



EQUIPMENT AND SOFTWARE FOR MONITORING OF POWER SUPPLY OF INFOCOMMUNICATION DEVICES

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Abstract

This article describes the widespread use of multidimensional measuring and control converters and their modern hardware and software in the conversion of power sources to secondary signals in the power supply of computing and infocommunication devices, the principles of monitoring them, receiving and processing The principle of construction, model and software of working and transmitting media on an appropriate basis are given.

Keywords: model, device, static, speaker, description, microprocessor, information processing unit, multidimensional signal converter, Arduino microcontroller, monitoring.

Introduction

In the world of energy supply monitoring and control devices, much attention is paid to the measurement of values and parameters of hardware and software used in them, which determine the values of parameters and parameters that are controlled by various signal conversion processes. In this direction, great attention is paid to the development of new structures, operating principles, algorithms and software of primary means of transmission, which determine the versatility, speed, reliability and accuracy of measurement and control signals. This paper describes the development and integration processes of hardware and software for continuous monitoring of power supply sources [1,2].

The Main Part

It is advisable to use a wide range of autonomous, renewable electricity sources to power computing and infocommunication complexes and devices, which require a large amount of electricity, quality and reliability. Changing the electricity generated and consumed, using alternative energy sources when connected or disconnected in the centralized power grid, improving the characteristics of power devices, continuous monitoring of operating conditions, adjusting the control size and parameters with modern software and hardware There is an opportunity to increase efficiency. The conversion of primary power quantities into secondary signals, processing and





transmission elements are a tool that plays a key role in monitoring energy supply and are designed to perform services in an integrated manner with the relevant software packages. The structure of the means of converting and processing the primary quantities of electrical energy into secondary signals is shown in Figure 1.

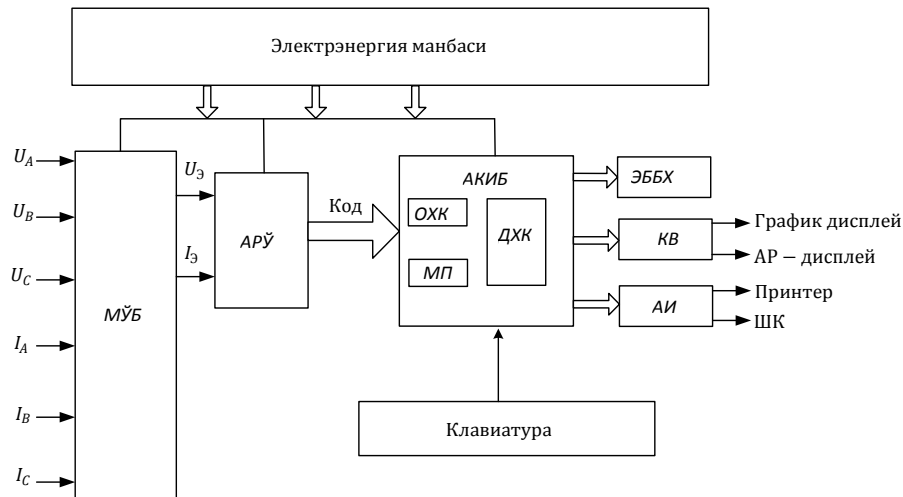


Figure 1. The structure of the means of conversion and processing of primary quantities of electrical energy into secondary signals.

Criteria for the selection of elements of signal converters in the introduction of complex systems for remote measurement and control of processes and signal changes in the primary converters of monitoring of power supply devices of infocommunication complexes have a special place. Accurate, qualitative, rapid and reliable measurement and control of electrical magnitude and parameter values are required in remote monitoring of power supply system size and parameters, coordination of power generation, transmission, storage and consumption modes in centralized power grid integration. To do this, the necessary signal converters are installed on the busbars of consumer power distribution devices, and their output size and parameters are transferred to the system of measurement and control elements and tools. [5].

Automation of energy supply control processes in infocommunication complexes Hybrid power supply includes measures aimed at improving the efficiency of energy sources. Therefore, as part of the research, an algorithm for the operation of a similar system was developed. Managing the processes in the device based on the production of electricity and its consumption means that today the energy sector needs a full penetration of hardware and software tools in the field of information technology. This is because the processes of continuous control and management of energy supply



are carried out using intelligent microcontrollers that make decisions based on various sensing elements.

The microcontroller consists of complex devices designed to process various signals and send data from electrical devices to long-distance monitoring objects, ie servers, using a signal transmission device. Based on the model proposed by the authors of this article, a software package <https://pwcontrol.uz/> IoT was created for remote monitoring, protection and automatic control of measurement and control data from the hardware. The software package for remote monitoring of computing and infocommunication complexes and devices of power supply devices is mainly designed for the management of hybrid power supply processes and the implementation of continuous monitoring processes (Figure 2) [4].

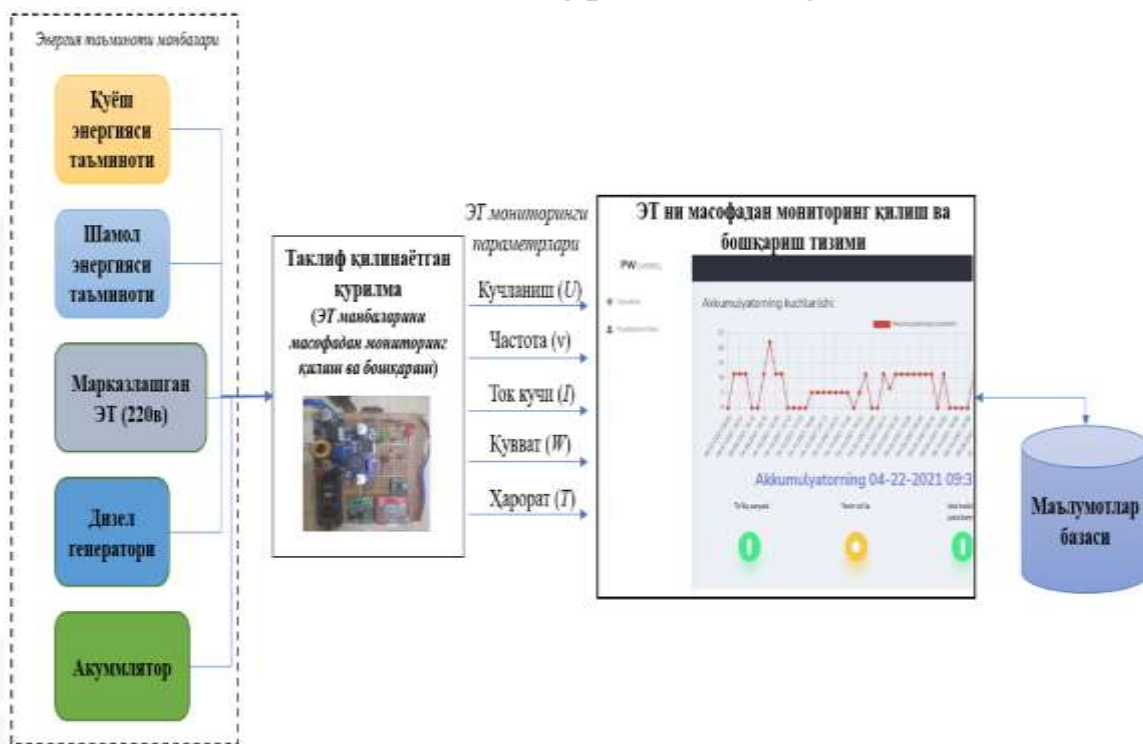


Figure 2. Structural view of the software package, which performs the processes of remote monitoring of computer and infocommunication complexes and devices of power supply devices.

Conclusion

Methods of signal conversion processes in remote monitoring of power supply systems of computing and infocommunication complexes and devices The characteristics of measurement and control converters were analyzed and as a result the signal conversion elements of monitoring were identified as important tools.



List of Used Literature

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