

# **Electrical Measuring Instruments**

test and measurement solutions for R&D, manufacturing, utilities and maintenance





In Dantell













# **New from HIOKI**

## PW3198



Power Quality Analyzer Class A power quality testing over 4 voltage and 4 current channels

## MR8880-20



Memory Recorder CAT III 600V safety lets you directly measure 480V power lines over 4 isolated channels



Leak Current Testers IEC 60601-1:2005 3e-compliant testers for medical- and general-use devices

FT6380 Series

Clamp On Earth Tester Lightweight, slim jaw ground clamp for multiple grounding use

# LR8400 Series



Memory Loggers Up to 60 channels of voltage, temperature, resistance, humidity or pulse logging



Memory Recorder Ideal for onboard vehicle testing up to 16 isolated channels

## IM3523/IM3533



LCR Testers High-speed LCR testing up to 200kHz in 3 different configurations



Tachometers Non-contact and contact rotation, cycle and count testing with optional output

## MR8847<u>Series</u>



Memory Recorders 20MS/s of simultaneous sampling over 16 fully isolated channels



Impedance Analyzer High-speed LCR and DCR testing and sweep measurements from 4Hz to 5MHz



Battery Testers 6DCV to 60DCV or 300DCV battery testing with 4ms test time



2-beam laser marker, 2 field diameters, MAX/MIN/AVG/MAX-MIN

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4MB of internal memory

USB interface for data download Large, brilliant LCD screen lets you view event list and waveforms in a single window

## Multilingual display

Select from four languages, including Japanese and English.

- > 1P2W to 3P4W
- Monitor inrush current, voltage swell, voltage dips, transient over-voltage, interruptions

**PW3198** 

LAN and

**USB2.0** 

interfaces

Store data

in

2GB SD Card

- Measure and record power and power factor, active/ reactive energy, demand, load fluctuation (with graph display), voltage and current
- PC software bundled
- Measure kWh

- 1P2W to 3P4W
- >50/60/400Hz measurement
- GPS clock synchronization (optional)
- Power factor, sags, swells, flicker, transients
- Harmonics to the 50th order
- Accurate high speed transient capture at 2MHz sampling
- Detection and waveform display
- Four current and four voltage channels
- Advanced PC software
- High harmonic



Record from a minimum of

100 msec up to 60 minute

intervals

## Multilingual display

RS-232C interface

#### PC Card slot

- > 3P4W from 0.5A up to 1000A, and 75W to 9MW
- Power factor, integrated power, harmonics, demand
- Active power, reactive power, apparent power, frequency
- Optional advanced PC software

### Model 3169-21:

With D/A output





Data updates every 50ms



10 isolated channels + 4 pulse inputs





Large-capacity 2GB CF cards hold more than 327 days of data taken across all 10 channels or save directly to USB memory stick

- I0ms to 1 hour interval sampling over all 10 channels
- Directly log up to 60V DC
- > Voltage, temperature (thermocouple or Pt sensors), pulse, rotation
- Power with AC adapter, battery pack or 12V battery
- Bundled Logger Utility data collection software



USB data storage and PC connectivity make data management a snap

#### LR8400 Series Memory Hiloggers LR8401-20 with 30 built-in voltage/ temperature push button channels Push-button type terminals × 15 Push-button type terminals x 15 Mix-and match 1 or 2 more input modules for up to 60 simultaneous channels LR8402-20 with 15 built-in M3 screw and 5.7" bright LCD 15 built-in push button channels Push-button type terminals × 15 M3 screw terminals × 15 Log for over 500 days at 10s intervals over 30 channels LR8400-20 with 30 built-in M3 screw

High withstand voltage characteristics strong enough for battery testing

- > 10ms high-speed sampling
- Voltage, temperature (thermocouple or Pt sensors), resistance, humidity, pulse, rotation, logic
- Enhanced noise suppression
- Swap out USB memory or CF card while measuring
- 16MB of internal memory
- Bundled Logger Utility data collection software



8.4" high definition touch screen that rotates according to cabling needs

Only 5 buttons to minimize dirt buildup

Save data in real-time to SD Card, transfer to PC via USB or LAN

- Ideal solution for in-vehicle and road tests
- 16-bit A/D resolution
- > 32MW internal memory
- > 500 kS sampling across all 16 channels simultaneously
- ▶ Wide -10 °C to 50 °C operating temperature range
- Meets industrial vibration standards
- Supports CANbus signals
- Web server and FTP via LAN

HIOK

Up to 16 analog and 64 logic

channels with mix-and-match plug-in input modules

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Web server and FTP via LAN

Bundled viewer software

LAN, USB, CF Card x 2, GP-IB, SVGA interfaces



Equivalent Circuit

Analysis Software

High-speed and double parameter testing ideal for production lines

5.7" Color LCD with energy-saving shut-off feature

USB, GP-IB, External I/O. RS-232C

> 0.5msec test time improves efficiency

> > IM9



> 4Hz to 5MHz. 5mV to 5V ±0.08% accuracy DC bias measurement, comparator, panel

loading/saving, memory, DCR mode > Test piezoelectric elements (sweep and LCR), functional polymer capacitors (C-D and low ESR), and coils and transformers

Software application

for the IM3570 to simply the detailed

analysis of electronic

components

ImHz to 200kHz

- ▶ ±0.08% accuracy
- C-D + ESR and L + DCR with temperature compensation
- > 2ms high-speed testing
- > 5mV to 5V/2.5V and CV signal
- Comparator, BIN measurement
- 4-terminal contact check
- ✤ 5 to 5V DC Bias measurement IM3533-01 only:
- > Even more precise ±0.05% accuracy
- Frequency sweep

# IM3533/IM3533-01

**Optional LAN**, **GP-IB** and **RS-232C** interfaces

> **Dedicated modes** for transformer and coil measurements

Touch-screen color display

**Built-in USB** data transfer and External I/O



- Optional LAN, GP-IB and **RS-232C** 
  - > 40Hz to 200kHz
  - C-D + ESR and L + DCR
  - > 2ms high-speed testing
  - ±0.08% accuracy
  - 5mV to 5V and CV signal
  - Comparator, BIN measurement
  - 4-terminal contact check



contact resistance







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## Innovative sliding cover system lets you store test leads while connected



		Analog Insulation Resistance				Digital Multi-range Insulation		
		Single range			Multi-range	Resistance		
		IR4016-20	IR4017-20	IR4018-20	3490	3455	IR4056-20	IR4057-20
Insulation Testing	50V						100 MΩ	100 MΩ
	125V						250 MΩ	250 MΩ
	250V				100 MΩ	250GΩ	500MΩ	500MΩ
	500V	100 MΩ	1 GΩ		100 MΩ	500GΩ	2000MΩ	2000MΩ
	1000V			2 GΩ	4 GΩ	1.00ΤΩ	4000MΩ	4000MΩ
	2500V					2.50ΤΩ		
	5000V					5.00ΤΩ		
Rated Current/ Short Circuit Current		1mA (Tolerance: 1 to 1.2 times of the rating value)				2mA	1.2mA	
AC V	Testing	0 to 600 V (50/60 Hz)			50 to 750V	420V/600V		
DCV Testing						±50V to 1.00kV	4.2V to 600V	
Best Accuracy		±5% of maximum scale value				±5% rdg. ±5dgt.	. ±2.3% rdg. ±8 dgt. (ACV)	



Step voltage testing, temperature compensation, temperature measurement, and leakage current



2-pole or 3-pole method for testing earth resistance

3151

**Earth Testing** 

Selectable frequency range

10 to 1000Ω

1000Ω ranges

15m AC A

2-wire measurement method on 100Ω &

measurement current



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# Open jaw with one hand





Tough carrying case included

 $> 0.20\Omega$  to 1600 $\Omega$ , ±1.5% rdg. best accuracy

- 20mA to 60A current testing
- Measurements update every 1/2 second

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DISTRIBUTED BY

- IP40 dust and moisture protection
- 35 hours of continuous use

Advanced engineering and circuitry means no zero adjustment is required

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HOKI FT6380 AMP ON EARTH TESTER

CAT

Bluetooth® connectivity for wireless data transfer to Android™ phones (FT6381)

All of the products appearing in this catalog are CE marked unless otherwise indicated. HIOKI products labeled with the CE marking are designed for fulfillment of these over-voltage category requirements. In order to ensure safe use of this instrument, please use a device showing the CAT marking that is appropriate for the place of use

In some cases, power lines may carry voltage spikes of several times the normal supply voltage. For reasons of safety, ordinary testers should not be used to measure power lines carrying more than 250V. When measuring such power lines, always use a tester with built-in overcurrent protection to guard against short circuits, such as Model 3008 and a device showing the CAT III marking.

Note: The term "power line" refers to the entire electrical circuit providing power to factories, buildings and industrial machines. However, it does not include electrical circuits in ordinary dwellings. (lines protected by fuses or circuit breakers).

1. To avoid short circuits and electric shock accidents when using a clamp-on sensor, use only with power lines carrying voltages within the rating limit of the sensor 2. To avoid short circuits and electric shock accidents when the clamp-on sensor is open, do not use on bare conductors.

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