

Device Monthly Report

Device ID	Device Name	Status	Last Update	Alerts
001	Motor 1	Running	2023-10-27 10:30	0
002	Motor 2	Stopped	2023-10-27 09:15	1
003	Motor 3	Running	2023-10-27 11:00	0
004	Motor 4	Running	2023-10-27 10:45	0
005	Motor 5	Running	2023-10-27 10:20	0
006	Motor 6	Running	2023-10-27 10:55	0
007	Motor 7	Running	2023-10-27 10:35	0
008	Motor 8	Running	2023-10-27 10:40	0
009	Motor 9	Running	2023-10-27 10:25	0
010	Motor 10	Running	2023-10-27 10:50	0



## Your Solution for Power & Energy Management



Bringing Together Leading Brands in Industrial Automation

Replacem

# Meeting the Changing Demands for



The rules for generating and consuming electric power are constantly changing.

## Monitor Your Electric Power?

In today's world, energy and demand costs have a definite impact on your company's bottom line. We understand how important it is for you to do everything in your power to reduce your energy costs. To be a well-informed energy consumer, however, you must know how much power you use, what your major loads are, when you use electric power the most, and how much you pay for it.

It's also important to understand the quality of the power you use. Poor power quality reduces productivity and shortens equipment life, which can drive down your company's profits.

## Your Power & Energy Management Solutions

Enter Rockwell Automation Power & Energy Management Solutions (PEMS): a complete portfolio of engineered systems, hardware, software, communication networks and specialized services from your Complete Automation™ leader.

### Systems:

PEMS offers turnkey engineered systems configured to your company's specific needs that provide solutions to many of your power & energy management requirements.

### Products:

- The rugged Allen-Bradley Powermonitor II™ and Powermonitor 3000™ power meters—engineered specifically for use in commercial and industrial environments—are extremely accurate, and provide flexible high-speed communications options.
- RSEnergy™ software allows you to log energy data, produce utility shadow bills and reports, and view energy consumption data via the Web
- RSPower32™, a multipurpose power & energy management tool, allows you to quickly configure, view and manage power monitor data. It also allows you to print and save data.

### Specialized Services:

PEMS puts even the most specialized power & energy management applications within your reach. PEMS specializes in assisting you with software and hardware configuration. We can likewise provide you with mini-energy audits and tariff analysis.

# Power and Energy Management

## A Solution for Every Application

There is a Rockwell Automation Power & Energy Management Solution available to suit almost every application throughout the enterprise:

- **Load Profiling** measures and records energy usage to:

- Determine load factor
- Identify peak demand period(s)
- Correlate consumption with facility activities

*Charting energy consumption patterns.*

- **Cost Allocation** measures and records energy usage to:

- Allocate energy costs by:
  - Department
  - Process
  - Facility
- Verify utility bills
- Analyze alternate energy rates

*Determining where your energy dollars go.*

- **Power Quality Monitoring** measures, displays, records, trends and alarms on power quality parameters like:

- Harmonics
- Voltage excursions

*Identifying power system anomalies.*

- **Demand Management** limits demand using:

- Peaking or co-generator control
- Load interlocking
- Load shedding
- Load trimming

*Reduce demand charges and managing real-time power purchases.*

- **Emergency Load Shedding** preserves system stability during sudden loss of a power source by:

- Determining system topology
- Evaluating the lost source and remaining loads
- Shedding loads in less than 100 msec.

*Preserving critical loads or avoiding total shutdown due to unforeseen loss of power sources.*

- **Power System Control** maintains power quality by controlling:

- Load tap changers
- Generators
- Capacitor banks
- Filter banks

*Managing system voltage, power factor or harmonics.*

- **Distribution System Monitoring** senses, displays, records, trends and alarms on power systems information like:

- Power flow
- System topology
- Equipment status

*Showing distribution system behavior.*

Manage these changes with Power & Energy Management Solutions from Rockwell Automation.

# Allen-Bradley Replacem



Rockwell  
Automation has  
been successfully  
engineering  
power  
management  
solutions since  
1974.

# Engineered Systems from PEMS Provide Management Capabilities

More than just providing components, Rockwell Automation strives to provide complete power and energy management solutions to its customers via the PEMS initiative.

The benefits of utilizing a PEMS engineered power management system are many. For example, you can take advantage of the almost 30 years of experience Rockwell Automation has in developing engineered systems.

## **Outstanding Engineering Expertise**

Our engineers have extensive application knowledge with utility rate structures and billing, power system operation and control, and power system engineering and protection. Additionally, Rockwell Automation's ISO 9001 registered quality program makes use of widely accepted automation platforms. Finally, we will work with your staff throughout the transition phase, providing training and ongoing support.

## **A Better Value**

We believe that our engineered systems offer a better value to our customers than other solutions. Why? Single point of responsibility, for instance. Because Rockwell Automation develops your engineered system, you have one point of contact, simplifying your implementation effort and ensuring that your project meets its deadline.

We also use structured software application code developed from a library of pre-engineered software modules. The result—reduced system delivery time, increased engineering efficiency, and greater software functionality.

Finally, because our engineers are experts in developing power and energy management systems, start-up times are reduced and the overall success of the project is assured.

# Advanced Power & Energy

## Superior Engineered Solutions

A PEMS engineered system brings together a variety of hardware, software and application experience, to make your project easy to implement and maintain. An engineered system typically includes the following:

- System architecture and hardware selection
- Material procurement
- Design, assembly and testing of control enclosures
- System programming and configuration
- System integration and testing
- Start-up assistance
- Extensive system documentation

## What is the Bottom Line?

Power & Energy Management Solutions from Rockwell Automation are your best bet for application-specific power management systems that offer high-value, are competitively priced, and ultimately contribute to your bottom line.

PEMS' application expertise provides you with robust, proven engineered system solutions.

# Allen-Bradley Replacem

# The Latest in Power Monitoring Hardware



Powermonitor II and Powermonitor 3000 offer a wide range of high-performance features for a variety of applications.



## Powermonitor II: Setting the Pace in Power Monitoring

A self-contained, high-performance power management tool, the Powermonitor II offers many innovative features, including built-in monitoring, archival, analysis, and control capabilities:

- **Real-Time Power Parameters**

The Powermonitor II is capable of monitoring either single or three phase systems in real time, providing users with a host of fast and accurate information about their electric power.

- **Oscillography**

Thanks to its fast sampling rate (180 samples/cycle at 60Hz under all operating conditions), the Powermonitor II provides simultaneous capture of oscillograms.

- **Harmonic Analysis**

The Powermonitor II scrutinizes your power system harmonics by measuring percent distortion, magnitude and relative phase angles. It likewise performs harmonic calculations, such as TIF, %THD, K-factor, Crest factor and a compliance check to IEEE-519.

- **Connectivity**

The Powermonitor II boasts plug-in communication cards that cover a broad variety of different networks, including RS-232, Remote I/O, DeviceNet™ and Ethernet™. The Ethernet communication card even includes a built-in HTML web page for Internet read access of all critical Powermonitor II data. Finally, the Powermonitor II features extensive analog and digital I/O with four self-powered status inputs and two form C ANSI C37.90 output relays.

## Powermonitor 3000: A Compact, Cost Effective Unit

Building on the qualities of the Powermonitor II comes the Powermonitor 3000. Now you have access to basic energy management hardware in a more compact, cost-effective package.

The Powermonitor 3000 has the ability to monitor single and three-phase systems in real time, just like the Powermonitor II. Unlike other energy management devices, however, the master module mounts easily into existing 1/2 or 1 space MCC bucket, eliminating the need for an external enclosure. The display also fits into existing 4" ANSI cutouts. The result—lower installation costs for both new and retrofitted applications.

Every Powermonitor 3000 comes standard with a native RS-485 communication port that supports the DF-1 half-duplex slave protocol. DeviceNet, Ethernet, ControlNet™, Remote I/O and RS-232 options likewise allow information access over a variety of networks, "from the shop floor to the top floor."

# Powerful and Intuitive Software

Your ability to effectively manage your energy usage is only as good as your ability to manage your power monitoring data. Fortunately, the Allen-Bradley Powermonitor II and Powermonitor 3000 are supported by a host of Rockwell Software packages that make it easy for you to manage energy information:

## **RSEnergy**

RSEnergy combines data communication tools, client-server software, and advanced web technology to allow users to efficiently and effectively manage energy use. An installed RSEnergy Server allows clients to view energy information using a simple web browser over a wide area network.

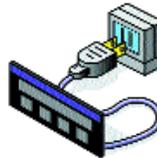


## **RSPower32**

RSPower32 is a stand-alone software package based on Active X technologies that allows you to configure and view power monitoring hardware in conjunction with RSLinx™.

Through RSPower32, you can configure and view Allen-Bradley power monitoring devices in the field or on the plant floor, via your PC. Within minutes of completing the easy and intuitive installation of the software, you can begin monitoring your power, viewing log files, analyzing harmonic data and capturing oscillograms.

Additionally, as an OPC/DDE server, RSPower32 can be closely integrated with other HMI packages, and other products like Microsoft® Excel.



Configuring your hardware and monitoring power is as easy as point-and-click.

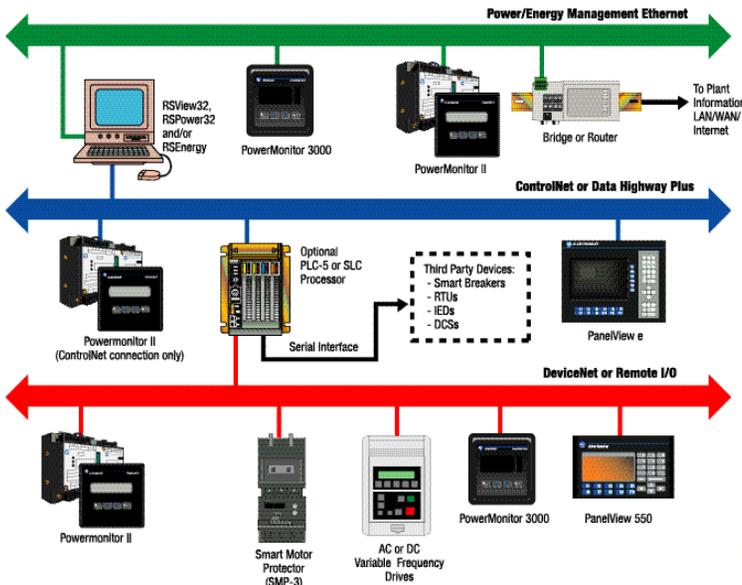
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# A Variety of Communication Options



Connectivity is key to delivering important power management information throughout your plant. Fortunately, the Powermonitor II and Powermonitor 3000 offer a variety of communication options to PCs, PLCs, and other operator interface and control devices:

With open communication architectures, it's easy to share data across the enterprise.



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ControlNet is a trademark of ControlNet International, Ltd.  
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Wherever you need us, Rockwell Automation brings together leading brands in industrial automation including Allen-Bradley controls, Reliance Electric power transmission products, Dodge mechanical power transmission components, and Rockwell Software. Rockwell Automation's unique, flexible approach to helping customers achieve a competitive advantage is supported by thousands of authorized partners, distributors and system integrators around the world.

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