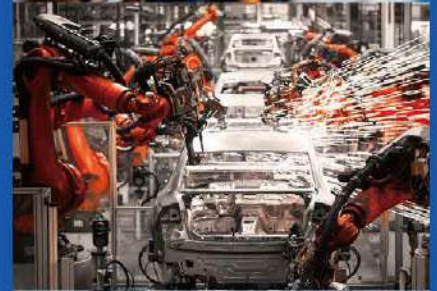


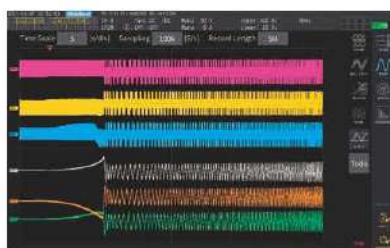
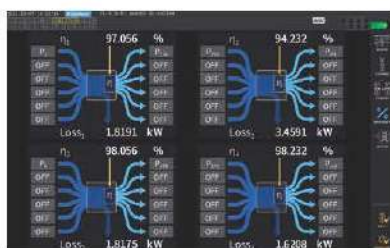
# HIOKI

## Short Form Catalog Electrical Measuring Instruments

- P2 - POWER ANALYZERS
- P3 - POWER ANALYZERS / POWER METERS
- P4 - CURRENT SENSORS
- P5 - POWER QUALITY ANALYZERS / POWER LOGGERS
- P6 - MEMORY RECORDERS
- P9 - WIRELESS LOGGING STATION / DATA LOGGERS
- P10 - IMPEDANCE ANALYZERS
- P11 - IMPEDANCE ANALYZERS / LCR METERS
- P12 - RESISTANCE METERS
- P13 - BATTERY TESTERS
- P14 - IMPULSE WINDING TESTERS
- P15 - SAFETY TESTERS
- P16 - INSULATION TESTERS
- P17 - CLAMP ON METERS
- P18 - PHASE DETECTORS / BYPASS DIODE TESTERS
- P19 - DIGITAL MULTIMETERS / EARTH TESTERS







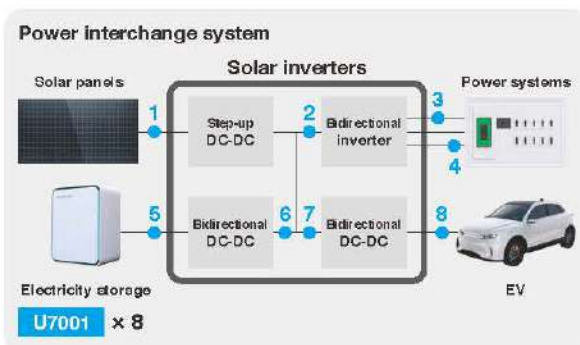
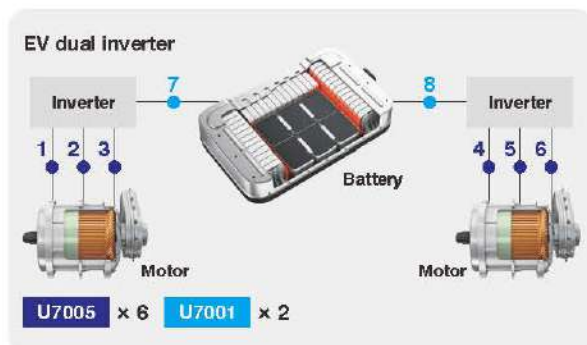
## POWER ANALYZER PW8001

Unrivalled Accuracy for High Currents at High Frequencies

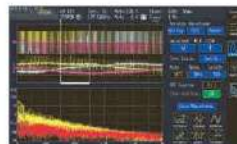
- Basic accuracy for power:  $\pm 0.03\%$  rdg
- Automatic phase shift correction function (APSC)
- 15 MS/s sampling, 18-bit A/D resolution
- DC to 5 MHz bandwidth
- 10 ms fastest data update rate
- Up to 8 modular power channels
- Best protection against external noise
- Powerful harmonic analysis (500th order)
- 1500 V DC CAT II voltage inputs
- Motor analysis (4 motors), Efficiency analysis



Unit model	U7005	U7001
Basic accuracy for 50/60 Hz Power	$\pm 0.03\%$	$\pm 0.07\%$
Sampling frequency	15 MHz	2.6 MHz
ADC resolution	18-bit	16-bit
Measurement frequency band	DC, 0.1 Hz to 5 MHz	DC, 0.1 Hz to 1 MHz
Maximum input voltage	1000 V AC, 1000 V DC, $\pm 2000$ V peak	AC 1000 V, DC 1500 V, $\pm 2000$ V peak
Maximum rated line-to-ground voltage	600 V CAT III 1000 V CAT II	600 V AC, 1000 V DC CAT III 1000 V AC, 1500 V DC CAT II



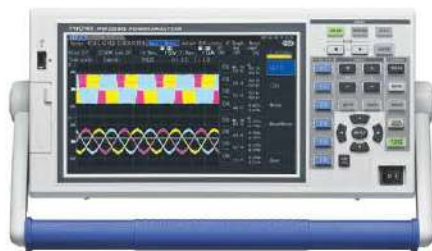




## POWER ANALYZER PW6001

Ultra-precise measurement for high-efficiency inverters & motors

- Basic accuracy for power:  $\pm 0.02\%$  rdg
- 6-channel power measurement
- 5 MS/s sampling, 18-bit A/D resolution
- DC to 2 MHz bandwidth
- 10 ms fastest data update rate
- Powerful harmonic analysis (100th order)
- FFT analysis, user-defined parameter calculation
- Motor analysis (2 motors), Efficiency analysis



## POWER ANALYZER PW3390

4ch High-precision Power Analyzer

- Basic accuracy:  $\pm 0.04\%$  rdg.
- 4-channel power measurement
- 500 kS/s sampling, DC to 200 kHz bandwidth, 50 ms data update
- High performance harmonic analysis (100th order)
- Motor analysis (3ch), Efficiency analysis, FFT Analysis
- For high-efficiency inverters & motors (EV / HEV / PHV)
- For solar & wind power generation and smart grids
- Evaluate fuel efficiency according to international WLTP standard



## POWER METER

# PW3337 / PW3335

PW3337: 3ch High-performance AC/DC Power Meter

PW3335: Single-phase AC/DC Power Meter

PW3337



























PW3335



- Basic accuracy:  $\pm 0.1\%$  rdg (DC, 50/60 Hz)
- 100 kHz bandwidth, 65 A AC/DC direct input (PW3337)
- Built-in external current sensor input terminals (up to 5000 A AC)
- Harmonic analysis (50th order), IEC 61000-4-7 compliant
- High-accuracy measurement, even with a low power factor
- Ideal for no-load testing of transformers and motors (PW3337)
- For standby power consumption testing of home appliances (IEC62301-compliant) (PW3335)



Pass-through type sensors								
Model	Appearance	Automatic phase correction*	Rated primary current	Frequency range	Amplitude accuracy 50/60 Hz	Diameter of measurable conductors	Cable length	Operating temperature
CT6862-05		-	50 Arms	DC to 1 MHz	±0.05% rdg ±0.01% f.s.	φ24 mm (0.94 in.)	3 m (9.84 ft)	-30°C to 85°C -22°F to 185°F
CT6872		Yes	50 Arms	DC to 10 MHz	±0.03% rdg ±0.007% f.s.	φ24 mm (0.94 in.)	3 m (9.84 ft)	-40°C to 85°C -40°F to 185°F
CT6872-01		Yes	50 Arms	DC to 10 MHz	±0.03% rdg ±0.007% f.s.	φ24 mm (0.94 in.)	10 m (32.81 ft)	-40°C to 85°C -40°F to 185°F
CT6863-05		-	200 Arms	DC to 500 kHz	±0.05% rdg ±0.01% f.s.	φ24 mm (0.94 in.)	3 m (9.84 ft)	-30°C to 85°C -22°F to 185°F
CT6873		Yes	200 Arms	DC to 10 MHz	±0.03% rdg ±0.007% f.s.	φ24 mm (0.94 in.)	3 m (9.84 ft)	-40°C to 85°C -40°F to 185°F
CT6873-01		Yes	200 Arms	DC to 10 MHz	±0.03% rdg ±0.007% f.s.	φ24 mm (0.94 in.)	10 m (32.81 ft)	-40°C to 85°C -40°F to 185°F
CT6875A		Yes	500 Arms	DC to 2 MHz	0.04 % rdg ±0.008 % f.s.	φ36 mm (1.42 in.)	3 m (9.84 ft)	-40°C to 85°C -40°F to 185°F
CT6875A-1		Yes	500 Arms	DC to 1.5 MHz	0.04 % rdg ±0.008 % f.s.	φ36 mm (1.42 in.)	10 m (32.81 ft)	-40°C to 85°C -40°F to 185°F
CT6904A		Yes	500 Arms	DC to 4 MHz	±0.02% rdg ±0.007% f.s.	φ32 mm (1.26 in.)	3 m (9.84 ft)	-10°C to 50°C 14°F to 122°F
CT6904A-1		Yes	500 Arms	DC to 2 MHz	±0.02% rdg ±0.007% f.s.	φ32 mm (1.26 in.)	10 m (32.81 ft)	-10°C to 50°C 14°F to 122°F
CT6904A-2		Yes	800 Arms	DC to 4 MHz	±0.025% rdg ±0.009% f.s.	φ32 mm (1.26 in.)	3 m (9.84 ft)	-10°C to 50°C 14°F to 122°F
CT6904A-3		Yes	800 Arms	DC to 2 MHz	±0.025% rdg ±0.009% f.s.	φ32 mm (1.26 in.)	10 m (32.81 ft)	-10°C to 50°C 14°F to 122°F
CT6876A		Yes	1000 Arms	DC to 1.5 MHz	0.04 % rdg ±0.008 % f.s.	φ36 mm (1.42 in.)	3 m (9.84 ft)	-40°C to 85°C -40°F to 185°F
CT6876A-1		Yes	1000 Arms	DC to 1.2 MHz	0.04% rdg ±0.008% f.s.	φ36 mm (1.42 in.)	10 m (32.81 ft)	-40°C to 85°C -40°F to 185°F
CT6877A		Yes	2000 Arms	DC to 1 MHz	0.04% rdg ±0.008% f.s.	φ80 mm (3.15 in.)	3 m (9.84 ft)	-40°C to 85°C -40°F to 185°F
CT6877A-1		Yes	2000 Arms	DC to 1 MHz	0.04% rdg ±0.008% f.s.	φ80 mm (3.15 in.)	10 m (32.81 ft)	-40°C to 85°C -40°F to 185°F
Clamp type sensors								
9272-05		Yes	20 Arms, 200 Arms	1 Hz to 100 kHz	±0.3% rdg ±0.01% f.s.	φ46 mm (1.81 in.)	3 m (9.84 ft)	0°C to 50°C 32°F to 122°F
CT6841A		Yes	20 Arms	DC to 2 MHz	±0.2% rdg ±0.01% f.s.	φ20 mm (0.79 in.)	3 m (9.84 ft)	-40°C to 85°C -40°F to 185°F
CT6843A		Yes	200 Arms	DC to 700 kHz	±0.2% rdg ±0.01% f.s.	φ20 mm (0.79 in.)	3 m (9.84 ft)	-40°C to 85°C -40°F to 185°F
CT6844A		Yes	500 Arms	DC to 500 kHz	±0.2% rdg ±0.01% f.s.	φ20 mm (0.79 in.)	3 m (9.84 ft)	-40°C to 85°C -40°F to 185°F
CT6845A		Yes	500 Arms	DC to 200 kHz	±0.2% rdg. ±0.01% f.s.	φ50 mm (1.97 in.)	3 m (9.84 ft)	-40°C to 85°C -40°F to 185°F
CT6846A		Yes	1000 Arms	DC to 100 kHz	±0.2% rdg ±0.01% f.s.	φ50 mm (1.97 in.)	3 m (9.84 ft)	-40°C to 85°C -40°F to 185°F
Direct-wired type sensors								
PW9100A-3		Yes	50 Arms	DC to 3.5 MHz	±0.02% rdg ±0.005% f.s.	M6 screw terminals	3 ch	0°C to 40°C 32°F to 104°F
PW9100A-4		Yes	50 Arms	DC to 3.5 MHz	±0.02% rdg ±0.005% f.s.	M6 screw terminals	4 ch	0°C to 40°C 32°F to 104°F

\*When using PW8001





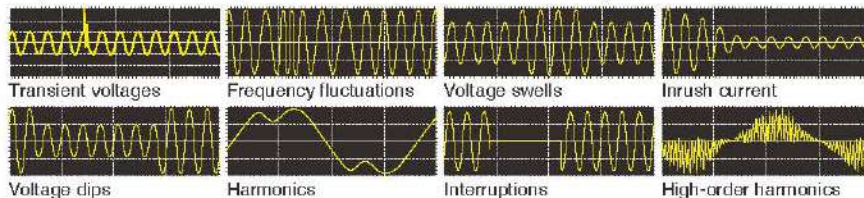
Power anomalies are a major cause of equipment malfunction and damage. The PQ3198 detect power supply abnormalities without fail to help diagnose the cause of problems.

## POWER QUALITY ANALYZER PQ3198

Monitor power quality and analyze the cause of equipment issues

- Class A compliance (IEC61000-4-30)
- Basic voltage measurement accuracy of  $\pm 0.1\%$
- High-voltage, wideband performance
- Two-circuit measurement
- Simple inverter measurement
- DC, 50Hz, 60Hz, 400Hz line measurement
- GPS time synchronization
- Extensive array of event measurement parameters

Capture all of these power anomalies simultaneously



## CLAMP ON POWER LOGGER PW3365

Accurately measure power consumption, also available with non-contact voltage sensor for added safety

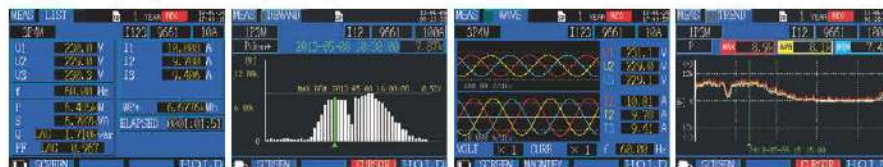
- Dedicated voltage sensor delivers non-metallic contact testing
- Voltage measurement up to 520V
- Simple, fast and reliable measurement using QUICK SET function
- Store months of data on SD cards

Safely avoid contact with live parts



SAFETY VOLTAGE SENSOR PW9020

Toggle displays to easily verify data



List display

Demand Graph

Waveform

Trend Graph





## MEMORY HiCORDER MR6000

200MS/s high speed measurement with isolated inputs  
Save long-term measurements in real-time

- 200MS/s high-speed isolated measurement with U8976 Analog Unit
- Measure 32 channels simultaneously with U8975 4ch Analog Unit
- Capture a wide variety of signals such as voltage, current, temperature, vibration, logic, etc.
- SSD, HDD, USB3.0, SD, PC interfaces
- High-speed, real-time save of 1MS/s data across all 32 channels to SSD
- 12.1" touchscreen
- Optional power supply for current probes
- Calculate waveforms while measuring with digital filters (MR6000-01)

### Measure inverter signals at high speeds of 200MS/s



Achieve 200MS/s x 16 channels of high speed, isolated measurements with 8 units of U8976

### Multi-channel testing ideal for ECU development



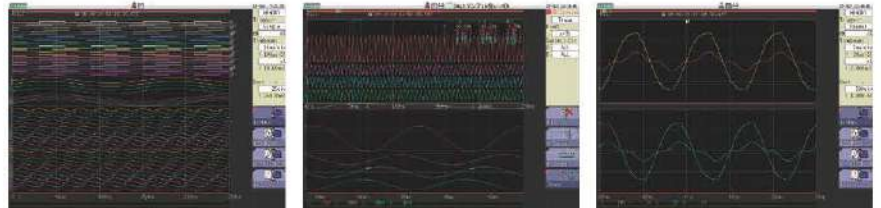
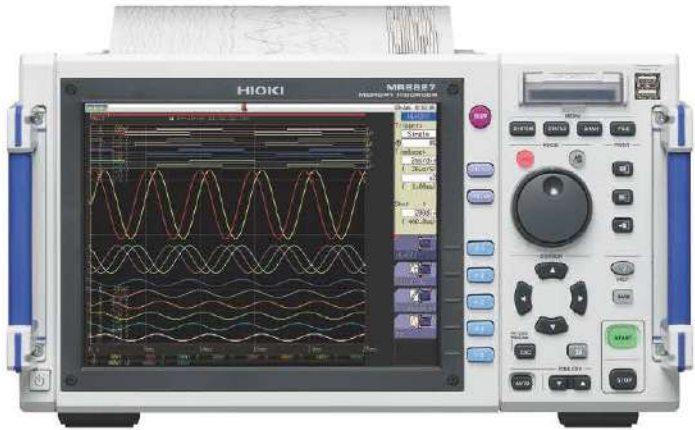
Measure 32 channels all simultaneously at a speed of 5MS/s with 8 units of U8975

### Eliminate specific frequency noise



MR6000-01's real-time digital filter calculation function lets you measure waveforms that exclude noise from specific frequencies





## MEMORY HiCORDER MR8827

Perfect for multi-channel waveform recording

- Analog 32ch + Logic 32ch to Analog 28ch + Logic 64ch
- Max. 20MS/s simultaneous sampling across all channels
- Isolated input on all channels ensures safety
- Built-in 512MW memory
- Measure signals of multiple systems at the same time
- Ideal for utilities and power generation (thermal / hydro / solar & wind power generation)



## MEMORY HiCORDER MR8847A (MR8847-51/52/53)

Combine waveform recording  
and generating functions for simulation testing

- Compatible with new ARBITRARY WAVEFORM GENERATOR UNIT (U8793)
- Analog 16ch + Logic 16ch to Analog 10ch + Logic 64ch
- Max. 20MS/s simultaneous sampling across all channels
- Isolated input on all channels ensures safety
- 3 memory capacities: 64MW (-51) / 256MW (-52) / 512MW (-53)
- Ideal for heavy electromechanical applications (motors, transformers, inverters, UPS, switching power supplies)

## NON-CONTACT AC VOLTAGE & CAN BUS SENSORS SP3000 / SP7000

Measure signals at the wiring harness

- Measure CAN bus or AC voltage signals on the insulated conductor
- Precise CAN FD and CAN signal sensing over the cable insulation (SP7000)
- Observe waveforms with an oscilloscope or a recorder by visualizing signals from electric equipment simply by applying the probe to the wire's insulation (SP3000)
- Highly functional design for measurements even in difficult to access areas
- Ideal for measuring signals from electric equipment on vehicles



SP3000

SP7001-90





## MEMORY HiCORDER

# MR8875

1000 V direct input multi-channel portable logger

- Portable A4 compact size (Analog 16ch + Logic 8ch + Pulse 2ch)
- 1000 V input (DC or RMS) with new Analog Unit MR8905
- Max. 2  $\mu$ sec high-speed simultaneous logging across all input channels
- CAN-Bus signal input for vehicle testing
- Ideal for automotive testing (EV/HEV motors, ECU, batteries)
- Railway, ship and avionic applications



## MEMORY HiCORDER

# MR8880

Rugged, professional and ready for the field

- 4 completely isolated channels (3-phase power line + 1 extra channel)
- CAT III 600V isolation performance; directly measure a 480V power line
- Tough against harsh environments (-10°C to 50°C)
- Geared for electrical maintenance and service applications

## MEMORY HILOGGER

# MR8870

Recording of RMS variations in a single device

- New mode for recording RMS fluctuations in addition to waveform mode
- Synchronize 2 units to create a 4-channel recorder via PC application
- Powerful analysis in a compact and easy-to-carry device
- Ideal for on-the-go maintenance work







Plug-in units U855x (5 types)  
(Compatible with both LR8450 and LR8450-01)



Wireless units LR853x (use with LR8450-01)



Wireless CAN unit LR8535

Simultaneously observe analog data such as voltage and temperature along with CAN data in real time.

## MEMORY HILOGGER LR8450 series

Portable 330ch Data Logger with Wireless & Plug-in Units

- Measure dynamic strain wirelessly at 1 ms sampling rate
- Connect max. 11 units simultaneously (7 wireless units & 4 plug-in units)
- Voltage / Strain / Temperature / Humidity / Resistance / CAN signals
- Ideal for onboard-testing of vehicles and other field applications
- Control the logger remotely and download data files to a computer



## WIRELESS LOGGING STATION LR8410

Wireless multi-channel data logging via Bluetooth®

- DC Voltage / Temperature / Humidity / Pulse / Current / Resistance / Rotation
- 15ch to 105ch isolated input wireless logger
- Connect up to 7 logging modules with easy configuration
- High-speed 100 ms sampling across all channels
- Eliminate long wires and reduce noise effects



## MEMORY HILOGGER LR8431 / LR8432

LR8431: Portable 10ch Data Logger

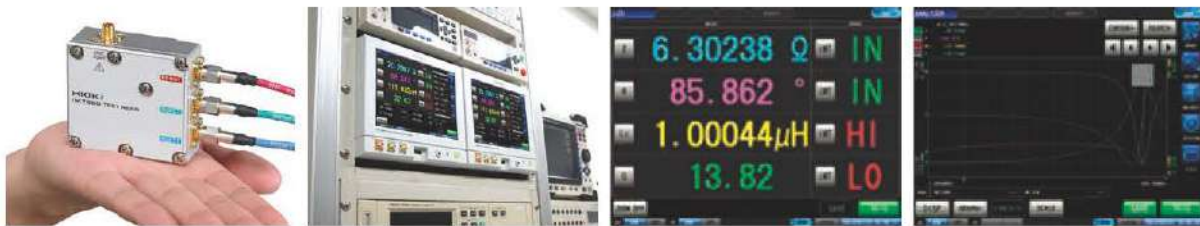
- DC Voltage / Temperature / Pulse / Rotation
- 10 ms sampling and recording across all channels

LR8432: Simplify heat flow measurement

- Ideal for evaluating insulation performance and temperature change
- Visualize the underlying causes of temperature change



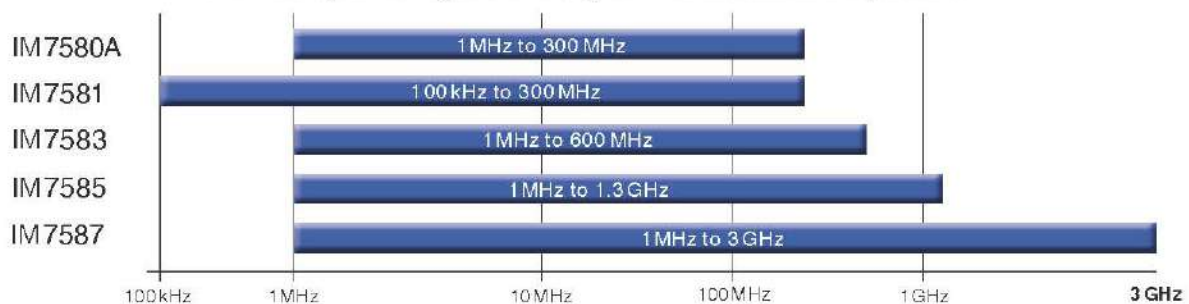




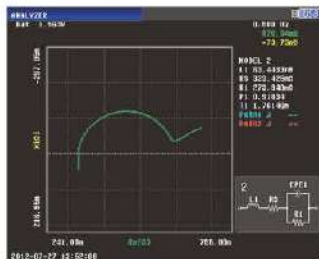
## IMPEDANCE ANALYZER IM758x series

- Impedance Analyzer Mode / LCR Measurement Mode
- 0.5 ms high-speed testing (analog measurement time)
- High stability measurement: 0.07% variation of the measured value (typical)
- Equivalent circuit analysis (5 types)
- Contact check function ensures reliable testing
- For high-frequency inductors and capacitors
- For common-mode filters / ferrite bead arrays / power inductors

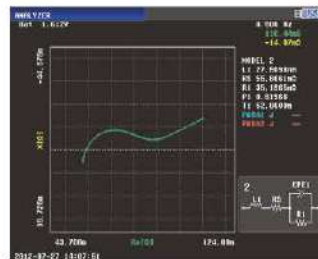
A rich lineup covering a wide range of measurement frequencies







Cole-Cole plot



Electrochemical equivalent circuit analysis

## CHEMICAL IMPEDANCE ANALYZER IM3590

1 mHz to 200 kHz measurement frequency

- Measure internal impedance of battery cells thanks to automatic adjustable DC Bias
- Measure LCR impedance for Cole-Cole plots and equivalent-circuit analyses of electro-chemical components and materials
- Easy operation with 5.7" touch display
- Basic accuracy of  $\pm 0.05\%$



## LCR METER IM3536

DC, 4 Hz to 8 MHz measurement frequency

- The new standard for high-speed and high-stability LCR meters
- High  $\pm 0.05\%$  rdg. precision and 1 ms high-speed testing
- Built-in contact check function and guaranteed accuracy range from 1 m $\Omega$  deliver high reliability
- For capacitors and inductors, resistors and electronic components
- Simplifies the process of building production lines



IM523

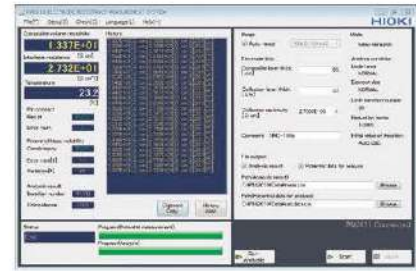
IM3533

## LCR METER IM3523 / IM3533

IM3533: DC, 1 mHz to 200 kHz  
IM3523: DC, 40 Hz to 200 kHz

- High  $\pm 0.05\%$  rdg. accuracy and 2 ms measurement time
- For capacitors, inductors, resistors and electronic parts
- IM3533: Ideal for winding coil and transformer production lines to measure turn ratio N, mutual inductance M, and inductance difference  $\Delta L$  using DCR measurement with temperature compensation, R&D, and electrochemical applications
- IM3523: Perfect for integration into production lines and automated testing

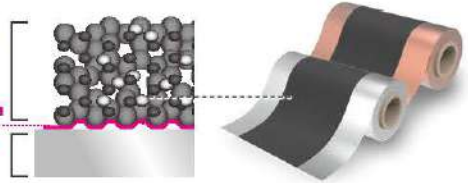




Enlarged view of probes



Electrode sheet diagram  
 Composite layer  
 Interface between composite and current collector  
 Current collector



## ELECTRODE RESISTANCE MEASUREMENT SYSTEM RM2610

Quantify composite layer resistance and interface resistance in Li-ion battery electrode sheets

- Measure composite resistivity [ $\Omega\text{cm}$ ]
- Measure interface resistance between the composite layer and current collector [ $\Omega\text{cm}^2$ ]



Multiplexer Unit Z3003

## RESISTANCE METER RM3544 / RM3545

High-accuracy, Low Resistance Meter

- RM3545 : Wide Range 10 mΩ to 1000 MΩ DC Resistance Meters with Multiplexer Option for High-speed Multi-point Testing
- RM3544 : Wide Range 30 mΩ to 3 MΩ DC Resistance Meters with Temperature Correction for High Speed Testing on Production Lines
- Measurement speed : 2.2 ms (RM3545), 18 ms (RM3544)
- Resolution : 0.01  $\mu\Omega$  (RM3545), 1  $\mu\Omega$  (RM3544)



## RESISTANCE METER RM3548

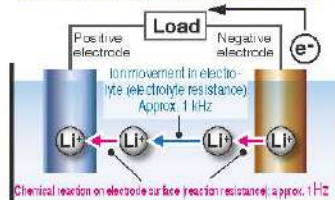
High-precision Portable Low Resistance Meter

- 0.02% basic accuracy
- 0.1  $\mu\Omega$  best resolution, 1A maximum measured current
- Max. 3.5 MΩ measurement range
- Easy operation and easy recording of up to 1000 data sets
- Portable design ideal for maintenance and testing of large equipment



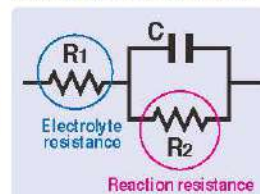


Conceptual diagram of a battery



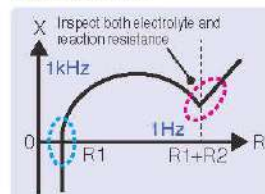
Lithium ions move between electrodes through the electrolyte

Battery equivalence circuit



Measurement at low frequency reveals the reaction resistance of the battery

Cole-Cole Plot



## BATTERY IMPEDANCE METER BT4560

Determine Li-ion battery reliability in just 10 seconds

- Low-frequency AC-IR measurement to manage reaction resistance
- Evaluate cell output characteristics with AC-IR measurement as an alternative to inspecting charge/discharge output characteristics (DC-IR)
- Variable measurement frequency (0.1 Hz to 1050 Hz)
- Up to 5 V of allowable input voltage (for Li-ion battery cells)
- Extremely reliable measurements for low-impedance batteries
- Simultaneous measurement of impedance and voltage
- Create Cole-Cole plots using bundled software



BT3561A: Small cells for power motors Small packs of up to 60 V  
 BT3562A: Large cells for xEVs Mid-size packs of up to 100 V  
 BT3563A: Large packs for xEVs or Large packs of up to 300 V  
 BT3564: Extra large packs for xEV, ESS 1000 V high voltage model

\*Excluding BT3564

### BATTERY HiTESTER

## BT356xA series / BT3564

Designing automatic battery testing systems is easier and faster than ever before

- Double the total line resistance, so measurement errors are less likely to occur when using long measurement cables\*
- Stable operation regardless of increased total line resistance due to probe and relay degradation\*
- LAN is equipped as a standard for easy system design and layout, and excellent noise resistance for stable operation\*
- Improved electrostatic resistance as a countermeasure against electrostatic charges during battery transport on a production line\*

### BATTERY TESTER

## BT3554 series

Streamline UPS and lead-acid battery diagnostics with measurement and recording guidance

- Most popular portable battery tester for large lead-acid and UPS batteries
- Measure and save data in 2 seconds
- Comparator function for quick pass / fail / warning decision
- Wireless communications (when the Z3210 is connected)



9465-10

L2020

Bluetooth  
When Z3210 is installed



BT3554-50: Instrument only  
 BT3554-51: 9465-10 bundle  
 BT3554-52: L2020 bundle





# IMPULSE WINDING TESTER ST4030A

Diagnose the insulation quality and deterioration of rotor windings while in assembled state via response waveform quantification

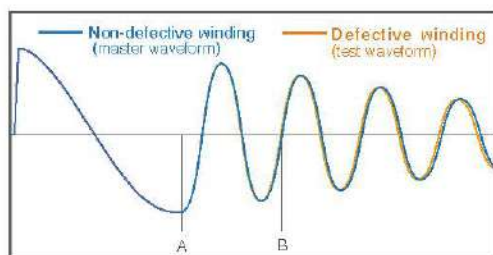
- Identify previously undetectable defects
- Detect waveforms with high precision (200 MHz high speed sampling × high 12-bit resolution)
- Identify single-fault turns via quantification of response waveforms
- Diagnose defective insulation (pseudo-shorts) between motor windings by testing for microscopic partial discharges hidden in noise (option)
- Applied output voltage up to 4200 V

Detect hard to identify shorts among even just a few turns

## Conventional approach

Area comparison based on waveforms

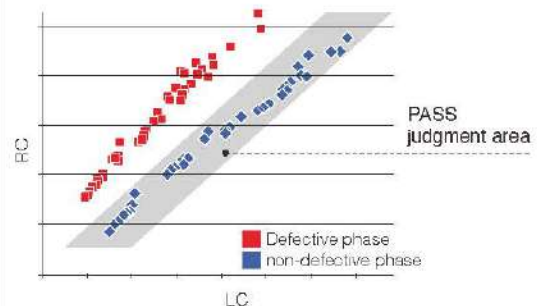
Area comparison for single-turn fault



## New approach

Quantification of response waveforms

LC and RC value distribution in fault state







## LEAK CURRENT HiTESTER ST5540 / ST5541

ST5540: Leakage Current Testing for medical electrical equipment  
ST5541: For general electrical equipment

- Ground leak current, contact leak current, patient leak current, total patient leak current
- IEC 60601-1, IEC60990 (ST5540), IEC60950-1, IEC60835-1, IEC 60065 (ST5540, ST5541), etc.
- Automatically test using the uninterruptible polarity switching function
- Support for rated currents up to 20 A designed to comply with new standards
- USB interface and external I/O support enable automatic testing on production lines



## INSULATION TESTER ST5520

Industry's fastest testing speed (Max. 50 ms)

- Freely configurable test voltage (set from 25 V to 1000 V)
- High-speed auto discharge function
- Short-circuit check function (stop potential defects)
- Contact check function (prevent errors due to poor contact)



## AUTOMATIC INSULATION / WITHSTANDING HiTESTER 3153 / 3174

AC/DC Hi-Pot Tester (Electrical Safety Test)

- Withstanding voltage: 5 kV / 500 VA AC/DC (3174 AC only)
- Insulation resistance test voltage: 50 V to 1200 V DC (1 V step)
- Full remote control from a PC (Voltage / Comparator / Timer)
- Can be saved 32 ways with programmable test settings
- Model 3153 connectable with dedicated scanner Model 3930





### INSULATION TESTER IR4057-50

- 5 ranges from 50 V / 100 MΩ to 1000 V / 4000 MΩ
- CAT III 600V / EN61557 compliant
- Fast PASS / FAIL decision 0.3 sec
- Bright LED backlight
- Auto ACV/DCV detection (600V range)
- Wireless communications (when the Z3210 is connected)



### ANALOG MΩ HITESTER 3490

- 3 ranges from 250 V / 100 MΩ to 1000 V / 4000 MΩ
- CAT III 600 V / EN61557 compliant
- Convenient integrated case (including test leads)
- AC voltage measurement



### INSULATION TESTER IR4053

- 5 test ranges from 50 V / 100 MΩ to 1000 V / 4000 MΩ
- Insulation resistance meter and PV panel insulation tester all in one unit
- Non-short-circuit measurement method of IEC 62446 (PV panel mode)
- High speed display (PV mode: 4 sec.)
- EN61557 compliant



### INSULATION TESTER IR3455

- Measure insulation of high-voltage equipment (such as transformers, cables, and motors)
- Wide testing voltage range, up to 5.00 kV from 250 V DC
- Wide measurement insulation range, up to 10 TΩ
- PI (Polarization Index) and DAR (Dielectric Absorption Ratio) automatically calculated / display
- Data memory function to reduce handwritten notes
- Bright LED luminous scale
- Extended operating temperature range of -10 °C to 50 °C





### AC CLAMP METER 3280-10F/20F

- Pocket AC clamp meter with optional flexible clamp sensor attachment
- 3280-10F (MEAN)
- 3280-20F (True RMS)
- Wide 42.00 A AC to 1000 A AC range
- AC/DC voltage and resistance
- Compact and only 16mm thin
- $\phi$  33 mm, CAT III 600V (current)

### AC CLAMP METER CM3289

- New redesigned sensor for even easier clamping
- Expanded -25 °C to 65 °C operating temperature range
- Measure even harmonic waveform components using the True RMS method
- Connected the CT6280 flexible sensor to measure up to 4199 A in thick or paired wires

### AC CLAMP METER CM4141-50

- Easily get into tight spaces between cables thanks to thin sensor with a minimum cross-section of 11 mm
- Measure up to 2000 A AC
- Expanded -25 °C to 65 °C operating temperature range
- Wireless communications (when the Z3210 is connected)



### AC/DC CLAMP METER CM4375-50

- Easily get into tight spaces between cables thanks to thin sensor structure
- Measure up to 1000 A
- Automatic AC/DC function helps boost work efficiency
- Simultaneously measure inrush current in RMS and crest values
- Expanded -25 °C to 65 °C operating temperature range
- 3-year guarantee
- Wireless communications (when the Z3210 is connected)



### AC LEAKAGE CLAMP METER CM4002 / CM4003

- For leakage current measurement
- 6 ranges (0.060 mA AC to 200.0A AC)
- Supports up to  $\phi$  40 mm conductors
- Frequency testing
- True RMS
- CAT IV 300V, CAT III 600V (CM4002)
- CAT III 300V (CM4003)
- External output, External power supply (CM4003 only)
- Wireless communications (when the Z3210 is connected)



### AC CLAMP POWER METER CM3286-50

- Display four parameters simultaneously
- A handheld power meter that measures from 5 W of power and 60 mA of current
- Measure power ranging from 5 W at a low current of 60 mA to 360 kW
- In addition to current, voltage, and power, measure simple integral power consumption and phase sequence
- Features and functions deliver fast and efficient testing
- Wireless communications (when the Z3210 is connected)







### DIGITAL PHASE DETECTOR PD3259-50

- Non-metallic contact voltage detection and testing
- Simply clip onto wire insulation
- Phase detection check and line-to-line voltage inspection at the same time
- Easy and intuitive phase detection check with backlight and buzzer
- Wireless communication (when the Z3210 is connected)



Bluetooth

When Z3210 is installed



### PHASE DETECTOR PD3129-10

- Simply clip clamps onto wire insulation
- Green LED arrow clearly shows phase direction, perfect for visual reports
- Rotating LED indicator shows the phase sequence for a 3-phase power supply at a glance
- Intermittent beeps signal positive phase; continuous tone signals reverse phase

### LUX METERS / BYPASS DIODE TESTER



### LUX METER FT3424 / FT3425

- Compatible with LED lighting
- Complies with DIN 5032-7:1985 class B and JIS C 1609-1:2006 general AA class
- Timer hold function lets you make measurements in remote locations while avoiding the effects of shadows and reflections



### BYPASS DIODE TESTER FT4310

- Inspect solar panel diodes for open and short-circuit faults even in broad daylight
- Built-in wireless Bluetooth® technology to transfer data and create reports live
- Save time - measure all electrical parameters simultaneously\*  
\*Open-circuit voltage, Short-circuit current, Bypass route resistance





**DIGITAL MULTIMETER DT422X**

Pocket DMM with CAT IV 300V / CAT III 600V safety



**DIGITAL MULTIMETER DT425X**

Standard DMM that delivers top safety and reliability - General purpose multimeters with rich measurement functions



**DIGITAL MULTIMETER DT4261**

Go wireless with the Z3210. For trouble analysis in the field.



**DIGITAL MULTIMETER DT428X**

Superior accuracy and high response, topped with safety terminal shutters

**EARTH TESTERS**



**CLAMP ON EARTH TESTER FT6380-50**

- For grounding resistance measurement
- Thinnest and lightest core in industry
- True RMS, CAT IV 600 V
- Memory to store 2000 data sets
- Wireless communication (when the Z3210 is connected)



**EARTH TESTER FT6031-50**

- 2-pole method / 3-pole method
- 3 ranges (20.00 Ω to 2000 Ω)
- EN61557 compliant
- IP67 (dustproof and waterproof)
- Completely submersible in water
- Automatically check cable breaks
- CAT II 300 V / CAT III 150 V
- Wireless communication (when the Z3210 is connected)



**ANALOG EARTH TESTER FT3151**

- Three-electrode method, Two-electrode method
- Wide measurement range for 0 to 1150 Ω, based on EN standard
- Switchable measurement frequency to reduce the effects of power supply harmonics
- Dramatically faster setup: Includes improved grounding rods and cord winders



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