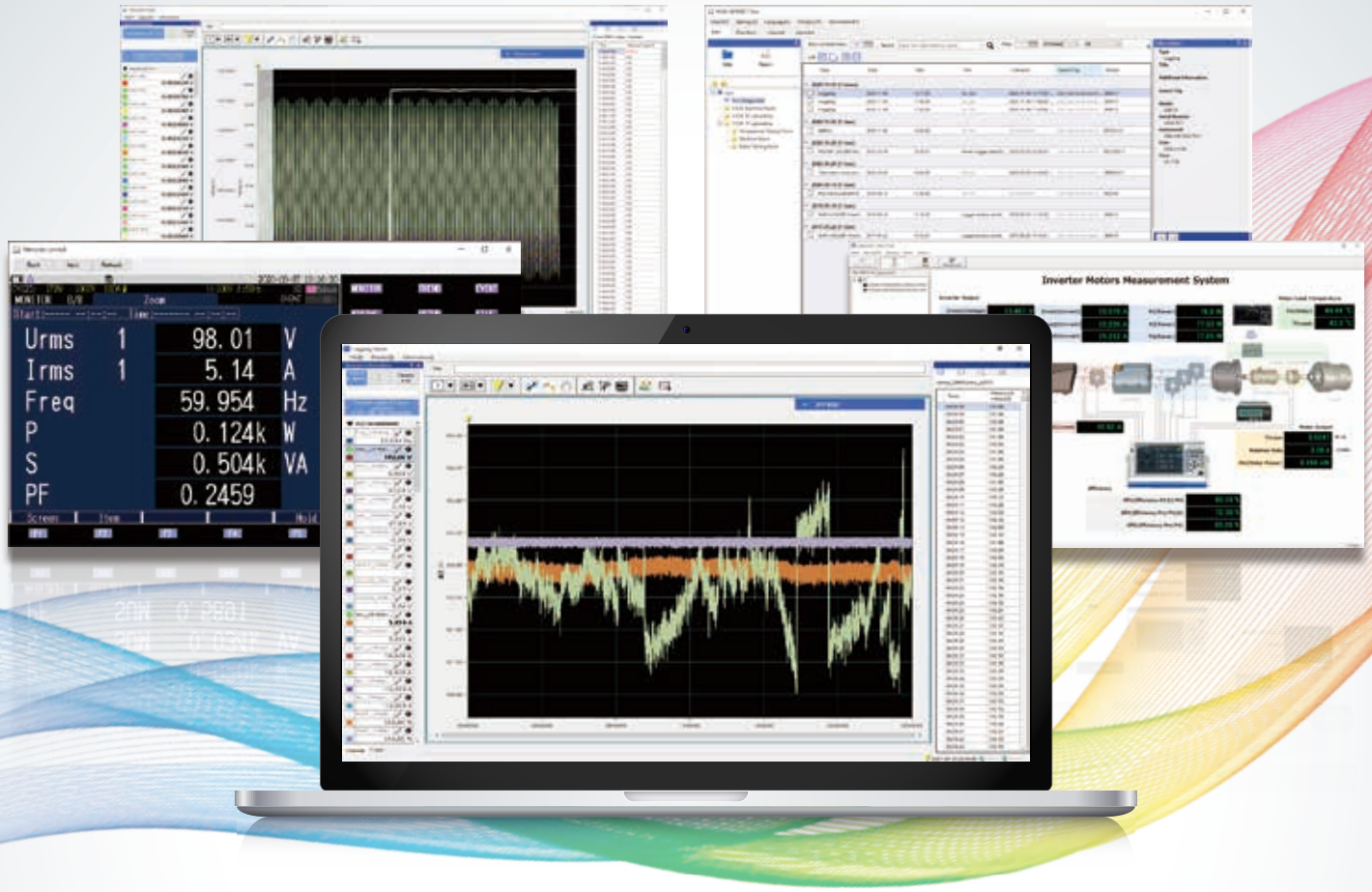
HIOKI

GENNECT One SF4000




# Linking Together a Diverse Array of Instruments

Connect

Monitor and Control

Record

Collect and View

GENNECT One

*The name GENNECT was coined from the Japanese word for “field” (genba) and the English word connect.

**Special WEB site**

Scan this QR Code for more information about GENNECT One.

# Extensive Support for Tasks Ranging from Monitoring to Reporting

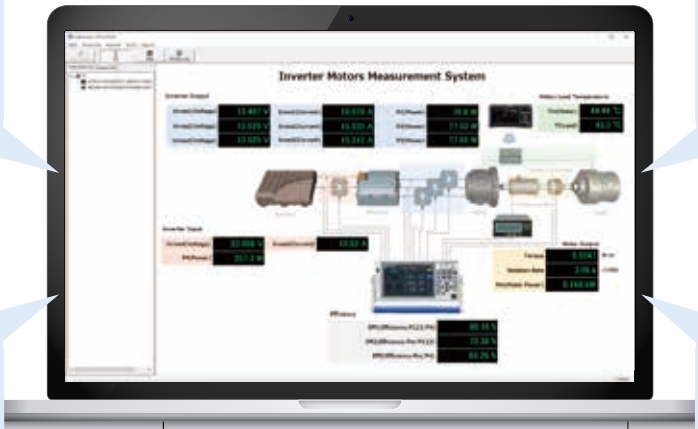
Introducing a programming-less solution
GENNECT One links together a diverse array of instruments so you can solve problems in the field.

## Daily monitoring

Monitor measured values from the field in real time.

## Remote control

Change settings remotely, without the need to visit the measurement field.




## Anomaly detection

React quickly to anomalies occurring in the field.

## Daily report creation

Easily compile regular reports.

**HUB**

**Connect each measuring instrument with LAN cable**

**LAN** | **LAN** | **LAN** | **LAN** | **LAN** | **USB**

### Power Analysis

PW6001
PW3390
PW8001*
PW3335*
PW3336*
PW3337*

*Support coming soon

### Monitoring Power Quality

PQ3100
PQ3198

### Understanding Power Consumption

PW3360
PW3365

### Voltage and temperature management

LR8450,50-01
LR8410
LR8400 series

### Waveform Analysis

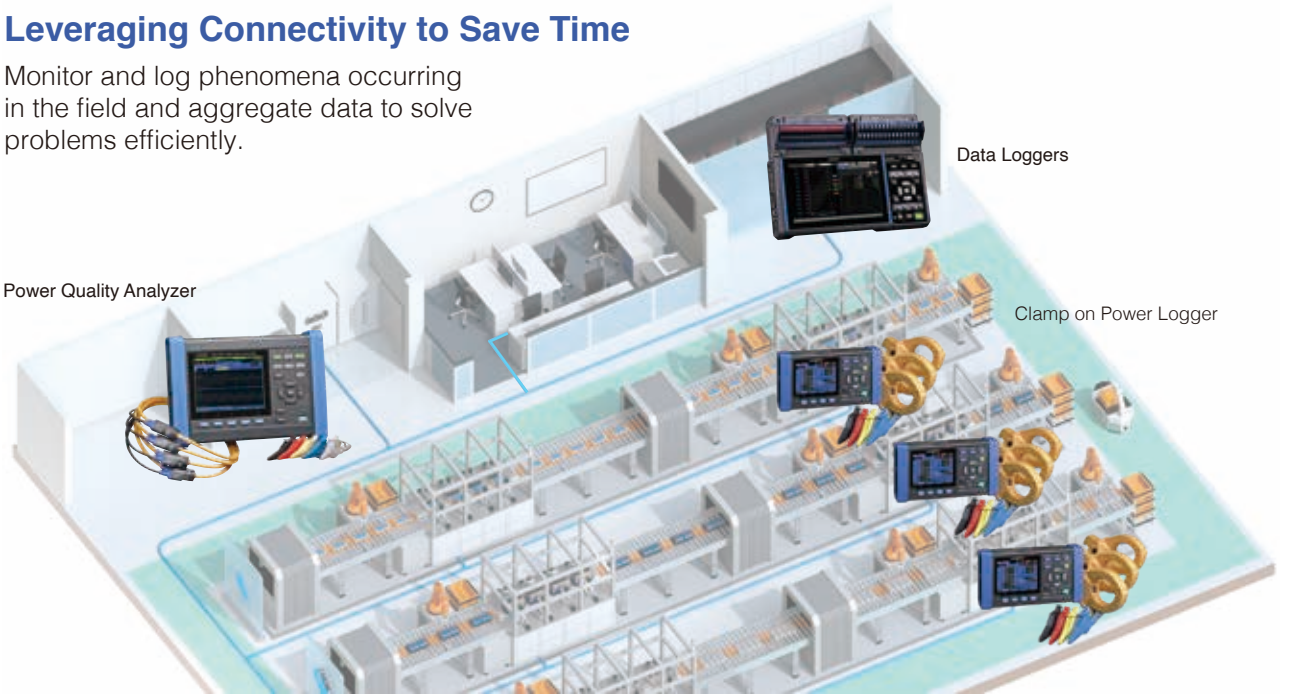
MR6000

### UPS Inspection

BT3554
BT3554-50

## Leveraging Connectivity to Save Time

Monitor and log phenomena occurring in the field and aggregate data to solve problems efficiently.




| Task | Functions and capabilities |
|---|---|
| Daily monitoring, anomaly detection | Display measured values from multiple, PC-connected instruments on an intuitive and illustrative **dashboard** by freely placing the measurement values and other elements anywhere on your own photos or diagrams. Set threshold ranges to **set alarms and check their states** on the display. Leverage this information to respond more quickly to problems in the field. |
| Remote control | Use **remote control** functionality to change the settings of multiple LAN-connected instruments from a PC without the need to visit the fields. **Synchronize instruments' clocks** to a PC's clock regularly and automatically without using dedicated triggers. |
| Collection and summarization of data from multiple instruments; daily report creation | Aggregate **logging** data from multiple instruments and display it using graphs. Boost work efficiency by easily tabulating measurement data on a daily basis and automatically generating daily reports or CSV files. |
| Central management of measurement data | **Automatically transfer** measurement files saved on instruments to a PC, **acquire files manually,** or review data as a time series using the **time-series viewer**. Launch dedicated software if you need to analyze measurement data in more detail. |

## Compatible instruments

| | Time series viewer | Logging | Dashboard | File Acquisition (Manual)*1 | File Transfer (automatic) | Remote control | Import data from instruments (USB) | Configure instrument settings | Automatic time synchronization *4 |
|---|---|---|---|---|---|---|---|---|---|
| | | LAN | | | | | | | |
| **Power Quality Analyzer** | | | | | | | | | |
| PQ3100 | – | ✔ | ✔ | ✔ | ✔ | ✔ | – | – | ✔ |
| PQ3198 | – | ✔ | ✔ | ✔ | ✔ | ✔ | – | – | ✔ |
| **Clamp on Power Logger** | | | | | | | | | |
| PW3360, PW3365 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | – | – | ✔ |
| **Power Analyzer** | | | | | | | | | |
| PW3390 | – | ✔ | ✔ | ✔ | – | ✔ | – | – | ✔ |
| PW6001 | – | ✔ | ✔ | ✔ | – | ✔ | – | – | ✔ |
| PW8001 *5 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | – | – | ✔ |
| **Power Meters** | | | | | | | | | |
| PW3335, PW3336, PW3337 *5 | – | ✔ | ✔ | – | – | ✔ | – | – | ✔ |
| **Data Loggers** | | | | | | | | | |
| LR8450, LR8450-01 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | – | – | ✔ |
| LR8410, LR8416 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ *2 | – | – | ✔ |
| LR5001, LR5011, LR5021, LR5031, LR5014, LR5042, LR5043, LR5051, LR5061 | ✔ *3 | – | – | – | – | – | – | – | – |
| **Memory HiCorder** | | | | | | | | | |
| MR6000 | – | ✔ | ✔ | ✔ | ✔ | ✔ | – | – | ✔ |
| **Battery Tester** | | | | | | | | | |
| BT3554-50 | – | – | – | – | – | – | ✔ | ✔ | – |

*1 The type of storage supported varies with the instrument.

*2 GENNECT One only supports Internet Explorer 11 with Java installed (because it uses a Java applet).

*3 GENNECT One can import measurement files acquired by the PC application software "LR5000 Utility".

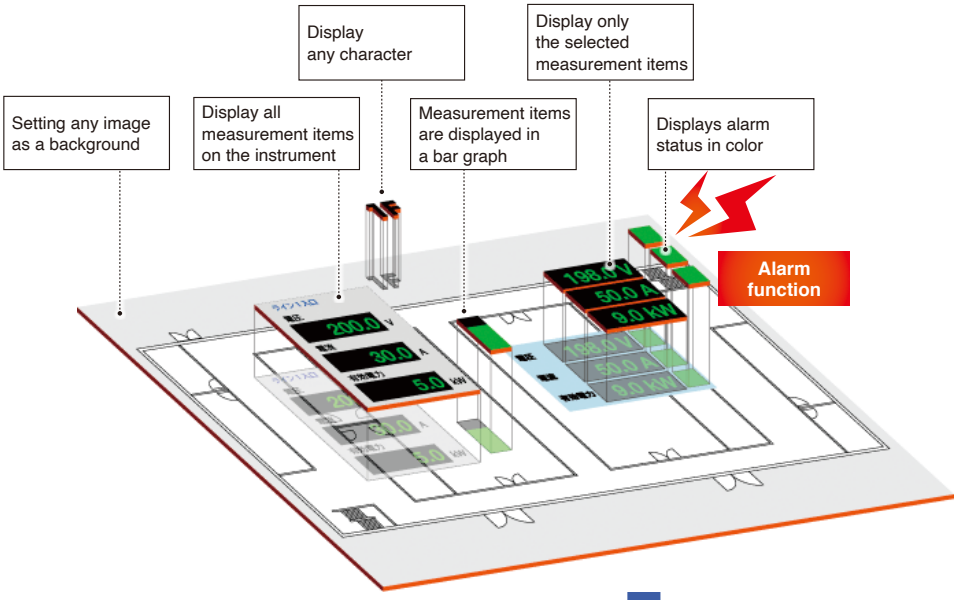
*4 When setting the clock of measuring instruments, the measurement or the integration may pause. *5 Support coming soon

# Monitoring and Controling

## In manufacturing…

**Dashboard**

Create a dashboard by freely placing components like measured values , alarms, and graphs onto your original background image. Measured values can be logged while displaying them on the dashboard in real time.




**Issue**

You want to react quickly to anomalies at the field.

**Solution: Anomaly Detection**

Generate alarms whenever measured values exceed the user's own threshold values and review them on a PC in the office.

Layout parts change to alarm color when the set threshold range is exceeded.
The date, time and content of the alarm are automatically saved.
Thresholds: upper limit, lower limit, upper and lower limit

### Avoid rushing out to the fields

**Issue**

You want to change settings remotely, without the need to visit the measurement field.

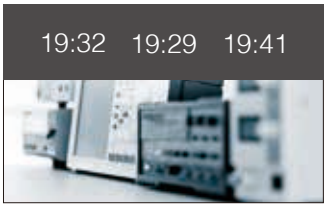
**Solution: Remote Control**

Change instrument settings without visiting the measurement field.

**Number of simultaneous operation : 1 unit at a time**

**Number of instruments able to connect: 15 units**


### Time discrepancies




**Issue**

You want to compare data after synchronizing instruments' clocks.

**Solution: Clock Synchronization**

Synchronize instruments' clocks to a PC's clock regularly and automatically.

### Shared dashboard and logging features

| | |
|---|---|
| Logging intervals | 1, 2, 5, 10, 30 sec., 1, 2, 5, 10, 30 min., 1 hour |
| Monitor intervals (on the dashboard) | (Available interval settings depend on the LAN communications environment.) |
| Data division | 1 day or 1 hour |
| Data output | Automatic daily report output (Excel®), Automatic CSV output |
| Interface | LAN |

# Recording

## In research and testing…

**Logging**

Capture measurement data from multiple instruments at a fixed interval once logging starts. Display and save downloaded data in real time on a PC and use it to automatically generate daily reports.

**Issue**

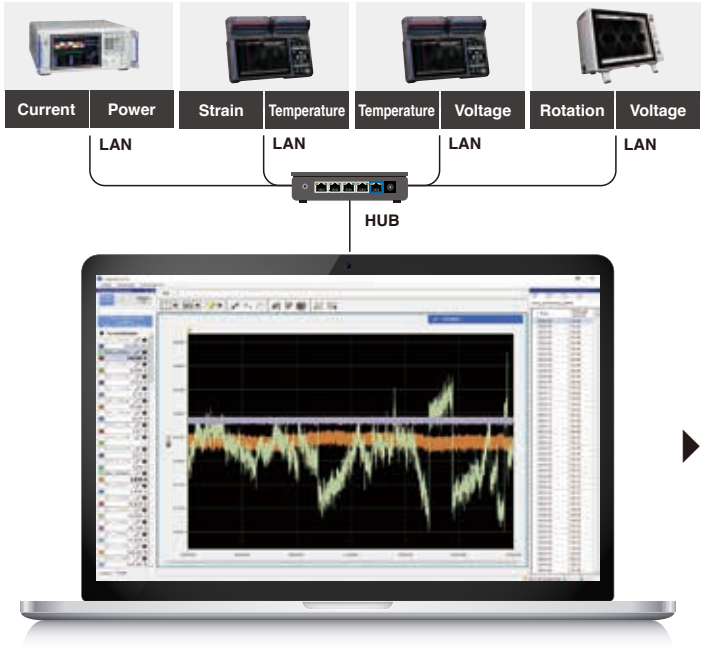
You're aggregating calculation results using saved measurement data, but you're spending too much time on daily processing.

**Solution: Inter-channel Calculations**

Perform calculations using previously defined equations, and display and save the results. Up to 16 calculations can be performed simultaneously.

| | |
|---|---|
| Numerical value | Channels or constants |
| Basic arithmetic operations | +, -, ×, ÷, brackets |
| Basic operation | Absolute value, square root, cube root, power |
| Trigonometric function | sin, cos, tan, arcsin, arccos, arctan |
| Exponential functions, logarithmic functions | exp, log10, ln |
| Rounding | Round up, down, or round to the specified number of digits |

**Number of instruments able to connect: 15 units**



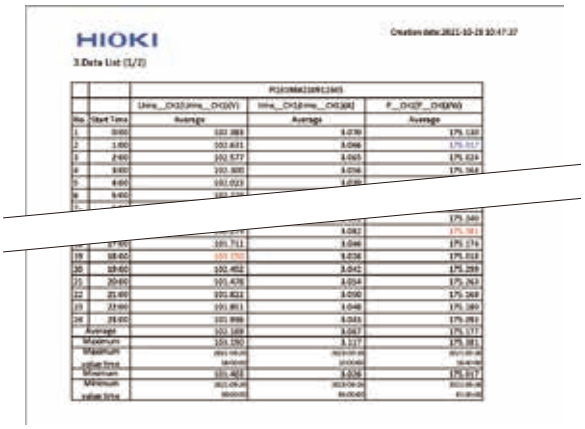

**Issue**

You're having difficulty compiling daily reports that tabulate measurement data from multiple instruments because you're performing measurement continuously over an extended period of time. You want to automate that process.

**Solution: Daily Automatic Reports**

Automatically generate one file per day based on values that have been tabulated over a specified interval. Automatically generate CSV files.

**Example of an automatically generated daily report**




### Shared dashboard and logging features

| Measurement parameters | |
|---|---|
| PW6001, PW3390<br>Support coming soon:<br>PW8001, PW3335, PW3336, PW3337 | Basic Measurement items,Harmonic measurement items<br>(Instantaneous value per interval) |
| PQ3100, PQ3198, PW3365, PW3360 | Voltage, Current, Power (Instantaneous value per interval)(MAX, MIN, AVE values between intervals) |
| LR8450, LR8450-01,LR8410, LR8416, MR6000 | Various measurement items such as Temperature, Analog input, etc. (Instantaneous value per interval) |
| Number of items able to monitor and log | Max. 512 items + Inter-channel calculation value 16 items |

# Collection and Viewing

**Issue**

You're expending a significant amount of effort and management man-hours every time you collect measurement data after an event.

**Solution: You can import measurement data to a PC from the field-installed measuring instruments. The existing data in the PC can also be viewed on the GENNECT One software.**

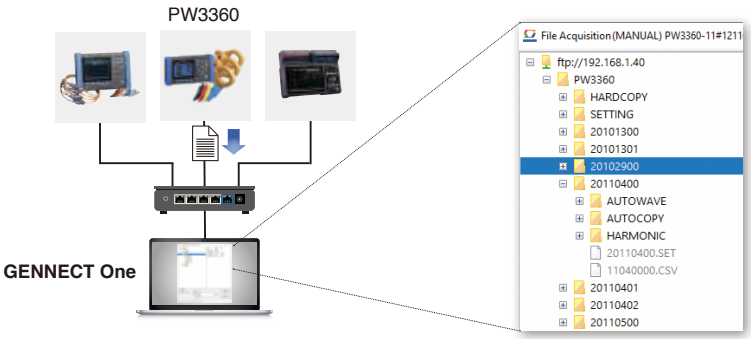
## File Transfer (Automatic)

When a measurement file is saved by a measurement device connected via LAN, it is automatically transferred to the PC.


Example: The PQ3198 is installed in the field to monitor power supply abnormalities. When an event occurs, the saved data file is automatically transferred to the PC.

## File Acquisition (Manual)

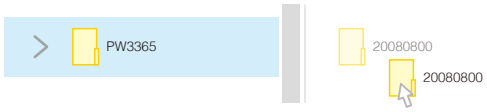
Measurement files stored in measurement devices connected via LAN can be directly accessed and acquired from a PC.




Example: On a PC, select the PW3360 from the list of LAN connected devices and download the desired measurement files.

## Using Existing Data (Manual)

If you have a dedicated measurement file saved on your PC, you can simply drag and drop the dedicated file to the Gennect One app to read it.

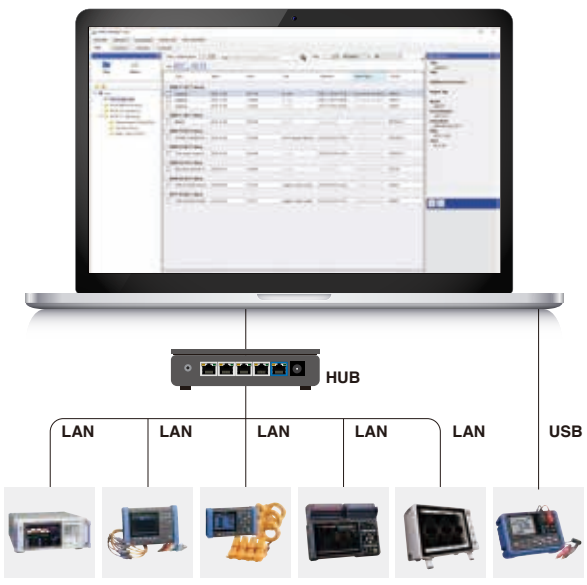


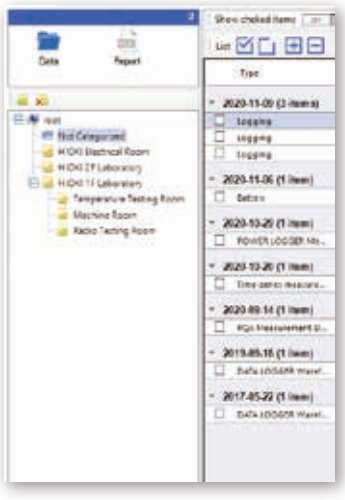

Compatible instruments: LR8400 series, LR8410, LR8416, LR8450, LR8450-01, LR5000 series, MR6000, PW3360, PW3365, PQ3100, PQ3198, PW8001 (support coming soon)

## Centralized management of measurement files

### Data List

**Combine the measurement files acquired with GENNECT One into a single data list. You can manage measurement data by measurement site or by measurement time.**



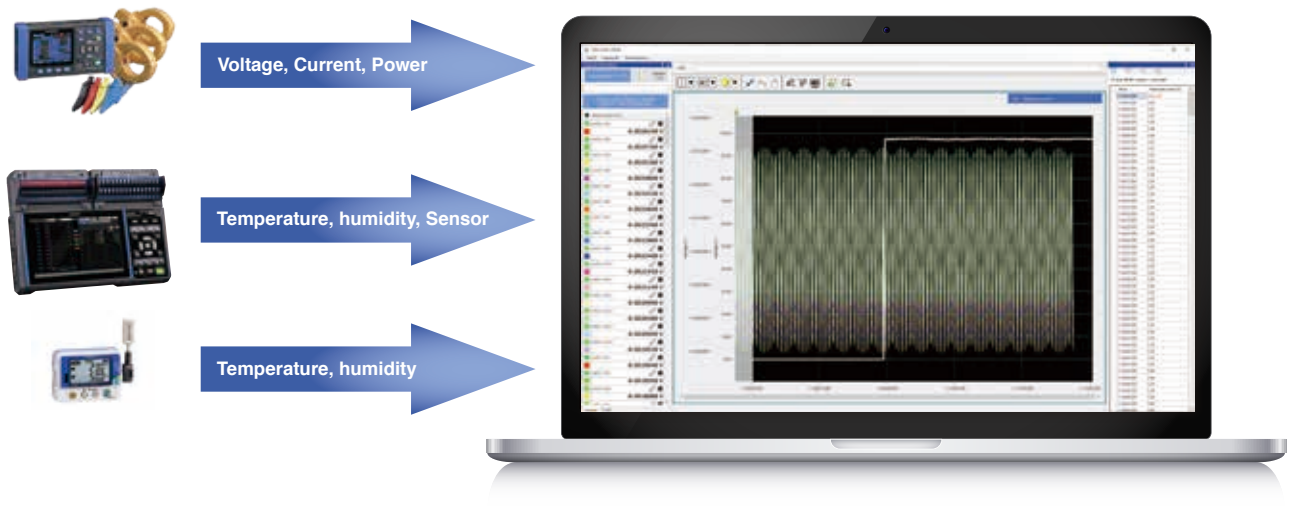



**Display the measurement files in a list.**
**Manage the measurement files easily.**

- **Title name**
- **Folder classification**
- **Input comments**
- **Search tag**

## Time-series Viewer

**Display data measured using different instruments on a single time-series graph.**




| | |
|---|---|
| Supported data | LR8400 series, LR8410, LR8416, LR8450, LR8450-01 waveform data<br>PW8001 measurement data (support coming soon)<br>PW3360, PW3365 measurement data<br>LR5000 series measurement data |
| Analysis function | • Statistical analysis<br>(AVE, P-P, MAX, MIN, ON, OFF,Standard deviation, Accumulate, Area Value, Integral)<br>• Waveform Search<br>(Time, MAX, MIN, Local maximum,Local minimum, Level,Window, Amount of change)<br>• Search for Event Marks<br>• Editing and CSV output (Overall, between A and B cursors),<br>• Image output |
| Number of display items | Max. 512 items (graphs is Max. 32 items) |

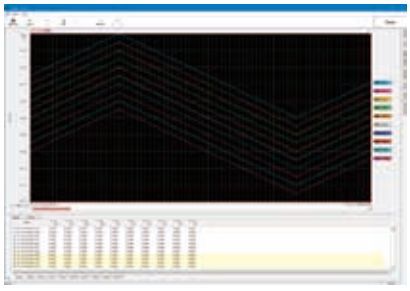
## Instrument-specific Software (Options)

**Clicking on a measurement file launches the browsing software and displays the file.**

*You need to install the software beforehand

PQ ONE

POWER LOGGER VIEWER SF1001



Logger utility

| | |
|---|---|
| Listed measurement files | Measurement files obtained by the file transfer (automatic) of GENNECT One<br>Measurement files obtained by the file acquisition (manual) of GENNECT One<br>Importing GENNECT Cross measurement files. (hok format) *1<br>Importing GENNECT Remote measurement files. (hok format)<br>Importing measurement data from Internal memory, Recording media or External Storage via LAN connection<br>Importing measurement data from internal memory via USB connection<br>Image data (jpg, bmp, png, and gif formats) and pdf data<br>Measuring instruments supporting measurement data importing: LR8400 series, LR8410, LR8416, LR8450, LR8450-01, LR5000 series, MR6000, PW3360, PW3365, PQ3100, PQ3198, PW8001 (support coming soon) |
| Viewing Software | PQ ONE *2: PQ3100, PQ3198<br>POWER LOGGER VIEWER SF1001 *3: PW3360, PW3365<br>Logger utility *2: LR8400, LR8410, LR8450, LR8450-01<br>Waveform Viewer (Wv) *2 or WAVE PROCESSOR 9335 *3: MR8875, MR6000<br>MR6000 Viewer *2: MR6000<br>Graph viewer for real-time measurement of GENNECT One *2: |

*1: Battery, General measurement, Logging only *2: Free software. *3: Paid software.

## Operating environment

| | |
|---|---|
| Supported OS | Windows 7 (32bit/64bit), Windows 8.1 (32bit/64bit), Windows 10 (32bit/64bit) |
| Software environment | Microsoft .NET Framework 4.6.2 or later |
| CPU | 2 GHz or more operating clock |
| Memory | 4 GB or more |
| Display | Resolution 1366 × 768 or more |
| Hard disk | Free space of 1 GB or more |

## Specification

| | |
|---|---|
| **Logging** | |
| Interface | LAN |
| Function | Real-time (*) graph display, list display, and automatic output (daily report, CSV) of measured values from measuring instruments connected via LAN*<br>*Acquire measured values (current values) displayed on instruments at a set interval (as short as 1 sec.) using the computer's timer. |
| Logging intervals | 1, 2, 5, 10, 30 sec., 1, 2, 5, 10, 30 min., 1 hour |
| Measurement parameters | • PW6001, PW3390: Basic Measurement items, Harmonic measurement items (Instantaneous value per interval)<br>• PQ3100, PQ3198, PW3365, PW3360: Voltage, Current, Power (Instantaneous value per interval, MAX, MIN, AVE values between intervals)<br>• LR8400, LR8401, LR8402, LR8410, LR8450, LR8450-01, MR6000:<br>Various measurement items such as Temperature, Analog input, etc. (Instantaneous value per interval)<br>• Support coming soon: PW8001, PW3335, PW3336, PW3337<br>• Inter-channel calculation value |
| Number of items able to monitor and log | Max. 512 items + Inter-channel calculation value 16 items *Max. 32 items when simultaneously displaying graphs |
| Recording time | Recording time: Continuous measurement/Set time, file segmentation: 1 day / 1 hour<br>* Stop logging when the storage capacity of the PC drops below 512MB |
| **Dashboard** | |
| Interface | LAN |
| Function | • Monitor measured values in real time from LAN-connected instruments.*<br>• Display alarms in real time when a measured value exceeds a threshold.*<br>• Display measured values on a user-selected image.<br>• Saving measured values (CSV format), Daily report output<br>*Acquire measured values (current values) displayed on instruments at a set interval (as short as 1 sec.) according to the computer's timer. |
| Monitor interval | 1, 2, 5, 10, 30 sec., 1, 2, 5, 10, 30 min., 1 hour |
| Measurement parameters | • PW6001, PW3390: Basic Measurement items, Harmonic measurement items (Instantaneous value per interval)<br>• PQ3100, PQ3198, PW3365, PW3360: Voltage, Current, Power (Instantaneous value per interval, MAX, MIN, AVE values between intervals)<br>• LR8400, LR8401, LR8402, LR8410, LR8450, LR8450-01, MR6000:<br>Various measurement items such as Temperature, Analog input, etc. (Instantaneous value per interval)<br>• Support coming soon: PW8001, PW3335, PW3336, PW3337<br>• Inter-channel calculation value |
| Number of measurement items | Max. 512 items + Inter-channel calculation value 16 items |
| **Remote control** | |
| Interface | LAN |
| Function | Control LAN-connected instruments from a computer. |
| Compatible instruments | PQ3100, PQ3198, PW3360, PW3365, PW3390, PW6001<br>LR8400, LR8401, LR8402, LR8410, LR8450, LR8450-01, MR6000<br>Support coming soon: PW8001, PW3335, PW3336, PW3337 |
| Number of simultaneous operation | 1 unit at a time |
| **Automatic file transfer** | |
| Interface | LAN |
| Function | Automatically send files saved by LAN-connected instruments to a computer. |
| Compatible instruments | PQ3100, PQ3198, PW3360, PW3365, PW8001 (support coming soon)<br>LR8400, LR8401, LR8402, LR8410, LR8450, LR8450-01, MR6000 |
| **File Acquisition (manual)** | |
| Interface | LAN, USB (USB is BT3554, 3554 only) |
| Function | Acquire files saved by LAN-connected instruments with a computer. |
| Compatible instruments | PQ3100, PQ3198, PW3360, PW3365, PW3390, PW6001, PW8001 (support coming soon)<br>LR8400, LR8401, LR8402, LR8410, LR8450, LR8450-01, MR6000, BT3554-50, BT3554, 3554 |
| **Time-series viewer** | |
| Supported data | LR8400 series, LR8410, LR8450, LR8450-01, LR5000 series, PW8001 (support coming soon), PW3360, PW3365 |
| Number of display items | Max. 512 items (graphs is Max. 32 items) |
| **Other Functions** | |
| Files loading | Data file (.hok) obtained by GENNECT Cross for iOS/Android<br>*Logging, General Measurement, image and battery formats only<br>*No direct Bluetooth® connection is possible, please use the smartphone app for Bluetooth® data collection |
| Instrument clock synchronization | PQ3100, PQ3198, PW3360, PW3365, PW3390, PW6001, PW8001 (support coming soon)<br>LR8400, LR8401, LR8402, LR8410, LR8450, LR8450-01, MR6000, BT3554-50, BT3554, 3554 |
| CSV output | Output 512 items at once (logging function) |
| Report creation | PDF, Word and Excel® formats |



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All information correct as of Nov. 5, 2021. All specifications are subject to change without notice. SF4000_gennectone_E2-1YB Printed in Japan