Powermanager™ Power Monitoring Software, combined with Siemens power meters and low voltage protective devices, provides a complete energy management solution for your business. It allows you to measure, process, analyze, store and share energy usage and status information across your entire enterprise. It offers control capabilities, comprehensive energy usage and reliability, and detailed reporting that will help you reduce energy related costs.

Powermanager allows you to manage all your intelligent devices and analyze the data, allowing you to identify hidden potentials for energy optimization and overall savings.

Its cutting edge flexibility and compatibility means you can add one piece at a time, at your own pace, while still maintaining your original investments. Additionally, the scalability lets you start with an easy to configure, low investment sub-metering solution which can be extended to an enterprise wide power management system later.

**Identifying hidden potential for energy optimization and savings**

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### Highlights

- **Cost allocation and sub-billing:** Track energy related costs by building, feeder, or individual machines. Match virtually any billing structure and use comprehensive multi-year scheduling and time of use activity profiles to report and document the energy savings!

- **Load studies and asset management:** Trend power usage data to take full advantage of your electrical distribution system capacity and avoid over design or unnecessary expansion. Create usage profiles so you can distribute loads and avoid demand peaks.

- **Equipment monitoring and control:** Meter all your utilities including gas, steam, air and water. Set up alarms for real time pending problems and predictive alarming of impending or imminent conditions. Interface with other energy management and SCADA systems through multiple communication channels and protocols.

- **Energy usage analysis made easy:** Utilize the comprehensive reports, variable trend tool and customized graphics to analyze energy consumption to identify potential areas for energy and cost savings.

- **Low startup cost:** Minimum engineering expenditure is required for startup, thanks to the comprehensive built-in devices drivers and screens.

- **Web access:** Monitor and analyze energy usage from anywhere with direct web access to any screen.
Power and energy flows become visible and controllable

Overview

Powermanager software and intelligent electronic devices

The Power Management Energy System is designed to support many different applications utilizing a standard PC or server while communicating to the metering devices serially or over a standard Ethernet LAN / WAN network. General benefits of a power management system: To identify savings potential, to reduce power costs and to ensure power availability.

Powermanager provides a comprehensive view of the existing power and energy conditions and protective device status. Detailed analysis of reports can be performed to identify waste. Control functions of the software or from ties to other supervisory systems then can be used to act to control the cost. Controlling energy cost can be a significant factor in a business’ competitiveness in the market.

The powermanager software:

- is available in a stand-alone or LAN/WAN based configuration that can also exchange information with other supervisory systems like building automation software
- can utilize any Ethernet or serial via gateway (Modbus only)
- is expandable from the basic monitoring application to a fully customized enterprise management system
- is fully scalable with regard to the connected devices and to the software’s function to meet current and future needs
- ensures the seamless integration of power monitoring devices from the Siemens PAC series meters and 3VA/3WL/3VL circuit breakers as well as other Modbus communicating devices
- is designed to collect, archive, monitor, display and evaluate any kind of energy related device data
- provides web based reporting and detailed graphics construction utilities as standard

Benefits

- Visibility and control of power flows
- Exact knowledge of the consumption profile
- Increase of energy efficiency
- Optimization of power supply contracts
- Compliance with contractual terms or regulations
- Allocation of costs to individual cost centers
- Optimization of plant maintenance
- Identification of critical systems conditions

The Siemens power meter and low voltage protection devices are seamlessly integrated in the Powermanager software. Energy data acquisition can take place without any complicated configuration effort and the most important measured values or states are indicated with predefined screens. This reduces the engineering expenditures for the customer and gives the user the assurance of knowing that the device functions are optimally supported in the software at the time of startup.
Powerful tools to analyze your energy consumption

Customer Benefits

Cost allocation and sub-billing reports
Cost allocation and sub-billing functionality in the Powermanager software allows the user to track energy related costs by building, floor, tenant, feeder or location. Match virtually any fixed rate billing structure and use comprehensive multi-year scheduling and time-of-use features to manage the energy costs.

Equipment monitoring and control
Powermanager allows you to meter all your utilities including gas, steam, air and water and set up general condition alarming and pre-event alarms for impending or imminent conditions. Interface with other energy management and SCADA systems through multiple communication channels and protocols like OPC.

Reports
Standard reports provide models of daily electricity usage so you can distribute loads and avoid demand peaks. This enables you to allocate energy consumption and/or costs to individual areas and identify expensive processes that need attention. The historic trending report compiles data from load circuits over a user's predefined period. This enables the user to fully utilize the power distribution system and run at near rated tolerances.

Feature summary

Monitoring
Breaker/system status indicators – Display the current status of breakers, motors or any device. See a feeder change color to indicate overload. Watch a breaker status change when you press the open/close button.

Control – Perform remote operation from the Windows client or Web client e.g. remote control of a breaker or reset of power meter device data. All control features are user defined with password verification.

Reports – Basic reporting with templates for a simple introduction to the evaluations
• Cost center evaluation
• Evaluation of consumption values
• Deviation analysis
Extended Excel-based reporting for tailored evaluations. Calculation and display of key performance indicators (KPIs).

EXCEL, pdf or csv.
(html only with extended report based on excel)

For the internal reporting there is no need to have excel for the report creation

New in Version 3.4
• Device integration of new devices
  - PAC 3200T
  - PAC 2200
  - SEM3
• New standard reports
  - Templates:
    - KPI report
    - Sankey report
    - Top 10 consumers
  - Web-based
  - Email, .pdf, .xls, .csv.
  No EXCEL needed

• Extended integration of:
  - 3VA breaker
  - 3WL breaker
• Annual evaluation
• Frequency distribution
• SANKEY Report
• Top 10 consumer report

Load studies and asset management
Trend power usage data to take full advantage of your electrical distribution system capacity and avoid over-design. Create usage profiles that will allow you to distribute loads and avoid demand peak which helps to identify energy leaks such as equipment running during down time.
Display the status of your power distribution system

Take advantage of default graphics

Speed up your system configuration with default screens. Immediate access to all meters is just a few mouse clicks away with the “PM Explorer Start Page”: pick your meter, assign an IP address and immediately see data in the predefined views.

Predefined data representation helps users examine standard power management data as well as more sophisticated data like odd/even harmonics, and THD.

Generate trend graphs

The Variable Trend tool allows you to view and interpret a mixture of historic and instantaneous data. You can watch the KW load change over a month, a week, or during production shifts. The tool also allows you to get a closer look using the versatile zoom functions, add or remove values at your need and export viewed data to a CSV file.

The Variable Trend tool allows a user to compare energy consumption of different buildings or different machines at the same time i.e.: last month, last week or last year. This tool also allows a user to view one specific value over time. For example, a motor current that is rising over time, could indicate a need for maintenance that would prevent downtime and costly repairs or replacement.

The advanced features of the Variable Trend tool allows a user to add a second time period. This makes it very convenient and easy to compare one or multiple values over 2 time periods. For example, to compare energy consumption this week to energy consumption of the previous week.
View and control your facilities’ infrastructure condition from anywhere

**Customized graphics**

Graphical tools in the Powermanager “Expert” feature package help create custom graphics for:
- an overview of the power distribution system status for the entire facility or just selected locations
- specific alarm conditions e.g. to alert the operator of unusual load circumstances
- status indicators of 3rd party devices like transformers, generators etc.
- control triggers
- Powerful math, logic and control functions used to aggregate data from multiple sources, analyze it and initiates coordinated actions based on the results. Perfect for demand control and cost allocation.

**Web client access**

Your web browser is now a window to the power management system. Web clients provide the same functionality as a full client, even with control ability. Use any computer’s standard web browser to display the Powermanager graphics, logged data, real time data, alarms, trends without any software loaded on the computer. Windows client functionality is required to create, change or schedule reports.

**Additional standard functionality**

**Database management**

All data is captured in Powermanager’s high performance database thus avoiding any additional database development investment. The software comes with OPC DA Server and Client as well as OPC AE.

**Multi-language support**

The Powermanager supports German, English, Spanish, Portuguese, Chinese, Turkish, French, and Italian as standard. The graphical user interface can be operated in different languages even in one project simultaneously. Additional languages can be imported using a tool to support international locations.

**User administration**

User access can be assigned to multiple groups and up to 32 different security levels. Several special functions e.g. password aging and auto logout are used to create a highly sophisticated access security system.

Mall floor plan shows the mixed use retail stores energy usage
Flexibility allows the system to be adjusted to your needs

System architecture

Data processing server

Powermanager power monitoring software

System configuration
- Integration of devices with predefined device templates for the PAC TM family and the 3WL/3VL circuit breakers
- Easy integration of existing Modbus devices
- Communication through Standard Ethernet
- Integration of devices with RS485 interface (Modbus RTU) through Modbus gateway, e.g. the PAC4200 can be used as a gateway

System requirements

Hardware requirements
- Processor: Intel Core i3 processor, 2GHz
- RAM: at least 4 GB RAM
- Hard disk: HDD with 10 GB free storage space
- Display: VGA with at least 1280 x 1024 pixels and 16-bit color intensity

Supported operating systems
- Windows 7: Ultimate / Enterprise / Professional, SP1 (64-bit)
- Windows 8.1: Enterprise (64-bit)
- Windows 10: Enterprise Pro
- Windows Server 2008: Server 2008 R2 (64-bit)
- Windows Server 2012: Server 2012 R2 (64-bit)

Supported Excel versions (extended report)
- Excel 2010 (32-bit)
- Excel 2013 (32-bit)

Available in the following languages
- English, German, Simplified Chinese, Turkish, Spanish, French, Portuguese, Italian

Internet Section
- Free download for powermanager trial license see http://support.automation.siemens.com/WW/view/en/64850998

For more information see usa.siemens.com/PDS

Network connectivity

Ethernet connectivity
A Powermanager system can be deployed on any standard Ethernet TCP/IP network for fast transmission of data from any Ethernet device tied to the network. These devices can be locally or remotely connected using the plant’s WAN network. Using the existing Ethernet network provides efficient use of resources and allows visibility to the system by anyone on the network though their computer’s Internet Explorer screen.

Gateway connectivity
The gateway ability of the Siemens meters allows a user to connect multiple serial devices on one RS485 daisy-chain communications wire to the Ethernet by using one meter as the gateway or RS485 to Ethernet converter. This allows the Powermanager software to communicate to multiple devices using one IP address. This ability reduces the amount of IP addresses required by the system, thus reducing server space requirements.

Modbus device support
Powermanager can read data from any third party Modbus RTU or Modbus TCP device.

Data acquisition
- Gather data via Ethernet or serial links using the gateway functionality of a meter or another device
- Store historic and event data in a database
- Integrate metering of electricity, gas, water, steam, air and more
- Interface to third party hardware and software through Modbus RTU, Modbus TCP, Ethernet, OPC AE and DA
### Part Numbers

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