

THE ENERGETICS OF THE SMART HOME AUTOMATIC CONTROL SYSTEM FOR THE ADMINISTRATIVE BUILDING ALC «STRIM»

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With the development of modern technologies, there was a need for automated management of climatic parameters of premises and creation of access control systems for premises. For these purposes, specialized management systems are being developed, which have received the general name "Smart Home". These systems are used for various purposes: providing a security system for buildings and premises, ensuring control over the occurrence of fires and water leaks, climate control systems for apartments, houses, etc.

The "Smart Home" automatic control system is designed for controlling the room air temperature, lighting control, as well as for monitoring the air humidity and the level of carbon dioxide in the air. The regulation of the total air temperature for the entire first floor is made using two air conditioners installed in the corridor and the laboratory. Heated (cooled) air through air pipes enters all rooms. In each separate room, the actuators are installed, which are necessary to further regulate the air temperature in the room.

Scientific interest lies in the study of the change in the electrical parameters of the system when it is used. Particular attention is paid to the function of the system that provides automatic control of the lighting in the room, since the main power consumption falls on the lighting lamps. In addition, we consider the overall effect of these electrical parameters on energy savings when using the system under study.

Based on the literature, such as patents, scientific articles and other publications, analysis of existing technical solutions, their relevance and competitiveness was carried out.

Thanks to the received data, the processes occurring in the automatic control system were studied. A comparative analysis was made of the daily energy consumption of electrical equipment in the room before and after the automatic control system was installed. As a result, conclusions were drawn about the system's efficiency from the energy saving point of view using the automatic temperature and light control system, as well as the advantages of using the access control system in the premises. Automatic control systems «Smart Home» are innovative and allow to provide comfortable conditions for life and work of people, as well as ensure their safety.

