

Automatic system for commercial measurement of power consumption

EFFICIENCY OF SYSTEM FOR AUTOMATIC MEASUREMENT OF POWER CONSUMPTION

Primarily the implementation of automatic system for commercial measurement of power consumption is to obtain accurate data on energy consumption.

In addition, availability of complete documented differentiated by structural subdivisions and operational information on energy consumption is an extension of support of programs for energy saving due to personalization of responsibility for energy consumption, and the mechanism of prompt and objective monitoring of implementation of energy efficiency programs.

In other words, energy conservation begins where measurement begins, moreover automatic measurement as the most comprehensive, accurate and prompt, allowing controlling power consumption in the control mode, carrying out the most urgent energy-saving measures, monitoring compliance with the technological discipline.

It is possible to deal with power consumption at your enterprise, learn to work with minimum cost of its consumption only possessing a necessary tool - automatic measurement.

Automatic measuring system allows:

- Not consume more than necessary,
- Pay for what you consumed,
- Consume so to pay less.

The introduction of systems of technical accounting allows reducing the volume of consumption due to:

- The accuracy of calculations with energy-supplying organizations and sub-consumers (tenants),
- The possibility to use the optimum for a given period of time tariff and supplier (rates are changed once a year and are published 1-3 months before enactment),
- Reduction of the stated capacity,

- Improved efficiency of detection and elimination of deviation from the established modes of consumption,
- Optimization of consumption schedules.

The introduction of systems of technical accounting allows reducing the volume of consumption due to:

- Increased power consumption management efficiency,
- Centralized control of power consumption,
- Documented control of power consumption by structural units,
- Personalized control of compliance with the technological discipline and optimization of the equipment operation,
- Increased responsiveness of identification of unproductive energy losses in the form of leaks, emergency operation modes of equipment, etc.,
- Increased responsiveness of identification and elimination of unauthorized connection,
- Improved accuracy and responsiveness of data collection for implementation of the enterprise energy management (in particular the system of power consumption regulation),
- Provision the management with objective tool to control taken measures and energy efficiency programs.

The total reduction of energy costs may achieve 25-50%

Years of experience in the operation of the Automatic system for commercial measurement of power consumption in Russian companies of different profiles allows us to conclude the following market benefits of using these systems:

- High investment attractiveness of this energy saving project in view of the short period of payback (less than one year),
- Enhancing stability of business due to reducing the risks associated with:
 - Rise in energy prices,
 - Disconnecting or imposed restrictions on power consumption (the latter tend to increase as the growth rate in the energy industry is sluggish compared with other industries, as well as the progressive wear of fixed assets in energy sector),
 - The "human factor" in energy resource accounting and control of energy consumption,

- Use of really saved funds to address the problems of the company when receiving of foreign borrowing is difficult,
- Determination of actual energy costs separately for production orders, structural units, technological lines and equipment. As a result, implementation of budgeting as planning technology because energy flows finally turn into cash flows,
- Involvement of larger number of middle managers and structural subdivisions heads in solution of energy saving problems,
- The possibility to optimize production process, and the optimization is one of the key components of scientific and technological development. This is due to approach of many technologies and ways to use the product in the industrial sector to the limit modes.
- Improved environmental performance of the enterprise. Less energy consumption helps to reduce environmental pollution not only by the enterprise customer (additional savings due to reduction of environmental fees), but also allows companies generating energy to reduce consumption and thus save nonrenewable natural resources (oil, gas, coal, etc.) and also to improve the environmental situation in the region,
- Increasing the investment attractiveness of the company as a result of growth of "transparency" factors for a potential investor or partner thanks to availability of exact information on percentage of energy in production costs, which in the conditions of constant growth of its cost allows quick adjusting of business plans and pricing policies in order to avoid losses,
- Growth of "image" component in the evaluation of the business in connection with the use of the newest technologies and modern equipment.

Getting an unbiased, accurate, complete and timely information allows you to take high-quality management decisions. Thus, the accounting system is one of the real enterprise management systems.

The economic effect from the implementation of the automatic system for measurement of power consumption depends on the specific of each individual enterprise or division and of course of measures taken on the basis of the information received. The higher the energy intensity of production, the more unaccounted losses are, and therefore the more significant the cumulative effect from the implementation of automated accounting system is.