ACHIEVING ENERGY SAVING BY USING AUTOMATION SYSTEMS IN TECHNOLOGICAL PROCESSES OF ENTERPRISES

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Abstract: The article collects and analyzes data that determines the real state of the enterprise's energy economy, a program of measures to save electricity that determines the essence of energy activities, as well as the rational organization of the enterprise's activities on the basis of organizational ones, and presents legal and technical activities.

Keywords: automation, microcircuit, analog control, intelligent system, sound signal, complex filtering.

KORXONALARNING TEXNOLOGIK JARAYONLARIDA AVTOMATLASHTIRISH TIZIMLARIDAN FOYDALANISH ORQALI ENERGIYA TEJASHGA ERISHISH

Annotasiya: Maqolada korxona energoxo‘jaligini real holatini belgilovchi ma’lumotlarni yig’ish va tahlil qilish energetik tadbirlarning mohiyatini belgilaydigan elektr energiyasini tejash bo‘yicha tadbirlar dasturi, tashkiliy, huquqiy, texnik xarakterda bo‘lgan tadbirlar asosida korxona faoliyatini oqilona tashkil etishni ko‘rsatib berishga qaratilgan ma’lumotlar keltirilgan.

Kalit so‘z: avtomatlashtirish, mikrosxema, analogli boshqarish, intellektual tizim, audio signal, kompleks fil’tratsiya

ДОСТИЖЕНИЕ ЭНЕРГОСБЕРЕЖЕНИЯ ЗА СЧЕТ ПРИМЕНЕНИЯ СИСТЕМ АВТОМАТИЗАЦИИ ТЕХНОЛОГИЧЕСКИХ ПРОЦЕССОВ ПРЕДПРИЯТИЙ

Аннотация: В статье собраны и проанализированы данные, определяющие реальное состояние энергетического хозяйства предприятия, программа мероприятий по экономии электроэнергии, определяющая сущность энергетической деятельности, а также рациональная организация деятельности предприятия на основе организационных, представлена юридическая и техническая деятельность.

Ключевые слова: автоматика, микросхема, аналоговое управление, интеллектуальная система, звуковой сигнал, комплексная фильтрация.

INTRODUCTION

In the field of science and new technologies, the concept of automation of technological processes and production has appeared in recent years. Automation of production processes is a new concept developed on the basis of the application of intelligent systems in devices. Automation of production processes is used in large and small enterprises producing many types of products. The meaning of automation of production processes corresponds to the creation of flexible production systems based on intelligent systems.

Automation of production is to carry out production processes automatically without human intervention, but under his control. Manufacturing automation leads to increased productivity, lower costs, increased product quality, and lower costs.

Automatic processes reduce service personnel and extend the life of machines, save materials, improve working conditions and ensure production safety. Today, automation of processes has established production based on high-level intelligent systems. They provide automatic data acquisition, transmission, transformation, comparison, and data control and monitoring.

MAIN PART

Intelligent systems: signal processing chips from sensors, analog control chips, complex filtering devices, photo sensor signal amplifiers, voltage converters, audio signal processing and filtering devices, frequency modulators, signal generators and many others electro technical devices are widely used in industrial automation systems, medicine, control measuring devices and household service devices.

Today, the use of automation - intelligent systems has reached such a level that special safety systems have been created that fully include the production process.

Automation is used in places where a large amount of physical or mental labor needs to be performed by a person, 100÷1000 times more and faster compared to ordinary workers. For this reason, research and development activities on the automation of technological processes and production are becoming important in the development of industry and agriculture.

In large and small industrial enterprises of our republic that produce many types of products, using modern intelligent systems, it is to reduce human participation in the management of equipment, ensure the reliability and long-term operation of machines, reduce material and energy consumption, improve working conditions and ensure safety. This reduces the cost of production in industrial enterprises and leads to the development of the enterprise.

Automation requires the following three tasks:

• automation of production processes;
• automation of the administrative process;
• automation of production monitoring.

Automation of the production process. There is no trade without production. The "Japanese miracle" is based on increasing maximum efficiency - maximum robots and automation, minimum workers. This approach has made Japan one of the most developed countries for several decades. The automation of Workbench ensures maximum effective operation. In this case, the workbench is integrated into the general structure of production. From the top, it receives the task for the desired product and submits a report to the top in real time. The operator knows how much and what type of product he can produce in one shift. With the help of automation, production of usable products is maximized and quality is controlled.

Automation of the administrative process. Nowadays, there are many computer programs of enterprise management system. These programs cost anywhere from $10,000 to $100,000. In enterprises, a lot of money goes to administrative management and setup. These programs really help businesses run efficiently. However, if the real equipment is not connected with the given base of raw materials and finished products, these programs may not be effective.

If there is no common communication about what is being done in production, how much material is left in the warehouse, and how the machine is working or being repaired, the administrative management system of production remains open. Our goal is to connect all

equipment to a common network and automatically write information about the product being produced to a database, and as a result, give each machine the ability to realistically control when and how much product is produced.

Automation of production monitoring. In many cases, the owner of the enterprise does not know the real situation in production. In some cases, this creates difficulties for quick conclusions and long-term forecasting. In order to know the real situation in production and to make a quick conclusion, that is, to know whether all the workbenches and workers are working at the same time and how many materials are left in the warehouse, it is carried out by monitoring the production.

The following are the expected results of the scientific and research work on the application of intelligent systems - automation of technological processes and production in industry and agriculture:

- high efficiency in production is achieved;
- the quality indicators of the produced product will increase sharply;
- material and energy costs are reduced by 40-50%;
- long-term operation of the equipment is ensured;
- human participation in the production process is reduced, working conditions are improved and safety is ensured;
- on the basis of automation of agricultural machines, the traditional low price of agricultural products will be preserved;

CONCLUSION

In conclusion, it should be said that the recommendations for saving electricity and rational use of energy for production enterprises can be used in industrial enterprises. Algorithms and methods of calculating energy consumption by the stages of the developed power supply system can be used in practice, and the energy saving measures in the developed power transmission lines, transformer substations and electric motors allow their rational use, selection and replacement.

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