

SIEMENS



Energy management in production

The systematic way to maximum
energy efficiency

Intelligent energy management made to order

siemens.com/simatic

The intelligent answer to increasing requirements



Against the backdrop of resources that are becoming ever scarcer and more expensive, the topic of energy efficiency is becoming increasingly important. The situation is further intensified by increasingly strict legal requirements.

Successfully to the target

Only those who know when and where how much energy is needed can intelligently benefit from potential savings. Siemens shows that no complex and cost-intensive solution is required for this. Within the scope of our comprehensive portfolio, we provide you with everything you need for successively increasing your energy efficiency.

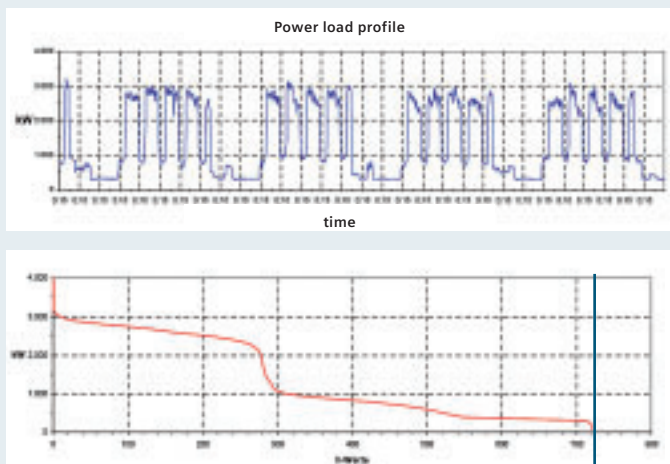
The step-by-step structure and expansion ranges from simple energy monitoring to the comprehensive energy management system. Each stage of the expansion provides more functionality than the previous one and can generally be completely integrated into the higher expansion level.

Comprehensive portfolio for custom-tailored solutions

- **B.Data:** The energy management system at the company level allows optimized and cost-effective energy management.
- **SIMATIC powerrate:** The option for our SCADA system SIMATIC® WinCC and our process control system SIMATIC PCS 7 standardizes, visualizes, and archives mean values for energy quantities and power loads and reduces energy costs by capping peak loads.
- **SIMATIC HMI:** At the machine level, our intelligent HMI devices contribute to transparency with regard to the energy needs and allow an immediate response to energy deviations.

In any case, a combination of B.Data and SIMATIC powerrate covers all relevant energy functions.

Load profile / duration trends



Benefits

Identify: Clarity regarding energy quantities and costs

- Energy profiles of individual loads (machines, lines, plants)
- Energy needs as a time series or power load trends
- Transparent energy reports based on Microsoft Excel
- Access by different personnel by means of distributed system structures and web access

Evaluate: Discover the potential areas for optimization

- Recognize the performance peaks and unexpectedly high need for energy
- Correlate the need for energy and process information such as pressure, quantities, temperatures etc.
- Support in making a decision about co-generated energy

Implement: Reduce your energy costs!

- Create "energy awareness"
- Prevent expensive power peak loads
- Optimize energy contracts on the basis of reliable energy forecasts and needs planning
- Reduce the energy needs of your loads
- Improve technological processes on the basis of previously recognized potential

At a glance: Our first-class SIMATIC solutions for increased energy efficiency

B.Data energy management system

- Flexible data acquisition by means of connecting to lower-level measuring systems, or via process visualization systems (WinCC) or process control systems (PCS 7)
- Taking all types of energy into consideration – gas, steam, water, and electricity
- Trender: Graphical analysis of historical and online data
- Energy balancing, including reporting: Transparent energy and material accounting on a cost-by-cause basis
- Emission monitoring, e.g. CO₂ balancing
- Transparent reporting based on Microsoft Excel
- Long-term archiving of the collected energy data
- Calculation of key data / Key Performance Indicators (KPI)
- Precise display of the tariff models – regardless of their complexity
- Versioning of models: Calculation of new contract structures and tariff models with real data from the past
- Basic data for forecasting and advance planning of future energy needs
- Transfer of energy data to higher-level management systems, e.g. SAP



Transparency of all media by means of powerful graphics functions and a hierarchical structuring of your plant all the way down to the level of individual loads

SIMATIC powerrate

- Recording, compression, and monitoring of selected measured values, regardless of the sector – by connecting existing sensors from the field of process instrumentation or the SENTRON PAC measuring instruments and SENTRON switching and protection devices
- Faster and more precise overview of the consumption values thanks to visualized load curves
- User-friendly analysis and monitoring: Excel-based reports can be manually created or automatically generated in a time-controlled manner
- Integrated load management provides support in adhering to the mean performance value agreed upon with the energy provider
- Up to twelve different tariffs can be configured



Energy characteristics provide transparency

Selection and order data

WinCC/B.Data	Order number
WinCC/B.Data V5.2 SP1 Basic System, 100 ¹⁾	6AV6372-1DF05-2AX0
WinCC/B.Data V5.2 SP1 Basic System, 500 ¹⁾	6AV6372-1DF05-2BX0
WinCC/B.Data V5.2 SP1 Basic System, 1,000 ¹⁾	6AV6372-1DF05-2CX0
WinCC/B.Data V5.2 SP1 Basic System, 30,000 ¹⁾	6AV6372-1DF05-2DX0
WinCC/B.Data V5.2 SP1 Powerpack ³⁾	6AV6372-1DF05-2XX0
WinCC/B.Data V5.2 SP1 Basic System, 100 SUS ²⁾	6AV6372-1DF00-0AL0
WinCC/B.Data V5.2 SP1 Basic System, 500 SUS ²⁾	6AV6372-1DF00-0BL0
WinCC/B.Data V5.2 SP1 Basic System, 1,000 SUS ²⁾	6AV6372-1DF00-0CL0
WinCC/B.Data V5.2 SP1 Basic System, 30,000 SUS ²⁾	6AV6372-1DF00-0DL0
WinCC/B.Data V5.2 SP1 Powerpack SUS ²⁾	6AV6372-1DF00-0XL0
WinCC/B.Data V5.2 SP1 Web Server, 3 Web Clients ⁴⁾	6AV6372-1DF25-2AX0
WinCC/B.Data V5.2 SP1 Web Server, 20 Web Clients ⁴⁾	6AV6372-1DF25-2BX0
WinCC/B.Data V5.2 SP1 Client	6AV6372-1DF35-2AX0
WinCC/B.Data V5.2 SP1 Acquisition ⁵⁾	6AV6372-1DF55-2AX0
WinCC/B.Data V5.2 SP1 Forecasting and Planning	6AV6372-1DF45-2AX0
WinCC/B.Data V5.2 SP1 Trial 30 days	6AV6372-1DF15-2AX0
<p>¹⁾ Connection of mobile devices (PDA), ERP, and energy profile creation are part of the basic packages as of B.Data V5.2 and no longer need to be ordered and licensed separately</p> <p>²⁾ SUS is valid for one year, suiting the respective basic or Powerpack package</p> <p>³⁾ A Powerpack can be used up to 3 times and thus for each expansion level</p> <p>⁴⁾ B.Data V5.1, web viewer has been licensed on the client / computer For B.Data 5.2, the web clients are licensed on the web server</p> <p>⁵⁾ Allows an additional data source to be connected</p>	

SIMATIC powerrate	Order number
SIMATIC powerrate V4.0 trial license (30 days)	6AV6372-1DE04-0AX7
SIMATIC powerrate V4.0 Engineering + Runtime	6AV6372-1DE04-0AX0
SIMATIC powerrate V4.0 upgrade V3.0 to V4.0 Engineering + Runtime	6AV6372-1DE04-0AX4
<p>Included in SIMATIC powerrate at no extra cost: SENTRON Library PAC3200 for WinCC / PCS 7 and 3WL / 3VL (PCS 7) WinCC User Archive</p>	

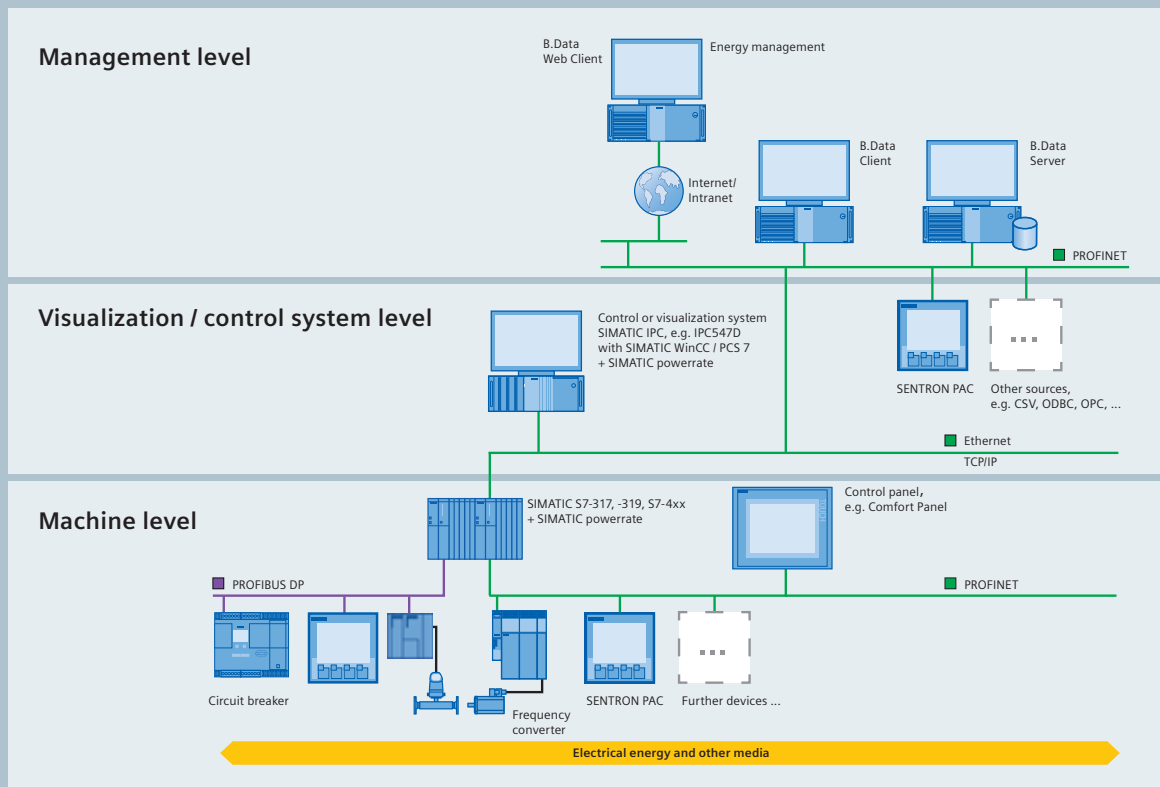
You can also order our products directly online at: [siemens.com/industrymall](https://www.siemens.com/industrymall)

Scalable functionalities for individual energy management

Step by step toward greater transparency and energy efficiency

	Products	Energy management functions														
		E-monitoring	Trends / curves	"More complex control tasks"	Energy messages	Load management	Data availability	Reporting	KPI calculations	Tariff models	Batch reports	Cost center assignment	Accounting calculations / Accounting grids	E-planning / forecast	CO ₂ / emission	SAP / ERP connection
Configurations	B.Data	●	●	n.n.	n.n.	n.n.	n.n.	●	●	●	◐	●	●	●	●	●
	Panel PC / IPC WinCC or PCS 7 powerrate SENTRON PAC with controller	●	●	●	●	●	●	◐	◐	●	●	◐				●
	Panel + WinCC V11 SENTRON PAC with controller	●	●	●	◐	◐	◐	◐	◐							
	Panel PC / IPC WinCC SENTRON PAC without controller	●	●		◐			◐	◐							●
	Panel + WinCC V11 SENTRON PAC without controller	●	●		◐			◐	◐							

Configuration



Further information:

siemens.com/simatic-powerrate
siemens.com/bdata

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