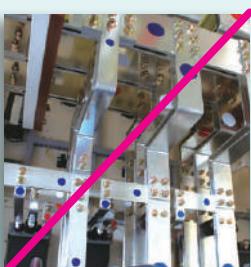




## Eliminate the risk of short-circuits and electrical accidents



The world's first instrument to offer  
no-metal-contact power measurement

Free from the risk of short-circuit accidents since no metal comes into contact with energized parts, the Clamp On Power Logger PW3365-20 can measure voltage, current, and power right on the cable, letting you safely test in locations that were dangerous or even impossible in the past.



\*For Voltage Sensor PW9020

# Safe, Easy, Voltage Measurement

The PW3365-20's dedicated voltage sensor delivers the world's first no-metal-contact measurement.

Free yourself from the risk of short-circuits by measuring right on the cable sheath without ever needing to touch metal to energized parts



Freely clip either horizontally or vertically



Measure both thick and thin cables



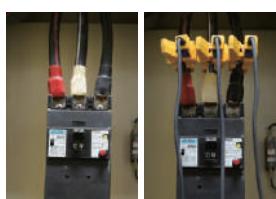
Measure in potentially hazardous locations



Measure on the outside of cables



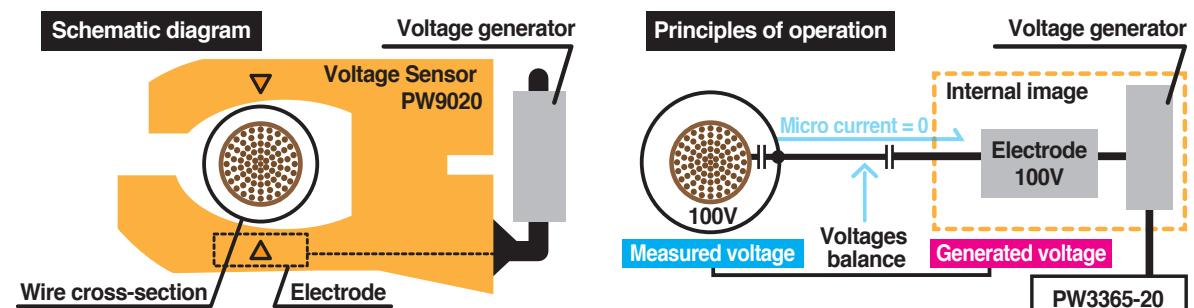
Measure without removing the covers



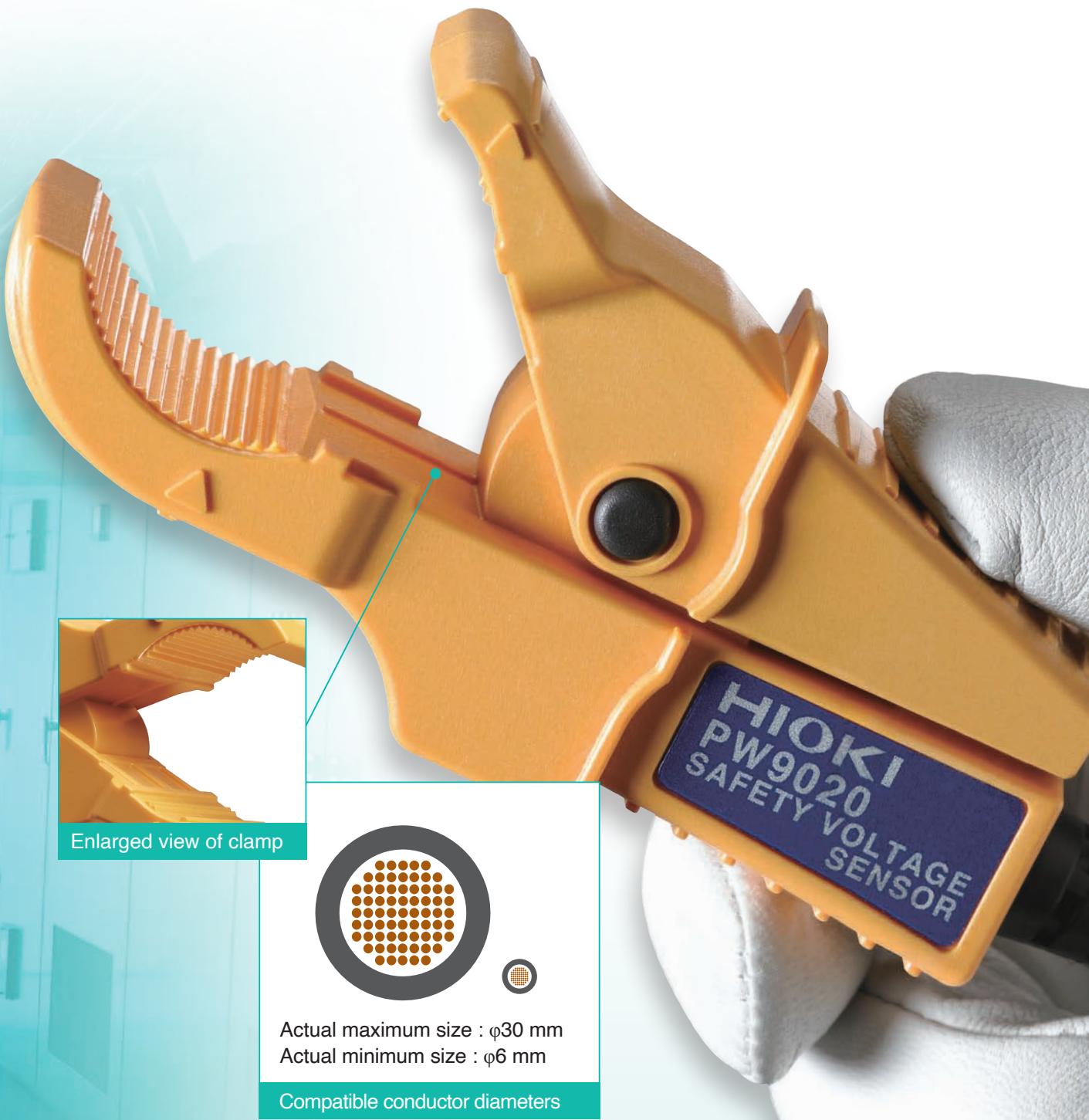
Measure at safer points



How is voltage measured without any metallic contact?



Inside the PW9020 is an electrode (a metal plate). When there is a potential difference between this electrode and the measured line, a minute current flows as a result. By detecting this minute current and generating a voltage such that the current declines to zero, it is possible to accurately measure the voltage without being affected by the outer diameter of the measured cable or its insulation.



### SAFETY VOLTAGE SENSOR PW9020 Specifications

Compatible conductor types	Insulated wires* <sup>1</sup> In door PVC or metal parts
Compatible conductor diameters	Finished outer diameter $\phi 6$ mm to $\phi 30$ mm
Effective measurement range	90 V rms to 520 V rms
Accuracy	$\pm 1.5\%$ rdg. $\pm 0.8$ V (combined accuracy with PW3365-20)* <sup>2</sup>
Effect of phase	Accuracy combined with the PW3365-20 is within $\pm 1.3\%$ (at 50 Hz/60 Hz, f.s. input)
Maximum rated voltage to earth	CATIV 300V / CATIII 600V
Cord length	3m (9.84 ft)
Mass	Approx. 220g (7.8 oz)
Operating temperature and humidity	0°C to 50°C (32°F to 122°F), 80% RH or less (no condensation)
Storage temperature and humidity	-10°C to 60°C (14°F to 122°F), 80% RH or less (no condensation)
Dielectric strength	7.06k Vrms AC
Applicable standards	Safety: EN61010, EMC: EN61326



\* includes relay box on cord



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.

\*1: Shielded wires cannot be measured. The product may not be able to accurately measure multi-core cables or cables that have thick insulation.

\*2: For frequencies of 45 Hz to 66 Hz.

Effects of humidity: Add the following to the combined accuracy (for voltage, power, and phase) with the PW3365-20  
Accuracy within  $\pm 1\%$  f.s., phase within  $\pm 1^\circ$ ,  
measuring an insulated wire at a humidity of 70% to 80% RH

Effects of adjacent wires: Add the following to the combined accuracy (for voltage and power) with the PW3365-20  
Within  $\pm 1\%$  f.s. while a wire with a phase difference of 400 V is in contact with the grip

# Review Results At the Worksite

## Display measured values as a graph and evaluate results at a glance

Measured values can be displayed as a graph, which is convenient when using the instrument in power management applications. Since you can statistically review not only the measured value at that moment, but also measured values that have been recorded, it's easy to check values on the spot.

### Parameter List and Waveform Displays

Select a display with the screen selection button

Review a list of principal test parameters, including voltage, current, power, frequency, and energy

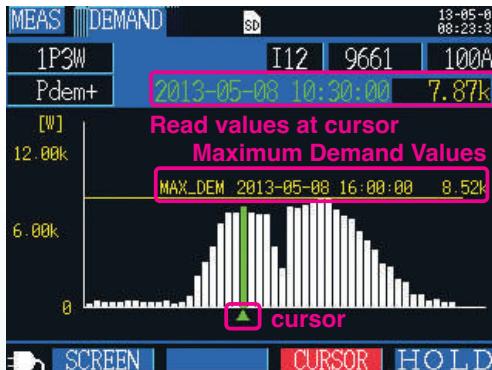
Select the WAVE display to check voltage and current waveforms.

MEAS	LIST	SD	1	YEAR	REC	18-05-24
3P4W	I123 9661 10A					17:49:16
U1	230.0 V	I1	10.008 A			
U2	229.0 V	I2	9.780 A			
U3	230.3 V	I3	9.406 A			
f	60.00 Hz					
P	6.485kW	WP+	6.6776kWh			
S	6.707kVA	ELAPSED	0001:01:51			
Q	LAG 1.710kvar					
PF	LAG 0.967					
		SCREEN		HOLD		

List display screen

MEAS	WAVE	SD	1	YEAR	REC	18-05-24
3P4W	I123 9661 10A					17:49:56
U1	231.1 V	I1	10.01 A			
U2	229.0 V	I2	9.78 A			
U3	229.1 V	I3	9.41 A			
	400.00 V/div					
	10.000 A/0.1V					
VOLT	× 1	CURR	× 1	f	60.00 Hz	
	SCREEN	MAGNIFY		HOLD		

Waveform display screen



Bar graph of values measured over a period of 24 hours at a 30-minute interval

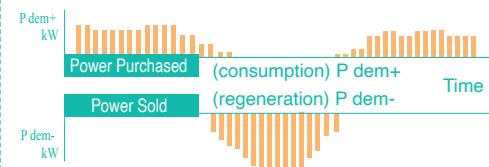
### Demand Graph Display

Display demand value trends

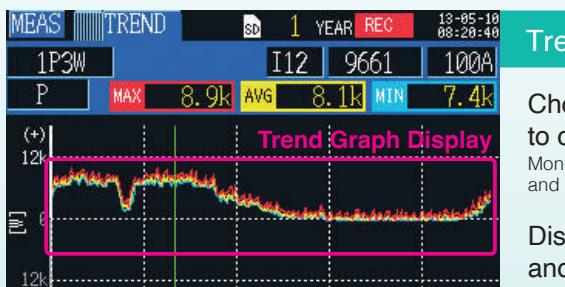
It's easy to check the maximum demand value and the time at which it occurred.

Particularly useful in power management applications

### Evaluate Photovoltaic Generation Capabilities



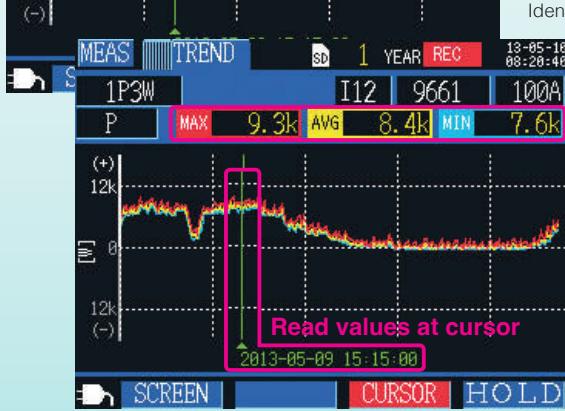
You can create a bar graph that makes it obvious whether power is being bought or sold by switching the active power demand value display from consumption to regeneration



### Trend Graph Display

Choose one measured parameter to create a time-series display as a graph

Monitor power variations to check for connections between equipment operating status and power consumption.



Display the maximum, minimum, and average values at the cursor position

Identify these parameters right on the time-axis graph display

\* Except for demand

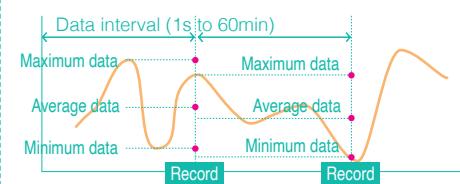
Example Power trend graph display

MAX 9.3k Maximum Value

MIN 7.6k Minimum Value

AVG 8.4k Average Value

### Capture and record all fluctuations



Set the power logger to save all parameters to record the maximum, minimum, and average values during the set recording interval.

Graph of values measured over a period 24 hours at 5-minute intervals

# Configure Settings with Quick Set

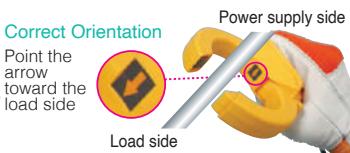
## Graphical, easy-to-understand guidance for connection procedures

Quick Setup guides you through the process of setting up the instrument for measurement, right up to starting measurement, on the screen to simplify set work. Since any mistaken connections will trigger a FAIL message, the feature also helps prevent measurement mistakes. If you receive a FAIL result, the instrument will also indicate the location of the problem.



### Miswiring Example (Clamp Orientation)

Neither power nor power factor can be measured accurately with the clamp in the wrong orientation.



P: 6.2 kW  
Power displayed value is too low

FAIL PHASE Red means : FAIL VOLT PHASE Green means : PASS

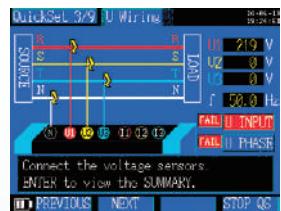
### Setup Flow (example: 3P4W)

#### STEP1 Quick Set START / Choose the wire type

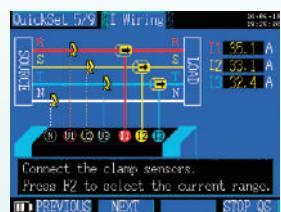
#### STEP2 Connect the leads to the PW3365-20



#### STEP3 Connect the voltage sensor

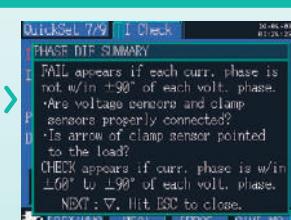
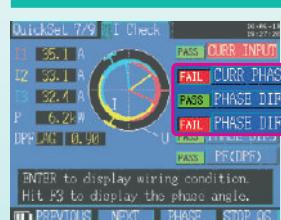


#### STEP4 Connect the clamp sensors



#### STEP5 Select the current range

#### STEP6 Check wire connection status



#### If you receive a FAIL result

Highlight the FAIL message with the cursor and press ENTER to view information about where the connection needs to be corrected.

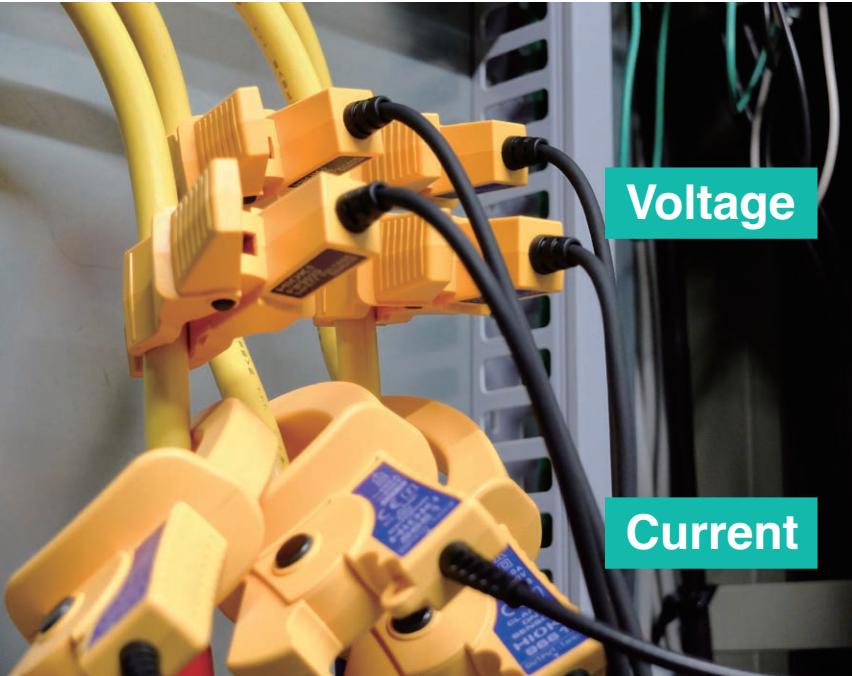
### Measurement

Safely and Easily

# Measure Harmonic

## Measure harmonics with no-metal-contact voltage measurement technology

This useful feature has come to the PW3365, enabling the instrument to measure voltage and current harmonics in addition to power. Hioki's no-metal-contact voltage measurement technology lets you safely and easily measure THD and the dominant 5th- and 7th-order harmonics.



### Harmonic Display

#### Display harmonics up to the 13th order

Present harmonic RMS values and content percentages as a list of numerical values or graph and display total harmonic distortion ratio.

The PW3365 can analyze voltage and current harmonic components from the fundamental wave to the 13th order on 50 Hz/60 Hz power lines.



Harmonic Graph Display

MEAS	HARM	SD	1	YEAR	REC	18-05-28
3P4W			VT	I123	9667	50A
U1	LEVEL		THD	3.33	%	[V]
1	230.1	6	0.3	11	3.1	
2	0.7	7	2.6	12	0.4	
3	2.6	8	0.3	13	2.1	
4	0.1	9	1.3			
5	5.5	10	0.2			

Harmonic Value List Display

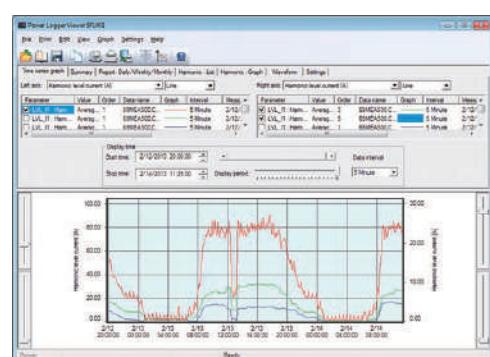
You can save maximum, average, and minimum values in binary format for each time interval to the instrument's SD card.

The Power Logger Viewer SF1001 is required in order to display data on a computer.



Time-series display of harmonics

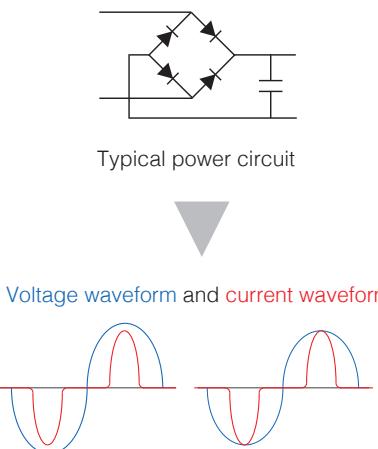
Select the fundamental wave, 3rd order, or 5th order for current harmonics to display a time-series graph.



# What causes harmonics?

Many electric devices incorporate power circuits with capacitor input. Such devices have rectification circuits to convert the AC power supply to DC power, and distortion in the resulting voltage and current waveforms causes harmonics.

## Power circuits that distort waveforms

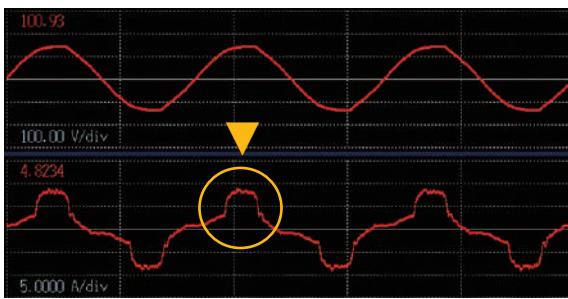


Current flows only near the peak of the voltage waveform, resulting in a voltage drop that flattens the peak portion of the voltage waveform.



## Analysis points

Waveform as measured by an instrument designed for observing harmonics



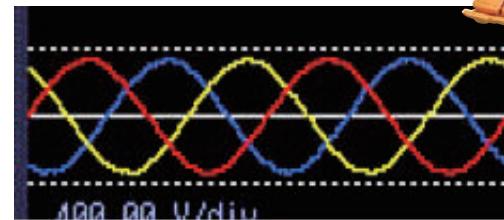
Current flows only near the peak of the voltage waveform



THD and dominant orders



Waveform as measured by the PW3365



The PW3365 displays content percentages for each harmonic voltage order as well as the voltage total harmonic distortion (THD).



The instrument is especially useful for measuring the dominant 5th and 7th orders.

# Convenient Functions For the Worksite

## More Uses for the PW3365-20

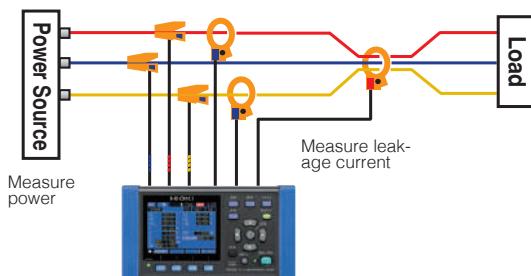
The Hioki PW3365-20 is not just a power logger. Added-value features and functions let you meet many other electrical testing applications.

### Leakage Current Measurement

Requires optional clamp-on leak sensor

#### Measure power + 1-channel of leakage current

Example : 3P3W2M+1-channel leakage current



With the ability to calculate and process data every 200ms, you can do simple checks of intermittent leakage current. Choose from average, maximum and/or minimum value of the measured interval.

Leakage current results					
MEAS		U/I		I3 9675 50mA	
3P3W2M+I			RMS (V)	FND (V)	PEAK (V)
U1	224.4	224.4	321.1	0.0	
U2	223.3	223.3	326.0	59.9	
U12	223.5	223.5	322.5	59.9	
RMS (A) RMS that includes harmonic components					
I1	23.420	19.984	33.475	-29.9	
I2	22.079	18.952	44.459	90.3	
I12	25.684	19.445	62.650	-152.8	
I3	27.004m	24.924m	50.069m	59.5	
FND (A) RMS of fundamental wave			PEAK (A) Peak value (waveform peak)		
SCREEN			HOLD		

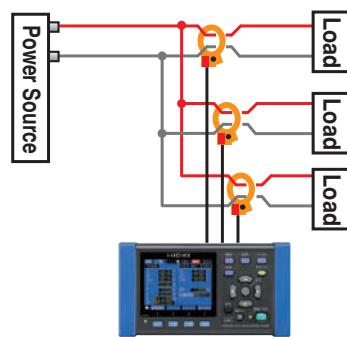
By capturing the RMS of the fundamental wave, you can also identify the leakage current of the 50/60Hz component.

RMS (A) RMS that includes harmonic components

FND (A) RMS of fundamental wave

PEAK (A) Peak value (waveform peak)

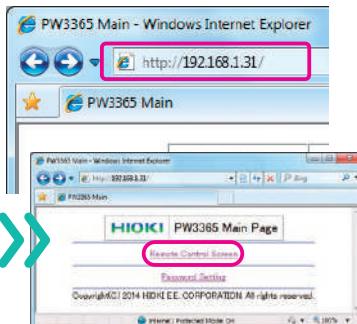
#### Measure 3 channels of leakage current



### Control and Monitor from a Remote Location

Use a LAN cable to connect the PW3365-20 to a personal computer for real-time remote monitoring and measurement display on a web browser.

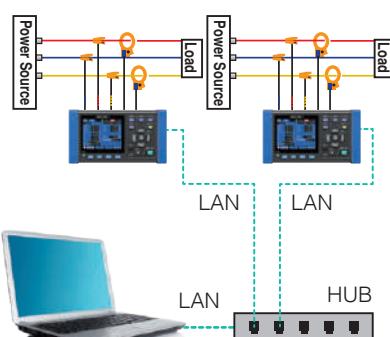
Files recorded in the Clamp On Power Logger's internal memory or SD card are accessible via a LAN or USB connection, and are downloadable using the free PW3365-20 Setup and Download Software



Enter the IP address in the browser.



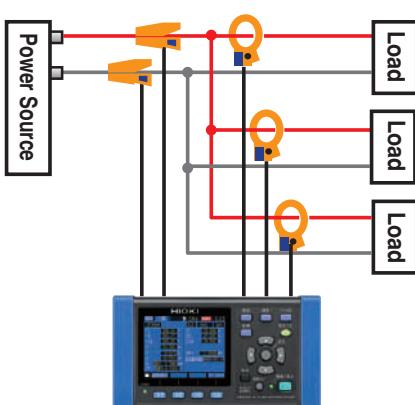
Display the power logger's screen and make adjustments virtually by clicking the buttons and entering new information.



### Simultaneous Measurements

### Other Convenient Features

Measure three single-phase, 2-wire circuits in the same system at the same time.



#### Compact, lightweight

Small form factor lets you set the power logger even inside cramped cubicles

#### Key lock function

Lock the buttons to prevent erroneous operation



#### Battery power

Power the instrument for about three hours with batteries if the power goes out



#### Outage recovery

Resume recording automatically following recovery from a power outage

#### Display hold

Freeze the displayed value for easier reading

# Save & Analyze

Measurement Results  
on PC

## Easily download and interpret data on a PC

Download the measurement results to a computer via the power logger's LAN or USB interface or its SD card. Simultaneously monitor all data in real-time, control your device and download the recorded data remotely with GENNECT One software. For more detailed analysis, Hioki's optional SF1001 application software is recommended.

### Storage media for data

#### SD card 2GB

Stores up to one year's data that is acquired at one minute intervals. Performance cannot be guaranteed on storage media other than SD cards sold by Hioki.



### Loading data

#### SD card 2GB

#### LAN interface

#### USB interface



### Available Recording Time

Interval time	Save Time		Interval time	Save Time	
	Saving of harmonic data: OFF	Saving of harmonic data: ON		Saving of harmonic data: OFF	Saving of harmonic data: ON
1 seconds	14 days	2 days	30 seconds	1 year	79 days
2 seconds	29 days	5 days	1 minutes	1 year	158 days
5 seconds	73 days	13 days	2 minutes	1 year	316 days
10 seconds	146 days	26 days	5 minutes	1 year	1 year
15 seconds	219 days	39 days	More than 10 minutes	1 year	1 year

[ Save conditions for above figures ]

Measurement target : 3P4W

Storage media : Z4001 2-GB SD card

Saved parameters : All data: average, maximum, and minimum values

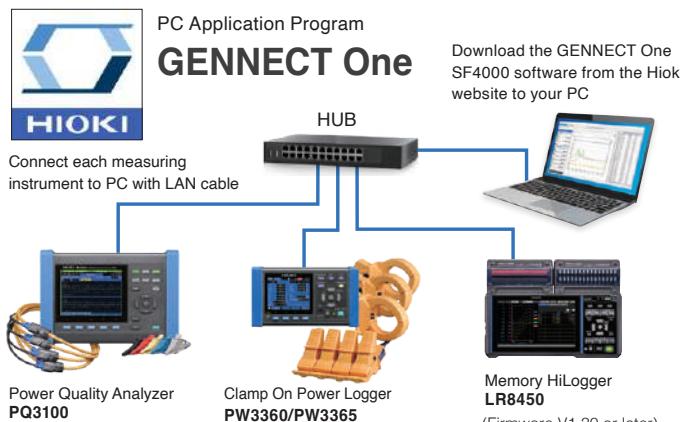
Screen copy saving : OFF Waveform save : OFF

In all cases, the maximum single file size for measurement data is about 200 MB.

When this is exceeded, a new file is created and saving continues.

The maximum recording period is one year.

### GENNECT One SF4000 (available as a free download from the HIOKI website)



#### ■ Remote control (HTTP)

Control and configure LAN-connected measuring instruments in remote locations from a computer

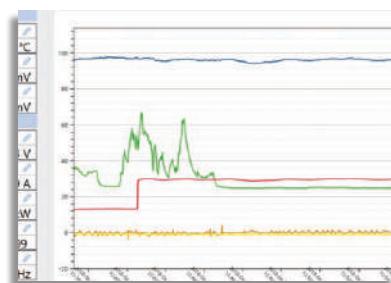
The application displays a virtual instrument and allows you to control it directly with the mouse.



You can also easily change instrument settings and control the instrument, for example to start and stop measurement

#### ■ Real-time measurement (logging)

-Regularly (as quickly as once every second) collect measurement data from up to 30 LAN-connected measuring instruments and display it on a computer.  
-Simultaneously capture power data from a power meter and temperature or flow rate data from a data logger.

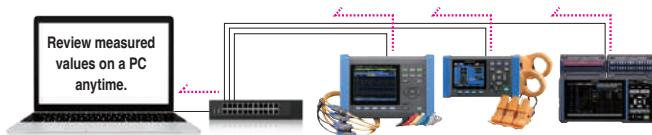


#### ■ Automatic file transfer (FTP)

Automatically transfer measurement files from LAN-connected instruments to a computer

This function lets you acquire data in real time on a PC, including data created when the instrument's trigger is activated and measurement files that are automatically generated on a daily basis. Example uses include capturing abnormal phenomena with an instrument installed in the field and automatically acquiring daily power consumption data on a PC.

#### Automatically transfer measurement files to a PC.



### Downloading GENNECT One SF4000 (for Windows)

[HIOKI website > Search](#)

Model No. (Order code)

SF4000

Search

Enter the model number in the search field to download the software to get started!

# Save & Analyze

Measurement Results  
on PC

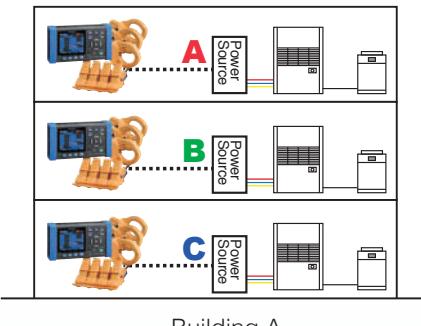
## Use Hioki's Power Logger Viewer to gather, view, and compare data

Assessing the status quo is the first step in saving energy. Ascertain trends by simultaneously measuring the energy needed to maintain environmental conditions and the energy needed for production by using as many individual instruments as possible throughout plants and on individual department floors. Hioki's Power Logger Viewer SF1001 lets you download data saved at sites in the field to instruments' SD cards and internal memory to a computer to display, tabulate, analyze, and incorporate it into printed reports.

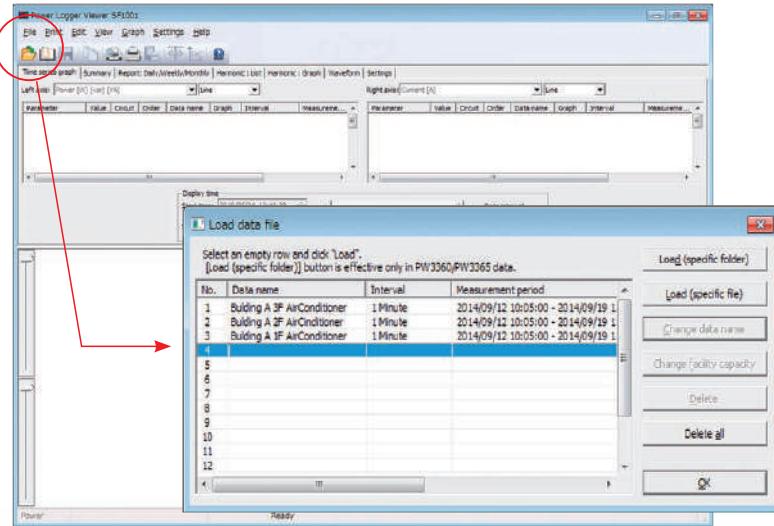
Collect data that reflects changes in multiple locations and compare to gain an understanding of the big picture

### Example data use case 1

Simultaneously measure and record loads using three PW3365s.



Building A



You can load data from multiple instruments.



Group power consumption data for multiple locations together and display on a single graph so that you can readily identify the times and locations that are characterized by high power consumption.

### Display easy-to-understand time-series graphs

Choose a line graph or bar graph depending on your purpose.

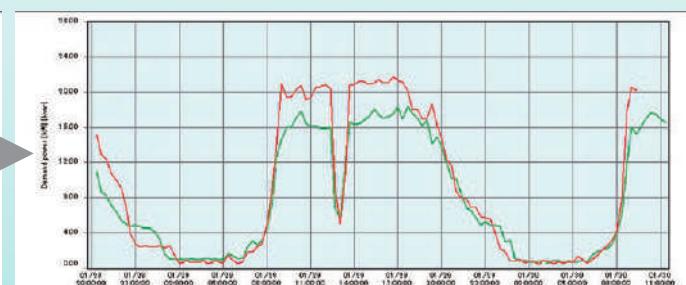
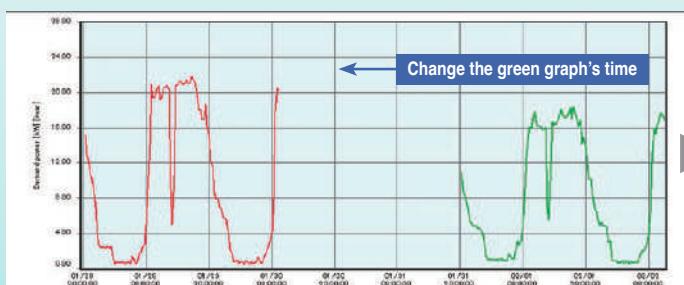
### Consolidate data

Consolidate up to 16 sets of data into a single file so that it can be loaded more quickly.

### Example data use case 2

Display data for measurements made at different times on a single graph

Functionality for changing the date associated with a set of data lets you change the time of data to facilitate comparison so that you can identify the benefits of energy-saving measures at a glance.



## Generate daily and weekly reports to review survey results and benefits

### Daily report

Time	Pdem+[kW]	WP+[kWh]	UI[V]	U2[V]	U12[V]	I1[A]	I2[A]	I12[A]
05:00:00	0.955	50.984	206.68	207.43	205.83	14.220	16.592	14.888
05:00:00	0.105	51.021	207.13	208.41	205.71	6.425	6.514	6.461
05:00:00	4.152	53.091	207.68	209.02	207.31	14.521	16.654	15.530
05:00:00	2.928	54.516	207.34	208.67	206.98	10.065	11.834	10.995
05:00:00	0.059	54.545	207.81	209.04	207.43	6.025	6.127	6.050
05:00:00	4.277	55.801	207.45	208.59	205.94	15.517	18.247	17.219
05:00:00	2.044	57.926	208.19	209.22	207.59	7.256	8.296	7.837
05:00:00	0.464	59.017	208.12	209.24	207.85	1.701	1.782	1.836
05:00:00	4.588	60.369	208.28	209.43	207.83	16.181	18.531	17.342
05:00:00	0.053	61.424	208.09	209.07	207.84	6.025	6.059	6.082
05:00:00	0.580	61.461	207.99	209.11	207.93	2.073	2.181	2.184
05:00:00	4.524	63.744	207.63	208.80	207.83	16.319	18.296	16.193
05:00:00	1.032	64.260	207.18	208.37	207.29	3.935	4.402	4.075
07:00:00	2.718	65.817	206.87	207.89	206.89	6.280	6.628	6.243
07:00:00	4.569	67.622	206.93	207.89	206.87	14.970	16.860	15.199
08:00:00	0.288	67.301	208.18	209.81	208.59	1.188	1.219	1.215
08:00:00	3.202	68.902	208.53	208.95	208.85	11.591	12.691	11.577
09:00:00	3.419	70.610	206.16	207.85	206.35	12.501	14.411	12.950
09:00:00	0.963	71.563	205.37	207.97	205.33	3.337	3.661	3.160
09:00:00	2.057	71.620	205.43	207.99	205.37	16.041	18.459	18.411
09:00:00	4.465	73.547	205.48	207.14	205.47	6.557	10.654	6.411
11:00:00	3.014	73.761	204.44	206.63	204.95	15.900	15.639	14.413
11:00:00	3.581	77.551	204.17	206.58	204.91	12.952	14.627	13.483
12:00:00	3.750	79.426	204.44	206.45	204.72	15.459	15.426	13.349
12:00:00	4.047	81.450	205.82	207.18	205.17	14.471	15.322	14.142
12:00:00	3.269	83.545	204.48	206.50	204.69	10.259	11.411	11.242
13:00:00	2.376	84.155	205.62	207.89	205.00	8.650	10.516	9.415
14:00:00	4.081	85.452	206.03	207.79	206.09	15.953	18.897	16.278
14:00:00	5.267	89.113	205.18	207.55	205.81	18.356	20.610	18.850
15:00:00	3.157	89.676	207.89	209.95	205.95	6.295	5.589	5.642
15:00:00	4.049	91.124	206.63	208.63	207.92	13.000	14.141	13.625
16:00:00	4.528	94.158	206.19	208.40	205.21	16.909	17.384	16.257
16:00:00	3.462	95.889	206.69	208.41	206.71	12.381	14.189	12.920
17:00:00	2.386	97.052	206.99	207.09	8.733	9.219	9.263	9.263
17:00:00	3.428	98.750	207.37	209.16	207.48	12.224	14.203	12.798
18:00:00	3.514	100.250	206.88	208.98	206.98	12.549	14.111	13.625
18:00:00	3.460	102.250	207.17	208.94	207.15	12.372	14.580	13.309
19:00:00	3.478	104.036	207.31	209.11	207.33	12.319	14.618	13.200
19:00:00	3.447	105.760	207.55	208.28	207.48	12.181	14.473	13.099
20:00:00	2.124	106.821	208.63	208.49	206.78	7.656	9.632	8.193
20:00:00	3.301	107.850	207.57	208.81	207.51	14.451	15.459	15.145
21:00:00	4.295	109.549	208.32	207.81	207.25	15.284	17.667	15.199
21:00:00	2.558	111.112	206.63	207.65	206.04	9.573	11.593	10.183
22:00:00	1.984	112.050	207.52	209.83	207.43	7.043	8.627	7.819
22:00:00	1.900	113.029	205.17	207.28	205.74	7.143	8.949	7.971
22:00:00	2.642	114.760	206.41	208.22	206.81	8.121	10.127	11.031
22:00:00	2.255	115.723	206.58	208.73	206.79	10.244	12.631	11.681
23:00:00	2.081	117.254	207.82	209.10	207.42	18.260	22.840	11.429
<b>Total</b>								
<b>Average</b>	2.842		206.65	208.18	206.59	10.182	11.765	10.724
<b>Maximum demand</b>	5.327		117.2540	208.23	209.63	18.356	20.610	18.850
<b>Time of maximum demand</b>	2014/09/19 13:30:00	2014/09/19 24:09:09	2014/09/19 04:30:09	2014/09/19 09:09:02	2014/09/19 14:30:00	2014/09/19 20:13:00	2014/09/19 24:30:00	
<b>Load factor</b>	53.35							
<b>Demand factor</b>	56.67							
<b>Facility capacity</b>	10.000							

### Example data format

#### Choose from four display formats

##### Form

Display data for a user-specified interval as a summary form.

##### Daily report

Tabulate data by demand time and display a form summarizing a one-day period.

##### Weekly report

Tabulate data by day and display a form summarizing a one-week period.

##### Monthly report

Tabulate data by day and display a form summarizing a one-month period.

#### Check average and maximum values as well as the time at which the maximum value occurred

(Maximum values for daily, weekly, and monthly reports indicate maximum values as tabulated by demand time.)

When demand power is selected, the following quantities are calculated:

##### Load rate and demand rate

##### WP+ [kWh]: Active energy

Active energy (consumption) from the start of recording

##### Pdem+ [kW]: Active power demand value

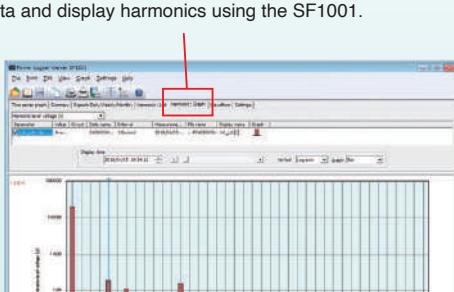
Average active power value (consumption) for each interval

### Weekly report

Date	Time	Pdem+[kW]	WP+[kWh]
Average		2.990	206.49
Maximum demand		5.667	518.3920
Time of maximum demand		2014/09/14 12:30:00	2014/09/14 13:00:00
Load factor	52.75		
Demand factor	56.67		
Facility capacity	10.000		

### Display harmonics and waveform data, convert to CSV format, and save screenshots

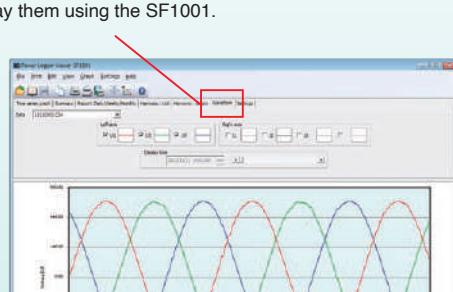
Configure the PW3365's recording settings to save harmonic data and display harmonics using the SF1001.



#### Binary format

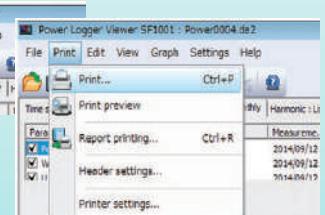
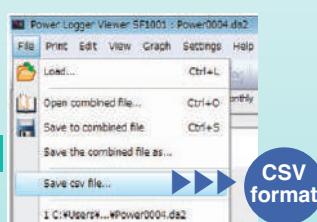
- Harmonic data
- Waveform data

Configure the PW3365's settings to save waveforms and display them using the SF1001.



#### CSV format

Save screen shots and paste into other software or print.



# PW3365-20 Specifications

No dirt or moisture on insulated wire or voltage sensor,  
(Accuracy guaranteed for 1 year)

Measurement											
Number of input channels	Voltage: 3 channels / Current: 3 channels										
Measurement targets (50/60Hz)	Single-phase 2-wire (1P2W, 1P2W × 2 circuits, 1P2W × 3 circuits) Single-phase 3-wire (1P3W, 1P3W+I, 1P3W1U, 1P3W1U+I) Three-phase 3-wire (3P3W2M, 3P3W2M+I, 3P3W3M/Y-wiring only) Three-phase 4-wire (3P4W), Current only: 1 to 3 channels										
Simultaneous power/current measurement modes	1P3W+I : 1 power circuit and 1 current channel 3P3W2M+I : 1 power circuit and 1 current channel										
Measurement items	<table border="1"> <tr> <td>Voltage</td><td>RMS value, fundamental wave value, waveform peak (absolute value), fundamental wave phase angle, frequency (U1)</td></tr> <tr> <td>Current</td><td>RMS value, fundamental wave value, waveform peak (absolute value), fundamental wave phase angle</td></tr> <tr> <td>Power</td><td>Active power, reactive power, apparent power, power factor, (with lag/lead display) or displacement power factor (with lag/lead display), active energy (consumption, regeneration, regeneration), reactive energy(lag, lead) Energy cost display (per-kWh price × power consumption)</td></tr> <tr> <td>Demand</td><td>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</td></tr> <tr> <td>Harmonics</td><td>Harmonic voltage, harmonic current, voltage total harmonic distortion (THD-F or THD-R), current total harmonic distortion (THD-F or THD-R)</td></tr> </table>	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, 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 THD-R)
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, 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 THD-R)										
Voltage range	<table border="1"> <tr> <td>Display range: 5 V to 520 V (less than 5 V displays as 0 V) (harmonic voltage value of 0 indicated for all orders when voltage RMS value is 0)</td></tr> <tr> <td>Effective measurement range: 90 V rms to 520 V rms, peak: ±750 V peak [OVER] indicates over-range warning</td></tr> </table>	Display range: 5 V to 520 V (less than 5 V displays as 0 V) (harmonic voltage value of 0 indicated for all orders when voltage RMS value is 0)	Effective measurement range: 90 V rms to 520 V rms, peak: ±750 V peak [OVER] indicates over-range warning								
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Effective measurement range: 90 V rms to 520 V rms, peak: ±750 V peak [OVER] indicates over-range warning											
Load current	<table border="1"> <tr> <td>CLAMP ON SENSOR 9660 : 5/10/50/100 A</td></tr> <tr> <td>CLAMP ON SENSOR 9661 : 5/10/50/100/500 A</td></tr> <tr> <td>CLAMP ON SENSOR 9669 : 100/200/1kA</td></tr> <tr> <td>CLAMP ON SENSOR 9694 : 500 m/1/5/10/50 A</td></tr> <tr> <td>CLAMP ON SENSOR 9695-02 : 500 m/1/5/10/50 A</td></tr> <tr> <td>CLAMP ON SENSOR 9695-03 : 5/10/50/100 A</td></tr> </table>	CLAMP ON SENSOR 9660 : 5/10/50/100 A	CLAMP ON SENSOR 9661 : 5/10/50/100/500 A	CLAMP ON SENSOR 9669 : 100/200/1kA	CLAMP ON SENSOR 9694 : 500 m/1/5/10/50 A	CLAMP ON SENSOR 9695-02 : 500 m/1/5/10/50 A	CLAMP ON SENSOR 9695-03 : 5/10/50/100 A				
CLAMP ON SENSOR 9660 : 5/10/50/100 A											
CLAMP ON SENSOR 9661 : 5/10/50/100/500 A											
CLAMP ON SENSOR 9669 : 100/200/1kA											
CLAMP ON SENSOR 9694 : 500 m/1/5/10/50 A											
CLAMP ON SENSOR 9695-02 : 500 m/1/5/10/50 A											
CLAMP ON SENSOR 9695-03 : 5/10/50/100 A											
Current ranges	<table border="1"> <tr> <td>AC FLEXIBLE CURRENT SENSOR CT9667-01, -02, -03 : 50/100/500 A (500A range)</td></tr> <tr> <td>AC FLEXIBLE CURRENT SENSOR CT9667-01, -02, -03 : 500/1 k/5 k A (5000A range)</td></tr> <tr> <td>LEAK CLAMP ON SENSOR 9675 : 50 m/100 m/500 m/1/5 A</td></tr> <tr> <td>LEAK CLAMP ON SENSOR 9657-10 : 50 m/100 m/500 m/1/5 A</td></tr> </table>	AC FLEXIBLE CURRENT SENSOR CT9667-01, -02, -03 : 50/100/500 A (500A range)	AC FLEXIBLE CURRENT SENSOR CT9667-01, -02, -03 : 500/1 k/5 k A (5000A range)	LEAK CLAMP ON SENSOR 9675 : 50 m/100 m/500 m/1/5 A	LEAK CLAMP ON SENSOR 9657-10 : 50 m/100 m/500 m/1/5 A						
AC FLEXIBLE CURRENT SENSOR CT9667-01, -02, -03 : 50/100/500 A (500A range)											
AC FLEXIBLE CURRENT SENSOR CT9667-01, -02, -03 : 500/1 k/5 k A (5000A range)											
LEAK CLAMP ON SENSOR 9675 : 50 m/100 m/500 m/1/5 A											
LEAK CLAMP ON SENSOR 9657-10 : 50 m/100 m/500 m/1/5 A											
Leakage current	<table border="1"> <tr> <td>Total display range: Within 0.4 to 130% of the range (zero is suppressed for less than 0.4%) (harmonic current value of 0 indicated for all orders when current RMS value is 0)</td></tr> <tr> <td>Effective measurement range: Within 5 to 110% of the range [OVER] indicates over-range warning</td></tr> </table>	Total display range: Within 0.4 to 130% of the range (zero is suppressed for less than 0.4%) (harmonic current value of 0 indicated for all orders when current RMS value is 0)	Effective measurement range: Within 5 to 110% of the range [OVER] indicates over-range warning								
Total display range: Within 0.4 to 130% of the range (zero is suppressed for less than 0.4%) (harmonic current value of 0 indicated for all orders when current RMS value is 0)											
Effective measurement range: Within 5 to 110% of the range [OVER] indicates over-range warning											
Power ranges	<table border="1"> <tr> <td>200.00 W to 6.0000 MW</td></tr> <tr> <td>Depends on voltage/current combination and measured line type (see Measurement Range Configuration Tables)</td></tr> <tr> <td>Total display range: Within 0 to 130% of the range ("0W" display indicates zero rms voltage and/or current)</td></tr> <tr> <td>Effective measurement area: Within 5 to 130% of the range</td></tr> </table>	200.00 W to 6.0000 MW	Depends on voltage/current combination and measured line type (see Measurement Range Configuration Tables)	Total display range: Within 0 to 130% of the range ("0W" display indicates zero rms voltage and/or current)	Effective measurement area: Within 5 to 130% of the range						
200.00 W to 6.0000 MW											
Depends on voltage/current combination and measured line type (see Measurement Range Configuration Tables)											
Total display range: Within 0 to 130% of the range ("0W" display indicates zero rms voltage and/or current)											
Effective measurement area: Within 5 to 130% of the range											
Measurement accuracy (50/60Hz)	Voltage : ±1.5% rdg. ±0.8 V (combined accuracy with PW3365-20 + PW9020) Current : ±0.3% rdg. ±0.1% f.s. + clamp sensor accuracy Active power : ±2.0% rdg. ±0.3% f.s. + clamp sensor accuracy (power factor = 1)										
Calculations	RMS calculation/ fundamental wave calculation										
VT ratio settings	Any 0.01 to 9999.99 Selections 1/60/100/200/300/600/700/1000/2000/2500/5000										
CT ratio settings	Any 0.01 to 9999.99 Selections 1/40/60/80/120/160/200/240/300/400/600/800/1200										
Input methods	Voltage: Isolated inputs using Voltage Sensor PW9020 Current: Isolated input using a clamp-on sensor										
Display update rate	Approx. 0.5 sec (except when accessing SD card or internal memory, or during LAN/USB communication)										
Measurement method	Digital sampling and zero cross synchronization calculation method Sampling: 10.24 kHz (2048 points) Calculation processing 50 Hz: Continuous, gapless measurement at 10 cycles 60 Hz: Continuous, gapless measurement at 12 cycles										

\*<sup>1</sup>For individual clamp sensors' accuracy and combined accuracy figures, see pages 14 and 15.

Harmonic Specifications	
Standard	IEC 61000-4-7:2002 (but without harmonics for intermediate orders)
Window width	50 Hz: 10 cycles; 60 Hz: 12 cycles (with interpolation)
Analyzed orders	Up to 13th order
Analysis parameters	Harmonic levels: Voltage and current harmonic level for each order (With 3P3W2M connection, U12 and I12, which are calculated as part of third channel computations, are not displayed.) Harmonic content percentages: Voltage and current content percentages for each order; total harmonic distortion: voltage and current (THD-F or THD-R)
Measurement accuracy	Harmonic level Voltage PW3365 alone: ±5% rdg. ±0.2% f.s. Combined accuracy for PW3365 and PW9020: ±30% rdg. ±3% f.s. (input for each order up to 5% of the fundamental wave, THD-F up to 10%) Current ±5% rdg. ±0.2% f.s. + sensor accuracy Total harmonic distortion: Accuracy not defined

Screen Display		General
List	Voltage, current, frequency, active/apparent/reactive power power factor, integrated power use, elapsed time	Product guarantee 3 year
U/I	RMS value, fundamental wave value, waveform peak, phase angle	3.5 inch TFT color LCD (320 × 240 pixel)
Power	Per-channel and total active power, apparent power, reactive power, power factor	Display Japanese, English, Chinese, Korean, German, Italian, French, Spanish, Turkish Backlight auto-off function (after 2 minutes) When AUTO OFF is active, the Power LED blinks
Integ	Active energy, reactive energy, recording start time recording stop time, elapsed time, energy cost	Operating environment Indoors, Pollution degree 2, altitude up to 2000 m (6562-ft.)
Demand	Active power demand value, reactive power demand value power factor demand value	Operating temperature and humidity (no condensation) -10°C to 50°C (14°F to 122°F), 80% RH or less During battery operation: 0°C to 40°C (32°F to 104°F), 80% RH or less During battery charging: 10°C to 40°C (50°F to 104°F), 80% RH or less
Waveform	Displays voltage and current waveform	Storage temperature and humidity (no condensation) 0°C to 60°C (32°F to 140°F), 80% RH or less However, the battery's storage temperature range is -10°C to 30°C (14°F to 86°F)
Zoom	Enlarged view of 4 user-selected parameters	Maximum rated voltage between terminals Voltage input section : 1.7 VAC, 2.4 Vpeak Current input section : 1.7 VAC, 2.4 Vpeak
Trend	For one selected measurement item (not including harmonics other than demand and THD) displays maximum, average and minimum values	Maximum rated voltage to earth Voltage input section: 600V Measurement Category III 300V Measurement Category IV Current input section: Depends on clamp sensor in use.
Harmonics	Displays voltage and current levels and content percentages as a graph or list	Dielectric strength 7.06 kVrms AC

Recording		Applicable standards
Save destination	SD Card, internal memory (capacity: approx. 320 KB)	Safety: EN61010, EMC: EN61326
Save interval time	1/2/5/10/15/30 seconds, 1/2/5/10/15/20/30/60 minutes Available storage time is displayed on the PW3365-20's setting screen	Power supply (1) Z1008 AC Adapter : 100 V AC to 240 V AC Maximum rated power : 45 VA (including AC adapter) (2) Model 9459 Battery Pack : Ni-MH DC7.2 V 2700 mAh Continuous battery operation time Approx. 3 hr. Maximum rated power : 5 VA
Save items	Measurement save : Average only/all (without harmonics) Average only/all (with harmonics) Screen save : Saves the displayed screen as a BMP at a fixed interval* Waveform save : Stores binary waveform data* <sup>2</sup>	Charge function Charge time: Max. 6 hr. 10 min. (reference value at 23°C) Charges the battery regardless of whether the instrument is on or off
Recording start methods	Interval time, manual, or at specified time, repeat	Backup battery life Clock and settings (Lithium battery), Approx. 10 years @23°C (@73.4°F)
Recording stop methods	Manual, or at specified time (up to one year), timer	Dimensions Approx. 180W(7.09") × 100H(3.94") × 48D (1.89") mm (without PW9002) Approx. 180W(7.09") × 100H(3.94") × 68D (2.68") mm (with PW9002)
		Mass Approx. 540g (19 oz) (without PW9002), Approx. 820g (28.9 oz) (with PW9002)
		Accessories SAFETY VOLTAGE SENSOR PW9020 (4) AC ADAPTER Z1008 (1) USB cable (1) Instruction manual (1) Measurement guide (1) Red, yellow, blue and white color clips (4 each) Spiral tubes (10)

## POWER LOGGER VIEWER SF1001 Specifications

Functions		General Specifications
Trend graph display function	Display items Voltage, current, active power, reactive power, apparent power, power factor, frequency, integrated active power, integrated reactive power, demand volume, demand value, voltage dis-equilibrium factor Stacked bar graph display : Up to 16 types of data series Cursor measurements Measurement values can be displayed by the cursor	Print function Preview and print content shown on the trend graph, report, harmonic graph and settings displays. Comment entry (Text comments can be entered in any printout) Header/Footer settings: Sets the header and footer for each printout Printing support Any color or monochrome printing supported by the operating system
Summary display function	Displayed items are the same as for the trend Graph Display Daily, weekly and monthly report displays: Accumulates and displays daily, weekly and monthly reports over specified period. Load factor calculation display: Calculates and displays load factor and demand factor results with daily, weekly and monthly reports Time span aggregation: Aggregates data into up to four specified time spans	Report printing Print (static) contents over a specific time period Output contents: Standard or selected output items Available output items: Trend graph, summary, daily report, waveform Report creation method: Standard print Report output settings: Save/load report output settings
Waveform display	Displays waveform data at specified date and time	Supported models PW3365-20 / PW3360-20 / PW3360-21 LR5000 series : Data previously loaded by the LR5000 Utility (.hrp2 format) using a PC
Copy function	Captures any display image to the clipboard	Supported computer operating systems Windows 10 (32/64bit) Windows 8 (32/64bit) Windows 7 SP1 or later (32/64bit)



## Current CLAMP

					
CLAMP ON SENSOR 9694	CLAMP ON SENSOR 9660	CLAMP ON SENSOR 9661	CLAMP ON SENSOR 9669	CLAMP ON SENSOR 9695-02	CLAMP ON SENSOR 9695-03
Cord length 3 m (9.84ft)	Cord length 3 m (9.84ft)	Cord length 3 m (9.84ft)	Cord length 3 m (9.84ft)	Connect with the 9695-02/-03, Output BNC terminal Cord length: 3 m (9.84ft)	CONNECTION CORD 9219
<b>Measurable conductor diameter</b> φ15 mm (0.59")	<b>Measurable conductor diameter</b> φ15 mm (0.59")	<b>Measurable conductor diameter</b> φ46 mm (0.81")	<b>Measurable conductor diameter</b> φ55 mm (2.17") 80 (3.15")×20 (0.79") mm	<b>Measurable conductor diameter</b> φ15 mm (0.59")	<b>Measurable conductor diameter</b> φ15 mm (0.59")
<b>Primary current rating</b> 5 A AC	<b>Primary current rating</b> 100 A AC	<b>Primary current rating</b> 500 A AC	<b>Primary current rating</b> 1000 A AC	<b>Primary current rating</b> 50 A AC	<b>Primary current rating</b> 100 A AC
<b>Accuracy</b> Amplitude (45 to 66 Hz) / Phase (45 Hz to 5 kHz) ±0.3% rdg.±0.02% f.s. Within ±2°	<b>Accuracy</b> Amplitude (45 to 66 Hz) / Phase (45 Hz to 5 kHz) ±0.3% rdg.±0.02% f.s. Within ±1°	<b>Accuracy</b> Amplitude (45 to 66 Hz) / Phase (45 Hz to 5 kHz) ±0.3% rdg.±0.01% f.s. Within ±0.5°	<b>Accuracy</b> Amplitude (45 to 66 Hz) / Phase (45 Hz to 5 kHz) ±1.0% rdg.±0.01% f.s. Within ±1°	<b>Accuracy</b> Amplitude (45 to 66 Hz) / Phase (45 Hz to 5 kHz) ±0.3% rdg.±0.02% f.s. Within ±2°	<b>Accuracy</b> Amplitude (45 to 66 Hz) / Phase (45 Hz to 5 kHz) ±0.3% rdg.±0.02% f.s. Within ±1°
<b>Frequency characteristic</b> 40Hz to 5kHz Within ±1.0%	<b>Frequency characteristic</b> 40Hz to 5kHz Within ±1.0%	<b>Frequency characteristic</b> 40Hz to 5kHz Within ±1.0%	<b>Frequency characteristic</b> 40Hz to 5kHz Within ±2.0%	<b>Frequency characteristic</b> 40Hz to 5kHz Within ±1.0%	<b>Frequency characteristic</b> 40Hz to 5kHz Within ±1.0%
<b>Effect of external magnetic field</b> with a magnetic field of 400 A/m AC Equivalent to 0.1 A or less	<b>Effect of external magnetic field</b> with a magnetic field of 400 A/m AC Equivalent to 0.1 A or less	<b>Effect of external magnetic field</b> with a magnetic field of 400 A/m AC Equivalent to 0.1 A or less	<b>Effect of external magnetic field</b> with a magnetic field of 400 A/m AC Equivalent to 1 A or less	<b>Effect of external magnetic field</b> with a magnetic field of 400 A/m AC Equivalent to 0.1 A or less	<b>Effect of external magnetic field</b> with a magnetic field of 400 A/m AC Equivalent to 0.1 A or less
<b>Effect of conductor position</b> Within ±0.5%	<b>Effect of conductor position</b> Within ±0.5%	<b>Effect of conductor position</b> Within ±0.5%	<b>Effect of conductor position</b> Within ±1.5%	<b>Effect of conductor position</b> Within ±0.5%	<b>Effect of conductor position</b> Within ±0.5%
<b>Maximum rated voltage to earth</b> CAT III 300 V rms	<b>Maximum rated voltage to earth</b> CAT III 300 V rms	<b>Maximum rated voltage to earth</b> CAT III 600 V rms	<b>Maximum rated voltage to earth</b> CAT III 600 V rms	<b>Maximum rated voltage to earth</b> CAT III 300 V rms	<b>Maximum rated voltage to earth</b> CAT III 300 V rms
<b>Maximum input</b> 45-66 Hz 50 A continuous	<b>Maximum input</b> 45-66 Hz 130 A continuous	<b>Maximum input</b> 45-66 Hz 550 A continuous	<b>Maximum input</b> 45-66 Hz 1000 A continuous	<b>Maximum input</b> 45-66 Hz 60 A continuous	<b>Maximum input</b> 45-66 Hz 130 A continuous
<b>Dimensions / Mass</b> 46W×135H×21D mm / 230 g (1.81")×(5.31")×(0.83") / (8.1 oz)	<b>Dimensions / Mass</b> 46W×135H×21D mm / 230 g (1.81")×(5.31")×(0.83") / (8.1 oz)	<b>Dimensions / Mass</b> 77W×151H×42D mm / 380 g (3.03")×(5.94")×(1.65") / (13.4 oz)	<b>Dimensions / Mass</b> 99.5W×188H×42D mm / 590 g (3.92")×(7.40")×(1.65") / (20.8 oz)	<b>Dimensions / Mass</b> 50.5W×58H×18.7D mm / 50 g (2.28")×(2.28")×(0.74") / (1.8 oz)	<b>Dimensions / Mass</b> 50.5W×58H×18.7D mm / 50 g (2.28")×(2.28")×(0.74") / (1.8 oz)



CT9667-01      CT9667-02      CT9667-03  
AC FLEXIBLE CURRENT SENSOR

Cord length : Sensor - circuit: 2 m (6.56ft) , Circuit - connector: 1 m (3.28ft)

<b>Measurable conductor diameter</b>	CT9667-01 : φ100 mm, CT9667-02 : φ180 mm CT9667-03 : φ254 mm
<b>Primary current rating</b>	AC500 A/ AC5000 A (Switchable)
<b>Accuracy</b> 45-66Hz	±2.0% rdg ± 0.3% f.s. / Within ±1°
<b>Frequency</b> 10-20kHz	Within ± 3dB
<b>Effect of external magnetic field</b>	2.4% f.s. or less
<b>Effect of conductor position</b>	Within ± 3%
<b>Maximum rated voltage to earth</b>	CAT III 1000 V rms/ CAT IV 600 V rms
<b>Maximum input</b> 45-66Hz	10000 A continuous
<b>Dimensions / Mass</b>	Circuit box: 35W×120.5H×34D CT9667-01, -02 : 280 g, CT9667-03 : 470 g
<b>Power supply</b>	LR06 alkaline battery × 2 or AC ADAPTER 9445-02/9445-03 (optional)



CLAMP ON LEAK SENSOR  
9657-10      CLAMP ON LEAK SENSOR  
9675  
Leakage Current Measurement Only  
Cord length : 3 m (9.84ft)

<b>Measurable conductor diameter</b>	φ40 mm
<b>Primary current rating</b>	AC 10 A*
<b>Accuracy</b>	±1.0% rdg ±0.05% f.s. / Within ±3°
<b>Frequency</b> 40 - 5kHz	Within ± 5%
<b>Effect of external magnetic field</b>	7.5 mA max.
<b>Effect of conductor position</b>	Within ±0.1%
<b>Measurable conductor</b>	Insulated conductor
<b>Maximum input</b> 45-66Hz	30A continuous
<b>Dimensions / Mass</b>	74W×145H×42D / 380g
<b>Notes</b>	Not used for power measurements *Maximum AC measurement range with PW3365-20 is 5 A
	Not used for power measurements *Maximum AC measurement range with PW3365-20 is 5 A

## Measurement Range Configurations

CLAMP ON SENSOR 9694 / 9695-02 *1									
Voltage	Connection	Current							
400.0 V	1P2W	500.00 mA	1.0000 A	5.0000 A	10.000 A	50.000 A			
	1P3W	200.00 W	400.00 W	2.0000 kW	4.0000 kW	20.000 kW			
	1P3W1U								
	3P3W2M	400.00 W	800.00 W	4.0000 kW	8.0000 kW	40.000 kW			
	3P3W3M								
	3P4W	600.00 W	1.2000 kW	6.0000 kW	12.000 kW	60.000 kW			
CLAMP ON SENSOR 9660 / 9695-03 / 9661*2									
Voltage	Connection	Current				9661 only			
400.0 V	1P2W	5.0000 A	10.000 A	50.000 A	100.00 A	500.00 A			
	1P3W	2.0000 kW	4.0000 kW	20.000 kW	40.000 kW	200.00 kW			
	1P3W1U								
	3P3W2M	4.0000 kW	8.0000 kW	40.000 kW	80.000 kW	400.00 kW			
	3P3W3M								
	3P4W	6.0000 kW	12.000 kW	60.000 kW	120.00 kW	600.00 kW			
CLAMP ON SENSOR 9669									
Voltage	Connection	Current							
400.0 V	1P2W	100.00 A	200.00 A	1.0000 kA					
	1P3W	40.000 kW	80.000 kW	400.00 kW					
	1P3W1U								
	3P3W2M	80.000 kW	160.00 kW	800.00 kW					
	3P3W3M								
	3P4W	120.00 kW	240.00 kW	1.2000 MW					
AC FLEXIBLE CURRENT SENSOR CT9667-01, -02, -03 (5 kA)									
Voltage	Connection	Current							
400.0 V	1P2W	500.00 A	1.0000 kA	5.0000 kA					
	1P3W	200.00 kW	400.00 kW	2.0000 MW					
	1P3W1U								
	3P3W2M	400.00 kW	800.00 kW	4.0000 MW					
	3P3W3M								
	3P4W	600.00 kW	1.2000 MW	6.0000 MW					
AC FLEXIBLE CURRENT SENSOR CT9667-01, -02, -03 (500 A)									
Voltage	Connection	Current							
400.0 V	1P2W	50.00 A	100.00 A	500.00 A					
	1P3W	20.000 kW	40.000 kW	200.00 kW					
	1P3W1U								
	3P3W2M	40.000 kW	80.000 kW	400.00 kW					
	3P3W3M								
	3P4W	60.000 kW	120.00 kW	600.00 kW					
Leak current: CLAMP ON LEAK SENSOR 9657-10, 9675									
Range		50.000 mA/ 100.00 mA/ 500.00 mA/ 1.0000 A/ 5.0000 A							

## Combined Accuracy PW3365-20 + PW9020 + clamp sensors

Range	9694	9695-02
50.000 A	-	±2.3% rdg. ±0.32% f.s.
10.000 A	-	±2.3% rdg. ±0.4% f.s.
5.0000 A	±2.3% rdg. ±0.32% f.s.	±2.3% rdg. ±0.5% f.s.
1.0000 A	±2.3% rdg. ±0.4% f.s.	±2.3% rdg. ±1.3% f.s.
500.00 mA	±2.3% rdg. ±0.5% f.s.	±2.3% rdg. ±2.3% f.s.
Range	9660, 9695-03	9661
500.00 A	-	±2.3% rdg. ±0.31% f.s.
100.00 A	±2.3% rdg. ±0.32% f.s.	±2.3% rdg. ±0.35% f.s.
50.000 A	±2.3% rdg. ±0.34% f.s.	±2.3% rdg. ±0.4% f.s.
10.000 A	±2.3% rdg. ±0.5% f.s.	±2.3% rdg. ±0.8% f.s.
5.0000 A	±2.3% rdg. ±0.7% f.s.	±2.3% rdg. ±1.3% f.s.
Range	9669	
1.0000 kA	±3% rdg. ±0.31% f.s.	
200.00 A	±3% rdg. ±0.35% f.s.	
100.00 A	±3% rdg. ±0.4% f.s.	
Range	CT9667-01, -02, -03 5.000A range	CT9667-01, -02, -03 500A range
5.0000 kA	±4% rdg. ±0.6% f.s.	-
1.0000 kA	±4% rdg. ±1.8% f.s.	-
500.00 A	±4% rdg. ±3.3% f.s.	±4% rdg. ±0.6% f.s.
100.00 A	-	±4% rdg. ±1.8% f.s.
50.000 A	-	±4% rdg. ±3.3% f.s.
Conditions of guaranteed accuracy		After 30 minute warm-up, with 50/60 Hz sine wave input voltage to earth 400V or less
Temperature and humidity for guaranteed accuracy		23°C ±5°C (73 ± 9°F), 80%RH or less (applies to all specifications unless otherwise noted)
Display area of guaranteed accuracy		Effective measurement range
Real-time clock accuracy		Within ±0.3 sec/day (with power on, within specified operating temperature and humidity ranges)
Temperature characteristic		Within ±0.1% f.s./ °C (except 23±5°C)
Effect of external magnetic field		Within ±1.5% f.s. (in a magnetic field of 400 A/m rms AC, 50 Hz/60 Hz)
Effect of radiated, radio-frequency, electromagnetic field		Within ±5% f.s. for voltage and active power at 10 V/m
Apparent power		±1 dgt. for the calculation obtained from each measurement value
Reactive power		Fundamental waveform calculations ±2.0% rdg. ±3.0% f.s. + clamp-on sensor accuracy (w/power factor = 1)
		Rms calculations From each measurement applied to calculation ±1 dgt.
Energy		Active and reactive power measurement accuracies ±1 dgt.
Power factor		From each measurement applied to calculation ±1 dgt.
Frequency		±0.5% rdg. (with 90 to 520 V sine wave input)
Demand value		Active and reactive power measurement accuracies ±1 dgt.
Demand quantity		Active and reactive power measurement accuracies ±1 dgt.

\*1 For the 9694 sensor, the range of guaranteed accuracy is from 500 mA to 5 A, and for the 9695-02, from 500 mA to 50 A.

\*2 For the 9660 and 9695-03 sensors, the range of guaranteed accuracy is from 5 A to 100 A and for the 9661, from 5 A to 500 A.

## Current Display and Effective Measurement Ranges

typical

	Range	Total display range	Effective measurement range		Total display range	Effective peak
		Minimum	Minimum	Maximum	Maximum	Range
Voltage	400 V Range	5.0 V	90.0 V	520.0 V	520.0 V	±750 V peak
Current	5 A Range	0.0200 A	0.2500 A	5.5000 A	6.5000 A	±20 A peak
	10 A Range	0.040 A	0.500 A	11.000 A	13.000 A	±40 A peak
	50 A Range	0.200 A	2.500 A	55.000 A	65.000 A	±200 A peak
	100 A Range	0.40 A	5.00 A	110.00 A	130.00 A	±400 A peak
	500 A Range	2.00 A	25.00 A	550.00 A	650.00 A	±1000 A peak



\* Voltage sensors: bundled

\* Current sensors: sold separately



GERMAN DESIGN  
AWARD  
2016

\* For PW3365

## Accessories

- SAFETY VOLTAGE SENSOR PW9020 x4
- AC ADAPTER Z1008 x1
- USB cable (0.9 m, 2.95 ft length) x1
- Instruction manual x1
- Measurement guide x1
- Color clips (red, green, yellow, white) 4 each
- Spiral tubes x10



### Model : CLAMP ON POWER LOGGER PW3365

Model No. (Order Code) (Note)

PW3365-20 (English model, main unit only)

Clamp On Power Logger PW3365-20 by itself does not support current and power measurements. Current and power measurements require clamp on sensors, sold separately. Use only HIOKI SD cards guaranteed to work for saving measurement data (options, sold separately).

## Options

### CLAMP ON SENSOR (for load current measurement)

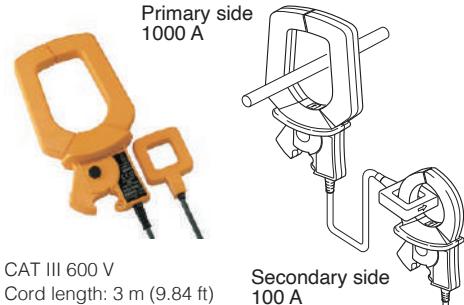
CLAMP ON SENSOR	9694	(AC 5 A)
CLAMP ON SENSOR	9660	(AC 100 A)
CLAMP ON SENSOR	9661	(AC 500 A)
CLAMP ON SENSOR	9669	(AC 1000 A)
AC FLEXIBLE CURRENT SENSOR	CT9667-01	(AC 500 A/ 5000 A)
AC FLEXIBLE CURRENT SENSOR	CT9667-02	(AC 500 A/ 5000 A)
AC FLEXIBLE CURRENT SENSOR	CT9667-03	(AC 500 A/ 5000 A)
CLAMP ON SENSOR (Not CE marked) *	9695-02	(AC 50 A)
CLAMP ON SENSOR (Not CE marked) *	9695-03	(AC 100 A)
CONNECTION CORD	9219	(for connection to 9695-02, 9695-03)

\* When purchasing the 9695-02 and 9695-03, we recommend also purchasing the separately sold 9219 Connection Cord.

### CLAMP ON LEAK SENSOR (for leakage current measurement)

CLAMP ON LEAK SENSOR	9657-10
CLAMP ON LEAK SENSOR	9675

### CLAMP ON ADAPTER 9290-10



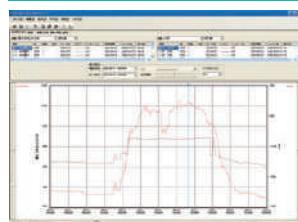
CAT III 600 V  
Cord length: 3 m (9.84 ft)

Secondary side  
100 A

### Measurable conductor diameter

φ55 mm (2.17 in)  
Bus bar : 80 mm (3.46 in) 5 20 mm (0.79 in)  
CT ratio : 10:1  
MAX. 1500 A AC (continuous: 1000 A)

### POWER LOGGER VIEWER SF1001



### Supported computer operating systems

Trend graph display function  
Summary display function  
Waveform display, Print function  
Report printing

### BATTERY SET PW9002



Battery Case and Battery Pack Set

### BATTERY PACK 9459

For purchase  
as replacement battery pack

### SAFETY VOLTAGE SENSOR PW9020



PW3365-20 is bundled with 4 sensors  
Additional single sensors also available  
Cord length: 3 m (9.84 ft)

### CARRYING CASE C1005/C1008



The photo shows C1008.

### C1005

Dimension : 390W (15.4")  
(Approx) 275H (10.8")  
110D (4.3") mm

### C1008

390W (15.4")  
275H (10.8")  
150D (5.9") mm

### AC ADAPTER Z1008



Includes standard  
For separate purchase

### SD MEMORY CARD Z4003



8 GB capacity

### SD MEMORY CARD 2GB Z4001



2 GB capacity

Stores up to one year's data when acquired at one minute intervals. Performance cannot be guaranteed on storage media other than Hioki-specified SD card options.

### LAN CABLE 9642



Straight Ethernet cable, supplied with straight to cross conversion adapter, 5 m (16.41 ft) length

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HIOKI E.E. CORPORATION

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