

IEEE 519 Reporting Application for PQ3198 Instruction Manual

1. Introduction

This software generates reports that comply with IEEE 519-2022 or 2014 standards.

The measuring instrument specified in IEEE 519 is a Class A Power Quality Analyzer (PQA). This software exclusively supports measurement data from the PQ3198, which is classified as a Class A PQA.

The software can output data in two formats: a CSV file or a report file in Word format.

Output items can be selected from the following options:

- Very short time harmonics (3-second intervals)
- Short time harmonics (10-minute intervals)
- Harmonic output items (Voltage, Current, THD, TDD)

Measurement data from the PQ3198 that can be processed by this software must meet the following specifications:

- Time plot interval: 3 seconds
- Measurement period: 1 week
- Measurement data: All harmonics up to the 50th order
- Wiring configurations: 3P3W3M, 3P4W, 3P4W2.5E

2. System requirements

PC

- **OS:** Windows 10 (64bit), Windows 11
Microsoft .NET Framework 4.7.2 or later must be installed.
- **CPU:** 1 GHz or faster, 64-bit compatible processor or System on a Chip (SoC) with 2 or more cores
- **Memory:** 16 GB or more
- **Storage:** 8 GB or more of free space

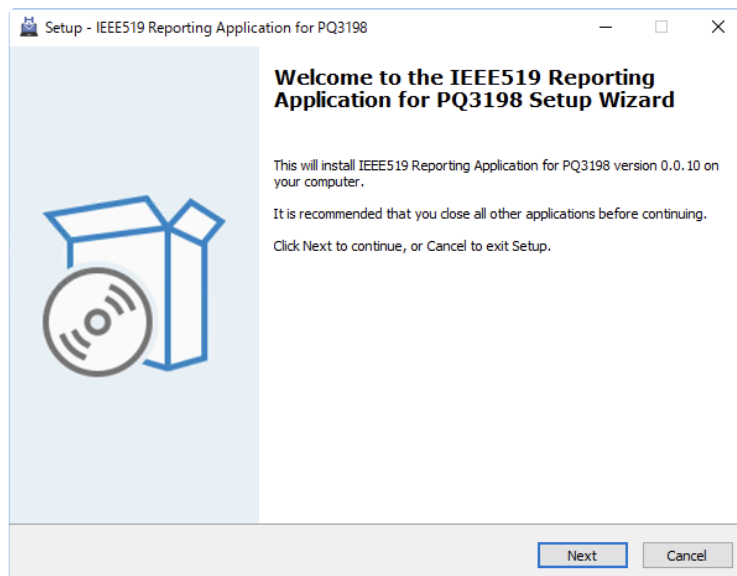
Power Quality Analyzer PQ3198

- **Firmware Version:** V2.03 or later

- **Required Option:** SD Memory Card Z4003 (8 GB)

3. Installation

Launch Setup.exe and follow the on-screen instructions to complete the installation.



4. PQ3198 Settings

To use this software, the PQ3198 measurement data must be acquired with the following settings. Data acquired with any other settings cannot be processed.

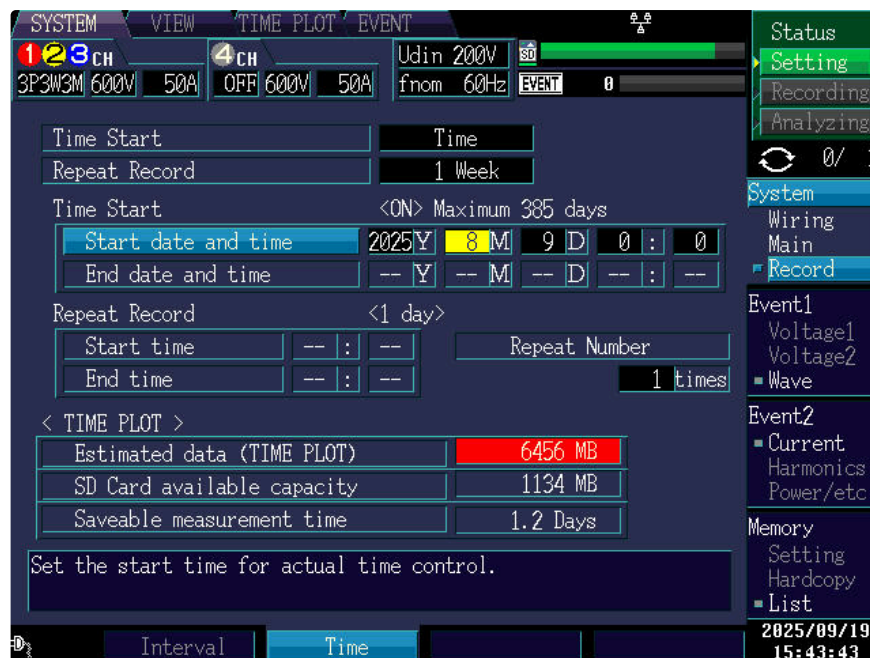
4-1 Recording Settings



- **Recording items:** All data

- **Time plot interval:** 3 seconds
- **Screen copy interval:** OFF

4-2 Measurement period



- **Time Start:** “Time” or “Exactly”
- **Repeat record:** 1 week
- **Repeat number:** 1 time

4-3 Event Settings

Disable all event settings:

- [Event 1] [Voltage 1]
- [Event 1] [Voltage 2]
- [Event 1] [Wave]
- [Event 2] [Current]
- [Event 2] [Harmonics]
- [Event 2] [Power/etc]


4-4 Measurement Settings

- **Wiring configurations:** 3P3W3M, 3P4W, 3P4W2.5E
- Settings related to measurements, such as current sensors, rated input voltage, VT ratio, and CT ratio, should be configured according to the measurement target and current sensor specifications. Refer to the PQ3198 instruction manual for details.


5. Instructions for Use

5-1 Measurement with PQ3198

1. Format the SD memory card using the PQ3198's formatting function. (See PQ3198 Instruction Manual Section 9.2)

 Formatting will erase all data stored on the SD memory card and cannot be undone. Verify the contents carefully before proceeding.

2. Connect the PQ3198 to the measurement line. (See PQ3198 Instruction Manual Section 4.5)
3. Ensure the wiring is correct. (See PQ3198 Instruction Manual Section 4.6)
4. Start recording. (See PQ3198 Instruction Manual 4.8)

 The measurement period is one week. The measurement data will be approximately 7 GB.

5. After one week, collect the measurement data by removing the SD memory card and transferring the data folder to a PC.


5-2 Generating Reports

5-2-1 Maximum Demand Load Current and Maximum Short-Circuit Current

To generate an IEEE 519 report, the following values at the Point of Common Coupling (PCC) are required:

- Maximum demand load current (IL)
- Maximum short-circuit current (Isc)

Contact the power system administrator to obtain these values.

 The IEEE 519-2022 standard clarifies the method for determining the maximum demand load current. Please refer to the standard when making this determination.

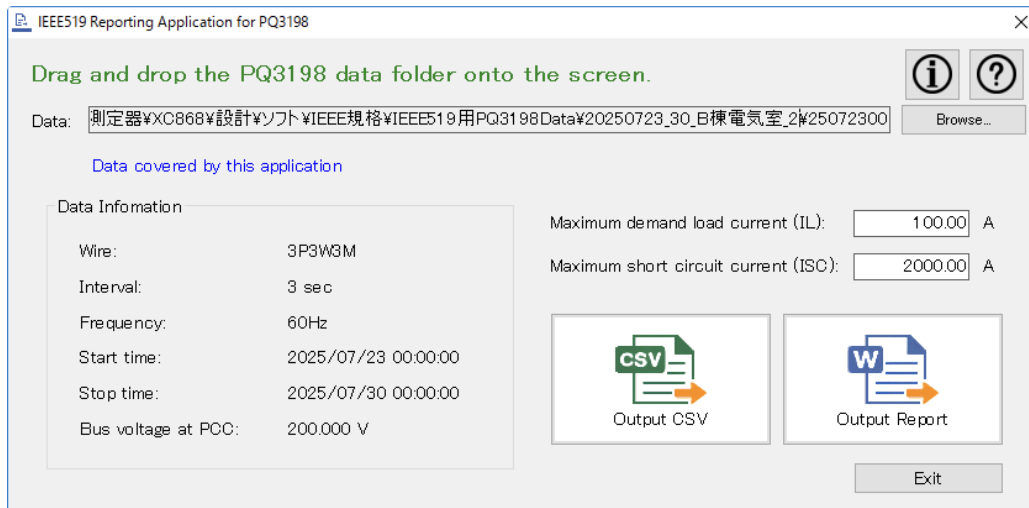
- If RMS current data for the maximum demand during 15- or 30-minute intervals is available for each month over the past 12 months, use the average of those values.
- If 12 months of data is unavailable, use the average apparent power demand during 15- or 30-minute intervals for each month.
- For new installations with no historical data, calculate based on the projected maximum apparent power demand during 15- or 30-minute intervals as stated on the service application.

5-2-2 Using IEEE519 Reporting Application for PQ3198

1. Launch the IEEE519 Reporting Application for PQ3198. If you created a desktop shortcut during installation, double-click the icon.

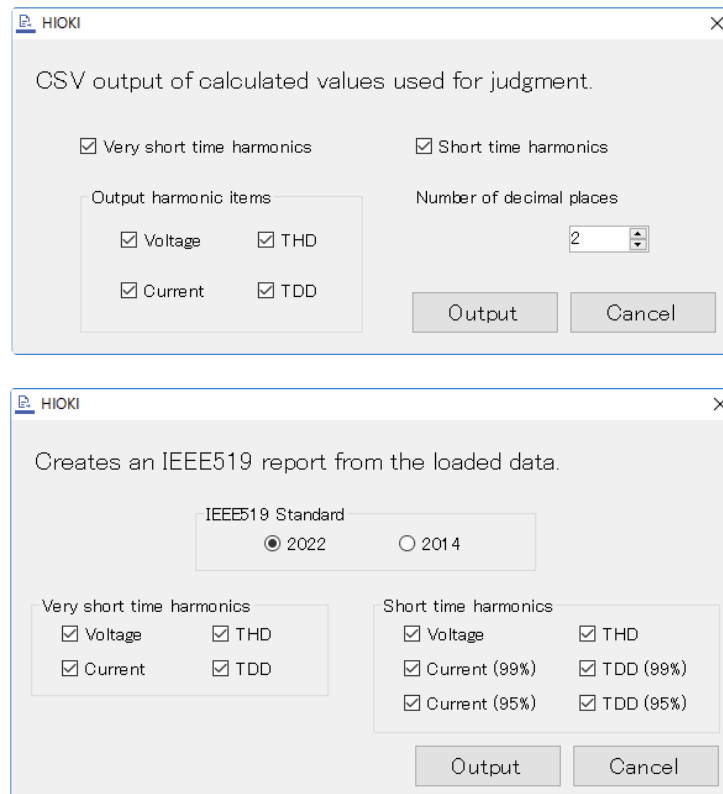


2. Open the measurement data using one of the following methods:
 - Click the [Browse...] button and specify the folder where the measurement data is saved
 - Drag and drop the folder containing the measurement data into the software
3. The system will verify whether the measurement data conforms to the data required for IEEE 519 reports. If the data does not conform, it cannot be opened.
 - **Time plot interval:** 3 seconds
 - **Measurement period:** 1 week
 - **Measurement data:** All harmonics up to the 50th order
 - **Wiring configurations:** 3P3W3M, 3P4W, 3P4W2.5E
4. Enter the maximum demand load current I_L [A] and the maximum short-circuit current I_{sc} .
5. After specifying the measurement data and entering the required values, click the [Output CSV] or [Output Report] button:
 - To generate a CSV file, click [Output CSV].
 - To generate a Word-format report, click [Output Report].



6. Select items to include in the output. Available options are:
 - **IEEE519 Standard:** 2022, 2014 (Only for “Output Report”)
 - **Very short time harmonics** (3-second interval harmonics)
 - **Short time harmonics** (10-minute interval harmonics)

- **Output harmonics Items:** Voltage, Current, THD, TDD
- **Number of decimal places**



7. Click the [Output] button to generate the file. Creating the file may take up to 20 minutes.
8. Specify the location to save the created file.

8. Copyright, Terms of Use, and Disclaimer

8-1 Copyright

HIOKI E.E. CORPORATION retains all rights, including copyright, to this program's executable file and documentation.

8-2 Terms of use

Commercial use, for example bundling of the software with other software or publications for commercial purposes, is prohibited without the consent of the copyright holder. In addition, it is prohibited to reverse engineer or modify the software without the consent of the copyright holder.

8-3 Disclaimer

- The software is provided as freeware. It may be used freely by the user, who is solely responsible for such use.

- HIOKI is not responsible for any damage arising from the use of the software.
- HIOKI is not responsible for any bugs, defects, or other issues that may be found to affect the software.
- HIOKI is not able to accommodate questions, requests, or other feedback concerning the software.
- The software is subject to modification without notice.

Windows, Microsoft .NET Framework and Microsoft WORD are registered trademarks or trademarks of Microsoft Corporation in the United States.