High Accuracy Power Analysis.
Anywhere, Anytime.
High Accuracy and Mobility. A New Value for Power Analysis.

The first-generation Power Analyzer 3390 debuted in 2009 with a collection of the latest measurement technologies packed into a compact design.

Pair with Hioki current sensors and take them anywhere to immediately make highly accurate measurements.

This was the unique value of the 3390.

Now, Hioki has enhanced this value while refining the measurement technology even further.

Proper accuracy and bandwidth to precisely measure inverter output.
Phase shift function for the exact measurement of high frequency, low power factor power.
A broad current sensor lineup that expands the range of measurement possibilities.

Refinements that empower you to conduct precise power analysis in any situation.
Complete Pursuit of Measurement Accuracy and High Frequency Characteristics

The PW3390 delivers 4 input channels and ±0.04% basic accuracy for power - the top instrument in its class. Achieve more precise measurements of the power and efficiency of high efficiency equipment used in power electronics. Further, a 200 kHz measurement band and flat amplitude and phase characteristics up to high frequencies enable the precise measurement of power at top frequency levels and low power factor.

Power Analysis Engine That Achieves High-Speed Simultaneous Calculation on 5 Systems

Precisely capture input waveforms with 500 kS/s high-speed sampling and a high resolution 16-bit A/D converter. The power analysis engine performs independent digital processing for 5 systems: period detection, wideband power analysis, harmonic analysis, waveform analysis, and noise analysis. High-speed simultaneous calculation processing enables both precise measurements and a 50 ms data refresh rate.


High Accuracy Pass-Through Sensor
Pass-through sensors deliver accuracy, broad-band performance, and stability. Measure currents of up to 1000 A with a high degree of accuracy across a broad range of operating temperatures.

High Accuracy Clamp Sensor
Clamp for quick and easy connections. Conduct extremely accurate measurements of large currents to a maximum of 1000 A over a wide operating temperature range.

High Accuracy Direct Wiring Sensor
Newly developed DCCT method delivers expansive measurement range and superior measurement accuracy at a rating of 50 A.

Scan QR Code to Watch a Video of our Full Lineup of Current Sensors

Scan QR Code to Download Technical Brief About Current Sensor Phase Shift
In the Laboratory or in the Field

Take Highly Accurate Measurements Even in Tough Temperature Conditions
Severe temperature environments, such as engine rooms with intense temperature changes and constant temperature rooms, can hinder high accuracy measurements. The extremely accurate pass-through and clamp type sensors both feature excellent temperature characteristics and a wide operation temperature range to help address these challenges.

Max. 6000 A Measurement on 50 Hz/60 Hz Lines
The CT7040 AC FLEXIBLE CURRENT SENSOR series can measure commercial power lines up to 6000 A, including solar power conditioner output. Even thick cables can be wired easily among crowded wiring or in narrow locations.

Achieve High Accuracy Measurement Even in the Field
Dramatically compact and light-weight form factor achieved by concentrating the calculation functions in the power analysis engine. Highly accurate measurements normally achieved in the laboratory are now also possible in the field.

Acquire Data from up to 8 Synchronized Units (32 Channels)
When you connect CONNECTION CABLE 9683 to multiple PW3390 units, the control signals and internal clocks synchronize. From the master unit, you can control the measurement timing on the PW3390 units that are set as slaves. With interval measurement, you can save synchronized measurement data to a CF card or a PC to achieve simultaneous measurements across a larger number of systems.

External Power Supply Not Needed for Sensor Connections
Power can be supplied to the current sensor from the main unit, so there is no need to provide a separate external power supply for the current sensor. Connected sensors are recognized automatically, for reliable and quick measurements.

Wiring Displays and Quick Setup Lets You Begin Measuring Immediately
Perform wiring while checking wiring diagrams and vectors on the screen. Optimum settings are performed automatically simply by selecting a connection and using the quick setup function.

Extensive Interface for Linking with External Devices
Wide variety of built-in interfaces, including LAN, USB (communication, memory), CF cards, RS-232C, synchronization control, and external control. D/A output* delivers analog output at 50 ms for up to 16 parameters. The voltage and current waveform** for each channel can also be output.

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* Built-in for PW3390-02 and PW3390-03
** During waveform output, accurate reproduction is possible at an output of 500 kS/s and with a sine wave up to 20 kHz.
Switch Screens with a Single Touch, Accessing a Variety of Power Analysis Methods

The power analysis engine allows the simultaneous, parallel calculation of all parameters. Access a variety of analysis methods simply by pressing the page keys to switch screens.

Vector

Confirm the voltage/current/power/phase angle for each harmonic order on a vector graph and as numerical values.

Waveform

Display voltage/current waveforms for 4 channels at a high speed of 500 kS/s or a maximum length of 5 seconds. Waveform data can be saved.

Harmonics Graph

Display harmonics up to the 100th order for voltage/current/power in bar graphs. Confirm the numerical data for the selected order at the same time.

Efficiency and Loss

Using active power values and motor power values, confirm efficiency \( \eta \) [%] and loss \( W \) and total efficiency for each inverter/motor on a single unit at the same time.

Selection Display

Select 4/8/16/32 display parameters individually for each screen, and summarize them on a single screen.

Noise

Display FFT results for voltage and current as graphs and numerical values, up to a maximum of 200 kHz. This is perfect for the frequency analysis of inverter noise.

Trend

Choose up to eight measurement parameters and display a graph of their variations over time. You can also save a screenshot of the graph.

X-Y Graph

Create inverter characteristic evaluations and motor torque maps. Select the desired parameter to display an X-Y plot graph.
Applications

Measure the Power Conversion Efficiency of Inverters

Highly Accurate and Fast 50 ms Calculation of Power in Transient State

Measure power transient states, including motor operations such as starting and accelerating, at 50 ms refresh rates. Automatically measure and keep up with power with fluctuating frequencies, from a minimum of 0.5 Hz.

Combined Accuracy of Current Sensors Applicable throughout Entire Range

Combined accuracy throughout the entire range is provided through the use of a built-to-order high accuracy pass-through type current sensor. Obtain highly accurate measurements regardless of range, from large to minute currents, even for loads that fluctuate greatly.

Key features

1. Isolated input of voltage and current on each of 4 channels for simultaneous measurement of the primary and secondary power of inverters.
2. Simultaneous measurement of all important parameters for secondary analysis of inverters, such as RMS value, MEAN value, and fundamental components.
3. Easy wiring with current sensors. Reliable confirmation of wiring with vector diagrams.
4. Current sensors reduce effects of common mode noise from inverters during power measurement.
5. Simultaneous measurement of noise components, in addition to the harmonic analysis required for the measurement of inverter control.

Evaluated high-frequency noise from an inverter

The enhanced noise analysis functionality provided by Version 2.00 of the instrument’s firmware lets you perform frequency analysis of noise components from DC to 200 kHz, display and automatically save the top 10 points, and manually save the FFT spectrum. This functionality is an effective tool for evaluating conductive noise from 2 kHz to 150 kHz generated by inverters and switching power supplies.

Visually assess temporal fluctuations in efficiency

The trend display lets you graph user-selected measurement parameters such as efficiency and frequency over periods of time ranging from dozens of seconds to half a month. This capability makes it possible to visually assess fluctuations, including of transient states in which measured values fluctuate abruptly and steady states in which they exhibit minuscule fluctuations. Graphs can be saved as screenshots, and values can be automatically saved.

<table>
<thead>
<tr>
<th>Legacy Model 3390</th>
<th>Model PW3390</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current noise range</strong> [A]</td>
<td><strong>Current noise range</strong> [A]</td>
</tr>
<tr>
<td>3390 current range</td>
<td>PW3390 current range</td>
</tr>
<tr>
<td>±0.145%</td>
<td>±0.16%</td>
</tr>
<tr>
<td>±0.25%</td>
<td>±0.16%</td>
</tr>
<tr>
<td>±0.65%</td>
<td>±0.16%</td>
</tr>
</tbody>
</table>

* High-accuracy specifications are not defined for the built-to-order high accuracy current sensor when used alone.
Analyze and Measure EV/HEV Inverter Motors

Key features
1. Easy wiring and highly accurate measurements with the use of a pass-through type current sensor
2. Simultaneous measurement of all important parameters for secondary analysis of inverters, such as RMS value, MEAN value, and fundamental components
3. 0.5 Hz to 5 kHz harmonic analysis without external clock
4. Total measurement of inverter motors with built-in motor analysis function
5. Measurement of the voltage, torque, rotation rate, frequency, slip, and motor power required for motor analysis with a single unit
6. More precise measurements of electrical components with incremental type encoders

Electric Angle Measurement of Motors (PW3390-03 only) 

The PW3390-03 features a built-in electric angle measurement function required for vector control via dq coordinate systems in high-efficiency synchronized motors. Make real-time measurements of phase angles for voltage and current fundamental wave components based on encoder pulses. Further, zero-adjustment of the phase angle when induced voltage occurs allows electric angle measurement based on the inductive voltage phase. Version 2.00 of the firmware introduces the ability to display and manually set phase zero-adjustment values, making it possible to measure electrical angles using a user-selected zero-adjustment value. Electric angle can also be used as an Ld and Lq calculation parameter for synchronized motors.

Evaluate inverter motor efficiency and loss
Evaluate efficiency and loss for an inverter, motor, and overall system by simultaneously measuring the inverter’s input and output power and the motor’s output. You can also create an efficiency map or loss map in MATLAB using measurement results recorded by the PW3390 at each operating point.*MATLAB is a registered trademark of Mathworks, Inc.

Example of an efficiency map display in MATLAB

Transfer to Data Logger via Bluetooth® wireless technology
Connect the PW3390 and a data logger (with support of LR8410 Link) via Bluetooth® wireless technology to wirelessly transmit 8 parameters of measurement values from the PW3390 to the data logger. In addition to the voltage, temperature, humidity, and other parameters measured by the multichannel data logger, you can also integrate the measurement values of the PW3390 and observe and record them in real time.

* Connection requires the serial - (Bluetooth® wireless technology) conversion adapter and power supply adapter recommended by HOKI. Please inquire with your HOKI distributor.
Measure the Efficiency of PV Power Conditioners (PCS)

**HIOKI’s Current Measurement Solutions for Large Currents of 1000 A or More**

Introducing a lineup of sensors taking measurements up to 6000 A for 50 Hz/60 Hz, and up to 2000 A for direct current. The CT9557 SENSOR UNIT lets you add the output waveforms from multiple high accuracy sensors. Use multi-cable wiring lines to take highly accurate measurements of up to 8000 A.

### Key features
1. 4 built-in channels, standard. Simultaneously measure the I/O characteristics of power conditioners.
2. Current sensors can measure even large currents with high accuracy. Reliable confirmation of wiring with vector diagrams.
3. Measure the amount of power sold/purchased from power conditioner output on interconnected systems with a single unit.
4. DC mode integration function, which responds quickly to input fluctuations such as with solar power, built in.
5. Measure ripple factor, efficiency, loss, and all other parameters that are required for the measurement of power conditioners for solar power with a single unit.

### Recommended current sensor by measurement target

<table>
<thead>
<tr>
<th>DC power</th>
<th>System power 50 Hz/60 Hz</th>
<th>Inverter secondary power</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 A or less</td>
<td>CT6876 or CT6846-05</td>
<td>CT6877 or CT7742 or CT7642 or CT7044/CT7045/CT7046</td>
</tr>
<tr>
<td>2000 A or less</td>
<td>CT6876</td>
<td>CT6877</td>
</tr>
<tr>
<td>6000 A or less</td>
<td>—</td>
<td>CT7044/CT7045/CT7046</td>
</tr>
<tr>
<td>2000 A or less</td>
<td>CT9557+CT6876×2 or CT9557+CT6846-05×2</td>
<td>—</td>
</tr>
<tr>
<td>4000 A or less</td>
<td>CT9557+CT6877×2</td>
<td>—</td>
</tr>
<tr>
<td>3000 A or less</td>
<td>CT9557+CT6876×3 or CT9557+CT6846-05×3</td>
<td>—</td>
</tr>
<tr>
<td>6000 A or less</td>
<td>CT9557+CT6877×3</td>
<td>—</td>
</tr>
<tr>
<td>4000 A or less</td>
<td>CT9557+CT6876×4 or CT9557+CT6846-05×3</td>
<td>—</td>
</tr>
<tr>
<td>8000 A or less</td>
<td>CT9557+CT6877×4</td>
<td>—</td>
</tr>
</tbody>
</table>

### Support for PCS Parameters

Simultaneously display the parameters required for PCS, such as efficiency, loss, DC ripple factor, and 3-phase unbalance rate. Easily check the required measured items for improved test efficiency. By matching the measurement synchronization source for both input and output, you can perform DC power measurements that are synchronized with the output AC as well as stable efficiency measurements.

### ±0.01 Hz Basic Accuracy for Voltage Frequency Measurements

Perform the frequency measurements that are required for various PCS tests with industry-leading accuracy and stability. Take highly accurate frequency measurements on up to 4 channels simultaneously, while also measuring other parameters at the same time.
Test Automobile Fuel Economy

Evaluate WLTC Mode Performance - A New Fuel Economy Standard

Taking fuel economy measurements that comply with WLTP international standards requires the precise measurement of current integration and power integration for the recharging/discharging of each battery in the system. High accuracy clamp current sensors, the excellent DC accuracy of the PW3390, and the ability to integrate current and power at 50 ms intervals are extremely effective in meeting this application.

Optimal Current Sensors for Automotive Testing

Easily connect high accuracy clamp-type sensors without cutting the cables. Sensors operate over a temperature range of -40°C to 85°C (-40°F to 185°F), characteristics that enable highly accurate measurements even inside the engine room of a car.

Current and Power Integration Function by Polarity

DC integration measurement integrates the recharging power and discharging power by polarity for every sample at 500 kS/s, and measures positive-direction power magnitude, negative-direction power magnitude, and the sum of positive- and negative-direction power magnitude during the integration period. Accurate measurement of recharging power and discharging power is possible even if there is rapid repetition of battery recharging/discharging.

Link to Peripheral Devices via External Control

Use external control terminals to START/STOP integration and capture screen shots. This makes it easy to control operations from console switches and link to the timing of other instruments when measuring the performance of an actual automobile.

Key features

1. Accurately measure recharge and discharge power with excellent basic accuracy and DC accuracy.
2. 4 built-in channels, standard. Support for multiple recharge and discharge measurements, including auxiliary batteries.
3. Easily achieve highly accurate measurements with clamp sensors, which can be used in a wide range of operating temperatures.
4. Easily link with other measuring instruments through integration control with an external control interface.

Scan QR Code to Watch Video Illustrating Fuel Economy Evaluation of an Automobile
External Appearance

Software

PC Communication Software – PW Communicator

PC Communicator is a free application that connects to the PW3390 via a communications interface (LAN, RS-232C, or GP-IB), making it easy to configure the instrument’s settings and to monitor or save measured values and waveform data from a computer. The software can simultaneously connect to up to 8 Hioki power measuring instruments, including the PW3390, Power Analyzer PW6001, Power Meter PW3335, PW3336, and PW3337, and it can provide integrated control over multiple models. The software can also be used to simultaneously save measurement data on the computer and calculate efficiency between instruments.

GENNECT CROSS SF4000 (for Windows)

The SF4000 is a free application software that lets you display and save measurement data on a PC in real-time after connecting the PW3390 to the PC via Ethernet.

The application is also compatible with other Hioki measuring instruments such as Memory HiLogger LR8400, LR8401, LR8402 and the Wireless Logging Station LR8410, letting you connect up to 15 units at the same time to monitor, graph and display lists of measured values from multiple instruments all at once and in real-time. This is especially effective for performing a total analysis of power, temperature and other factors of equipment.

LabVIEW driver

Use the bundled LabVIEW driver to build a measurement system via a simple programming interface that lets you place icons on a window and connect them with lines. Multiple sample programs for configuring settings and downloading data are available, so you can get started right away.

Remote control using an web browser

Use the PW3390’s HTTP server function to connect to a computer via a LAN interface. You can configure settings or check data from a remote location using a virtual control panel that is displayed in the browser window.

*LabVIEW is a registered trademark of National Instruments.
### Specifications

#### Basic Specifications

<table>
<thead>
<tr>
<th>Voltage (U)</th>
<th>Current (I)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC</td>
<td>DC</td>
</tr>
<tr>
<td>±0.05% rdg. ±0.01% f.s.</td>
<td>±0.05% rdg. ±0.01% f.s.</td>
</tr>
<tr>
<td>±0.05% rdg. ±0.01% f.s.</td>
<td>±0.05% rdg. ±0.01% f.s.</td>
</tr>
<tr>
<td>±0.04% rdg. ±0.01% f.s.</td>
<td>±0.04% rdg. ±0.01% f.s.</td>
</tr>
<tr>
<td>±0.03% rdg. ±0.01% f.s.</td>
<td>±0.03% rdg. ±0.01% f.s.</td>
</tr>
<tr>
<td>±0.02% rdg. ±0.01% f.s.</td>
<td>±0.02% rdg. ±0.01% f.s.</td>
</tr>
<tr>
<td>±0.01% rdg. ±0.01% f.s.</td>
<td>±0.01% rdg. ±0.01% f.s.</td>
</tr>
<tr>
<td>±0.00% rdg. ±0.01% f.s.</td>
<td>±0.00% rdg. ±0.01% f.s.</td>
</tr>
</tbody>
</table>

#### Power Measurement Input Specifications

<table>
<thead>
<tr>
<th>Measurement type</th>
<th>Single-phase 2-wire (1P2W), Single-phase 3-wire (1P3W), 3-phase 3-wire (3P3W), 3-phase 4-wire (3P4W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern 1</td>
<td>CH1 CH2 CH3 CH4</td>
</tr>
<tr>
<td>Pattern 2</td>
<td>CH1 CH2 CH3 CH4</td>
</tr>
<tr>
<td>Pattern 3</td>
<td>3P3W3M 1P2W 1P2W 1P2W</td>
</tr>
<tr>
<td>Pattern 4</td>
<td>1P2W 3P3W3M 1P2W 1P2W</td>
</tr>
<tr>
<td>Pattern 5</td>
<td>3P3W3M 1P2W 1P2W 1P2W</td>
</tr>
<tr>
<td>Pattern 6</td>
<td>1P2W 3P3W3M 1P2W 1P2W</td>
</tr>
<tr>
<td>Pattern 7</td>
<td>3P3W3M 3P3W3M 3P3W3M</td>
</tr>
<tr>
<td>Pattern 8</td>
<td>3P3W3M 1P2W 1P2W 1P2W</td>
</tr>
</tbody>
</table>

#### Number of input channels

- Voltage: 4 channels UI to U4
- Current: 4 channels I1 to I4

#### Measurement input terminal type

- Voltage: Plug-in jacks
- Current: Dedicated custom connectors (ME15W)

#### Measurement Input

- Voltage: Inputted,.resolve dividers
- Current: Insulated current sensors

#### Voltage range

<table>
<thead>
<tr>
<th>Voltage range</th>
<th>15 V/30 V/60 V/150 V/300 V/600 V/1500 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specification</td>
<td>(Selectable for each measured wiring system)</td>
</tr>
</tbody>
</table>

#### Current range

<table>
<thead>
<tr>
<th>Current range</th>
<th>2 A/4 A/8 A/4 A/6 A/20 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specification</td>
<td>(with the 9725-05, 0 V)</td>
</tr>
<tr>
<td></td>
<td>(with the CT6841-05)</td>
</tr>
<tr>
<td></td>
<td>(with the CT6875, CT6876, and CT6877)</td>
</tr>
<tr>
<td></td>
<td>(with the CT7044, CT7045, and CT7046)</td>
</tr>
<tr>
<td></td>
<td>(with the CT6850)</td>
</tr>
<tr>
<td></td>
<td>(with the CT6871)</td>
</tr>
</tbody>
</table>

#### Measurement accuracy

- Voltage: Accuracy defined at 60 Hz or below (Add ±0.1% f.s.)
- Current: ±0.01% f.s. or less (with special-order LPF)

#### Accuracy figures

- DC voltage: ±0.01% rdg. ±0.1% f.s.
- AC voltage: ±0.01% rdg. ±0.1% f.s.
- DC current: ±0.01% rdg. ±0.1% f.s.
- AC current: ±0.01% rdg. ±0.1% f.s.

#### Frequency Measurement Specifications

- Frequency range: 5 Hz to 100 kHz
- Accuracy: ±0.01% f.s. ±0.01% rdg. (Add ±0.1% f.s.)
- Phase difference: ±0.01° ±0.1° f.s.
- Phase angle: ±0.01° ±0.1° f.s.
- Power factor: ±0.01% rdg. ±0.1% f.s.
- Power factor accuracy: ±0.01% rdg. ±0.1% f.s.
- Power factor: ±0.01% rdg. ±0.1% f.s.

#### Environmental conditions

- Temperature: 5°C to 40°C
- Humidity: 30% to 80% RH
- Power: 0.5 Hz to 400 kHz
- Ambient temperature: 10°C to 40°C
- Power factor: ±0.01% rdg. ±0.1% f.s.
- External magnetic field: ≤0.05 mT
- Electromagnetic field: ≤0.05 mT
- Conducted electromagnetic field: ≤0.05 mT
- Radiated electromagnetic field: ≤0.05 mT

#### Field resistance

- Temperature: ≤0.3% rdg. ±0.05% f.s.
- Humidity: ≤0.3% rdg. ±0.05% f.s.
- Power: ≤0.3% rdg. ±0.05% f.s.
- Power factor: ≤0.3% rdg. ±0.05% f.s.
- Power factor accuracy: ≤0.3% rdg. ±0.05% f.s.
- Power factor: ≤0.3% rdg. ±0.05% f.s.
- Power factor: ≤0.3% rdg. ±0.05% f.s.
- Power factor accuracy: ≤0.3% rdg. ±0.05% f.s.
- Power factor: ≤0.3% rdg. ±0.05% f.s.
- Power factor: ≤0.3% rdg. ±0.05% f.s.
### 3. Integration Measurement Specifications

<table>
<thead>
<tr>
<th>Measurement mode</th>
<th>Selectable between RMS or DC for each wiring mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement items</td>
<td>Current integration (R+, I+, and I-), active power integration (WP+, WP-, and WP), and Hz for Hz and Hz only for DC mode measurements, and Hz only for RMS mode measurements</td>
</tr>
<tr>
<td>Measurement method</td>
<td>Digital calculation from each current and active power phase when averaging. Calculates with previous average value in DC mode; calculates current value at each sample, and integrates instantaneous power independent of polarity in RMS mode; integrates current effective values between measurement intervals, and polarity independent active power value</td>
</tr>
<tr>
<td>Measurement interval</td>
<td>20 ms, data update interval</td>
</tr>
</tbody>
</table>
| Measuring range | 12 V 
| -3. Integration Measurement Specifications | Integration measurement specifica |
| Measurement range | ±3.0 mV to ±5000.0 mV/1 V/10 V |
| Integration time accuracy | ±0.2% (at 25°C ± 1°C) (640 Hz for 10 Hz/10°F) |
| Integration accuracy | ±1 mV (current and active power accuracy) ±1 integration time accuracy |
| Setup function | Integration accuracy for setting after power output |

### 4. Harmonic Measurement Specifications

<table>
<thead>
<tr>
<th>Number of measurement channels</th>
<th>4 channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harmonic measurements available for multiple systems with different frequencies.</td>
<td></td>
</tr>
<tr>
<td>Measurement items</td>
<td>Rectangular/Hanning/flat-top windows</td>
</tr>
<tr>
<td>Measurement method</td>
<td>Zero-crossing synchronous calculation (all channels in same window), with gap: Fixed 500 kHz sampling, digital anti-aliasing filter, Equal threshold between zero crossings (with interpolation calculation)</td>
</tr>
<tr>
<td>Harmonic source</td>
<td>U1 to U4, I1 to I4, Ext. (with motor analysis and CH B set for pulse input), DC selectable (50 ms or 100 ms)</td>
</tr>
<tr>
<td>FFT calculation width</td>
<td>22 bits</td>
</tr>
<tr>
<td>Anti-aliasing filter</td>
<td>Digital filter (automatically set based on sampling frequency)</td>
</tr>
<tr>
<td>Windows</td>
<td>Rectangular/symmetrical window</td>
</tr>
<tr>
<td>Synchronization frequency range</td>
<td>As specified for power measurements</td>
</tr>
<tr>
<td>Data update interval</td>
<td>50 ms (measurement/frequency dependent at 45 Hz and below)</td>
</tr>
<tr>
<td>Phase zero adjustment</td>
<td>Provided by key operation or external control command (only for external sync source) Automatic or manual configuration of phase zero-adjustment values Phase zero-adjustment setting range: 0.0° to ±180.0° (0.01° increments)</td>
</tr>
</tbody>
</table>

#### THD calculation

<table>
<thead>
<tr>
<th>Window</th>
<th>Analysis order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectangular</td>
<td>1</td>
</tr>
<tr>
<td>Hanning</td>
<td>100th</td>
</tr>
<tr>
<td>Flat-top</td>
<td>10th</td>
</tr>
</tbody>
</table>

#### Accuracy

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Volts/Ohms, Current/Ohm</th>
<th>Voltage/Ohms, Current/Ohm/Ohm</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Hz to 40 Hz</td>
<td>±0.4% rdg., ±0.5% f.s.</td>
<td>±0.4% rdg., ±0.5% f.s.</td>
</tr>
<tr>
<td>40 Hz to 160 Hz</td>
<td>±0.3% rdg., ±0.5% f.s.</td>
<td>±0.4% rdg., ±0.5% f.s.</td>
</tr>
<tr>
<td>160 Hz to 1000 Hz</td>
<td>±0.3% rdg., ±0.5% f.s.</td>
<td>±0.4% rdg., ±0.5% f.s.</td>
</tr>
<tr>
<td>1000 Hz to 2000 Hz</td>
<td>±0.3% rdg., ±0.5% f.s.</td>
<td>±0.4% rdg., ±0.5% f.s.</td>
</tr>
<tr>
<td>2000 Hz to 5000 Hz</td>
<td>±0.3% rdg., ±0.5% f.s.</td>
<td>±0.4% rdg., ±0.5% f.s.</td>
</tr>
</tbody>
</table>

Not specified for sync frequencies of 4.3 kHz and higher Add the LPF accuracy to the above when using LPF

### 5. Noise Measurement Specifications

#### Calculation channels

<table>
<thead>
<tr>
<th>Channels</th>
<th>Select one from CH A to CH E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration</td>
<td>Voltage/noise/CURRENT noise</td>
</tr>
<tr>
<td>Spectrum</td>
<td>Rectangular window</td>
</tr>
<tr>
<td>Calculation method</td>
<td>Fast 500 kS/s sampling, fixed after anti-aliasing filter</td>
</tr>
<tr>
<td>FFT calculation width</td>
<td>22 bits</td>
</tr>
<tr>
<td>FFT data points</td>
<td>1024/2048/5120/10240 (according to displayed waveform recording length)</td>
</tr>
<tr>
<td>Anti-aliasing filter</td>
<td>Automatic digital filter (vanishes with maximum analysis frequency)</td>
</tr>
<tr>
<td>Windows</td>
<td>Rectangular/Hanning/Flat-top</td>
</tr>
<tr>
<td>Data update interval</td>
<td>220 ms (measurement/parameter update) within 40 ms, 1 ms, 1 ms, 1 μs, 1 μs, or gap</td>
</tr>
<tr>
<td>Highest analysis frequency</td>
<td>200 kHz/50 kHz/50 kHz/10 kHz/2 kHz</td>
</tr>
<tr>
<td>Frequency resolution</td>
<td>2 Hz to 50 Hz (determined by FFT points and maximum analysis frequency)</td>
</tr>
<tr>
<td>RMS noise amplitude</td>
<td>Calculated as the ten highest level and frequency voltage and current FFT peaks values (local maximum)</td>
</tr>
<tr>
<td>Laser interferential frequency</td>
<td>5 kHz to 10 kHz</td>
</tr>
</tbody>
</table>

### 6. Motor Analysis Specifications (Model PW3390-03)

<table>
<thead>
<tr>
<th>Motor analysis channels</th>
<th>CH A, CH B, CH C, CH D, CH E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement</td>
<td>CH A: Analog DC input/Current input (selectable) CH B: Analog DC input/Current input (selectable) CH Z: Pulse input</td>
</tr>
<tr>
<td>Measurement input terminals</td>
<td>Insulated BNC jacks</td>
</tr>
<tr>
<td>Input impedance (DC)</td>
<td>1 MΩ ±10%</td>
</tr>
<tr>
<td>Measurement and differential inputs (not isolated between channels A and B)</td>
<td>Voltage, rotation, rotation rate, frequency, slip, and motor power</td>
</tr>
<tr>
<td>Measurement sources</td>
<td>U1 to U4, I1 to I4, Ext. (with CH B set for pulse input), DC (50 ms/100 ms) Common to channels A and B</td>
</tr>
<tr>
<td>Measurement frequency</td>
<td>1 Hz to 10 MHz (for slip calculation)</td>
</tr>
<tr>
<td>Maximum input voltage</td>
<td>±30 V (during analog, frequency, and pulse input)</td>
</tr>
<tr>
<td>Minimum input voltage</td>
<td>±0.5 V (50 Hz/80 Hz)</td>
</tr>
</tbody>
</table>

### (1). Analog DC Input (CH A/CH B)

| Measurement range | ±5 V, ±500 mV, ±50 mV |
| Valid input range | 0% to 100% ±2% |
| Sampling rate | 50 kHz/16 bits |
| Response time | 1 ms (measuring zero to full scale, with LPF off) |
| Measurement method | Average synchronous sampling and zeroing synchronous calculation system (cumulative average of intervals between zero crossings) |
| Measurement accuracy | ±0.3% rdg. ±0.5% f.s. |
| Temperature coefficient | ±0.03%/°C |
| Effect of common mode voltage | Not more than ±0.01% (at 50 V DC or ±50 Hz/60 Hz between measurement jacks and PW3390 chassis) |

### (2). Frequency Input (CH A only)

| Valid measurement range | ±10 kHz, ±500 mV, ±50 mV |
| Measurement range | ±10 kHz to ±100 kHz |
| Data output interval | According to synchronization source |
| Measurement accuracy | ±0.005% rdg., ±0.005% f.s. |
| Measurement range | ±1 kHz to ±10 kHz |
| Frequency range | (selected and for frequency range ft; f ≤ 1 kHz) frequency measurement only) |
| Division setting range | 1 to 6000 |
| Measurement range | 0 Hz to 5 kHz (limited to measured frequency divided by selected no. of divisions) |
| Minimum detectable pulse width | 2.5 μs or more |
| Measurement accuracy | ±0.005% rdg., ±0.005% f.s. |
| Motor poles | 2 to 98 |
| Measurement frequency | 100 Hz, 500 Hz, 1 kHz, 5 kHz |
| Pulse count | Integer multiple of half of the number of motor poles, from 1 to 60,000 |

### (3). Pulse Input (CH B only)

| Detection level | Low: ±0.5 V or less; High: 2.0 V or more |
| Measurement range | ±50 kHz to 20 kHz (at ±50 kHz) |
| Division setting range | 1 to 6000 |
| Measurement range | 0 Hz to 5 kHz (limited to measured frequency divided by selected no. of divisions) |

### (4). Pulse Input (CH Z only)

| Detection level | Low: ±0.5 V or less; High: 2.0 V or more |
| Measurement range | 0 Hz to 200 kHz (20 kHz to 50 kHz) |
| Minimum detectable pulse width | 2.5 μs or more |
| Settings | OFF/Off/Phase (Phase ((range of <CH B in rising edge during Z Phase, detect positive code for number of rotations during B Phase) |

### (5). D/A Output Option Specifications (Models PW3390-02 and PW3390-03)

| Number of output channels | 16 channels |
| D/A output range | CH1 to CH8: Selectable analog waveform output CH9 to CH16: Analog output |
| Items | Analog output: Select a basic measurement item for each channel. Waveform output: Output voltage or current measured waveform. |
| Instrument Interface Specifications | Connector | 9-pin female D-sub |
| Interface | USB 2.0 (Full Speed/High Speed) |
| Function | USB 2.0 (Full Speed/High Speed) |
| Data transfer and command control | USB (USB488h) |

### (2). USB Memory Interface

| Connector | USB type A connector x1 |
| Compliance standard | USB2.0 (Full Speed, Hi-Speed) |
| Function | Save waveform data in USB Mass Storage Class |
| Connection destination | Computer (USB) |

### (3). LAN Interface

| Connector | RJ-45 connector x 1 |
| Compliance standard | IEEE802.3 (100BASE-TX) |
| Transmission method | 10BASE-T/100BASE-TX Auto detected |
| Protocol | TCP/IP |
| Function | FTP server/remote operation, Dedicated port (data transfer and command control) |
| Maximum cable length | Up to 3 m |

### (4). CF Card Interface

| Slot | One Type 1 |
| Instrument Interface Specifications | CF Card Interface Spec |
| CF card interface | CompactFlash memory card (32 MB or higher) |

#### Effect of external magnetic field

Not more than ±0.01% (at ±400 AM for DC and ±50 Hz/60 Hz for magnetic fields)
Function Specifications

(7). External Control Interface

Peak hold function: All measurement values are updated to display the maximum value for each function.

Integration: start, integration stop, data reset, event (the event sets as the electrical specific).

AUTO range function: Automatically selects voltage and current ranges according to measured amplitude on each phase.

Function Scaling Calculation

$\Delta$-Y calculation: For 3P3W3M systems, converts between line-to-phase voltage and phase voltage.

Scalability Setting

1/FT1 (ratio) and C1 (ratio): OFF:0.01 to 9999.99

Average calculation

OFF:FAST (20 ms), SLOW (5 s) / LOW: SLOW 5 s / SLOW 20 s / SLOW 60 s

Exponentially averages all instantaneous measurement values including harmonics (but not peak, integration, or FFT noise values). Applied to displayed values after saving data.

Response speed: (time remains within specified accuracy when input changes from 0.01 to 100%).

FAST: 0.2 s, M:D 1 s, SLOW 5 s / SLOW 20 s / SLOW 60 s: 10 s

Function

Integration start, integration stop, data reset, event (the event sets as the synchronization control function).

Cannot be used at the same time as a synchronization control.

-2. Calculation Functions

Synchronous Control Function

Synchronous measurements are available by using sync cables to connect Hioki PW3390-03 (master) and other Hioki LR8410 Link-compatible loggers (LR8410, LR8416).

Supported devices: Hioki LR8410 Link-compatible loggers (LR8410, LR8416).

Start/stop, data reset, event

Saves the waveform being displayed by means of [Waveform/Noise] display.

FFT data

Save the noise measurement FFT spectrum shown on the Waveform/Noise screen.

5. Synchronous Control Function

Function

Synchronous measurements are available by using sync cables to connect Hioki PW3390-03 (master), Hioki LR8410 Link-compatible loggers (LR8410, LR8416), and Hioki LR8410 Link-compatible loggers (LR8410, LR8416). When internal settings match, auto-save is available while synchronized.

Synchronized items: Data: data sampled at the FFT calculation interval, integration start, stop, data reset, event.

Event items: Hold, manual, save, screen capture.

Synchronization timing

Start/stop, data reset, event

Up to 5 μs per connection. Maximum synchronization delay of 5 μs.

Synchronization delay

Minimum 5 μs per connection. Maximum synchronization delay of an event is ±10 μs.

-6. Bluetooth® Logger Connectivity

Function

Saves measured values reversibly to loggers by using a Bluetooth® wireless conversion adapter.

-7. Other Functions

Japanese, Chinese, English

Deep sleep

OFF/ON

Screen color schemes

COLOR1 (black/blue-green), COLOR2 (gray/blue), COLOR3 (gray/blue)

Waveform data selection

Wiring of Lead displays waveform (Measurement screens only).

LCD backlight

ON: 1 min/10 min/20 min

Real-time clock function

Auto-calender, leap-year correcting 24-hour clock

RTC accuracy

±5 s per year (32:7°F) [±7°F]

Sensor recognition

Current sensor phase detection is automatically recognized when connected (Excluding the CT7000 series sensors).

Warning indicators

When peak over currents occur on voltage and current measurement channels, When noise source is detected

Warning indicators for all channels are displayed on all pages of the MEAS screen.

Key-lock

Logs input by holding the ESC key for three seconds.

System reset

Returns all settings to factory defaults.

Power-on reset

Returns all settings including language and communication settings, to factory defaults.

Media content list display, format media, create folders, delete files and folders, copy between storage media.

General Specifications

Operating conditions

Ambient Temperature: 0°C to 40°C (32°F to 104°F), Humidity: 80% RH or less.

Storage temperature and humidity

10°C to 50°C (14°F to 122°F), 80% RH or less (no condensation)

Design and specifications

EN 61010-1 (With CF card cover open: IP20)

Power supply

100 V to 240 V AC, 50 Hz/60 Hz, Maximum rated voltage: 140 VA

Anticipated transient overvoltage

2,500 V

Dimensions

310 mm (13.39 in) W × 170 mm (6.69 in) H × 156 mm (6.14 in) D (excluding protrusions)

Mass

4.6 kg (162.3 oz) with PW3390-03
**High Accuracy Sensor, Pass-Through Type**

**Model**

AC/DC CURRENT SENSOR
- CT6862-05
- CT6863-05
- CT6875, CT6875-01
- CT6877, CT6877-01

**Appearance**

- **New**

**Rated current**

- 50 A AC/DC
- 100 A AC/DC
- 200 A AC/DC
- 2000 A AC/DC

**Frequency band**

- DC to 1 MHz
- DC to 500 kHz
- DC to 1.5 MHz
- DC to 1.2 MHz
- DC to 1 MHz

**Diameter of measurable conductors**

- Max. ø 14 mm (0.55")
- Max. ø 16 mm (0.63")
- Max. ø 18 mm (0.70")
- Max. ø 20 mm (0.79")

**Basic accuracy**

- ±0.05 % rdg ±0.1 % f.s. (amplitude)
- ±0.2° (phase, not defined for DC)

**Frequency characteristics (Amplitude)**

- To 16 Hz: ±0.1 % rdg ±0.02 % f.s.
- To 50 kHz: ±0.15 % rdg ±0.03 % f.s.
- To 1 MHz: ±0.25 % rdg ±0.05 % f.s.

**Derating**

- To 16 Hz ±15% rdg ±0.1% f.s.
- To 500 kHz ±20% rdg ±0.2% f.s.
- To 1 MHz ±25% rdg ±0.3% f.s.

**Max. input current [A rms]**

- 500 A AC/DC
- 1000 A AC/DC
- 2000 A AC/DC

**Rated current**

- 500 A AC/DC
- 1000 A AC/DC

**Output connector**

- HOKI ME15W

**Dimensions**

- 128 mm (5.0") W × 120 mm (4.7") H × 52 mm (2.1") D

**Mass**

- Approx. 1.0 kg (3.5 oz)

**Custom cable lengths also available. Please inquire with your HOKI distributor.**

---

**High Accuracy Sensor, Clamp Type**

**Model**

AC/DC CURRENT PROBE
- CT6841-05
- CT6843-05
- CT6844-05

**Appearance**

- **New**

**Rated current**

- 20 A AC/DC
- 50 A AC/DC

**Frequency band**

- DC to 1 kHz
- DC to 500 kHz
- DC to 200 kHz

**Diameter of measurable conductors**

- ø 20 mm (0.79") or less (insulated conductor)

**Basic accuracy**

- For DC ≤ 100 Hz
- Amplitude: ±0.3 % rdg ±0.01 % f.s.
- Phase: ±0.1°

**Frequency characteristics (Amplitude)**

- To 100 Hz: ±0.3 % rdg ±0.01 % f.s.
- To 1 kH: ±0.5 % rdg ±0.01 % f.s.
- To 300 kHz: ±1.0 % rdg ±0.1 % f.s.

**Derating**

- To 100 Hz: ±0.3 % rdg ±0.01 % f.s.
- To 1 kHz: ±0.5 % rdg ±0.1 % f.s.
- To 300 kHz: ±1.0 % rdg ±0.1 % f.s.

**Output connector**

- HOKI ME15W

**Dimensions**

- 153 mm (6.0") H × 87 mm (3.4") W × 25 mm (0.98") D

**Mass**

- 350 g (12.3 oz)

---

**High Accuracy Sensor, Pass-Through Type**

**Model**

AC/DC CURRENT SENSOR
- CT6862-05
- CT6863-05
- CT6875, CT6875-01
- CT6877, CT6877-01

**Appearance**

- **New**

**Rated current**

- 50 A AC/DC
- 200 A AC/DC
- 500 A AC/DC
- 2000 A AC/DC

**Frequency band**

- DC to 1 MHz
- DC to 500 kHz
- DC to 1.5 MHz
- DC to 1.2 MHz
- DC to 1 MHz

**Diameter of measurable conductors**

- Max. ø 24 mm (0.94")
- Max. ø 24 mm (0.94")
- Max. ø 36 mm (1.42")
- Max. ø 80 mm (3.15")

**Basic accuracy**

- ±0.05 % rdg ±0.1 % f.s. (amplitude)
- ±0.2° (phase, not defined for DC)

**Frequency characteristics (Amplitude)**

- To 16 Hz: ±0.1 % rdg ±0.02 % f.s.
- To 50 kHz: ±0.15 % rdg ±0.03 % f.s.
- To 1 MHz: ±0.25 % rdg ±0.05 % f.s.

**Derating**

- To 16 Hz ±15% rdg ±0.1% f.s.
- To 500 kHz ±20% rdg ±0.2% f.s.
- To 1 MHz ±25% rdg ±0.3% f.s.

**Max. input current [A rms]**

- 500 A AC/DC
- 1000 A AC/DC
- 2000 A AC/DC

**Rated current**

- 50 A AC/DC
- 100 A AC/DC

**Output connector**

- HOKI ME15W

**Dimensions**

- 128 mm (5.0") W × 120 mm (4.7") H × 52 mm (2.1") D

**Mass**

- Approx. 1.0 kg (3.5 oz)

**Custom cable lengths also available. Please inquire with your HOKI distributor.**
High Accuracy Sensor, Clamp Type

AC/DC CURRENT PROBE CT6845-05
AC/DC CURRENT PROBE CT6846-05
CLAMP-ON SENSOR 9272-05

External Appearance

Rated primary current
500 A AC/DC
1000 A AC/DC
200 A AC/DC switching

Frequency band
DC to 10 kHz
DC to 20 kHz
1 kHz to 100 kHz

Diameter of measurable conductors
ø 50 mm (1.97 in) or less (insulated conductor)
ø 50 mm (1.97 in) or less (insulated conductor)
ø 48 mm (1.88 in) or less

Basic accuracy
For DC ≤ 100 kHz Amplitude: ±0.5% rdg. ±0.05% f.s. Phase: ±0.1°
For DC ≥ 50 kHz Amplitude: ±0.5% rdg. ±0.05% f.s. Phase: ±0.1°
For 50 Hz/60 Hz Amplitude: ±0.5% rdg. ±0.05% f.s. Phase: ±0.1°

Frequency characteristics (Amplitude)
50 kHz to 10 kHz Amplitude: ±0.5% rdg. ±0.05% f.s. Phase: ±0.1°
10 kHz to 2 kHz Amplitude: ±0.5% rdg. ±0.05% f.s. Phase: ±0.1°
2 kHz to 1 kHz Amplitude: ±0.5% rdg. ±0.05% f.s. Phase: ±0.1°

Input resistance
1.5 kΩ or less (50 Hz/60 Hz)

Operating temperature range
-40°C to 85°C (-40°F to 185°F)

Effects of external electromagnetic fields
In 400 A magnetic field (DC) under 100 A

Output connector
HIOKI ME15W

Dimensions
238 mm (9.37 in) W x 132 mm (5.20 in) H x 116 mm (4.57 in) D

Mass
990 g (34.9 oz)

Custom cable lengths also available. Please inquire with your Hiioki distributor.

High Accuracy Sensor, Direct Wire Type

AC/DC CURRENT BOX PW9100-03
AC/DC CURRENT BOX PW9100-04

External Appearance

Number of input channels
3ch
4ch

Rated primary current
50 A AC/DC

Frequency band
DC to 3.5 kHz (3-dB)

Measurement terminals
Terminal block (with safety cover), M6 screws

Basic accuracy
For 45 Hz to 65 Hz Amplitude: ±0.02% rdg. ±0.005% f.s. Phase: ±0.1°
For DC Amplitude: ±0.02% rdg. ±0.005% f.s.

Frequency characteristics (Amplitude)
To 5 kHz Amplitude: ±0.02% rdg. ±0.005% f.s.
To 50 kHz Amplitude: ±0.05% rdg. ±0.02% f.s.

Input resistance
1.5 kΩ or less (50 Hz/60 Hz)

Operating temperature range
0°C to 40°C (32°F to 104°F)

Effects of common-mode voltage (CMRR)
50 Hz/60 Hz: 120 dB or greater
100 kHz: 120 dB or greater

Maximum rated voltage to ground
100 V (Measuring category II), 238 V (Measurement category III)
Antisected transient overvoltage 4000 V

Output connector
HIOKI ME15W

Dimensions
420 mm (16.53 in) W x 75 mm (2.95 in) H x 116 mm (4.57 in) (with safety cover)
260 mm (10.24 in) (without safety cover)

Cable length: 3 m (9.84 ft)

Mass
3.7 kg (13.05 oz)
4.3 kg (15.17 oz)

Custom cable lengths also available. Please inquire with your Hiioki distributor.

Current Summing

Sensor Unit CT9557

External Appearance

Summed waveform output
(CT9564 connected)

Connectable current range
Current sensor with HIOKI ME15W (male) on the output connector

Summed waveform output accuracy
DC ±0.05% rdg. ±0.02% f.s.
1 Hz to 1 kHz: ±0.05% rdg. ±0.02% f.s.
1 kHz to 50 kHz: ±0.05% rdg. ±0.02% f.s.
50 kHz to 100 kHz: ±0.05% rdg. ±0.02% f.s.

Operating temperature range
-10°C to 50°C (-14°F to 122°F)

Power supply
AC ADAPTER Z1002
700 to 240 V AC, 50/60 Hz
Max. rated power when in combination with other units: 155 VA
External power supply
10 to 30 V DC
Max. rated power: 60 VA

Output connector
HIOKI ME15W (male)

Accessories
External dimensions
116 mm (4.57 in) W x 67 mm (2.64 in) H x 132 mm (5.20 in) D
Mass
420 g (14.8 oz)

* CT9904 (sold separately) is required to connect to PW3390.

Standard Sensor

AC/DC CURRENT SENSOR CT7642
AC/DC AUTO ZERO CURRENT SENSOR CT7842
AC FLEXIBLE CURRENT SENSOR CT7044, CT7045, CT7046

External Appearance

Rated primary current
2000 A AC/DC
6000 A AC

Frequency band
CT7424: DC to 10 kHz
CT7742: DC to 5 kHz
10 Hz to 50 kHz (±3 dB)

Diameter of measurable conductors
ø 55 mm (2.17 in) or less
ø 75 mm (2.95 in) or less

Basic accuracy
For DC ≤ 65 Hz Amplitude: ±0.5% rdg. ±0.03% f.s. Phase: ±0.3°
For Up to 1 kHz Amplitude: ±0.5% rdg. ±0.03% f.s. Phase: ±0.3°
For 45 Hz to 65 Hz, with flexible cable core. Amplitude: ±1.3% rdg. ±0.25% f.s. Phase: ±0.5°

Frequency characteristics (Amplitude)
66 kHz to 1 kHz Amplitude: ±0.5% rdg. ±0.1% f.s.
To 1 kHz Amplitude: ±0.5% rdg. ±0.1% f.s.

Input resistance
±0.10% rdg. ±0.05% f.s.

Operating temperature range
-25°C to 65°C (-13°F to 149°F)

Effects of external magnetic fields
In 400 A magnetic field (DC) 0.2% f.s. or less

Output connector
HIOKI PL14 (female)

Dimensions
84 mm (3.31 in) W x 195 mm (7.68 in) H x 34 mm (1.34 in) D
Cable length: 3 m (9.84 ft)

Mass
132 g (4.66 oz)

Custom cable lengths also available. Please inquire with your Hiioki distributor.

Standard Sensor

* CT9920 (sold separately) is required to connect to PW3390 to the sensor with HIOKI PL14 on the output connector.
Model : POWER ANALYZER PW3390

Current Measurement Options

<table>
<thead>
<tr>
<th>Name (Note)</th>
<th>Model No. (Order Code)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC/DC CURRENT SENSOR (50 A)</td>
<td>CT6862-05</td>
</tr>
<tr>
<td>AC/DC CURRENT SENSOR (200 A)</td>
<td>CT6863-05</td>
</tr>
<tr>
<td>AC/DC CURRENT SENSOR (500 A)</td>
<td>CT6904</td>
</tr>
<tr>
<td>AC/DC CURRENT SENSOR (1000 A)</td>
<td>CT6875</td>
</tr>
<tr>
<td>AC/DC CURRENT SENSOR (2000 A)</td>
<td>CT6876-01</td>
</tr>
<tr>
<td>AC/DC CURRENT SENSOR (20 A)</td>
<td>CT6841-05</td>
</tr>
<tr>
<td>AC/DC CURRENT PROBE (200 A)</td>
<td>CT6843-05</td>
</tr>
<tr>
<td>AC/DC CURRENT PROBE (500 A, φ 20 mm (0.79 in))</td>
<td>CT6844-05</td>
</tr>
<tr>
<td>AC/DC CURRENT PROBE (500 A, φ 50 mm (1.97 in))</td>
<td>CT6845-05</td>
</tr>
<tr>
<td>AC/DC CURRENT PROBE (1000 A)</td>
<td>CT6846-05</td>
</tr>
</tbody>
</table>

Voltage Measurement Options

<table>
<thead>
<tr>
<th>Name (Note)</th>
<th>Model No. (Order Code)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLTAGE CORD L9438-50</td>
<td></td>
</tr>
<tr>
<td>Red, black; 1 each, 1000 V specification, Cord length: 3 m (9.84 ft)</td>
<td>CT4406 600 V, CAT III 1000 V</td>
</tr>
<tr>
<td>VOLTAGE CORD L1000</td>
<td></td>
</tr>
<tr>
<td>Red, yellow, blue, gray; 1 each; Black: 4 1000 V specification, Cord length: 3 m (9.84 ft)</td>
<td>CT4406 600 V, CAT III 1000 V</td>
</tr>
<tr>
<td>WIRING ADAPTER PW9000</td>
<td></td>
</tr>
<tr>
<td>When making a 3 phase 3 wire (3P3W) connection, this product allows you to reduce the number of voltage cords from 6 to 3.</td>
<td></td>
</tr>
</tbody>
</table>

Connection Options

<table>
<thead>
<tr>
<th>Name (Note)</th>
<th>Model No. (Order Code)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONNECTION CORD L9217</td>
<td></td>
</tr>
<tr>
<td>BNC-BNC; For motor analysis input Cable length: 1.6 m (5.25 ft)</td>
<td></td>
</tr>
<tr>
<td>CONNECTION CABLE 9683</td>
<td></td>
</tr>
<tr>
<td>For synchronous measurement, Cable length: 1.5 m (4.92 ft)</td>
<td></td>
</tr>
</tbody>
</table>

Other Options

<table>
<thead>
<tr>
<th>Name (Note)</th>
<th>Model No. (Order Code)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patch Cord L1021-01</td>
<td></td>
</tr>
<tr>
<td>Banana branch-banana, Red: 1</td>
<td></td>
</tr>
<tr>
<td>Cable length: 0.5 m</td>
<td></td>
</tr>
<tr>
<td>For branching from the L9438-50 or L1000 CAT IV 600 V, CAT III 1000 V</td>
<td></td>
</tr>
<tr>
<td>Patch Cord L1021-02</td>
<td></td>
</tr>
<tr>
<td>Banana branch-banana, Black: 1</td>
<td></td>
</tr>
<tr>
<td>Cable length: 0.5 m</td>
<td></td>
</tr>
<tr>
<td>For branching from the L9438-50 or L1000 CAT IV 600 V, CAT III 1000 V</td>
<td></td>
</tr>
</tbody>
</table>

Built-To-Order (Current Measurement)

Please contact your Hioki distributor or subsidiary for more information.

For branching from the L9438-50 or L1000 CAT IV 600 V, CAT III 1000 V

PC CARD 512 MB 9728
PC CARD 1 GB 9729
PC CARD 2 GB 9830

Use only PC Cards sold by Hioki. Compatibility and performance are not guaranteed for PC cards made by other manufacturers. You may be unable to read or save data to such cards.

CARRYING CASE 9794
CARRYING CASE for PW3390 and 3390
446 mm (17.64 in) W x 618 mm (24.33 in) H x 295 mm (11.61 in) D