt.
	Frequency	✔	✔	✔	✔	99.99 Hz, 999.9 Hz, 9.999 kHz	±0.1% rdg. ±2 dgt.
	Continuity check	✔	✔	✔	✔	(Short detection) 25 Ω or less, (open detection) 245 Ω or more	-
	Diode check	N/A	✔	N/A	✔	0.15 V to 1.5 V (continuous buzzer sound, flashing red light)	-
	Voltage detection	✔	N/A	✔	N/A	(Detection voltage range) 80 V AC to 600 V AC, (Detection frequency range) 50/60 Hz	-

Other	Operating temperature	DT4221, DT4222: -10°C to 50°C (non-condensating) DT4223, DT4224: -10°C to 65°C (non-condensating)
	Storage temperature	DT4221, DT4222: -30°C to 60°C (non-condensating) DT4223, DT4224: -30°C to 70°C (non-condensating)
	Dustproof and waterproof	IP40 (when operating) , IP42 (while in storage) *1 *2
	Standards	EN61010 (Safety), EN61326 (EMC)
	Power supply Continuous operating time	LR03 alkaline battery × 1 40 hours (backlight OFF)
	Dimensions (W × H × D)	72 × 149 × 38 mm (2.83 × 5.87 × 1.50 in.)
	Weight	190 g (6.7 oz.)

Included accessories

DT4911

- LR03 alkaline battery ×1
- Instruction manual

Order code **DT4221**

Order code **DT4222**

Order code **DT4223**

Order code **DT4224**

*1: Do not use in wet conditions *2: Excludes measuring terminals

HiTESTER 3030-10

Product warranty for 3 years
Accuracy guaranteed for 1 year

CAT III 600 V

CARRYING CASE 9390

Order code **3030-10**

Included accessories

L9207-30

- TEST LEAD L9207-30
- CARRYING CASE 9390
- R6P manganese battery ×2
- Spare fuse
- Instruction manual

Measurement parameters	DC Voltage	0.3 V, 3 V, 12 V, 30 V, 120 V, 300 V, 600 V Accuracy: ±2.5% of f.s. reading
	AC Voltage	12 V, 30 V, 120 V, 300 V, 600 V Accuracy: ±2.5% of f.s. reading, (12V: ±4%)
	DC Current	60μA, 30 mA, 300 mA Accuracy: ±3% of f.s. reading
	Resistance	0 to 3kΩ: R×1, R×10, R×100, R×1k Accuracy: ±3% of scale length
	Battery check	0.9 to 1.8 V Accuracy: ±6% of f.s. reading
Other	Operating temperature	0°C to 40°C (non-condensating)
	Storage temperature	-10°C to 50°C (non-condensating)
	Power supply	R6P manganese battery ×2
	Dimensions (W × H × D)	95 × 141 × 39 mm (3.74 × 5.55 × 1.54 in.)
	Weight	280 g (9.9 oz.)

CARD HiTESTER 3244-60

Product warranty for 3 years
Accuracy guaranteed for 1 year

Cord length
46cm (1.51 ft.)

CAT III 300V, CAT II 600V

CARRYING CASE
C0204

Order code **3244-60**

Included accessories

- CARRYING CASE C0204
- Sleeves (red, black @ 1 each)
- CR2032 coin type battery ×1
- Instruction manual

Measurement parameters	DC Voltage	420.0 mV, 4.200 V, 42.00 V, 420.0 V, 500 V Accuracy: ±0.7% rdg. ±4 dgt.
	AC Voltage	4.200 V, 42.00 V, 420.0 V, 500 V Accuracy: ±2.3% rdg. ±8 dgt.
	Resistance	420.0 Ω, 4.200 kΩ, 42.00 kΩ, 420.0 kΩ, 4.200 MΩ, 42.00 MΩ Accuracy: ±2.0% rdg. ±4 dgt.
	Continuity check	Detection level: 50 Ω ±40 Ω or less
Other	Operating temperature	0°C to 40°C (non-condensating)
	Storage temperature	-20°C to 60°C (non-condensating)
	Power supply	CR2032 coin type battery ×1
	Dimensions (W × H × D)	55 × 109 × 9.5 mm (2.17 × 4.29 × 0.37 in.)
	Weight	60 g (2.1 oz.)

PENCIL HiTESTER 3246-60

Product warranty for 3 years
Accuracy guaranteed for 1 year

CAT IV 300 V, CAT III 600 V

Cord length
80 cm (2.62 ft.)

Test lead fits neatly
into back of instrument

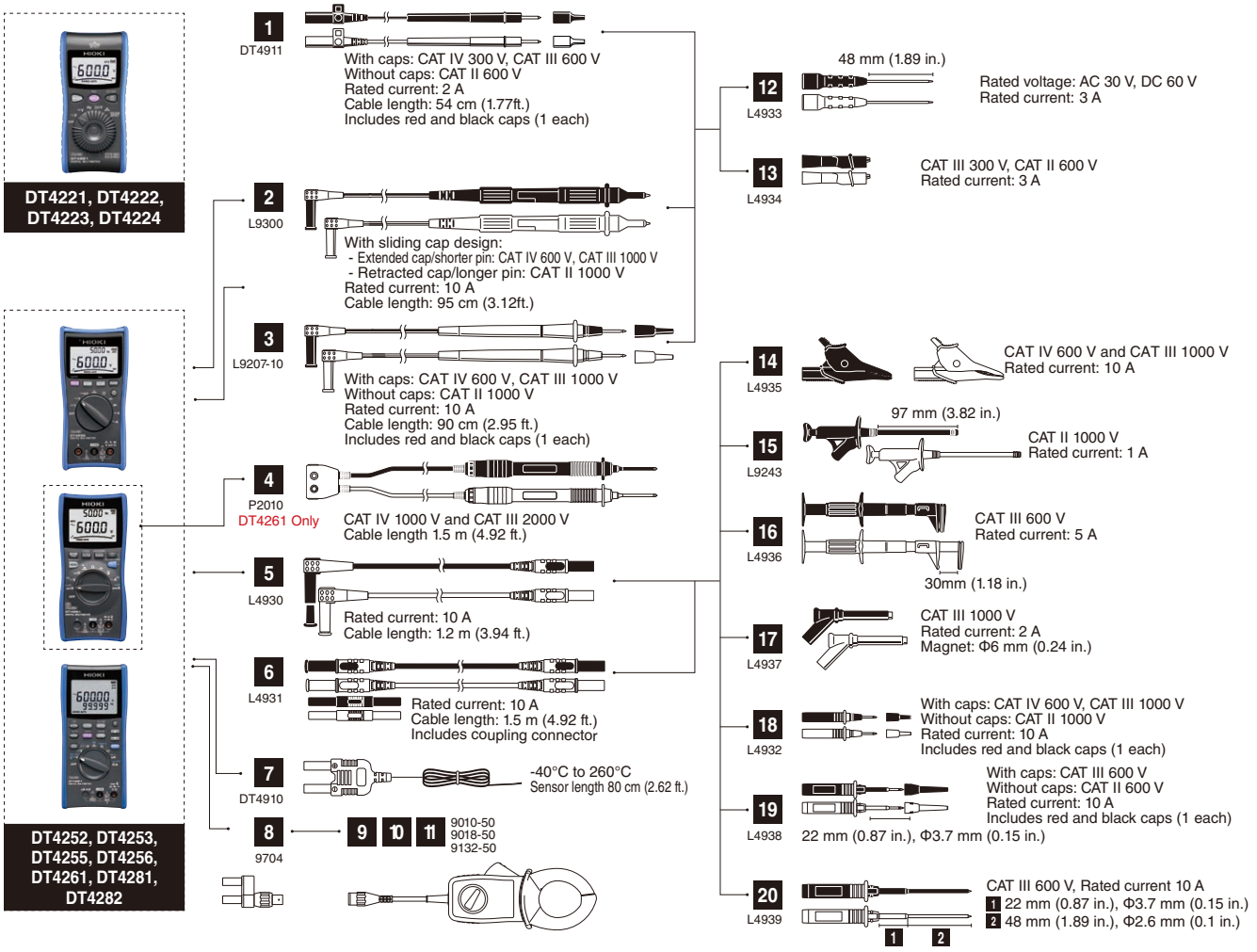
Included accessories

- Sleeves (red, black @ 1 each)
- CR2032 coin type battery ×1
- Instruction manual

Order code **3246-60**

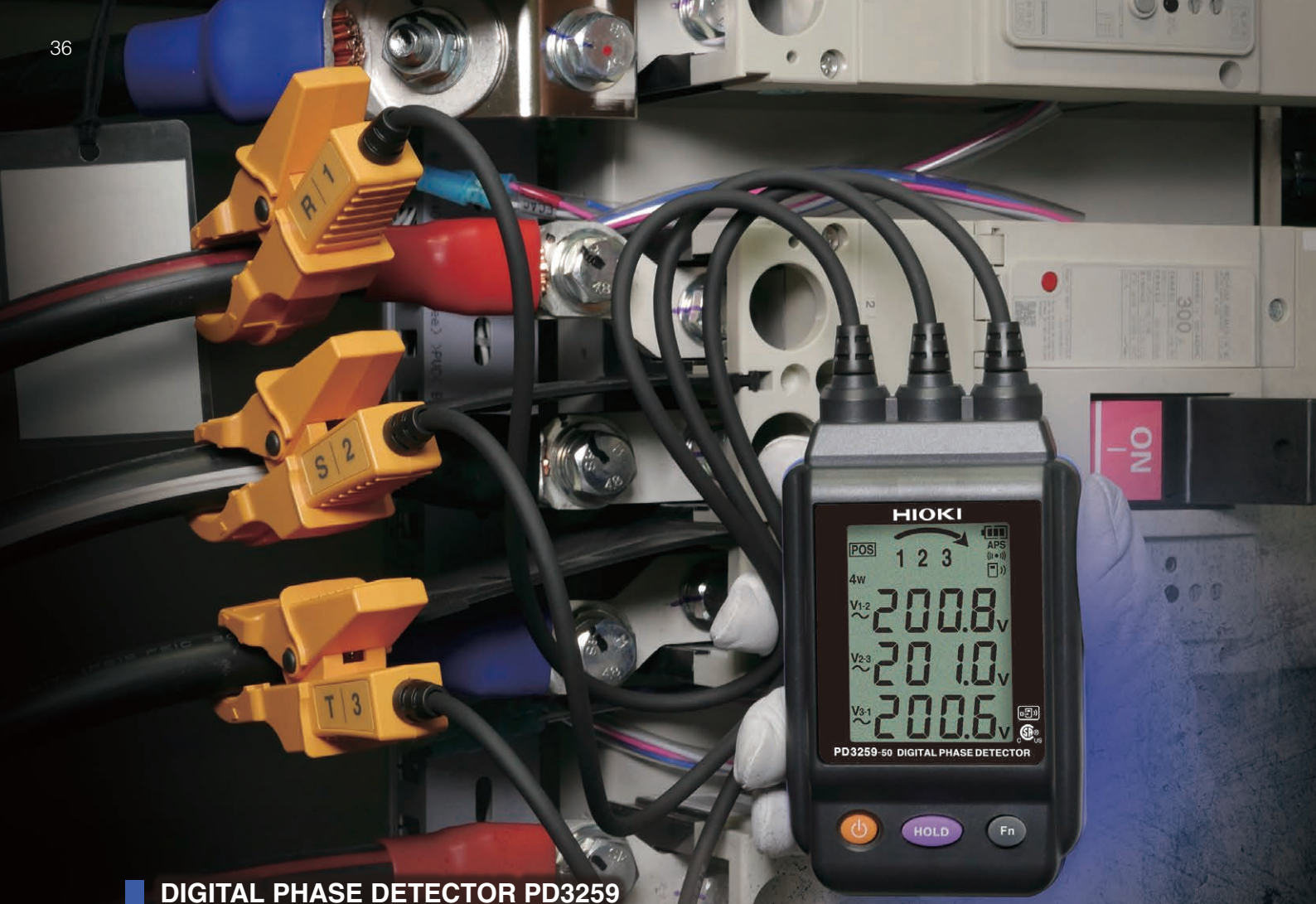
Measurement parameters	DC Voltage	420.0 mV, 4.200 V, 42.00 V, 420.0 V, 600 V Accuracy: ±1.3% rdg. ±4 dgt.
	AC Voltage	4.200 V, 42.00 V, 420.0 V, 600 V Accuracy: ±2.3% rdg. ±8 dgt.
	Resistance	420.0 Ω, 4.200 kΩ, 42.00 kΩ, 420.0 kΩ, 4.200 MΩ, 42.00 MΩ Accuracy: ±2.0% rdg. ±4 dgt.
	Continuity check	Detection level: 50 Ω ±40 Ω or less
	Diode check	Judges the right direction only, Open terminal voltage 3.4 V or less
Other	Operating temperature	0°C to 40°C (non-condensating)
	Storage temperature	-20°C to 60°C (non-condensating)
	Power supply	CR2032 coin type battery ×1
	Dimensions (W × H × D)	30 × 182 × 26.5 mm (1.18 × 7.17 × 1.04 in.)
	Weight	80 g (2.8 oz.)

Options



DT4221, DT4222, DT4223, DT4224, DT4252, DT4253, DT4255, DT4256, DT4261, DT4281, DT4282		
1	TEST LEAD DT4911	With caps: CAT IV 600 V, CAT III 1000 V Without caps: CAT II 1000 V Rated current: 10 A
2	TEST LEAD L9300	CAT IV 600 V, CAT III 1000 V CAT II 1000 V 10 A
3	TEST LEAD L9207-10	With caps: CAT IV 600 V, CAT III 1000 V Without caps: CAT II 1000 V 10 A
4	DC HIGH VOLTAGE PROBE P2010	For DT4261 CAT IV 1000 V, CAT III 2000 V
5	CONNECTION CABLE L4930	10 A
6	EXTENSION CABLE SET L4931	10 A
7	THERMOCOUPLES (K) DT4910	
8	CONVERSION ADAPTER 9704	
9	AC CLAMP ON PROBE 9010-50*2	500 A AC, Φ46mm, Frequency characteristics: 40 Hz to 1 kHz
10	AC CLAMP ON PROBE 9018-50*2	500 A AC, Φ46mm, Frequency characteristics: 40 Hz to 3 kHz
11	AC CLAMP ON PROBE 9132-50*2	1000 A AC, Φ55mm, Frequency characteristics: 40 Hz to 1 kHz
12	CONTACT PIN SET L4933	AC 30 V, DC 60 V, 3 A
13	SMALL ALLIGATOR CLIP SET L4934	CAT III 300 V, CAT II 600 V, 3 A
14	ALLIGATOR CLIP SET L4935	CAT IV 600 V, CAT III 1000 V, 10 A
15	GRABBER CLIP L9243	CAT II 1000 V, 1 A
16	BUS BAR CLIP SET L4936	CAT III 600 V, 5 A
17	MAGNETIC ADAPTER SET L4937	CAT III 1000 V, 2 A
18	TEST PIN SET L4932	With caps: CAT IV 600 V, CAT III 1000 V Without caps: CAT II 1000 V 10 A
19	TEST PIN SET L4938	With caps: CAT III 600 V Without caps: CAT II 600 V 10 A
20	BREAKER PIN L4939	CAT III 600 V, 10 A
21	COMMUNICATION PACKAGE (USB) DT4900-01	For DT4252, DT4253, DT4255, DT4256, DT4261, DT4281, DT4282 Windows 11/10
22	MAGNETIC STRAP Z5004	For DT4221, DT4222, DT4223, DT4224, DT4252, DT4253, DT4255, DT4256, DT4261
23	MAGNETIC STRAP Z5020	Extra strength
24	CARRYING CASE C0200	For DT4221, DT4222, DT4223, DT4224
25	CARRYING CASE C0201	For DT4252, DT4253, DT4255, DT4256
26	CARRYING CASE C0202	For DT4252, DT4253, DT4255, DT4256, DT4261, DT4281, DT4282
27	CARRYING CASE C0207	

*2 Adapter Model 9704 is required to connect AC CLAMP ON PROBES 9010-50, 9018-50 and 9132-50 to the DT4281, DT4253, DT4255, DT4256 or DT4261

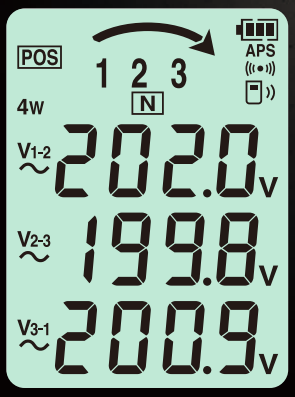


DIGITAL PHASE DETECTOR PD3259

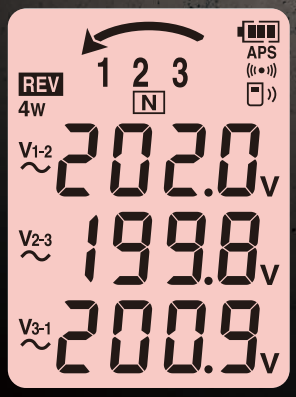
Just Clip the Probes onto Covered Cables, and Your 3-phase Power Line Inspection is Complete

phase sequence

3-phase voltage



Positive phase sequence display



Negative phase sequence display

Display phase sequence, 3-phase voltage
Use as-is in work certification photos

PHASE DETECTORS VOLTAGE DETECTORS

DIGITAL PHASE DETECTOR PD3259-50

Product warranty for 3 years
Accuracy guaranteed for 1 year


Without metal contact


Hands free Z5020 (option)

With Z3210


WIRELESS ADAPTER Z3210 (option)

Attach to enable Bluetooth® wireless technology

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

Model PD3259-90 includes Z3210 as a set

Order code **PD3259-50**
Order code **PD3259-90**
Order code **Z3210**

CAT IV 600 V

Soil, residue, or moisture on the insulated wires may result in lower voltage and power values than their true values. Use a dry cloth to remove before measuring.

Measurement parameters	Detection functions	Phase detection, open phase, prediction of ground phase (three-phase line)
	Three-phase AC voltage (line-to-line voltage and voltage to ground)	90.0 V to 520.0 V AC (three-phase line) accuracy: ±2.0% rdg. ±8 dgt.
	Frequency	45 Hz to 66 Hz Accuracy: ±0.5% rdg. ±1 dgt.
	Measurement targets	Covered cables, metal portions*1 Finished outer diameter 6 to 30 mm (0.24 to 1.18 in.)
Other	Operating temperature	-25°C to 65°C, 80% RH or less (non-condensating)
	Storage temperature	-25°C to 65°C, 80% RH or less (non-condensating)
	Dustproof and waterproof	IP54 (device body only)
	Standards	EN61010 (Safety), EN61326 Class A (EMC)
	Power supply Continuous operating time	LR6 alkaline battery ×4 5 hours (without Z3210)
	Dimensions (W × H × D)	84 × 146 × 46 mm (3.31 × 5.75 × 1.81 in.) Cable length 50 cm (1.64 ft.)
	Weight	590 g (20.8 oz.)

*1 Shielded cables not supported

Included accessories
- CARRYING CASE C0203
  Dimensions:
  W135 mm (5.31 in.) × H265 mm (10.43 in.) × D65 mm (2.56 in.)
- LR6 alkaline battery ×4
- Color clips (white ×2, red ×2, blue ×2, yellow ×2)
- Spiral tubes (black ×1)
- Instruction manual

Options
- MAGNETIC STRAP Z5020


C0203

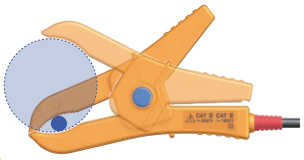

Color clip


Z5020

PHASE DETECTOR PD3129, PD3129-10

Product warranty for 3 years


φ2.4 mm (0.09 in.) to Φ17 mm (0.67 in.)
PD3129: Thin Conductors


Φ7 mm (0.28 in.) to Φ40 mm (1.57 in.)
PD3129-10: Thick Conductors

PD3129 **CAT IV 600 V**
PD3129-10 **CAT IV 600 V, CAT III 1000 V**

Measurement parameters	Detection functions		Phase detection (positive and negative)
	Voltage range	PD3129	70 to 600 V AC (continuous sine wave)
		PD3129-10	70 to 1000 V AC (continuous sine wave)
	Frequency range		45 Hz to 66 Hz
	Measurement targets	PD3129	2.4 mm (0.09 in.) to 17 mm (0.67 in.) of insulated wiring
		PD3129-10	7 mm (0.28 in.) to 40 mm (1.57 in.) of insulated wiring
	Phase-detection indication	Positive	4 LEDs lit in clockwise order and the buzzer sounds intermittently, green arrow lights up
		Negative	4 LEDs lit in counterclockwise order and the buzzer sounds continuously
	Functions		Live line check, Battery check function
Other	Operating temperature		0°C to 40°C, 80% RH or less (non-condensating)
	Storage temperature		-20°C to 60°C, 80% RH or less (non-condensating)
	Standards		EN61010 (Safety), EN61326 (EMC)
	Power supply Continuous operating time		R6P manganese battery × 2 5 hours
	Dimensions (W × H × D)		70 × 75 × 30 mm (2.76 × 2.95 × 1.18 in.) Cable length 70 cm (2.30 ft.)
	Weight		PD3129: 200 g (7.1 oz.), PD3129-10: 240 g (8.5 oz.)

Included accessories
- CARRYING CASE
- Strap
- R6P manganese battery ×2
- Spiral tube
- Instruction manual

Order code **PD3129**
Order code **PD3129-10**

VOLTAGE DETECTOR 3481-20

Product warranty for 3 years
Accuracy guaranteed for 1 year


with LED light


Red for voltage detection

CAT IV 600 V

Measurement parameters	Operating voltage range	40 to 600 V AC (50/60Hz)
	Maximum sensitivity variable range	40 to 80 V AC (50/60Hz)
	Pilot light	Red LED lights up and the buzzer sounds when the wire is live
Other	Operating temperature	0°C to 40°C, 80% RH or less (non-condensating)
	Storage temperature	-20°C to 60°C, 80% RH or less (non-condensating)
	Standards	EN61010 (Safety), EN61326 (EMC)
	Power supply Continuous operating time	LR44 button alkaline battery × 3 5 hours
	Dimensions (W × H × D)	20 × 126 × 15 mm (0.79 × 4.96 × 0.59 in.)
	Weight	30 g (1.1 oz.)

Included accessories
- LR44 button alkaline battery ×3
- Instruction manual

Order code **3481-20**

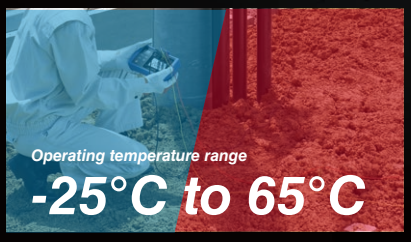
EARTH TESTER FT6041
Field-capable, Fast-working

Fast measurement!
Cord rewinding that doesn't tangle or twist

Insert just once thanks to 100 kΩ max. allowable resistance

Make measurements, even on concrete.
Newly designed Earth Nets Module L9846

Dirt, sand, and rain resistance
IP67 dust and water protection



Extreme cold, extreme heat. The FT6041 won't fail, even during extended operation.

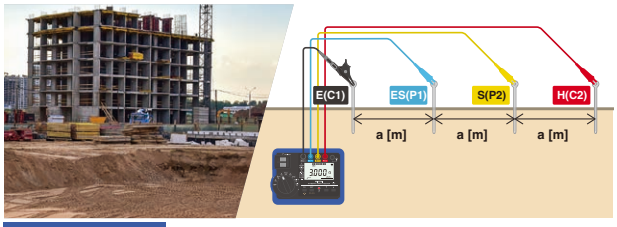
Withstands being dropped onto concrete from a height of 1 m

EARTH TESTERS

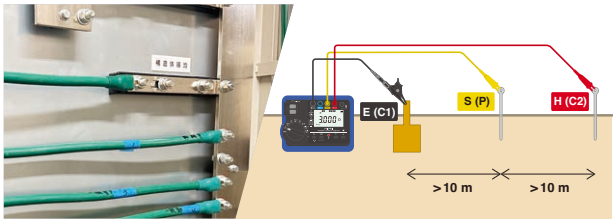
Lineup

Model		FT6041	FT6031-50	FT3151	FT6380-50
Appearance					
Ground resistance	Two-pole method	✔	✔	✔	–
	Three-pole method	✔	✔	✔	–
	MEC function	✔	–	–	–
	2-clamp method	✔	–	–	✔
Soil resistivity	Four-pole method	✔	–	–	–
Ground potential		✔ 0 to 30.0 V RMS	✔ 0 to 30.0 V RMS	✔ 0 to 30.0 V RMS	–
Measurement range (ground resistance)		3 Ω to 300 kΩ	20 Ω to 2000 Ω	10 Ω to 1000 Ω	0.20 Ω to 1600 Ω
Measuring frequency		94, 105, 111, 128, 55 Hz	128 Hz	575, 600 Hz	2375 Hz
Allowable ground potential		30 V RMS (DC or sine wave)	25.0 V RMS (DC or sine wave)	10 V	3 V RMS (DC or sine wave)
Allowable resistance of auxiliary grounding electrode		Max. 100 kΩ	Max. 50 kΩ	Max. 5 kΩ	–
Cord winders		✔	✔	✔	–
Operating temperature		-25°C to 65°C (-13°F to 149°F)	-25°C to 65°C (-13°F to 149°F)	0°C to 40°C (32°F to 104°F)	-10°C to 50°C (14°F to 122°F)
Dustproof and waterproof		IP67	IP67	IP40	IP40 with jaws closed
Drop-proof		1 m above concrete (with protector attached)	1 m above concrete (with protector attached)	–	–
Support for GENNECT Cross (storage of measured values)		✔	✔	–	✔
Clamp measurement method (maximum measurable conductor diameter)		✔ (with optional sensor) Φ 52 mm (2.05 in.) 78 mm (3.07 in.) x 20 mm (0.79 in.) busbar	–	–	✔ Φ 32 mm (1.26 in.)

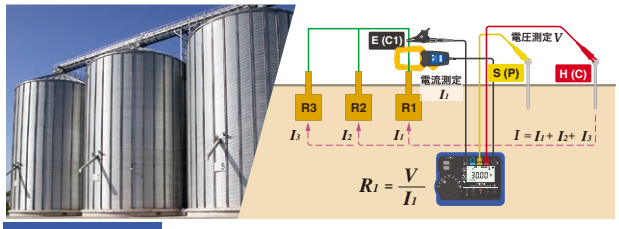
EARTH TESTER FT6041 Extensive Measurement Functionality



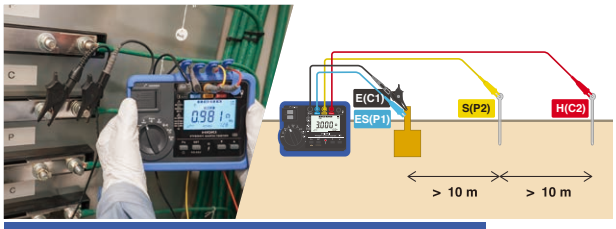
4-pole method
Measure soil resistivity when surveying a grounding design



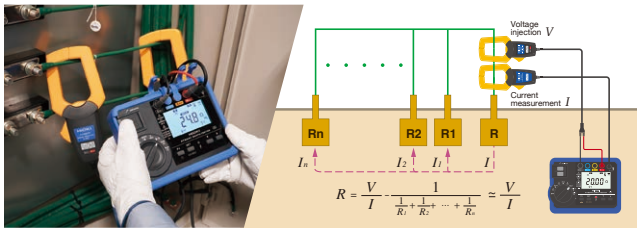
3-pole method
Precisely measure ground resistance



MEC function MEC stands for "measuring earth with a clamp."
Measure ground resistance without disconnecting ground electrodes



3-pole method using 4-terminal measurement
Measure ground resistance values of several ohms or less



2-clamp method
Measure grounding resistance at multiple grounds

Low-resistance measurement
Continuity test after ground resistance measurement

EARTH TESTER FT6041

Product warranty for 3 years
Accuracy guaranteed for 1 year

Extensive measurement functionality

Dustproof and waterproof: IP67

4-pole method (Wenner's 4-pole method) | 3-pole method | 2-pole method | Low-resistance measurement | 2-clamp method (for multi grounded systems) | MEC function

CAT IV 100 V
CAT III 150 V
CAT II 300 V

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

Z3210

Order code **FT6041**
Order code **FT6041-91**
Order code **Z3210**

FT6041-91: FT6041 and included accessories, also includes clamps FT9847 and CT9848

Basic specifications

Measurement parameters	• Ground resistance measurement: 4-pole method, 3-pole method, 2-pole method, MEC function, clamp-on measurement (two clamps) • Soil resistivity measurement: 4-pole method • Low-resistance measurement: 4-terminal method, 2-terminal method • Ground potential measurement
Ground potential	0 to 30.0 V RMS, accuracy: ±2.3% rdg. ±8 dgt. (50/60 Hz), ±1.3% rdg. ±4 dgt. (DC)
Functions	Live wire warning, auto power save, soil resistivity display (4-pole method only), zero-adjustment, auto-hold, continuous measurement mode, wireless communication (only when Z3210 is connected), buzzer sound, comparator, switching the display, ground potential overload display (when measuring ground resistance)
Operating temperature and humidity	-25°C to 65°C[*1] (non-condensing)
Storage temperature and humidity	-25°C to 65°C: 80% RH or less (non-condensing)
Dustproof and waterproof	IP65/IP67 (EN60529)
Applicable standards	EN 61010 (safety), EN 61326 (EMC), EN61557-1/EN61557-10/EN61557-14 (low-resistance measurement, earth testers), EN61557-5 (earth testers)
Power supply	HR6 nickel-metal hydride battery x 4 or LR03 alkaline battery x 4
Number of measurements per battery charge[*2]	500 times (3-pole method, without Z3210 installed) 400 times (3-pole method, with Z3210 installed and using wireless communication)
Dimensions and mass	189 mm (7.44 in.) W × 148 mm (5.83 in.) H × 48 mm (1.89 in.) D, approx. 765 g (27.98 oz.) (including battery, protector)

Ground resistance measurement: 4-pole method, 3-pole method, 2-pole method						
Measurement principle	Apply voltage and measure voltage and current (measures effective resistance by synchronous detection)					
Ground resistance range	3 Ω (0 to 3.000 Ω)	30 Ω (0 to 30.00 Ω)	300 Ω (30.0 Ω to 300.0 Ω)	3000 Ω (300 Ω to 3000 Ω)	30.00 k Ω (3.00 k Ω to 30.00 k Ω)	300.0 k Ω (30.0 kΩ to 300.0 kΩ)
Accuracy	-	±1.5% rdg. ±6 dgt.	±1.5% rdg. ±4 dgt.			
Allowable resistance of auxiliary grounding electrode	5 kΩ		50 kΩ	100 kΩ		
Allowable ground potential	30 V RMS or 42.4 V peak					
MEC function: 4-pole method with clamp sensor, 3-pole method with clamp sensor						
Measurement principle	Apply voltage and measure voltage and current (measures effective resistance by synchronous detection)					
Ground resistance range	30 Ω (0.00 to 30.00 Ω)	300 Ω (30.0 Ω to 300.0 Ω)	3000 Ω (300 Ω to 3000 Ω)	30.00 kΩ (3 kΩ to 30.00 kΩ)		
Accuracy	±5% rdg. ±6 dgt.	±5% rdg. ±3 dgt.				
Ground resistance measurement: 2-clamp method						
Measurement principle	Apply voltage and measure voltage and current (measures effective resistance by synchronous detection)					
Ground resistance range	20 Ω (0.02 Ω to 20.00 Ω)	200 Ω (20.0 Ω to 200.0 Ω)	500 Ω (200 Ω to 500 Ω)			
Accuracy	±7% rdg. ±3 dgt.	±35% rdg.				
Low-resistance measurement						
Open-circuit voltage	4.0 V to 6.9 V					
Measuring current	200 mA or more					
Measurement range	30 Ω (0.00 to 30.00 Ω)	300 Ω (30.0 Ω to 300.0 Ω)	3000 Ω (300 Ω to 3000 Ω)			
Accuracy	±3 dgt. (0.00 to 0.19 Ω) ±2% rdg. ±2 dgt. (0.20 Ω to 10.00 Ω)	±2% rdg. ±2 dgt.				

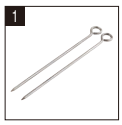
[*1] -25°C to 40°C, -13°F to 104°F (80% RH or less), 40°C to 45°C, 104°F to 113°F (60% RH or less), 45°C to 50°C, 113°F to 122°F (50% RH or less), 50°C to 55°C, 122°F to 131°F (40% RH or less), 55°C to 60°C, 131°F to 140°F (30% RH or less), 60°C to 65°C, 140°F to 149°F (25% RH or less)
[*2] NiMH battery x 4 (reference value at 23°C)

Cord winders make cleanup a snap

Sturdy, thin rods drive easier into the ground

Make measurements, even on concrete.

Included accessories		
1	AUXILIARY EARTHING ROD L9840	2 piece set, 270 mm (10.63 in.), Stainless steel
2	MEASUREMENT CABLE L9845-31	Yellow, 25 m (82.02 ft.), equipped with winder
3	MEASUREMENT CABLE L9845-33	Blue, 25 m (82.02 ft.), equipped with winder
4	MEASUREMENT CABLE L9845-52	Red, 50 m (164.04 f.t), equipped with winder
5	MEASUREMENT CABLE L9841	Black 4 m (13.12 ft.) length
6	TEST LEAD L9787	Bundled with line/ground lead, aligator clip, 1.2 m (3.94 ft.) long
7	EARTH NETS MODULE L9846	2 pcs, use with measuring cord set, built-in grounding/earth nets
8	CARRYING CASE C0208	For storing FT6041 and clamp sensors, hard type
9	CARRYING CASE C0209	For storing measurment cables, soft type
10	Protector	Attaches to and protect FT6041
11	LR6 alkaline battery	4 pcs
12	Instruction manual, Operating precautions	


L9840


L9845-31


L9845-33


L9845-52


L9841


L9787


L9846

C0208


C0209

Protector
(attaches to FT6041)

Options		
1	SIGNAL INDUCTION CLAMP FT9847	For signal induction, Including resistance check loop
2	CLAMP ON SENSOR CT9848	For detection
3	WIRELESS ADAPTER Z3210	Bluetooth® communication will be possible by attaching to the FT6041
4	MEASUREMENT CABLE L9842-11	Yellow 10 m (32.81 ft.) long, equipped with winder
5	MEASUREMENT CABLE L9842-22	Red 20 m (65.62 ft.) long, equipped with winder
6	MEASUREMENT CABLE L9843-51	Yellow 50 m (164.04 ft.) long, equipped with flat cable winder
7	MEASUREMENT CABLE L9843-52	Red 50 m (164.04 ft.) long, equipped with flat cable winder
8	MEASUREMENT CABLE L9844	For grounding terminal board, red/yellow/black, each 1.2 m (3.94 ft.) long
9	PIN TYPE LEAD 9772	For low-resistance measurement by 4-terminal method
10	LARGE CLIP TYPE LEAD 9467	For low-resistance measurement by 4-terminal method
11	EARTH NETS 9050	2 sheets in set


FT9847


CT9848

Z3210


L9842-11


L9842-22


L9843-51


L9843-52


L9844


9772


9467


9050

EARTH TESTER FT6031-50

Product warranty for 3 years
Accuracy guaranteed for 1 year

Dustproof and waterproof: IP67

2-pole method
Class D

3-pole method
Class A to Class D

CAT IV 100 V
CAT III 150 V
CAT II 300 V

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

Z3210

Order code **FT6031-50**
Order code **FT6031-90**
Order code **Z3210**

Basic specifications

Measurement system	Two-pole method or three-pole method	
Measurement range	20 Ω (0 to 20.00 Ω)	200 Ω (0 to 200.0 Ω)
Accuracy	±1.5% rdg. ±8 dgt.	±1.5% rdg. ±4 dgt.
Ground potential	0 to 30.0 V RMS Accuracy: ±2.3% rdg. ±8 dgt. (50/60 Hz), ±1.3% rdg. ±4 dgt. (DC)	
Allowable ground potential	25.0 V RMS (DC or sine wave)	
Operating temperature and humidity	-25°C to 65°C*1 (non-condensing)	
Storage temperature and humidity	-25°C to 65°C (-13°F to 149°F): 80% RH or less (non-condensing)	
Dustproof and waterproof	IP65/IP67 (EN60529)	
Applicable standards	Safety: EN 61010 (main unit), EN 61010 (measuring circuit); EMC: EN 61326; earth testers: EN 61557	
Power supply	LR6 alkaline battery ×4, possible number of measurements for one set of batteries: 500 times (measurement conditions: three-pole method, measuring 10 Ω at 10-second intervals without Z3210 installed)	
Dimensions and mass	185 mm (7.28 in.) W × 111 mm (4.37 in.) H × 44 mm (1.73 in.) D, 570 g (20.1 oz.) (including batteries and protector, excluding terminal covers and other accessories)	

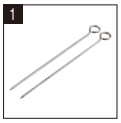
*1 -25°C to 40°C, -13°F to 104°F (80% RH or less), 40°C to 45°C, 104°F to 113°F (60 % RH or less), 45°C to 50°C, 113°F to 122°F (50% RH or less), 50°C to 55°C, 122°F to 131°F (40% RH or less), 55°C to 60°C, 131°F to 140°F (30% RH or less), 60°C to 65°C, 140°F to 149°F (25% RH or less)

Cord winders make cleanup a snap

Sturdy, thin rods drive easier into the ground

Included accessories

1	AUXILIARY EARTHING ROD L9840	2 piece set, 270 mm (10.63 in.), Stainless steel
2	MEASUREMENT CABLE L9842-11	Yellow 10 m (32.81 ft.) length, equipped with winder
3	MEASUREMENT CABLE L9842-22	Red 20 m (65.62 ft.) length, equipped with winder
4	MEASUREMENT CABLE L9841	Black 4 m (13.12 ft.) length
5	CARRYING CASE C0106	Soft type, includes compartment for options
6	LR6 alkaline battery	6 pcs
7	Instruction manual	



L9840

L9842-11

L9842-22

L9841

C0106

Options

1	MEASUREMENT CABLE L9843-51	50 m (164.04 ft.)
2	MEASUREMENT CABLE L9843-52	50 m (164.04 ft.)
3	MEASUREMENT CABLE L9844	For earthing terminal board red/yellow/black 1.2 m (3.94 ft.) each
4	TEST LEAD L9787	For simplified measurement method
5	WIRELESS ADAPTER Z3210	Bluetooth® communication will be possible by attaching to the FT6031-50
6	EARTH NETS 9050	2 sheets in set

L9843-51

L9843-52

L9844

L9787

Z3210

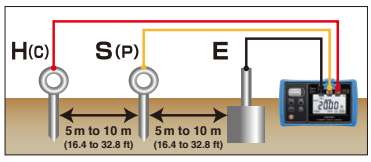
9050

Ground types

Type	Criterion	Locations used
Class A	10 Ω or less	Special high voltage, high voltage
Class B	As per calculations	Transformer neutral point
Class C	10 Ω or less* 500 Ω or less*	Low voltages in excess of 300 V
Class D	10 Ω or less* 500 Ω or less*	Low voltages of 300 V or less

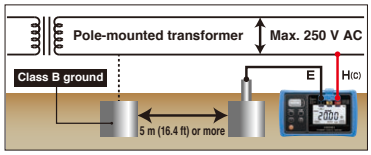
*With ground-fault interrupter that trips within 0.5 sec.

3 electrode method (classes A to D)



Measurement is performed after inserting a auxiliary grounding rod into the soil. For accurate measurement, position E-S(P)-H(C) in a straight line at an interval of about 5 to 10 m.

2 electrode method (classes D)



Class D ground installations can be measured by using the Class B ground of a pole-mounted transformer. The measured value will include the resistance value of the Class B ground. The distribution panel's main ground terminal is typically connected to the power supply's ground line.

EARTH TESTER FT3151

Product warranty for 3 years
Accuracy guaranteed for 1 year

Rewind with ease

2-pole method Class D | 3-pole method Class A to Class D | CAT II 300 V

Order code **FT3151**

Basic specifications

Measurement parameters	Measurement system	Two-electrode method (Class D) Three-electrode method (Class A to D)
	Range configuration Accuracy	10 Ω (0 to 11.5 Ω): ±0.25 Ω 100 Ω (0 to 115 Ω): ±2.5 Ω 1000 Ω (0 to 1150 Ω): ±25 Ω
	Earth potential: Accuracy	0 to 30 V: ±3.0% f.s.
Other	Operating temperature	0°C to 40°C, 80% RH or less (non-condensating)
	Storage temperature	-10°C to 50°C, 80% RH or less (non-condensating)
	Dustproof and waterproof	IP40 (EN60529)
	Standards	EN61010 (Safety, measuring circuit, probe), EN61326 (EMC), EN61557-1/-5 (Earth tester)
	Power supply Number of uses	LR6 alkaline battery × 6 1100 times*1
	Dimensions (W × H × D)	164 × 119 × 88 mm (6.46 × 4.69 × 3.46 in.)
	Weight	760 g (26.8 oz.)

*1 30 sec. measurement and 30 sec. rest, 3-electrode method, 575 Hz, auxiliary grounding electrode resistance of 100 Ω, measuring 10 Ω in the instrument's × 1 Ω range

Cord winders make cleanup a snap

Sturdy, thin rods drive easier into the ground

Included accessories

1	AUXILIARY EARTHING ROD L9840	2 piece set, 270 mm (10.63 in.), Stainless steel
2	MEASUREMENT CABLE L9842-11	Yellow 10 m (32.81 ft.) length, equipped with winder
3	MEASUREMENT CABLE L9842-22	Red 20 m (65.62 ft.) length, equipped with winder
4	MEASUREMENT CABLE L9841	Black 4 m (13.12 ft.) length
5	CARRYING CASE C0106	Soft type, includes compartment for options
6	LR6 alkaline battery	6 pieces
7	Instruction manual	

L9840 | L9842-11 | L9842-22 | L9841 | C0106

Options

1	MEASUREMENT CABLE L9843-51	50 m (164.04 ft.)
2	MEASUREMENT CABLE L9843-52	50 m (164.04 ft.)
3	MEASUREMENT CABLE L9844	For earthing terminal board red/yellow/black 1.2 m (3.94 ft.) each
4	TEST LEAD L9787	For simplified measurement method
5	SHOULDER STRAP Z5022	
6	EARTH NETS 9050	2 sheets in set

L9843-51 | L9843-52 | L9844 | L9787 | Z5022 | 9050

CLAMP ON EARTH TESTER FT6380-50

Product warranty for 3 years
Accuracy guaranteed for 1 year

For multi-grounded systems only

Clamp-on method | Current measurement True RMS | CAT IV 600 V

WIRELESS ADAPTER Z3210 (option): Attach to enable Bluetooth® wireless technology

Model FT6380-90 includes Z3210 as a set

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

Z3210

Order code **FT6380-50**
Order code **FT6380-90**
Order code **Z3210**

Included accessories

Carrying case

Resistance check loop

- Carrying case
- Resistance check loop (1 Ω, 25 Ω)
- Strap
- LR06 alkaline battery ×2
- Instruction manual

Measurements for Multi-Grounded Systems

Hazardous Storage Tanks

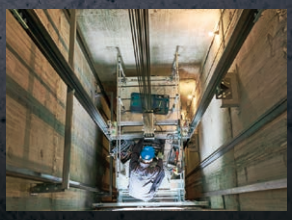
Transmission Towers

Measurement parameters	Measurement system	Instrument has two cores for voltage injection and current measurement. Total circuit loop resistance is calculated from defined voltage and measured current.*1
	Earthing resistance range	0.20 Ω, 2.00 Ω, 20.00 Ω, 50.0 Ω, 100.0 Ω, 200.0 Ω, 400 Ω, 600 Ω, 1200 Ω, 1600 Ω Guaranteed accuracy range: 0.02 Ω to 1600 Ω Accuracy: ±1.5% rdg. ±0.02 Ω
	AC Current range	20.00 mA, 200.0 mA, 2.000 A, 20.00 A, 60.0 A Guaranteed accuracy range: 1.00 mA to 60.0 A Accuracy: ±2.0% rdg. ±0.05 mA
Other	Operating temperature	-10°C to 50°C, 80% RH or less (non-condensating)
	Storage temperature	-20°C to 60°C, 80% RH or less (non-condensating)
	Dustproof and waterproof	IP40 (EN60529)*2
	Standards	EN61010 (Safety), EN61326 (EMC)
	Power supply Continuous operating time	LR6 alkaline battery × 2 35 hours (backlight OFF)
	Dimensions (W × H × D)	73 × 218 × 43 mm (2.87 × 8.58 × 1.69 in.)
	Weight	620 g (21.9 oz.)

*1 For multi-grounded systems only. In a multi-grounded system, the larger the number of grounding poles, the more accurate the measured value.
*2 When jaw closes

POWER QUALITY ANALYZER PQ3198, PQ3100

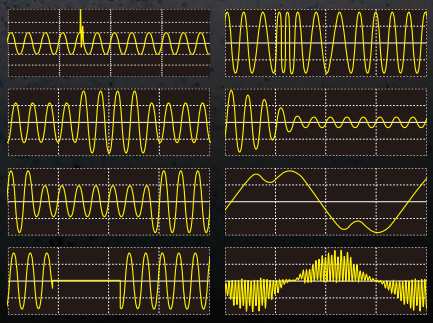
Monitor Power Quality and Analyze the Cause of Equipment Issues



Power anomalies are a major cause of equipment malfunction and damage. The PQ3198 and PQ3100 detect power supply abnormalities without fail to help diagnose the cause of problems.

Capture all of these power anomalies simultaneously

- Transient voltages
- Voltage swells
- Voltage dips
- Interruptions
- Frequency fluctuations
- Inrush current
- Harmonics
- High-order harmonics (Supraharmonics)



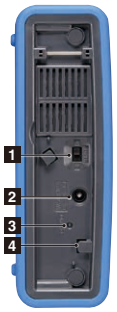
POWER QUALITY ANALYZERS

POWER QUALITY ANALYZER PQ3198, PQ3100

Product warranty for 3 years
Accuracy guaranteed for 1 year

Shared features: Side

Left side



Right side

1 Power switch
2 AC adapter terminal
3 Charging indicator
4 Cable hook

5 Strap attachment point
6 SD card terminal
7 USB terminal
8 LAN terminal
9 RS-232C terminal
10 External I/O terminal

PQ3198 (High-end model)

CAT IV 600 V

Voltage input terminals (4 channels: channels 1/2/3 and channel 4 are isolated from each other)

Current input terminals (4 channels)

PQ3100 (Standard model)

CAT IV 600 V, CAT III 1000 V

Voltage input terminals (4 channels)

Current input terminals (4 channels)

Model		PQ3198 (High-end model)	PQ3100 (Standard model)
Measurement parameters	Measurement lines	1-phase/2-wire, 1-phase/3-wire, 3-phase/3-wire, 3-phase/4-wire + CH 4	
	Fundamental frequency	DC, 50 Hz, 60 Hz, 400 Hz	DC, 50 Hz, 60 Hz
	Voltage ranges Accuracy	Voltage measurement: 600.00 V rms Transient measurement: 6.0000 kV peak ±0.1% of nominal voltage	Voltage measurement: 1000.0 V rms or DC Transient measurement: 2.200 kV peak ±0.2% of nominal voltage
	Current ranges Accuracy	500.00 mA to 5.0000 kA AC *1 ±0.1% rdg. ±0.1% f.s. + current sensor accuracy	(AC) 50.000 mA to 5.0000 kA *1 (DC) 10.000 A to 2.0000 kA *1 ±0.1% rdg. ±0.1% f.s.+ current sensor accuracy
	Power ranges Accuracy	300.00 W to 3.0000 MW (AC) ±0.2% rdg. ±0.1% f.s. + current sensor accuracy (DC) ±0.5% rdg. ±0.5% f.s+ current sensor accuracy (CH4 Only)	50.000 W to 6.0000 MW (AC) ±0.2% rdg. ±0.1% f.s.+ current sensor accuracy (DC) ±0.5% rdg. ±0.5% f.s+ current sensor accuracy
	Measurement items	1. Transient voltage: 2MHz sampling 2. Frequency cycle: calculated as one cycle 3. Voltage (1/2) RMS: one cycle calculation refreshed every half cycle Current (1/2) RMS: half-cycle calculation 4. Voltage swell, voltage dips, voltage interruption 5. Inrush current 6. Voltage waveform comparison 7. Instantaneous flicker value: As per IEC61000-4-15 8. 200 ms frequency: calculated as 10 or 12 cycles, 40 to 70 Hz 9. 10 sec frequency: calculated as the whole-cycle time during the specified 10 s period, 40 to 70 Hz 10. Voltage waveform peak, Current waveform peak 11. Voltage, current, active power, apparent power, reactive power, active energy, reactive energy, power factor, displacement power factor, voltage unbalance factor, current unbalance factor, and efficiency 12. High-order harmonic (Supraharmonic) component (voltage/current): 2 kHz to 80 kHz 13. Harmonic value and Harmonic phase angle (voltage/current), harmonic power: 0th to 50th orders 14. Harmonic voltage-current phase angle: 1st to 50th orders 15. Total harmonic distortion factor (voltage/current) 16. Inter harmonic (voltage/current): 0.5th to 49.5th order 17. K Factor (multiplication factor) 18. IEC Flicker, Δ V10 Flicker	1. Transient voltage: 200 kHz sampling 2. Frequency cycle: calculated as one cycle 3. Voltage (1/2) RMS and Current (1/2) RMS: one cycle calculation refreshed every half cycle 4. Voltage swell, voltage dips, voltage interruption, RVC: Voltage (1/2) RMS calculation 5. Inrush current 6. Frequency 200 ms: calculated as 10 or 12 cycles 7. 10-sec frequency: calculated as the whole-cycle time during the specified 10 s period 8. Voltage waveform peak, current waveform peak 9. Voltage, current, active power, apparent power, reactive power, active energy, apparent energy, reactive energy, energy cost, power factor, displacement power factor, voltage unbalance factor, current unbalance factor 10. Voltage crest factor, current crest factor 11. Harmonic/Harmonic phase angle (voltage/current), harmonic power: 0th to 50th orders 12. Harmonic voltage-current phase angle: 1st to 50th orders 13. Total harmonic distortion factor (voltage/current) 14. Inter harmonic (voltage/current): 0.5th to 49.5th orders 15. K Factor (multiplication factor) 16. IEC Flicker, Δ V10 Flicker
Other	Record	Repeated ON: 1 year, maximum recording event: 9999 × 366 days (up to 9999 events per day) Repeated off: 35 days, maximum recording event: 9999 events	Maximum recording interval: 1 year, maximum number of recordable events: 9999 × 365 days
	Setup assistance	Simplified setup function	QUICK SET (navigation-style assistance from connecting the instrument to the start of recording)
	Interfaces	SD/SDHCmemory card *2, RS-232C, USB2.0, LAN	
	Operating temperature	0°C to 30°C (95% RH or less), 30°C to 50°C (80% RH or less) (non-condensating)	-20°C to 50°C (80% RH or less) (non-condensating)
	Storage temperature	10°C greater than operating temperature and humidity range	
	Standards	EN61010 (Safety), EN61326 Class A (EMC)	
	IEC 61000-4-30	Class A	Class S
	Power supply	AC ADAPTER Z1002, BATTERY PACK Z1003	
	Battery operating time	3 hours	8 hours
	Dimensions (W × H × D)	300 × 211 × 68 mm (11.81 × 8.31 × 2.68 in.)	
	Weight	2.6 kg (91.7 oz.) (including BATTERY PACK)	2.5 kg (88.2 oz.) (including BATTERY PACK)

L1000

L1000-05

Z1002

Z1003

Z4001

PQ3198 Included accessories
- VOLTAGE CORD L1000
- AC ADAPTER Z1002
- BATTERY PACK Z1003
- PQ ONE (software CD)
- SD MEMORY CARD Z4001
- USB cable
- Color clips
- Spiral tubes
- Strap
- Measurement guide
- User manual

PQ3100 Included accessories
- VOLTAGE CORD L1000-05
- AC ADAPTER Z1002
- BATTERY PACK Z1003
- PQ ONE (software CD)
- USB cable
- Color clips
- Spiral tubes
- Strap
- Measurement guide
- User manual

Order code **PQ3198**

Order code **PQ3198-92** **Value Kits:** PQ3198, CT7136*3 (600A) × 4, L1021-02×3, CARRYING CASE C1009

Order code **PQ3198-94** **Value Kits:** PQ3198, CT7045*3 (6000A) × 4, L1021-02×3, CARRYING CASE C1009

Order code **PQ3100**

Order code **PQ3100-91** **Value Kits:** PQ3100, CT7136*3 (600A) × 2, SD MEMORY CARD 2GB Z4001, CARRYING CASE C1009

Order code **PQ3100-92** **Value Kits:** PQ3100, CT7136*3 (600A) × 4, SD MEMORY CARD 2GB Z4001, CARRYING CASE C1009

Order code **PQ3100-94** **Value Kits:** PQ3100, CT7045*3 (6000A) × 4, SD MEMORY CARD 2GB Z4001, CARRYING CASE C1009

*1 Depends on current sensor in use
*2 Use only SD Cards sold by HIOKI. Compatibility and performance are not guaranteed for PC cards made by other manufacturers.
*3 For more detailed information on CT7136, CT7045, and options, please refer to p.48 and p.49.

CLAMP ON POWER LOGGER PW3365, PW3360

Accurately Measure Power Consumption, also Available with Non-contact Voltage Sensor for Added Safety

SAFETY VOLTAGE SENSOR PW9020
(for PW3365 only)

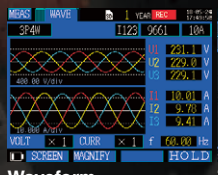
- Clamp on top of cable insulation
- Quick setup
- Safely avoid contact/ with live parts

Compared with standard alligator clips that are hard to use and require metal-to-metal contact

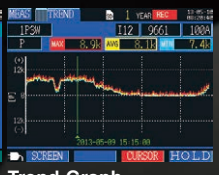
Toggle displays to easily verify data

List display

Demand Graph



Waveform



Trend Graph

QUICK SET navigation

Highly Intuitive

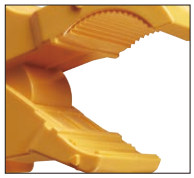
Check Connection Status

POWER LOGGERS

CLAMP ON POWER LOGGER PW3365, PW3360

CE

Product warranty for 3 years
Accuracy guaranteed for 1 year



SAFETY VOLTAGE SENSOR PW9020
Compatible with PW3365 only
Finished outer diameter
Φ6 mm (0.24 in.) to Φ30 mm (1.18 in.)

PW3365
CAT IV 300 V, CAT III 600 V

PW3360
CAT IV 300 V, CAT III 600 V

Model			PW3365 + PW9020	PW3360
Measurement parameters	Measurement line		1-phase/2-wire (1/2/3 circuits), 1-phase/3-wire (1 circuit), 3-phase/3-wire (1 circuit), 3-phase/4-wire (1 circuit), Current only: 1 to 3 channels	
	Frequency		50 Hz/60 Hz	
	Voltage ranges Accuracy		400 V AC (Effective measurement range: 90.0 V to 520.0 V) ±1.5% rdg. ±0.2% f.s. (combined accuracy with PW9020)	600 V AC (Effective measurement range: 90.0 V to 780.0 V) ±0.3% rdg. ±0.1% f.s.
	Current ranges Accuracy		500.00 mA AC to 5.0000 kA*1 (Leak clamp on sensor only: 50.000 mA AC to 5.0000 A) ±0.3% rdg. ±0.1% f.s. + current sensor accuracy	
	Power ranges Accuracy		200.00 W to 6.0000 MW ±2.0% rdg. ±0.3% f.s. + current sensor accuracy	300.00 W to 9.0000 MW ±0.3% rdg. ±0.1% f.s. + current sensor accuracy
	Measurement items	Voltage	RMS value, fundamental wave value, waveform peak (absolute value), fundamental wave phase angle, frequency (U1)	
		Current	RMS value, fundamental wave value, waveform peak (absolute value), fundamental wave phase angle	
		Power	Active power, reactive power, apparent power, power factor, (with lag, lead display) or displacement power factor (with lag, lead display), active energy (consumption, regeneration), reactive energy (lag, lead) Energy cost display (per-kWh price × power consumption)	
		Demand	Active power demand value (consumption, regeneration), reactive power demand value (lag, lead), Active power demand quantity (consumption, regeneration), reactive power demand quantity (lag, lead), power factor demand value	
		Harmonics	Harmonic voltage, harmonic current, voltage total harmonic distortion (THD-F or THD-R), current total harmonic distortion (THD-F or TDH-R), up to the 13th order	PW3360-21 Only: Harmonic voltage, current, power level, content, phase angle, total harmonic distortion factor (THD-F or THD-R), up to the 40th order
		Pulse input	N / A	✔
Other	Data save interval		1 sec to 30 sec, 1 minute to 60 minutes, 14 selections	
	Interfaces		SD/ SDHC memory card*2, LAN, USB2.0, FTP	
	Operating temperature		0°C to 50°C, 80% RH or less (non-condensating)	-10°C to 50°C, 80% RH or less (non-condensating)
	Storage temperature		-10°C to 60°C, 80% RH or less (non-condensating)	-20°C to 60°C, 80% RH or less (non-condensating)
	Standards		EN61010 (Safety), EN61326 (EMC)	
	Power supply		AC ADAPTER Z1008, BATTERY PACK 9459	AC ADAPTER Z1006, BATTERY PACK 9459
	Battery operating time		3 hours	5 hours
	Dimensions (W × H × D)		180 × 100 × 68 mm (7.09 × 3.94 × 2.68 in.) (with PW9002)	180 × 100 × 67.2 mm (7.09 × 3.94 × 2.65 in.) (with PW9002)
	Weight		820 g (28.9 oz.) (with PW9002)	830 g (29.3 oz.) (with PW9002)

SAFETY VOLTAGE SENSOR PW9020 Specifications

Compatible conductor types	Insulated wires*3 (indoor PVC) or metal parts
Compatible conductor diameters	Finished outer diameter Φ6 mm to Φ30 mm (Φ0.24 in. to Φ1.18 in.)
Effective measurement range	90 V to 520 V
Safety standard category	CAT IV 300 V/CAT III 600 V
Operating temperature	0°C to 50°C, 80% RH or less (non-condensating)
Storage temperature	-10°C to 60°C, 80% RH or less (non-condensating)
Standards	EN61010 (Safety), EN61326 (EMC)
Cord length	3 m (9.84 ft.)
Weight	220 g (7.8 oz.)

*1 Depends on current sensor in use. For more detailed information on sensors, please refer to p.48, and p.49.
*2 Use only SD Cards sold by HIOKI. Compatibility and performance are not guaranteed for PC cards made by other manufacturers.
*3 Shielded wires cannot be measured. The product may not be able to accurately measure multicore cables or cables that have thick insulation.

PW9020

Z1008

L9438-53

Z1006

PW3360 Included accessories

- VOLTAGE CORD L9438-53 (black, red, yellow, blue @ 1 each)
- AC ADAPTER Z1006
- USB cable 0.9 m (2.95 ft.)
- Instruction manual, Measurement guide
- Color clips (red, blue, yellow, white @ 2 each)
- Spiral tubes × 5

PW3365 Included accessories

- SAFETY VOLTAGE SENSOR PW9020 ×4
- AC ADAPTER Z1008
- USB cable 0.9 m (2.95 ft.)
- Instruction manual, Measurement guide
- Color clips (red, blue, yellow, white @ 4 each)
- Spiral tubes × 10

Order code **PW3365-20**

Order code **PW3360-20**

Order code **PW3360-21** **with harmonic analysis function**

Options

CE

Product warranty for 3 years
Accuracy guaranteed for 1 year

CURRENT SENSOR (For PQ3198, PQ3100, CM7290)

Features	Make measurements over extended period of time without zero-adjustment, even in locations with temperature variations			AC/DC current sensors for observing instantaneous waveforms		
Model name	AC/DC AUTO-ZERO CURRENT SENSOR			AC/DC CURRENT SENSOR		
Model	CT7731	CT7736	CT7742	CT7631	CT7636	CT7642
Appearance	 PL14	 PL14	 PL14	 PL14	 PL14	 PL14
Rated measurement current	100 A AC/DC	600 A AC/DC	2000 A AC/DC	100 A AC/DC	600 A AC/DC	2000 A AC/DC
Max. allowable peak input	150 A peak	900 A peak	2840 A peak	150 A peak	900 A peak	2840 A peak
Bandwidth	DC to 5 kHz (-3dB)	DC to 5 kHz (-3dB)	DC to 5 kHz (-3dB)	DC to 10 kHz (-3dB)	DC to 10 kHz (-3dB)	DC to 10 kHz (-3dB)
Amplitude accuracy (DC, 45 to 66 Hz)	±1.0% rdg. ±0.5% f.s.	±2.0% rdg. ±0.5% f.s.	±1.5% rdg. ±0.5% f.s.	±1.0% rdg. ±0.5% f.s.	±2.0% rdg. ±0.5% f.s.	±1.5% rdg. ±0.5% f.s.
Output rate	1 mV/A	1 mV/A	0.1 mV/A	1 mV/A	1 mV/A	0.1 mV/A
Max. rated voltage to earth	(AC/DC) CAT IV 600 V	(AC/DC) CAT IV 600 V, CAT III 1000 V	(AC/DC) CAT IV 600 V, CAT III 1000 V	(AC/DC) CAT IV 600 V	(AC/DC) CAT IV 600 V, CAT III 1000 V	(AC/DC) CAT IV 600 V, CAT III 1000 V
Operating temperature	-25°C to 65°C	-25°C to 65°C	-25°C to 65°C	-25°C to 65°C	-25°C to 65°C	-25°C to 65°C
Core jaw diameter	Φ33 mm or less	Φ33 mm or less	Φ55 mm or less	Φ33 mm or less	Φ33 mm or less	Φ55 mm or less

Features	Attaches easily to thick cables, even in confined spaces			For accurately measuring load current			For measuring leakage current
Model name	AC FLEXIBLE CURRENT SENSOR			AC CURRENT SENSOR			AC LEAKAGE CURRENT SENSOR
Model	CT7044	CT7045	CT7046	CT7126	CT7131	CT7136	CT7116
Appearance	 PL14	 PL14	 PL14	 PL14	 PL14	 PL14	 PL14 Insulated conductor General purpose ZCT
Rated measurement current	6000 A AC	6000 A AC	6000 A AC	60 A AC	100 A AC	600 A AC	6 A AC
Max. allowable peak input	15000 A peak	15000 A peak	15000 A peak	100 A peak	200 A peak	900 A peak	30 A peak
Bandwidth	10 to 50 kHz (within ±3 dB)	10 to 50 kHz (within ±3 dB)	10 to 50 kHz (within ±3 dB)	40 to 20 kHz	40 to 20 kHz	40 to 20 kHz	40 to 5 kHz
Amplitude accuracy (45 to 66 Hz)	±1.5% rdg. ±0.25% f.s.*	±1.5% rdg. ±0.25% f.s.*	±1.5% rdg. ±0.25% f.s.*	±0.3% rdg. ±0.01% f.s.	±0.3% rdg. ±0.02% f.s.	±0.3% rdg. ±0.01% f.s.	±1.0% rdg. ±0.05% f.s.
Output rate	1 mV/A (600 A) 0.1 mV/A (6000 A)	1 mV/A (600 A) 0.1 mV/A (6000 A)	1 mV/A (600 A) 0.1 mV/A (6000 A)	10 mV/A	1 mV/A	1 mV/A	100 mV/A
Max. rated voltage to earth	(AC) CAT IV 600 V, CAT III 1000 V	(AC) CAT IV 600 V, CAT III 1000 V	(AC) CAT IV 600 V, CAT III 1000 V	(AC) CAT III 300 V	(AC) CAT III 300 V	(AC) CAT IV 600 V, CAT III 1000 V	Insulated conductor
Operating temperature	-25°C to 65°C	-25°C to 65°C	-25°C to 65°C	-10°C to 50°C	-10°C to 50°C	-10°C to 50°C	-25°C to 65°C
Core jaw diameter	Φ100 mm or less	Φ180 mm or less	Φ254 mm or less	Φ15 mm or less		Φ46 mm or less	Φ40 mm or less

CURRENT SENSOR (For PW3365, PW3360)

Features	For load current levels: Voltage output					
Model name	CLAMP ON SENSOR					
Model	9694	9660	9661	9669	9695-02	9695-03
Appearance	 BNC	 BNC	 BNC	 BNC	 Requires the 9219 Insulated conductor Not CE marked	 Requires the 9219 Insulated conductor Not CE marked
Rated measurement current	5 A AC	100 A AC	500 A AC	1000 A AC	50 A AC	100 A AC
Output rate	10 mV/A	1 mV/A	1 mV/A	0.5 mV/A	10 mV/A	1 mV/A
Amplitude accuracy (45 to 66 Hz)	±0.3% rdg. ±0.02% f.s.	±0.3% rdg. ±0.02% f.s.	±0.3% rdg. ±0.01% f.s.	±1.0% rdg. ±0.01% f.s.	±0.3% rdg. ±0.02% f.s.	±0.3% rdg. ±0.02% f.s.
Max. rated voltage to earth	(AC) CAT III 300 V	(AC) CAT III 300 V	(AC) CAT III 600 V	(AC) CAT III 600 V	(AC) CAT III 300 V	(AC) CAT III 300 V
Operating temperature	0°C to 50°C	0°C to 50°C	0°C to 50°C	0°C to 50°C	0°C to 50°C	0°C to 50°C
Core jaw diameter	Φ15 mm or less	Φ15 mm or less	Φ46 mm or less	Φ55 mm or less 80×20 mm busbar	Φ15 mm or less	Φ15 mm or less

Features	For load current levels: Voltage output			For leak current: Voltage output	
Model name	AC FLEXIBLE CURRENT SENSOR			CLAMP ON LEAK SENSOR	
Model	CT9667-01	CT9667-02	CT9667-03	9657-10	9675
Appearance	 BNC	 BNC	 BNC	 BNC Insulated conductor General purpose ZCT	 BNC Insulated conductor Branch circuit ZCT
Rated measurement current	5000 A AC/500 A AC	5000 A AC/500 A AC	5000 A AC/500 A AC	10 A AC	10 A AC
Output rate	0.1 mV/A (5000 A) 1 mV/A (500 A)	0.1 mV/A (5000 A) 1 mV/A (500 A)	0.1 mV/A (5000 A) 1 mV/A (500 A)	100 mV/A	100 mV/A
Amplitude accuracy (45 to 66 Hz)	±2% rdg. ±0.3% f.s.*	±2% rdg. ±0.3% f.s.*	±2% rdg. ±0.3% f.s.*	±1.0% rdg. ±0.05% f.s.	±1.0% rdg. ±0.005% f.s.
Max. rated voltage to earth	(AC) CAT IV 600 V (AC) CAT III 1000 V	(AC) CAT IV 600 V (AC) CAT III 1000 V	(AC) CAT IV 600 V (AC) CAT III 1000 V	Insulated conductor	Insulated conductor
Operating temperature	-25°C to 65°C	-25°C to 65°C	-10°C to 50°C	0°C to 50°C	0°C to 50°C
Core jaw diameter	Φ100 mm or less	Φ180 mm or less	Φ254 mm or less	Φ40 mm or less	Φ30 mm or less

*At center of flexible loop

1	EXTENSION CABLE L0220-01	2 m (6.56 ft.), for PL14 connectors
2	EXTENSION CABLE L0220-02	5 m (16.4 ft.), for PL14 connectors
3	EXTENSION CABLE L0220-03	10 m (32.81 ft.), for PL14 connectors
4	EXTENSION CABLE L0220-04	20 m (65.62 ft.), for PL14 connectors
5	EXTENSION CABLE L0220-05	30 m (98.43 ft.), for PL14 connectors
6	EXTENSION CABLE L0220-06	50 m (164.04 ft.), for PL14 connectors
7	EXTENSION CABLE L0220-07	100 m (328.08 ft.), for PL14 connectors
8	CONNECTION CABLE 9219	For 9695, 3 m (9.84 ft.)
9	AC ADAPTER 9445-02	For CT9667
10	CONVERSION CABLE L9910	To convert output connector: BNC to PL 14

L0220

9219

9445-02

L9910

PQ3198, PQ3100

Voltage	1	VOLTAGE CORD L1000	Red/ Yellow/ Blue/Gray @ 1 each, Black x 4, 3 m (9.84 ft.) , Alligator clip x 8
	2	VOLTAGE CORD L1000-05	Red/ Yellow/ Blue/Gray/Black @ 1 each 1, 3 m (9.84 ft.) , Alligator clip x 5
	3	MAGNETIC ADAPTER 9804-01	Red, Alternative tip for the L1000, L1000-05
	4	MAGNETIC ADAPTER 9804-02	Black, Alternative tip for the L1000, L1000-05
	5	GRABBER CLIP L9243	Alternative tip for the L1000, L1000-05
	6	PATCH CORD L1021-01*	0.5 m (1.64 ft.), Red, Banana branch-banana
	7	PATCH CORD L1021-02*	0.5 m (1.64 ft.), Black, Banana branch-banana
Record	8	SD MEMORY CARD 2GB Z4001	Use only SD Cards sold by HIOKI. Compatibility and performance are not guaranteed for PC cards made by other manufacturers.
	9	SD MEMORY CARD 8GB Z4003	
Communication	10	RS-232C CABLE 9637	For PQ3100, pin - 9 pin, cross, 1.8 m (5.91 ft.)
	11	LAN CABLE 9642	5 m (16.4 ft.), Straight, Cross conversion adapter
Power supply	12	AC ADAPTER Z1002	100 V AC to 240 V AC
	13	BATTERY PACK Z1003	7.2 V, Ni-MH
Connection	14	WIRING ADAPTER PW9000	For PQ3198, for 3-phase/3-wire connection
	15	WIRING ADAPTER PW9001	For PQ3198, for 3-phase/4-wire connection
	16	GPS BOX PW9005	For PQ3198
Other	17	CARRYING CASE C1009	Bag type
	18	CARRYING CASE C1002	Hard trunk type
	19	MAGNETIC STRAP Z5004	
	20	MAGNETIC STRAP Z5020	Extra strength

* Only for PQ3198

PW3365, PW3360

Voltage	1	SAFETY VOLTAGE SENSOR PW9020	For PW3365, 3 m (9.84 ft.)
	2	VOLTAGE CORD L9438-53	For PW3360, Black/ Red/ Yellow/ Blue, 3 m (9.84 ft.) length, Alligator clip x 4
	3	MAGNETIC ADAPTER 9804-01	For PW3360, Red, Φ11 mm (0.43 in.)
	4	MAGNETIC ADAPTER 9804-02	For PW3360, Black, Φ11 mm (0.43 in.)
	5	PATCH CORD L1021-01	For PW3360, 0.5 m (1.64 ft.), Red, Banana branch-banana
	6	PATCH CORD L1021-02	For PW3360, 0.5 m (1.64 ft.), Black, Banana branch-banana
Record	7	SD MEMORY CARD 2GB Z4001	Use only SD Cards sold by HIOKI. Compatibility and performance are not guaranteed for PC cards made by other manufacturers.
	8	SD MEMORY CARD 8GB Z4003	
Communication	9	LAN CABLE 9642	5 m (16.4 ft.), Straight, Cross conversion adapter
	10	POWER LOGGER VIEWER SF1001	Software to analyze measurement data
Power supply	11	AC ADAPTER Z1008	For PW3365, 100V AC to 240V
	12	AC ADAPTER Z1006	For PW3360, 100V AC to 240V
	13	BATTERY SET PW9002	Battery case and 9459 Set
	14	BATTERY PACK 9459	
Other	15	CARRYING CASE C1005	
	16	CARRYING CASE C1008	For PW3365
	17	MAGNETIC STRAP Z5004	

CM7290

Output	1	OUTPUT CORD L9094	Connect to Banana terminal, 1.5 m (4.92 ft.)
	2	OUTPUT CORD L9095	Connect to BNC terminal, 1.5 m (4.92 ft.)
	3	OUTPUT CORD L9096	Connect to terminal block, 1.5 m (4.92 ft.)
Power supply	4	AC ADAPTER 9445-02	
Other	5	CARRYING CASE C0220	
	6	CARRYING CASE C0221	
	7	MAGNETIC STRAP Z5004	

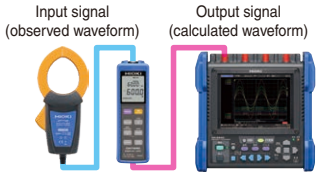
DISPLAY UNIT CM7290

CE

Product warranty for 3 years
Accuracy guaranteed for 3 years

Measurement sensors sold separately

CM7290

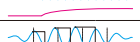
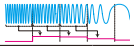
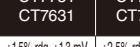


Output and monitor as waveform on recorder

Order code **CM7290**

Included accessories

- Alkaline battery LR6 × 2
- Instruction manual
- Protector

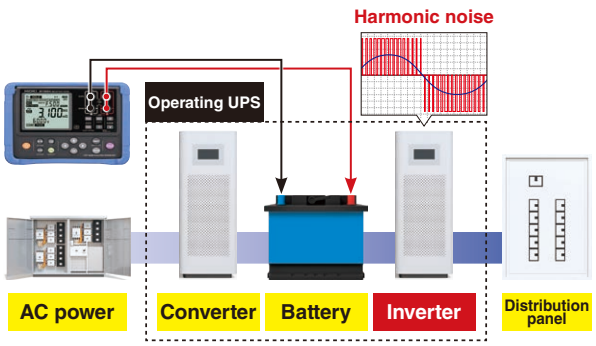
Measurement parameters	Measurement parameters		DC, AC, DC+AC, Hz			
	Output method	WAVE		Input signal Output signal		
		RMS		Convert and output as RMS value		
		PEAK		Output peak of each interval as absolute value		
		FREQ		Output frequency count per interval		
	Sensor		CT7731 CT7631	CT7736 CT7636	CT7742 CT7642	CT7044 CT7045 CT7046
	Accuracy (output)	DC WAVE	±1.5% rdg. ±1.3 mV	±2.5% rdg. ±3.8 mV	±2.0% rdg. ±1.8 mV	-
		AC WAVE	±1.5% rdg. ±1.3 mV	±2.5% rdg. ±3.8 mV	±2.5% rdg. ±1.8 mV	±2.0% rdg. ±2.3 mV
		AC RMS	±1.8% rdg. ±1.3 mV	±2.8% rdg. ±3.8 mV	±2.8% rdg. ±1.8 mV	±2.3% rdg. ±2.3 mV
Other	Output update time		PEAK: 0.02s (FAST)/0.2s (NORMAL)/1s (SLOW) FREQ: 0.2s (FAST)/0.2s (NORMAL)/3s (SLOW) (WAVE, RMS: analog output)			
	Operating temperature		-25°C to 65°C, 80% RH or less (non-condensating)			
	Storage temperature		-25°C to 65°C, 80% RH or less (non-condensating)			
	Dustproof and waterproof		IP54[*1]			
	Standards		EN61010 (Safety), EN61326 (EMC)			
	Power supply Continuous operating time		Alkaline battery LR6 × 2, external power supply 16 hours (backlight OFF)			
	Dimensions (W × H × D)		52 × 163 × 37 mm (2.05 × 6.42 × 1.46 in.)			
	Weight		220 g (7.8 oz.)			

[*1] With sensor connected and caps fitted to AC adapter and power connector

BATTERY TESTER BT3554-50, BT3554-51, BT3554-52

Properly Diagnose Deterioration of UPS Lead-acid Batteries even Under Noisy Environments

Tough against inverter noise during UPS startup



Completing an intensive inspection workload efficiently

BATTERY TESTERS

BATTERY TESTER BT3554-50, BT3554-51, BT3554-52

CE

Product warranty for 3 years
Accuracy guaranteed for 1 year

BT3554-50: Instrument only

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

BT3554-51: with 9465-10

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

BT3554-52: with L2020

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

WIRELESS ADAPTER Z3210 (options): Attach to enable Bluetooth® wireless technology

9465-10

L2020

Included accessories

- PIN TYPE LEAD 9465-10 (BT3554-51 only)
- PIN TYPE LEAD L2020 (BT3554-51 only)
- Carrying Case C1014
- Protector Z5041
- Fuse Set Z5050
- ZERO ADJUSTMENT BOARD
- Neck strap
- USB cable
- GENNECT One Software CD
- Power-on option sticker
- Alkaline battery LR6 × 8
- Instruction manual

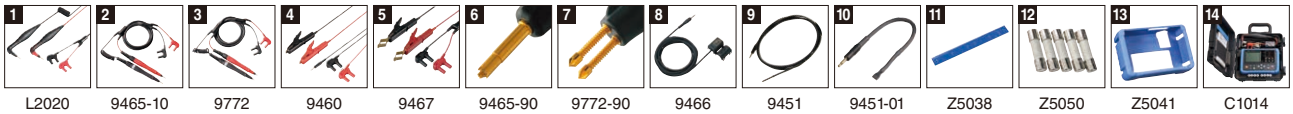
Order code	BT3554-50	Instrument only
Order code	BT3554-51	With 9465-10
Order code	BT3554-52	With L2020
Order code	BT3554-91	With 9465-10, Z3210
Order code	BT3554-92	With L2020, Z3210
Order code	Z3210	

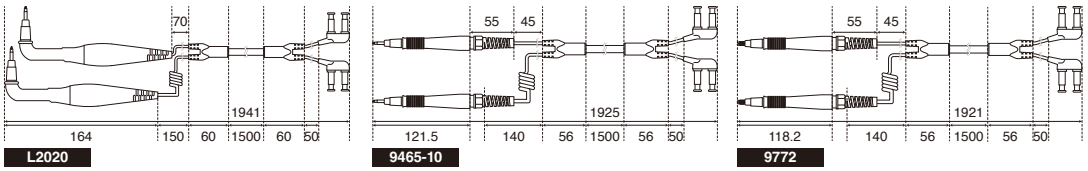
Options

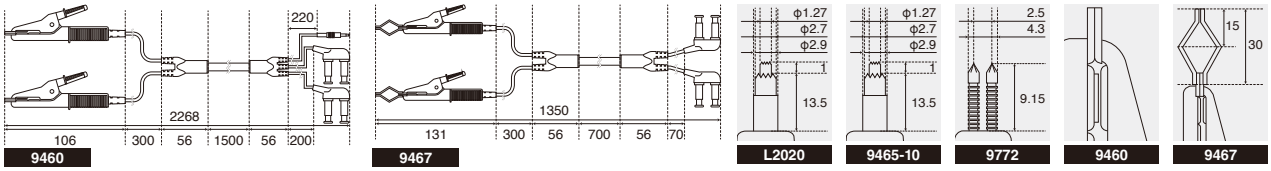
1	PIN TYPE LEAD L2020	
2	PIN TYPE LEAD 9465-10	
3	PIN TYPE LEAD 9772	
4	CLIP TYPE LEAD WITH TEMPERATURE SENSOR 9460	
5	LARGE CLIP TYPE LEAD 9467	
6	TIP PIN 9465-90	For L2020, 9465-90
7	TIP PIN 9772-90	For 9772
8	REMOTE CONTROL SWITCH 9466	2 m (6.56 ft.)
9	TEMPERATURE PROBE 9451	
10	TEMPERATURE PROBE 9451-01	
11	0 ADJ BOARD Z5038	
12	FUSE SET Z5050	This contains 5 pieces
13	PROTECTOR Z5041	
14	CARRYING CASE C1014	

Measurement	Measurement parameters		Internal resistance measurement for batteries (AC four-terminal method) Terminal voltage measurement for batteries (DC voltage) Temperature measurement (when using the 9460)
	Resistance	Range Accuracy	3 mΩ (Max. display: 3.100 mΩ, Resolution: 1 µΩ) 30 mΩ (31.00 mΩ, 10 µΩ) 300 mΩ (310.0 mΩ, 100 µΩ) 3 Ω (3.100 Ω, 1 mΩ) Accuracy: ±0.8% rdg. ±6 dgt.
		Measurement Current	160 mA (3 mΩ, 30 mΩ range) 16 mA (300 mΩ range) 1.6 mA (3 Ω range)
		Measurement frequency	1 kHz ±30 Hz (with function for avoiding noise frequency enabled: 1 kHz ±80 Hz)
	Voltage		6.000 V, 60.00 V Accuracy: ±0.08% rdg. ±6 dgt.
	Temperature		-10.0°C to 60.0°C Accuracy: ±1.0°C
Other	Function		• Memory function (up to 6000 data) • Auto memory function • Auto-hold function • Measurement Navigator (When using Z3210, GENNECT Cross: Voice guide output) • Tablet app (GENNECT Cross) • PC app (GENNECT One) • Comparator function (PASS/ WARNING/ FAIL) • Excel® Direct Input function (When using Z3210)
	Interfaces		USB2.0
	Operating temperature		0°C to 40°C, 80% RH or less (non-condensating)
	Storage temperature		-10°C to 50°C, 80% RH or less (non-condensating)
	Standards		EN61010 (Safety), EN61326 (EMC)
	Power supply Continuous operating time		LR6 alkaline battery × 8 8.5 hours
	Dimensions (W × H × D)		199 × 132 × 60.6 mm (7.83 × 5.20 × 2.39 in.)
	Weight		960 g (33.8 oz.)

The thresholds for determining the pass/fail condition of a battery depend on the specifications and standards of the battery manufacturer, battery type, capacity, etc. It is important and necessary to always conduct battery testing against the internal resistance and terminal voltage of a new or reference battery. In some cases, it may be difficult to determine the deterioration state of traditional open type (liquid) lead-acid or alkaline batteries, which demonstrate smaller changes in internal resistance than sealed lead acid batteries.



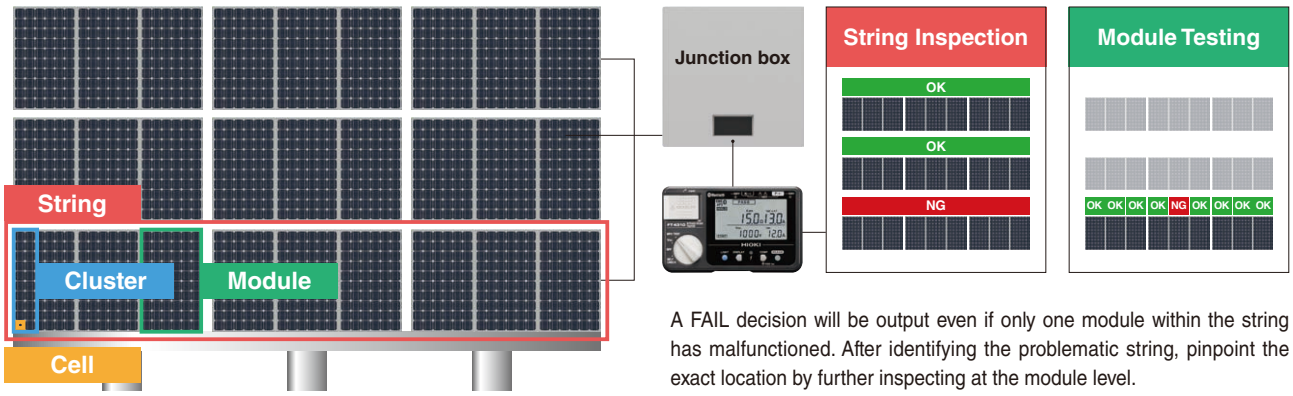




PV Maintenance

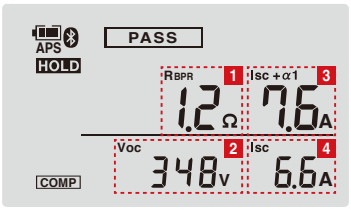
Inspect Solar Panel Bypass Diodes for Opens and Shorts

Improve testing efficiency by first inspecting the PV string, then testing individual modules for issues

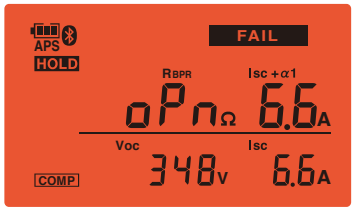


A FAIL decision will be output even if only one module within the string has malfunctioned. After identifying the problematic string, pinpoint the exact location by further inspecting at the module level.

1 RBPR: Bypass route resistance
2 Voc: Open-circuit voltage
3 Isc + α1: Measurement current
4 Isc: Short-circuit current

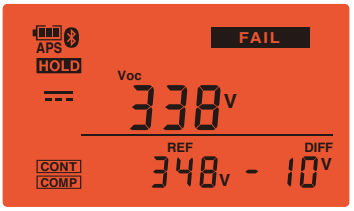


Normal reading



Open fault

Test open-circuit voltage, short-circuit current, and bypass route resistance at the same time



Short-circuit fault

Measure open-circuit voltage within 1 second and compare to reference value

CE

Product warranty for 3 years
Accuracy guaranteed for 1 year

BYPASS DIODE TESTER FT4310

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

Order code **FT4310**

Included accessories


L9788-11


C0206

- TEST LEAD SET WITH REMOTE SWITCH L9788-11
- CARRYING CASE C0206
- Instruction manual
- Alkaline battery LR6 ×6

Options		
1	TEST LEAD SET WITH REMOTE SWITCH L9788-11	1.2 m (3.94 ft.)
2	TEST LEAD WITH REMOTE SWITCH L9788-10	1.2 m (3.94 ft.)
3	TIP PIN L9788-90	For L9788, L9788-10
4	BREAKER PIN L9788-92	For checking breaker terminal
5	CARRYING CASE C0206	

L9788-11 L9788-10 L9788-90 L9788-92 C0206

*For detailed information about L9788, please refer to p.27

Measurement parameters	**BPD TEST mode (Bypass diode)**	
	Measurement items	Bypass diode comparator judgment Bypass route resistor Open-circuit voltage Short-circuit current Measurement (applied) current
	Measurement object	Crystal system string Open-circuit voltage: 1000 V DC or less Rated current: 2 A to 12 A DC
	Measurement method	Short-circuit and pulse voltage application
	Duration of shorting between terminals	10 ms or less
	Output pulse	Voltage: 100 V DC or less, Pulse width: 5 ms or less Limiting current: Measured short-circuit current + 1 A or less, Maximum: 13 A
	Voc mode (open-circuit voltage)	
	Measurement items	Open-circuit voltage
	Measurement range	0 V to 1000 V DC (displayed up to 1200 V DC)
	Response time	Within 1 sec.
	Functions	Displays the number of bypass diode measurements Automatic polarity judgment function Comparison display Live circuit indicator Comparator Auto hold Backlight Auto power off Buzzer sounds Battery indicator
Other	Operating temperature	-10°C to 65°C, 80% RH or less (non-condensating)
	Storage temperature	-20°C to 65°C, 80% RH or less (non-condensating)
	Dustproof and waterproof	IP40 (EN60529)
	Standards	EN61010 (Safety), EN61326 ClassA (EMC)
	Maximum input voltage	1000 V DC
	Power supply Continuous operating time	LR6 alkaline battery × 6 45 hours (Bluetooth® OFF)
	Dimensions (W × H × D)	152 x 92 x 69 mm (5.98 x 3.62 x 2.72 in.), Cable length 0.5m (1.64 ft.)
	Weight	650 g (22.9 oz.)

Measure Insulation Resistance while the Solar PV System Continues to Generate

PV insulation resistance measurement function

In the past, it was impossible to measure a PV system's insulation resistance while the system was operating because the measurement current and generated current would mix together. Consequently, it was necessary to make such measurements at night, when the system being measured was not generating electricity.
The PV insulation resistance measurement function can measure PV systems while they're operating during daylight hours, without being affected by the generated current.

Safe Inspects and Easily Manages Measurement Data for High-voltage Solar Power Generation

CAT IV 1000 V
CAT III 2000 V

CM4375-50

DT4261

Supports wireless communication to increase work efficiency

WIRELESS ADAPTER Z3210 (option)

Attach to enable Bluetooth® wireless technology

With Z3210

Bluetooth®

Please see www.hioki.com for list of supported regions.

GENNECT Cross

*1: Supported models: CM4371-50, CM4373-50, CM4375-50, CM4141-50, DT4261 (requires using DC HIGH VOLTAGE PROBE P2010)

COMPACT DATA LOGGERS

Collect Data with Portable Transfer Devices

Use the LR5091 or LR5092 to capture data and upload to the PC for analysis

COMMUNICATION ADAPTER LR5091

Connect to a PC via USB

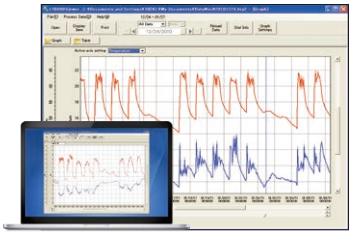
DATA COLLECTOR LR5092-20

Connect to a PC via USB

SD MEMORY CARD

*Attach display side
*SD MEMORY CARD is available as an option

Utility for LR5000



Model	HUMIDITY LOGGER LR5001	TEMPERATURE LOGGER LR5011	INSTRUMENTATION LOGGER LR5031	CLAMP LOGGER LR5051
Log	Temperature, Humidity	Temperature	4-20 mA Instrumentation Signals	Load Current, Leak Current
Appearance				
Channels	1ch (temperature), 1ch (humidity)	1ch	1ch	2ch
Measurement range	–40.0°C to 85.0°C (temperature) 0% RH to 100% RH (humidity)	–40.0°C to 180.0°C*1	-30.00 mA to 30.00 mA	0.00 A to 1000 A AC*1
Accuracy	±0.5°C (temperature) ±5% RH (humidity)	±0.5°C	±0.5% rdg. ±5 dgt.	±0.5% rdg. ±5 dgt.
Bundled sensor	HUMIDITY SENSOR LR9504	Sensor sold separately	CONNECTION CABLE LR9801	Sensor sold separately

Model	VOLTAGE LOGGER LR5041	VOLTAGE LOGGER LR5042	VOLTAGE LOGGER LR5043
Log	Instrumentation signals, Analog outputs		
Appearance			
Channels	1ch	1ch	1ch
Measurement range	–50.00 mV to 50.00 mV	–5.000 V to 5.000 V	–50.00 V to 50.00 V
Accuracy	±0.5% rdg. ±5 dgt.	±0.5% rdg. ±5 dgt.	±0.5% rdg. ±5 dgt.
Bundled sensor	CONNECTION CABLE LR9802	CONNECTION CABLE LR9802	CONNECTION CABLE LR9802

*1 Depends on current sensor in use

LR5091 or LR5092-20 is necessary to transfer data from a LR5000 series logger to a PC

COMMUNICATION ADAPTER LR5091
(USB cable bundled)

DATA COLLECTOR LR5092-20
(USB cable bundled)

LR5000 Series Common Specifications

Measurement	Recording intervals	1/2/5/10/15/20/30 sec., 1/2/5/10/15/20/30/60 min.
	Recording modes	Instantaneous value, MAX/MIN/AVG
	Storage capacity	60,000 data sets per channel (instantaneous value)
Other	Operating temperature	LR5001, LR5011, LR5031, LR5041, LR5042, LR5043: -20°C to 70°C, 80% RH or less LR5051: 0°C to 50°C, 80% RH or less
	Power supply	LR6 alkaline battery ×1 LR5051: LR6 alkaline battery ×2
	Continuous operating time	LR5001: 3 months (1min. recording interval), 20 days (1sec.) LR5011: 2 years (1min. recording interval), 2 months (1sec.) LR5051: 1 years (1min. recording interval), 1 month (1sec.) LR5031, LR5041, LR5042, LR5043: 2 years (1min. recording interval), 2 months (1sec.)
	Dimensions (W × H × D)	79 × 57 × 28 mm (3.11 × 2.24 × 1.10 in.) LR5051: 79 × 70 × 37 mm (3.11 × 2.76 × 1.46 in.)
	Weight	105 g (3.7 oz.), LR5051: 165 g (5.8 oz.)

Order code **LR5001** HUMIDITY SENSOR LR9504, Kickstand

Order code **LR5011** Kickstand

Order code **LR5031** CONNECTION CABLE LR9801, Kickstand

Order code **LR5041** CONNECTION CABLE LR9802, Kickstand

Order code **LR5042** CONNECTION CABLE LR9802, Kickstand

Order code **LR5043** CONNECTION CABLE LR9802, Kickstand

Order code **LR5051**

LR5000 Series Included accessories

- LR6 alkaline battery × 1 (LR5051: LR6 alkaline battery × 2)
- Instruction manual, Operation guide

CE

Product warranty for 3 years
Accuracy guaranteed for 1 year

Make Logger Settings and Transfer Data via Bluetooth® Wireless Communication

Use your tablet or PC to download data and configure measurement conditions

Model	WIRELESS PULSE LOGGER LR8512	WIRELESS CLAMP LOGGER LR8513	WIRELESS HUMIDITY LOGGER LR8514	WIRELESS VOLTAGE/TEMP LOGGER LR8515
Log	Pulse	Load Current, Leak Current	Temperature, Humidity	DCV, Temperature
Appearance				
Channels	2ch	2ch	2ch (temperature), 2ch (humidity)	2ch
Measurement range	Pulse: 0 to 1000M pulse No. of revolutions: 0 to 5000/n*1 [r/s]	500.0 mA to 5000 A AC*2 10.00 A to 2000 A DC*2	–40.0°C to 80.0°C (temperature) 0.0% rh to 100% RH (humidity)	Voltage: -50 V to 50 V Thermocouple (K): -200˚C to 999.9˚C Thermocouple (T): -200˚C to 400˚C
Accuracy	-	±0.5% rdg. ±5 dgt.	Temperature: ±0.5°C Humidity: ±3% RH *3	Voltage: ±0.05 mV Thermocouple: ±0.6°C
Bundled sensor	CONNECTION CABLE L1010	Sensor sold separately	Sensor sold separately	Sensor sold separately

*1 n is the number of pulses, 1 to 1000, per revolution. *2 Depends on current sensor in use *3 Hysteresis: ±1% rh (added to the humidity measurement accuracy).

LR8512, LR8513, LR8514, LR8515 Common Specifications

Measurement	Recording intervals	0.1*1/0.2*1/0.5/1/2/5/10/20/30 sec., 1/2/5/10/20/30/60 min.
	Recording modes	Instantaneous value, MAX/MIN/AVG (LR8513 only)
	Communication reaches	30 m, line of sight
	Storage capacity	500,000 data sets per channel
Other	Operating temperature	-20°C to 60°C,80% RH or less
	Power supply	LR6 alkaline battery × 2 AC ADAPTER Z2003 (option, DC12V)
	Continuous operating time*2	LR8512: 2 months (1min. recording interval), 2 months (1sec.) LR8513: 3 months (1min. recording interval), 1 month (1sec.) LR8514: 3.5 months (1min. recording interval), 3 months (1sec.) LR8515: 2.5 months (1min. recording interval), 10 days (1sec.)
	Dimensions (W × H × D)	LR8512, LR8514: 85 × 61 × 31 mm (3.35 × 2.40 × 1.22 in.) LR8513, LR8515: 85 × 75 × 38 mm (3.35 × 2.95 × 1.50 in.)
	Weight	LR8512, LR8514: 95 g (3.4 oz.), LR8513: 130 g (4.6 oz.), LR8515: 126 g (4.4 oz.)

*1 LR8512, LR8515 only *2 With Bluetooth® communication OFF

Order code **LR8512** CONNECTION CABLE L1010 × 2

Order code **LR8513** -

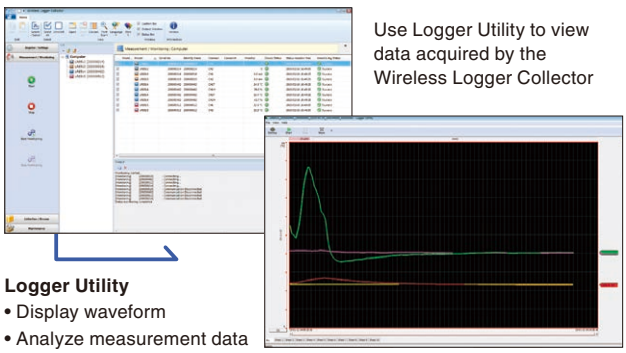
Order code **LR8514** -

Order code **LR8515** -

Included accessories for LR8512, LR8513, LR8514, LR8515
- LR6 alkaline battery × 2
- CD-R, Measurement Guide, Caution for Using Radio Waves (CD-R: Instruction Manual PDF, Logger Utility, Wireless Logger Collector)

Wireless Logger Collector (for collecting measurement data)	
Supported devices	Android tablet, Android smartphone Windows PC
OS	Android OS 4.0.3 or later Windows 11/10
Number of available registrations	Max. 100 units
Output format	Logger Utility format LR5000 format Smart Site compatible format CSV format Text format

How to obtain software
For Windows PC: Supplied bundled CD-R or download from the HIOKI website
For Android tablet: Google Play™



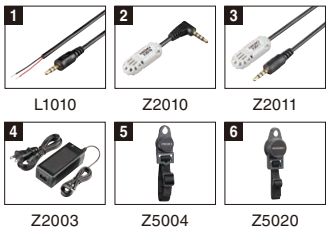
Use Logger Utility to view data acquired by the Wireless Logger Collector

Logger Utility
- Display waveform
- Analyze measurement data

Options

HUMIDITY LOGGER LR5001		
1	HUMIDITY SENSOR LR9501	1 m (3.28 ft.)
2	HUMIDITY SENSOR LR9502	5 m (16.4 ft.)
3	HUMIDITY SENSOR LR9503	10 m (32.81 ft.)
4	HUMIDITY SENSOR LR9504	4 cm (1.57 in.)
TEMPERATURE LOGGER LR5011		
5	TEMPERATURE SENSOR LR9601	Molded plastic type, 1 m (3.28 ft.)
6	TEMPERATURE SENSOR LR9602	Molded plastic type, 5 m (16.4 ft.)
7	TEMPERATURE SENSOR LR9603	Molded plastic type, 10 m (32.81 ft.)
8	TEMPERATURE SENSOR LR9604	Molded plastic type, 4.5 cm (1.77 in.)
9	TEMPERATURE SENSOR LR9611	Lug type, 1 m (3.28 ft.)
10	TEMPERATURE SENSOR LR9612	Lug type, 5 m (16.4 ft.)
11	TEMPERATURE SENSOR LR9613	Lug type, 10 m (32.81 ft.)
12	TEMPERATURE SENSOR LR9621	Sheathed type, 1 m (3.28 ft.)
13	TEMPERATURE SENSOR LR9631	Needle type, 1 m (3.28 ft.)
INSTRUMENTATION LOGGER LR5031		
14	CONNECTION CABLE LR9801	1 m (3.28 ft.), 2 wires
VOLTAGE LOGGER LR5041, LR5042, LR5043, PULSE LOGGER LR5061		
15	CONNECTION CABLE LR9802	1 m (3.28 ft.), 4 wires
LR5000 Series		
16	WALL-MOUNTED HOLDER LR9901	Cannot be used with LR5051
17	MAGNETIC STRAP Z5004	
DATA COLLECTOR LR5092		
18	SD MEMORY CARD 2GB Z4001	Use only SD Cards sold by HIOKI. Compatibility and performance are not guaranteed for PC cards made by other manufacturers.

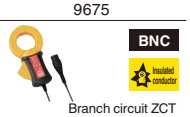
WIRELESS PULSE LOGGER LR8512		
1	CONNECTION CABLE L1010	1.5 m (4.92 ft.)
WIRELESS HUMIDITY LOGGER LR8514		
2	HUMIDITY SENSOR Z2010	50 mm (1.97 in.)
3	HUMIDITY SENSOR Z2011	1.5 m (4.92 ft.)
WIRELESS LOGGER Series LR8512, LR8513, LR8514, LR8515		
4	AC ADAPTER Z2003	100 V to 240 V AC
5	MAGNETIC STRAP Z5004	
6	MAGNETIC STRAP Z5020	Extra strength



*1 At center of flexible loop
*2 Maximum measurable current when used with the LR8513, LR5051

CURRENT SENSORS (For LR8513, LR5051)

Measurement application	For load current levels: Voltage output					
Model name	CLAMP ON SENSOR			AC FLEXIBLE CURRENT SENSOR		
Model	9669	9695-02	CT6500	CT9667-01	CT9667-02	CT9667-03
Appearance	 BNC	 Requires the 9219 Insulated conductor Not CE marked	 BNC	 BNC	 BNC	 BNC
Rated measurement current	1000 A AC	50 A AC	500 A AC	5000/500 A AC	5000/500 A AC	5000/500 A AC
Output rate	0.5 mV/A	10 mV/A	1 mV/A AC	0.1 mV/A (5000 A) 1 mV/A (500 A)	0.1 mV/A (5000 A) 1 mV/A (500 A)	0.1 mV/A (5000 A) 1 mV/A (500 A)
Amplitude accuracy (DC, 45 to 66 Hz)	±1.0% rdg. ±0.01%f.s.	±0.3% rdg. ±0.02% f.s.	±1.5% rdg. ±0.03% f.s.	±2% rdg. ±0.3% f.s.*1	±2% rdg. ±0.3%f.s.*1	±2% rdg. ±0.3% f.s.*1
Max. rated voltage to earth	CAT III 600 V	CAT III 300 V	CAT III 600 V	CAT IV 600 V CAT III 1000 V	CAT IV 600 V CAT III 1000 V	CAT IV 600 V CAT III 100 V
Operating temperature	0°C to 50°C	0°C to 50°C	0°C to 50°C	-25°C to 65°C	-25°C to 65°C	-10°C to 50°C
Core jaw diameter	Φ55 mm or less 80 × 20 mm busbar	Φ15 mm or less	Φ46 mm or less	Φ100 mm or less	Φ180 mm or less	Φ254 mm or less

Measurement application	For leak current: Voltage output	
Model name	CLAMP ON LEAK SENSOR	
Model	9657-10	9675
Appearance	 BNC Insulated conductor General purpose ZCT	 BNC Insulated conductor Branch circuit ZCT
Rated measurement current	5 A AC*2	5 A AC*2
Output rate	100 mV/A	100 mV/A
Amplitude accuracy (DC, 45 to 66 Hz)	±1.0% rdg. ±0.05% f.s.	±1.0% rdg. ±0.005% f.s.
Max. rated voltage to earth	Insulated conductor	Insulated conductor
Operating temperature	0°C to 50°C	0°C to 50°C
Core jaw diameter	Φ40 mm or less	Φ30 mm or less


9219

For CLAMP ON SENSOR 9695-02	
CONNECTION CABLE 9219	For 9695, 3 m (9.84 ft.)

The following sensors can be used with Model LR8513 via the DISPLAY UNIT CM7290 (requires OUTPUT CORD L9095)

- AC/DC CURRENT SENSOR CT7631 : Φ33 mm, 100 A
- AC/DC CURRENT SENSOR CT7636 : Φ33 mm, 200 A*
- AC/DC CURRENT SENSOR CT7642 : Φ55 mm, 2000 A
- AC/DC AUTO-ZERO CURRENT SENSOR CT7731 : Φ33 mm, 100 A
- AC/DC AUTO-ZERO CURRENT SENSOR CT7736 : Φ33 mm, 200 A*
- AC/DC AUTO-ZERO CURRENT SENSOR CT7742 : Φ55 mm, 2000 A
- AC FLEXIBLE CURRENT SENSOR CT7044 : Φ100 mm, 5000 A*
- AC FLEXIBLE CURRENT SENSOR CT7045 : Φ180 mm, 5000 A*
- AC FLEXIBLE CURRENT SENSOR CT7046 : Φ254 mm, 5000 A*

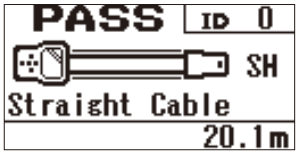
* Maximum measurable current when used with the LR8513.
For more detailed information about sensors and output cords, please refer to p.48 & p.49.

LAN Cable Testers

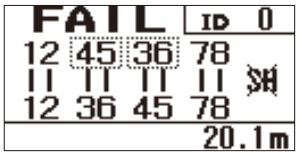
LAN CABLE HiTESTER 3665

CE

Product warranty for 3 years
Accuracy guaranteed for 1 year



Display wire map, cable length, and ID of connected terminal



Pins 3 and 6 have been incorrectly paired with Pins 4 and 5

Included accessories
- TERMINATOR 9690 (ID 0)
- Carrying case
- LR6 alkaline battery × 2
- Instruction manual

Order code **3665**

Options		
1	TERMINATOR 9690-01	ID 1 to 5
2	TERMINATOR 9690-02	ID 6 to 10
3	TERMINATOR 9690-03	ID 11 to 15
4	TERMINATOR 9690-04	ID 16 to 20
5	CARRYING CASE 9249	

9690-01
9690-02
9690-03
9690-04

9249

Measurement	Measurable cable		Twisted-pair cable, characteristic impedance: 100 Ω, shielded and unshielded, CAT 3, 4, 5, 5e, 6 and 6A *Not available for CAT 7
	Compatible connectors		RJ-45 plugs
	Measurement parameters	Wire Map test (detectable errors)	Open, short, reversed, transposed, split pairs and other incorrect wiring
		Cable length	2.0 to 300.0 m Accuracy: ±4% rdg. ±1 m (in case of single line)
		Direction	Up to 21 cables can be identified*1
	Functions		Backlight, auto power off
Other	Operating temperature		0°C to 40°C, 80% rh or less (non-condensating)
	Storage temperature		-10°C to 50°C, 80% rh or less (non-condensating)
	Standards		EN61010 (Safety), EN61326 (EMC)
	Power supply Continuous operating time		LR6 alkaline battery × 2 50 hours
	Dimensions (W × H × D)		85 × 130 × 33 mm (3.35 × 5.12 × 1.30 in.)
	Mass		160 g (5.6 oz.)

*1Using the supplied Terminator 9690 and optional Models 9690-01 to 9690-04

Signal Generators

DC SIGNAL SOURCE SS7012

CE

Product warranty for 3 years
Accuracy guaranteed for 1 year

Instrumentation system loop test:
- Verify the sensor output of 2-wire transmission sensors
- Verify distributor operation

- INPUT CORD 9168
- TEST LEAD L9170-10
- Spare fuse
- LR6 alkaline battery × 4
- Instruction manual

Order code **SS7012**

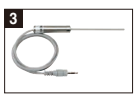
Options

Options		
1	INPUT CORD 9168	
2	TEST LEAD L9170-10	
3	TEMPERATURE PROBE 9184	
4	COMMUNICATION PACKAGE SS9000	for reference contact compensation
5	CARRYING CASE 9782	
6	CARRYING CASE 9380	
7	AC ADAPTER 9445-02	

Sourcing	Constant Voltage (CV)		0 to ±2.5000 V Accuracy: ±0.03% of setting ±300 µV 0 to ±25.000 V Accuracy: ±0.03% of setting ±3 mV
	Constant Current (CC)		0 to ±25.000 mA Accuracy: ±0.03% of setting ±3 µA
	Thermoelectromotive Force (TC: 0°C) (TC: RJ)		(K) -174.0°C to 1372.0°C (E) -220.0°C to 839.0°C (J) -208.0°C to 1108.0°C (T) -169.0°C to 400.0°C (R) -50°C to 1768°C (S) -50°C to 1768°C (B) 300°C to 1820°C (N) -113.0°C to 1300.0°C Accuracy: ±0.05% of setting ±0.5°C
	Memory Sourcing (RECALL, SCAN)		One type for each function: CV2.5, CV25, CC, TC (0°C and RJ)
	Standard Resistance (Rs)		100 Ω
Measurement	Voltage		0 V to ±2.8000 V (accuracy: ±0.03% rdg. ±300 µV) 0 V to ±28.000 V (accuracy: ±0.03% rdg. ±3 mV)
	Current		0 A to ±28.000 mA (accuracy: ±0.03% rdg. ±3 µA)
	Temperature		-25.0 to 80.0°C (accuracy: ±0.5°C at 23 ±5°C)
Other	Interfaces		USB Communication
	Operating temperature		0°C to 40°C, 80% rh or less (non-condensating)
	Storage temperature		-20°C to 50°C, 80% rh or less (non-condensating)
	Standards		EN61010 (Safety), EN61326 (EMC)
	Power supply Continuous operating time		LR6 alkaline battery × 4 HR6 Ni-MH batteries Z0101 AC ADAPTER 9445-02/-03
	Dimensions (W × H × D)		104 × 180 × 58 mm (4.09 × 7.09 × 2.28 in.)
	Mass		570 g (20.1 oz.) without batteries

9168

L9170-10



9184

SS9000

9782

9380

9445-02

Lux Testers

LUX METER FT3424, FT3425

Product warranty for 3 years
Accuracy guaranteed for 2 years

FT3424

FT3425

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

Extension cart minimizes physical stress

- Built-in Bluetooth® wireless technology
- Verify and record measured data with free GENNECT Cross mobile app

*Available only with products displayed with the GENNECT Cross icon

Order code **FT3424**

Order code **FT3425**

Measurement	Standards	DIN 5032-7: 1985 Class B, JIS C 1609-1: 2006 General Class AA
	Light receiving element	Silicon photo-diode
	Measurement ranges	20.00 lx, 200.0 lx, 2000 lx, 20000 lx, 200000 lx
	Linearity	±2% rdg. *1
	D/A output	Output level: 2 V/range f.s. Output accuracy: ±1% rdg. ±5 mV (at output rate)
	Functions	Timer hold function, memory function (up to 99 measured data can be saved.), hold, auto power off, buzzer sound, backlight, zero adjustment
Other	Interfaces	USB2.0 (FT3425 only: Bluetooth®4.0LE)
	Operating temperature	-10°C to 40°C, 80% RH or less (non-condensating)
	Storage temperature	-20°C to 50°C, 80% RH or less (non-condensating)
	Accuracy guarantee for temperature and humidity	21°C to 27°C, 75% RH or less (non-condensating)
	Dustproof and waterproof	IP40 (EN60529)
	Standards	EN61010 (Safety), EN61326 (EMC), JIS C 1609-1: 2006 General Class AA, DIN 5032-7: 1985 Class B
	Power supply Continuous operating time	LR6 alkaline battery × 2, or USB bus power (5 V DC) 300 hours (Bluetooth® communication OFF)
	Dimensions (W × H × D)	78 × 170 × 39 mm (3.07 × 6.69 × 1.54 in.)
	Weight	FT3424: 310 g (10.9 oz.), FT3425: 320 g (11.3 oz.)

*1 Multiply by 1.5 for display values in excess of 3000 lx.

Included accessories
- CARRYING CASE
- LR6 alkaline battery × 2
- Sensor cap (with strap)
- Strap
- USB cable (0.9 m)
- CD-R (USB driver, dedicated computer application software, and communications specifications)
- Instruction manual
- Precautions concerning use of equipment that emits radio waves (only FT3425)

Options		
1	EXTENSION CART Z5023	
2	CONNECTION CABLE L9820	
3	CARRYING CASE C0202	Soft case
4	CARRYING CASE C0201	Semi-hard case
5	OUTPUT CORD L9094	Mini plug to banana 1.5 m (4.92 ft.)
6	OUTPUT CORD L9095	Connect to BNC terminal 1.5 m (4.92 ft.)
7	OUTPUT CORD L9096	Connect to terminal block 1.5 m (4.92 ft.)

Z5023

L9820

C0202

C0201

L9094

L9095

L9096

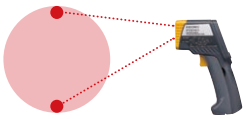
Temperature Testers

INFRARED THERMOMETER FT3700-20, FT3701-20

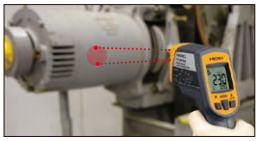
Product warranty for 1 year
Accuracy guaranteed for 1 year

FT3700

FT3701

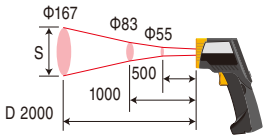


Measure the average temperature inside a circle whose diameter is defined by the two indicated points.

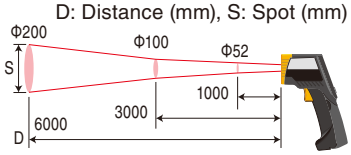


Measure areas that cannot be touched or unreachable locations due to moving parts

D: Distance (mm), S: Spot (mm)



D : S = 12 : 1 **FT3700**



D : S = 30 : 1 **FT3701**

Measurement	Measurement range	FT3700: −60.0 to 550.0°C (-76 to 1022°F) *1 FT3701: −60.0 to 760.0°C (-76 to 1400°F) *1
	Accuracy	0.0 to 100.0°C (-32.0 to 212.0°F): ±2°C 100.1 to 500.0°C (212.1 to 932.0°F): ±2% rdg. -35.0 to -0.1°C (-31.0 to 31.9°F): ±10% rdg. ±2°C *2
	Measurement field diameter	FT3700: Φ83 mm at 1000 mm FT3701: Φ100 mm at 3000 mm
	Functions	MAX/MIN/DIF (MAX-MIN)/AVG measurement, alarm, backlight, continuous measurement mode, auto power off
Other	Operating temperature	0°C to 50°C, 80% RH or less (non-condensating)
	Storage temperature	-10°C to 50°C, 80% RH or less (non-condensating) 50°C to 60°C, 70% RH or less (non-condensating)
	Accuracy guarantee for temperature and humidity	23°C ±3°C, 80% RH or less (non-condensating)
	Standards	IEC 60825-1 CLASS2 (Laser), EN61326 (EMC)
	Power supply Continuous operating time	LR03 alkaline battery × 2 140 hours
	Dimensions (W × H × D)	48 × 172 × 119 mm (1.89 × 6.77 × 4.69 in.)
	Weight	256 g (9.0 oz.)

*1 Guaranteed accuracy range is -35 to 500°C.
*2 -60.0 to -35.1°C (-76.0 to -31.1°F): Accuracy not specified

Included accessories
- CARRYING CASE
- LR03 alkaline battery × 2
- Instruction manual

Order code **FT3700-20**

Order code **FT3701-20**

Resistance meter

RESISTANCE METER RM3548-50

Product warranty for 3 years
Accuracy guaranteed for 1 year

The RM3548-50 offers effortless operation and accuracy, making it ideal for EV maintenance, aircraft overhaul, and motor inspections.

Bluetooth® communication enables seamless data integration with mobile apps or Excel®, speeding up data sharing and report creation.

With Z3210

Bluetooth®
Please see www.hioki.com for list of supported regions.

GENNECT Cross

Z3210

Included accessories
- Clip Type Lead L2107
- Temperature Sensor Z2002
- Protector Z5041
- LR6 alkaline battery × 8
- Instruction manual
- USB cable (A to mini-B)
- Strap
- Spare fuse

Order code **RM3548-50**

Order code **Z3210**

Options		
1	TEST LEADS L2140	
2	PIN TYPE LEAD L2141	
3	PIN TYPE LEAD L2142	
4	PIN TYPE LEAD 9465-10	
5	PIN TYPE LEAD 9465-11	
6	PIN TYPE LEAD 9772	
7	FOUR TERMINAL LEAD 9453	
8	LARGE CLIP TYPE LEAD 9467	tip φ 28 mm (1.10 in.)
9	CLIP TYPE LEADS L2107	
10	TIP PIN 9465-90	To replace the tip on the 9465-10, 9465-11, L2140 (one piece)
11	PIN TYPE LEAD 9772-90	To replace the tip on the 9772 (one pin)
12	TEST LEAD (RED) L2140-01	L2140 red lead
13	TEST LEAD (BLACK) L2140-02	L2140 black lead
14	TEMPERATURE SENSOR Z2002	100 mm (3.94 in.)
15	LED COMPARATOR ATTACHMENT L2105	2 m (78.74 in.)
16	ZERO ADJUSTMENT BOARD 9454	For 9465-10 and 9465-11
17	0 ADJ BOARD Z5038	For 9465-10, and 9772
18	PROTECTOR Z5041	
19	CARRYING CASE C1015	Hard case

Measurement	Measurement parameters	Resistance measurement, temperature measurement
	Measurement method	Resistance: DC four-terminal method, Temperature: thermistor
	Resistance range	3 mΩ (3.5000 mΩ display max., 0.1 μΩ resolution) to 3 MΩ range (3.5000 MΩ display max., 100 Ω resolution), 10 steps Measurement accuracy: ±0.020 % rdg. ±0.007 % f.s.
	Temperature measurement	-10.0°C to 99.9°C, accuracy: ±0.5°C (temperature Sensor Z2002 and RM3548 combined accuracy)
	Operating temperature and humidity range	0°C to 40°C (32°F to 104°F), 80% RH or less (non-condensing)
	Storage temperature and humidity range	-10°C to 50°C (14°F to 122°F), 80% RH or less (non-condensing)
	Applicable standards	EN61010 (safety), EN61326 (EMC)
	Circuit protection	The circuit is protected until 42.4 V peak AC, 60 V DC is reached
Other	Memory storage	Number of recordable data points: up to 1,000 for manual/auto, up to 6,000 for interval; interval: 0.2 s to 10.0 s (0.2 s step); acquisition of data from memory: display, USB mass storage (CSV, TXT files)
	Communication functions	USB, wireless communications via Bluetooth® (Z3210 is necessary)
	Power supply	LR6 alkaline battery × 8 or HR6 nickel-metal hydride battery × 8
	Maximum rated voltage	5 VA
	Continuous operating time	Approx. 10 hours (when eight fresh LR6 alkaline batteries or eight HR6 nickel-metal hydride batteries are used)
	Dimensions (W × H × D)	199 × 132 × 60.6 mm (7.83 × 5.20 × 2.39 in.)
	Weight	890 g (31.4 oz.)

Measurement Lead Selection Guide
For detailed dimensions, features, and measurement target information, please refer here.

Product Warranties

HIOKI products are generally covered by a three-year warranty.

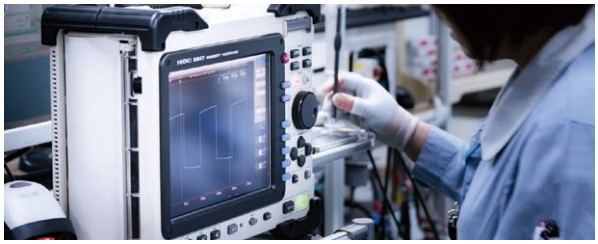
Product warranty	In the event HIOKI is responsible for the failure of a product during the warranty term beginning on the date of purchase (or beginning in the month the product was manufactured if the date of purchase is unclear), we will repair or replace the product free of charge.
Warranty scope	We check products on a standalone basis to verify their specifications, performance, and functionality. Although we verify proper operation of components that are connected to HIOKI products in standard configurations, we ask that customers verify proper operation of their HIOKI products when connected to other manufacturers' products. The scope of HIOKI's warranty is limited to HIOKI products. Connected devices and issues caused by connected devices are considered outside the scope of the warranty. In the event of physical damage, any compensation that might be provided by HIOKI is limited to the purchase price of the product
Accuracy guarantee	For products with an accuracy guarantee, we guarantee the level of accuracy indicated in the specifications for a certain period of time following shipment from the factory. In the event of an accuracy defect during that period of time, we will adjust the product free of charge.

Calibration and Repair Service

Calibration Expiration (calibration Interval)	Values obtained on the date of calibration are used as the calibration results. When calibration expires (i.e., the calibration interval) depends on the customer's operating conditions and environment. Consequently, the customer is ultimately responsible for determining calibration expiration while taking into account the calibration interval recommended by Hioki.
Recommended calibration interval	Hioki recommends that each product's accuracy guarantee period be treated as the recommended calibration interval.
Guarantee after Calibration Service*1	If a customer reports a loss of accuracy after calibration while the instrument in question is covered by the recommended calibration interval and we are able to verify the issue, we will adjust the instrument free of charge. (if the product is subject to a regular calibration request, we will adjust it as part of the calibration fee.)
Guarantee Conditions	• If a loss of accuracy is caused by a part's having reached its service life or deteriorated, fees will apply to the repair. • If the loss of accuracy is deemed likely to have been caused by damage or by the operating or storage environment, fees will apply to the repair. • If a product is deemed likely to experience a loss of accuracy after shipment, for example due to the end of the repair period, we may contact the customer and decline to offer a guarantee. • The guarantee applies to products that are calibrated at Hioki.
Guarantee of repaired products	If, within six months of the original repair, HIOKI is responsible for an issue requiring an additional repair (a repair of the same issue) of a product that has been used as described in its user manual, we will repair it free of charge.
Repair term	We may improve products or switch models without notice in order to enhance the competitiveness of our products and our productivity. We will repair discontinued products for a minimum of five years from the date of their discontinuation, although we may elect to propose that the customer switch to an alternative model if it is difficult to repair a product due to social or economic conditions. *Once five years have passed since a product's discontinuation, we will only accept inspection and calibration requests for that product if we are able to perform that work in-house.

*1: Not all products are covered by this guarantee.

Quality of HIOKI's Calibration and Repair Service



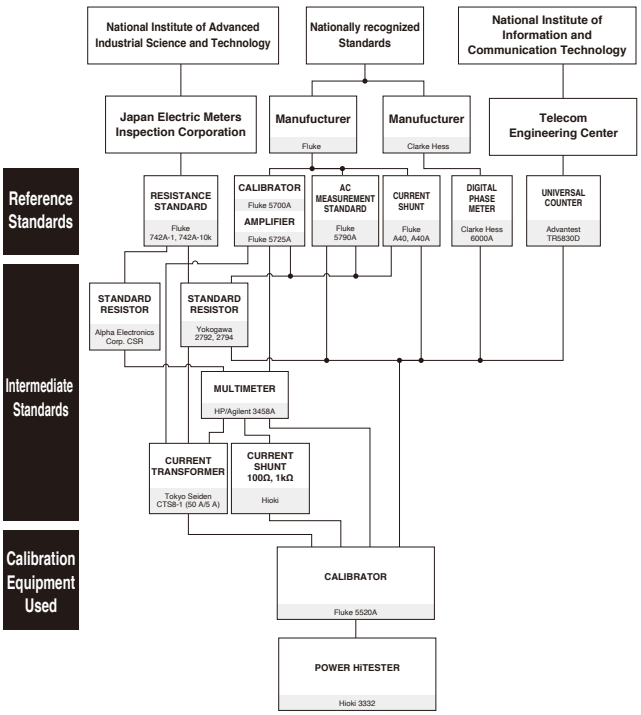
90 years of history and fine-grained, expert service
Technicians performing calibration, adjustment, and repair work undergo in-house training to ensure they possess the specialized expertise and skills that such work demands.

Precise calibration and adjustment guidelines compiled by product designers
We determine everything from the procedures for measuring instrument functionality checks to calibration points based on the results of reviews conducted by designers who are well versed in the characteristics of products' internal circuitry and the principles that underlie their operation. In this way, we are able to provide optimal, extensive calibration and adjustment service as only the manufacturer can.

Highly reliable service that's traceable to national standards
The standard devices we use to calibrate and adjust products are all linked to national standards, ensuring that we can issue inspection reports with accurate, reliable calibrated values.

Comprehensive calibration and repair service with fast turnaround
If we discover a malfunction or failure during the calibration process, we'll contact you to let you know where the problem is and what's necessary to address it. If you wish, we'll then repair the product. This capability eliminates unnecessary back-and-forth so you can put your product back to work as soon as possible.

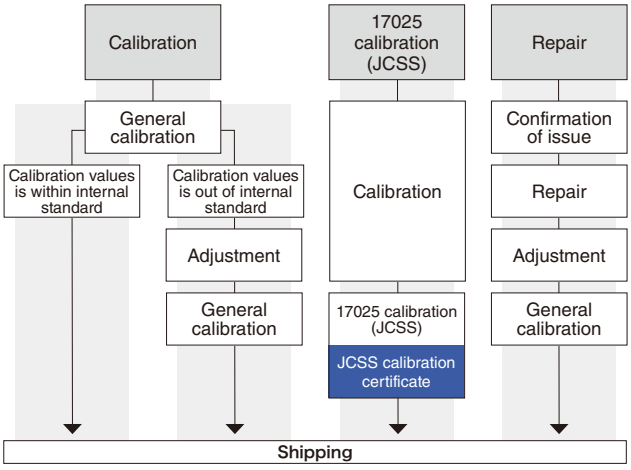
Traceability Chart



Calibration and Repair Service

(1) Service content

Hioki's calibration services were updated effective April 2022.
"Calibration Services"
When an instrument is calibrated and its measured values are found not to satisfy internal Hioki standards, the instrument is adjusted. Through the ongoing use of calibration services offered as only an instrument manufacturer can, customers are able to use their instruments with peace of mind while maintaining their precision.
This calibration service will allow us to return products to customers with minimal downtime, since there are no work interruptions.
Notes
*If you do not wish your instrument to be adjusted, please let us know when you request calibration. Your product will be returned without adjustment, even if the calibration report indicates a FAIL judgment (non-compliance).
*This service does not extend to products that cannot be adjusted or to discontinued products.



*JCSS calibration is also available as a standalone service

(2) Documents we can issue and their content

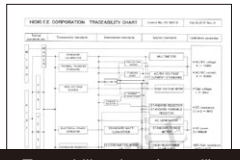
Sample documents are also available on Hioki's website.

Test report

- Calibration results
- Judgment

General calibration certificate

- Calibration certificate declaration
- Information about equipment used in calibration

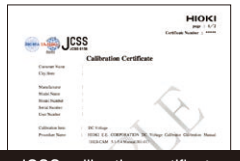


Traceability chart (overall)

An overview tracing HIOKI product groups to national standards via individual standard devices

Traceability chart (model-specific)

A detailed diagram tracing a particular product model to national standards via individual standard devices



JCSS calibration certificate

- Calibration results
- Inaccuracies
- Coverage factor
- Calibration certificate declaration
- ilac-MRA, IA Japan, and JCSS logos

Calibration

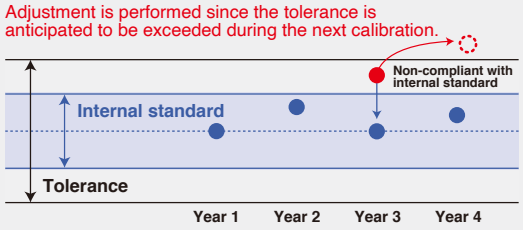
Calibration provides a way to check the condition of a measuring instrument by comparing the ideal value indicated by a standard device with the value indicated by the instrument being calibrated.

Adjustment

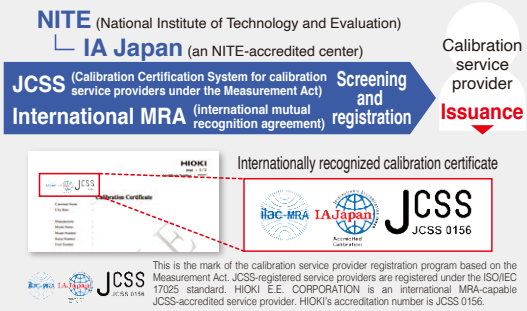
Calibration values will be optimized so that the instrument satisfies Hioki's internal standards.

If an instrument is adjusted as part of calibration service

Values are optimized so that they satisfy Hioki's internal standards to reduce the risk that they will subsequently exceed the tolerance.



Difference between general calibration and 17025 calibration (JCSS)



JCSS calibration is a type of third-party-accredited calibration based on ISO/IEC 17025. General calibration is a type of calibration determined by HIOKI based on ISO 9001. HIOKI can issue calibration certificates bearing the JCSS mark for instruments that have undergone JCSS certification, and they are valid internationally since they are international MRA-compliant.

Differences in calibration points

General calibration
Calibration is performed for all parameters that need to be checked in order to maintain the performance of the measuring instrument as determined by the product designer.

17025 calibration (JCSS)
Calibration is performed using points registered as the JCSS calibration range and selected by the customer.

Differences in information on calibration documents

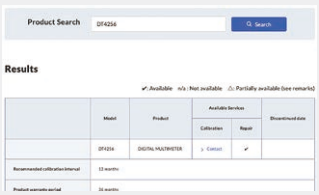
General calibration
- Calibration results: Included on inspection report
- Inaccuracies: Not included
- Traceability chart: Yes

17025 calibration (JCSS)
- Calibration results: Included on calibration certificate
- Inaccuracies: Included on calibration certificate
- Traceability chart: No

(*JCSS and other logos certify traceability.)

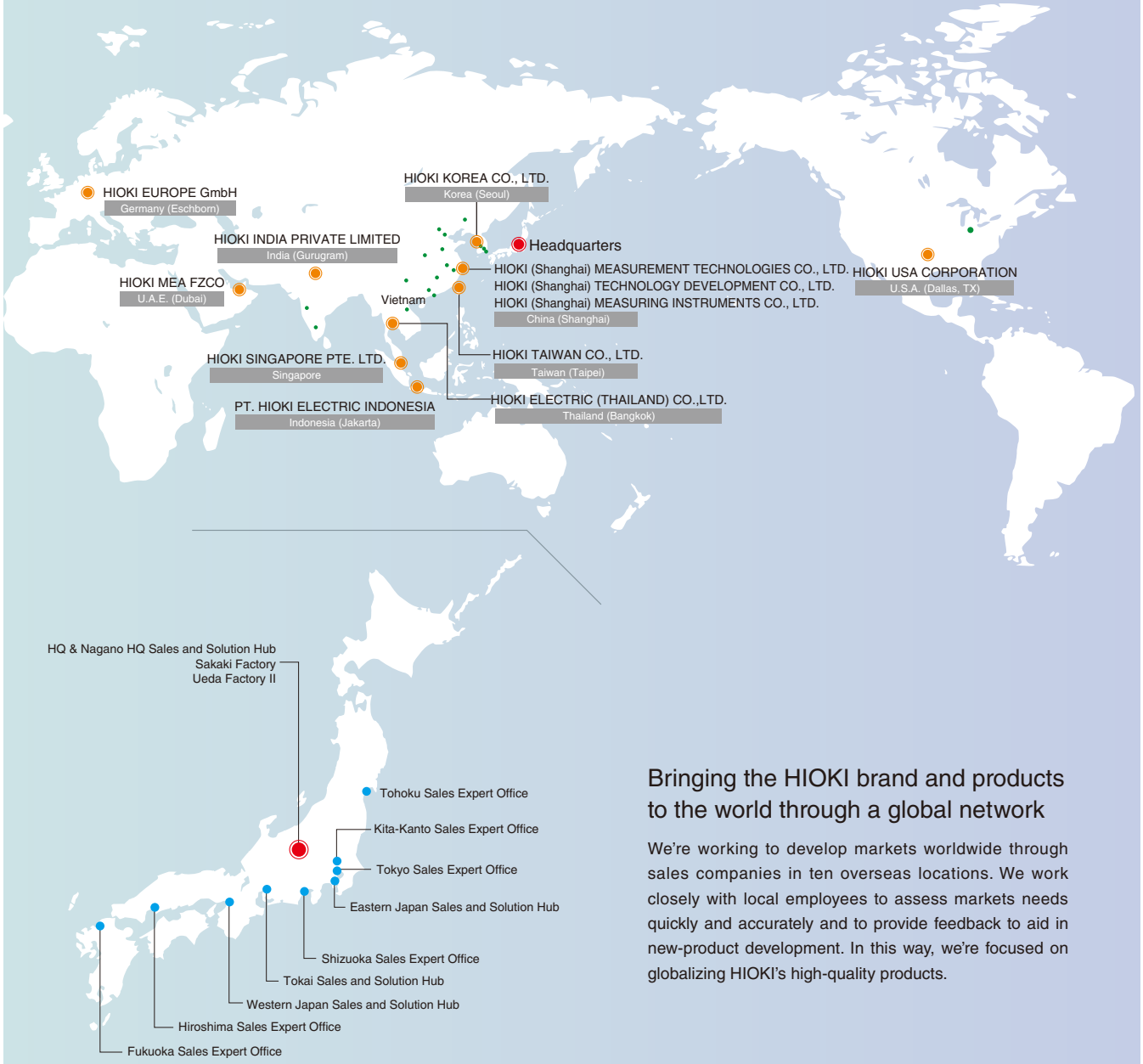
Service capability and warranty duration

You can find out whether HIOKI accepts repair and calibration requests for your instrument, associated lead times if so, and the information listed below simply by entering the product model number on HIOKI's website.



- **Availability of repair and calibration service**
- **Calibration Interval**
- **Product warranty period**
- **Date production discontinued**

Sales and Service Network



Bringing the HIOKI brand and products to the world through a global network

We're working to develop markets worldwide through sales companies in ten overseas locations. We work closely with local employees to assess markets needs quickly and accurately and to provide feedback to aid in new-product development. In this way, we're focused on globalizing HIOKI's high-quality products.

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