

Optimizing energy consumption

Measuring energy and performance with ABB energy meters

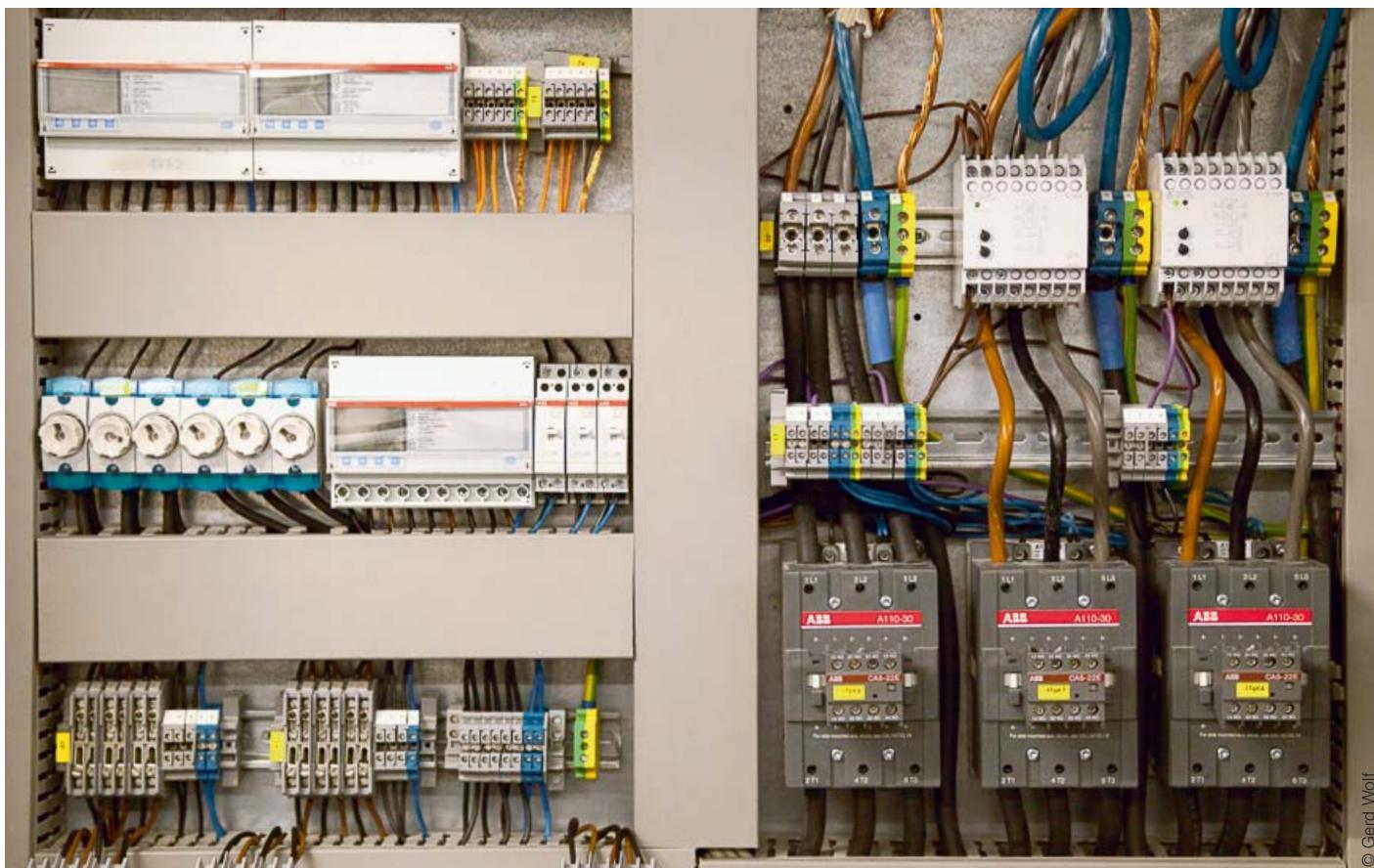


SRH Holding is one of Germany's leading providers of education and healthcare services. At the energy management centre at the SRH University in Heidelberg, the company uses energy meters from ABB.

The extensive campus of the SRH University Heidelberg in Germany includes around 30 buildings. Together, their energy costs add up to several hundred thousand Euros every year. In order to discover potential savings, the university introduced an energy management system based on over 140 ABB energy meters. These record how much energy is being used by each building for heating, water and electricity respectively, allowing the university to precisely identify energy-intensive consumers and improve them.

In order to investigate the potential for savings in the various buildings on campus, energy meters from ABB's new A series have been installed in the site's sub-distribution units in 2013. These meters have direct or transformer connections. The electronic meters measure values such as active power, apparent power and reactive power, as well as current and voltage. The devices work in a wide voltage and temperature range. With a power consumption of less than 0.8 VA, they are also very efficient.

"We introduced an energy management system as a result of our high energy costs. Energy meters from ABB help us to allocate the amounts of energy used by the respective buildings and even of individual devices, allowing us to optimize these appropriately," says Eduard Silberhorn, responsible at SRH for measurement, control and regulating technology.



Over 140 energy meters from ABB form the basis for the energy management system at SRH University. They allow the energy consumption levels to be recorded separately and optimized.

Meters transfer data to building management system

The energy meters of the A series can be programmed easily. Up to four measurement values can be shown simultaneously on the display, including total and phase power, voltage, current and many more. The devices are fitted with an integrated series interface for an M bus, which is used on the SRH campus to record consumption data and transfer data from the meters. An infrared interface reads out the data via a communication adapter and provides them to the building management system for further evaluation.

SRH University in Heidelberg uses the A series of energy meters from ABB to precisely monitor its energy consumption. The university is impressed by the meters' performance:

- simple programming
- easy connection with the M bus and integration into building management system
- automatic transfer of meter data to building management system
- power consumption of less than 0.8 VA

Comparison of consumption levels down to product level

The university uses the meter data to compare energy consumption levels of both buildings and individual products. The meters allow comparison of the power and consumption val-

“We only install ABB meters. They work perfectly and can also be connected easily to the M bus of the building management system,” says Eduard Silberhorn, responsible at SRH for measurement, control and regulating technology.

ues of similar devices. In addition, the university uses the individual consumption data of the floors in buildings to calculate the actual additional costs. The university has been gradually incorporating the campus buildings into its new energy management system since the start of 2014. By combining its data with those of a public building, SRH can assess its own meter data and devise suitable measures for saving energy.