

CommunicatorPQA® with MeterManagerPQA® Software

For Programming, Managing, Databasing, and Viewing Logged Data from all EIG Meters

The desktop monitor displays the **METERMANAGERPQA™** software interface. The **Meter List** table is as follows:

Meter Name	Meter Type	Online Status	Last Action
Building 1			
00104101_test	Nexus 1252	Online	6/5/2015 4:00 PM
Bld_35_Rm_160	Nexus 1252	Offline	6/5/2015 4:00 PM
1252_KYZ_Monitor	Nexus 1252	Online	6/5/2015 4:00 PM
1252_RelayUnit_5	Nexus 1252	Online	6/5/2015 4:00 PM
1252_RelayUnit_6	Nexus 1252	Online	6/5/2015 4:00 PM
1252_Unit6	Nexus 1252	Online	6/5/2015 4:00 PM
Office DS	Shark 200	Online	6/5/2015 4:00 PM
Office JK	Shark 200	Online	6/5/2015 4:00 PM
Office JS	Shark 200	Online	6/5/2015 4:00 PM
Office RK	Shark 200	Online	6/5/2015 4:00 PM
Office RP	Shark 200	Online	6/5/2015 4:00 PM
MP200			
MP200_1	MP200	Online	
MP200_2	MP200	Online	
MP200_3	MP200	Online	

The laptop displays the **CommunicatorPQA™** software interface in **Professional Mode**, showing **Data Analysis and Configurator** with various graphs and settings.

Physical meters shown include a **Shark 270** with a digital display showing 120.0, an **MP200** with a digital display showing 120.0, and a **Nexus 1500+** with a color display showing a bargraph.

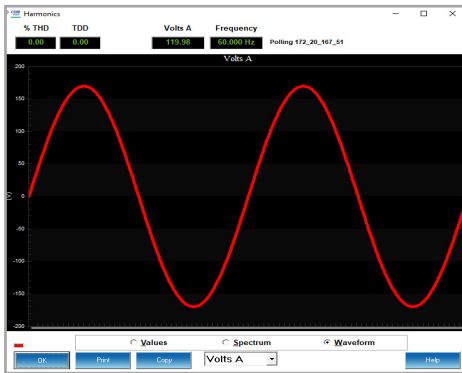
- Easily Manage Large Fleets of Meters
- View Real Time Data
- Perform Detailed Power Quality Analysis
- Quickly Configure Meters
- Automatically Download Logs
- Generate and Email Customized Reports
- Connect Existing Meters to EnergyPQA.com® System

Description

The CommunicatorPQA® application enables users to view real time metered data, configure meters, and analyze collected information from remote EIG power monitors. This software provides superior screen visualization, graphing, and reporting functions for quick access to metering data and easy database archiving. The stored metering information is available for automatic integration into any 3rd party package.

Advanced Real Time Viewing Capability

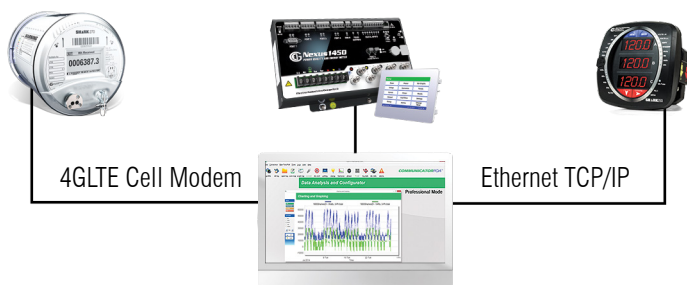
The CommunicatorPQA® application displays real time data from EIG power monitors, including voltage, current, power, and energy; Time of Use and accumulations; power quality; Harmonic magnitudes; real time waveform scopes; alarms and limits; max and min for each parameter; and I/O device information.



View Real Time Waveform Scope

Advanced Communication Structure

Access remote meters through multiple communication methods. The CommunicatorPQA® application supports serial, wired and wireless Ethernet, and cellular modem communication. Supported protocols include Modbus ASCII, RTU, and TCP. The supported communication methods are simultaneous and interchangeable, so that a system can consist of multiple paths back to a main computer.



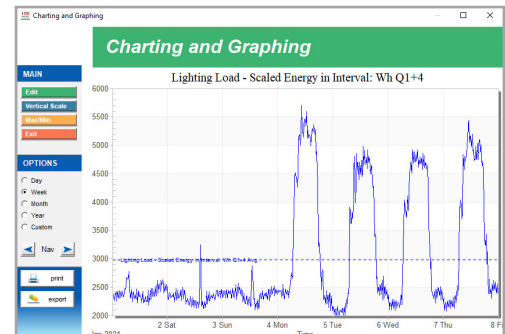
Robust Communication Architecture

Log Viewer

CommunicatorPQA® software includes the Log Viewer charting and graphing application. This database driven application normalizes data from any EIG meter, so that it is displayed in a concise, easy-to-understand presentation.

Use Log Viewer's charting and graphing functions to easily access data and provide fast and simple analysis. Getting the data you need quickly is as important as collecting the data in the first place. Data analysis features include:

- Tabular Data Format with Direct Spreadsheet Application Compliance
- Multi-pen Charting and Graphing
- View Data by Month, Day, or Year
- Max and Min Values Printed Directly on Plot
- Unlimited Zoom & Pan
- Direct Cut & Paste into Most Applications

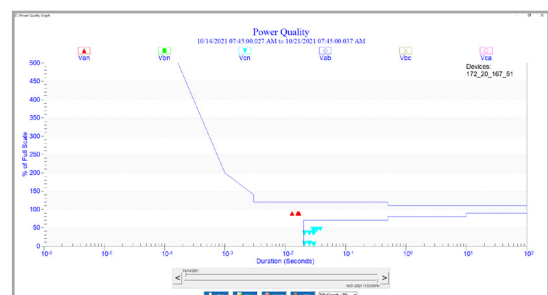


Energy Trending Graph

Advanced Power Quality Charting and Graphing

Use the CommunicatorPQA® application to calculate power quality on a scatter graph, providing CBEMA plotting information. The CBEMA plot gives definition to the severity of events and their effect on equipment. For example, if multiple events fall outside the CBEMA tolerances, the monitored equipment may be damaged. The software provides 3D plots and histograms with frequency and severity of power quality events.

- View ITIC, Semi F47, CBEMA, and other industry-standard graphs.
- Time waveform events using millisecond resolution.
- Sort data by type of fault.
- Compare circuits to each other.
- Review impact of changes to protective equipment.
- Monitor and analyze circuit breaker performance.
- Conduct forensic analysis of catastrophic events.
- View cycle by cycle RMS trends.

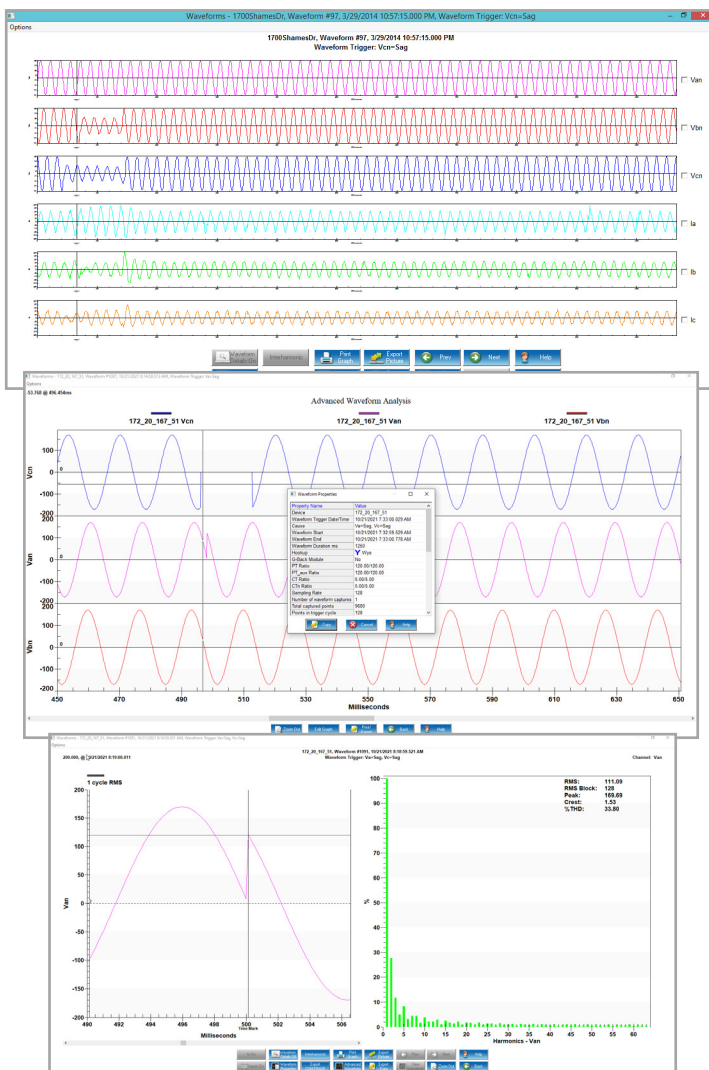


View CBEMA and Other Power Quality Indices

View Waveform Records with Comprehensive Data Analysis Features

View stored waveforms of events caused by power quality problems, faults, transients, and many other conditions. Using the CommunicatorPQA[®] application, you can:

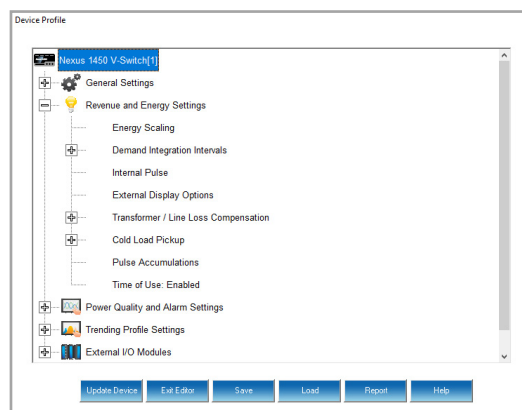
- View and superimpose multiple waveforms from one or more events.
- Zoom and pan events.
- Place hash marks directly on waveform graphs to calculate delta time and event duration.
- Conduct harmonic analysis of waveform data using harmonic magnitudes, peak value, and RMS readings per cycle.
- Add databased annotations to waveform records.
- All waveform faults are databased system-wide for power quality evaluation.



Use Log Viewer to Analyze Databased Waveform Logs

Programming and Configuration

The CommunicatorPQA[®] application allows users to program, configure, and optimize metering systems to meet the exact application needed. The CommunicatorPQA[®] application was designed to be easy to use, and to make programming and configuration simple. By organizing meter setup and making it consistent across the multiple metering systems, much of the guesswork has been taken out of meter configuration. The system is up and running easily and quickly.



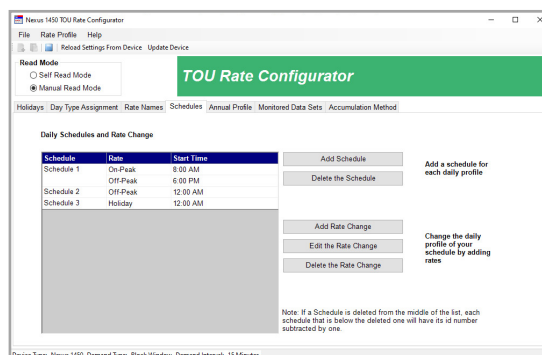
Device Profile Screen

The screenshot shows the 'Limits Alarm Setting' window. It contains a table of limits and a table of channels.

Limit ID	Assigned Item	Limit 1		Limit 2		Combination Limit 3
		Setting	Setpoint % of FS	Setting	Setpoint % of FS	
1	High Speed Updated Voltage A-N	Above	95.00	114.00	Below	95.00
2	High Speed Updated Voltage B-N	Above	95.00	114.00	Below	95.00
3	High Speed Updated Voltage C-N	Above	95.00	114.00	Below	95.00
4	High Speed Updated Current A	Above	95.00	4.75	Below	95.00
5	High Speed Updated Current B	Above	95.00	4.75	Below	95.00
6	High Speed Updated Current C	Above	95.00	4.75	Below	95.00
7	Not Assigned	Below	0.00	0.00	Below	0.00
8	Not Assigned	Below	0.00	0.00	Below	0.00
9	Not Assigned	Below	0.00	0.00	Below	0.00
10	Not Assigned	Below	0.00	0.00	Below	0.00

Channels	Primary Values at 100% of Full Scale
IA, B, C, Nc	5.00
I _{nm}	5.00
V Phase to Neutral	120.00
V Aux	120.00
V Phase to Phase	208.00
Power Phase	600.00
Power Total	1800.00
Frequency	60.00

Limits Alarm Setting

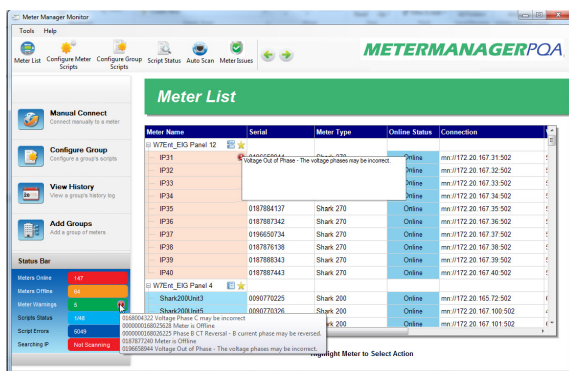


Configuring Time of Use

Meter Management System

The MeterManagerPQA® application is a comprehensive meter management system. It functions as an automation engine to manage, control, and store meter information for up to 1,200 meters.

- **Automated Meter Network Connection** - The software automatically finds meters on a network by scanning configurable IP address ranges.
- **Organizes Meters into Groups** - Group meters by location, type, download interval, name, or any other method. View meters as a unified group that can be managed easily.
- **App Launcher** - Launch into any apps associated with that meter, e.g., the EnergyPQA.com® cloud-based energy management system.
- **Multi-threaded Data Collector** - Meter data is automatically collected and stored system-wide.
- **Automatic Meter Report Generator** - Generate customized reports and send them to users on programmed intervals.
- **Provides Meter Integrity Analytics** - Scans meters for poor connection quality, checks for faulty installations such as reverse CTs, and performs firmware data management.



Detect Reverse CTs and Other Installation Issues

Next Generation View Towards Metering

The MeterManagerPQA® application's automated data management does all the work, so that the user simply connects the meters and analyzes the collected data.

- **Automation Means Fast Learning Curve** - Get useful data analysis without becoming a software systems expert.

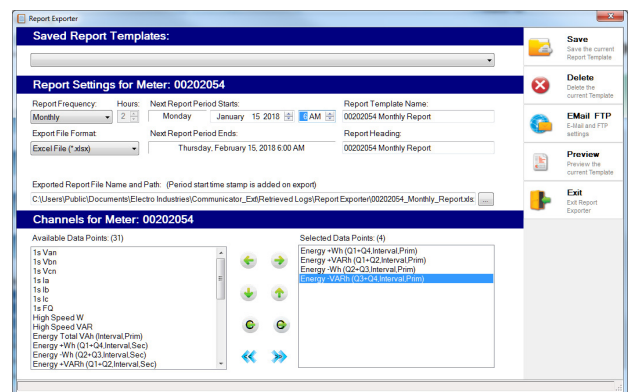
- **Meter Health Scans** - Automatically scans fleet of installed meters periodically, to check that they are online, functional, and installed properly.
- **Automated Email Status Reporting** - Automatically receive emails if a meter is dropped or a network connection is lost, so issues can be resolved quickly without losing data.
- **Diagnostic Reporting Tools** - The system produces error logs, status logs and many other diagnostic tools for forensic analysis of the complete system's integrity.

MeterManagerPQA® Application's Report Exporter

MeterManagerPQA® software also offers the Report Exporter feature, which lets you design customized reports of electrical data and any other data measured by the meter. You can create the reports for individual meters or groups of meters, and can set up automatic report generation on the schedule you wish – hourly, multi-hourly, daily, weekly, or monthly.

Report Exporter can email reports to multiple people and upload the reports via FTP to a central location for viewing. Additional features of Report Exporter include:

- Add mathematical formulas to the report to further process the data and obtain the information you need, e.g., calculating the highest Demand for a period, or average energy use for a metered area.
- Save the report to a .CSV or a spreadsheet file for easy integration into other applications.
- Add computed channels of data, which aggregate a time period from another channel to generate a new data channel in the report.



Customize Automatic Reports

Product Specs

Capability	CommunicatorPQA® Lite	CommunicatorPQA® Pro
Configure and program any EIG meter	✓	✓
Store information in a database for SQL searches and data mining	✓	✓
View basic charts and graphs	✓	✓
Use basic power quality waveform viewer	✓	✓
Auto find and group all meters on a network		✓
Auto collect data using MeterManagerPQA® automation server tools		✓
Detect installation and quality of service issues		✓
Create spreadsheet reports emailed automatically on a set schedule		✓
Generate PQDIF, COMTRADE, and HHF files automatically		✓
Integration into EnergyPQA.com® system		✓

Ordering Information

Software Module	Description	Model Number	Details
CommunicatorPQA® 5 Lite Application	Configuration and Viewing	COMPQA	Basic for Programming and Viewing Data
CommunicatorPQA® 5 Pro Application with MeterManagerPQA® Software	Basic Professional License Seat, one user; includes MeterManagerPQA® Software and Report Exporter	COMPQA5P	Add automation, system comparisons, meter diagnostics, and enterprise meter management



Engineering Services

Electro Industries specializes in turn-key system integration solutions. Contact EIG's highly experienced engineers, with a variety of skills in the fields of electrical engineering, software engineering, and meter engineering, to assist in the design, commissioning, start-up verification, and certification of installations. Our Engineering Services team can also provide on-site or remote training by RCEP certified instructors. Technical support is only a phone call away. Our team will help you get your project up and running and ensure its success, while maximizing your energy monitoring investments.



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**CommunicatorPQA®
Web Page**

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