

SMART LIGHT DIMMER

Customer: Housing maintenance and utilities

The desire of a person to simplify and optimize various aspects of his everyday life gives rise to many interesting devices. The IoT (Internet of Things) concept is gaining popularity in recent years, and various device monitoring and control services are being created. These include apartment and building automation systems.

One class of such devices is **lighting controllers connected to a data communication network**. At first glance, the expediency of such devices is not entirely obvious, but in real life, they can significantly extend the range of lighting use scenarios, increase the comfort of use and significantly reduce energy consumption.

The customer came to us because he was looking for a way to control the light in homes and wanted us to develop lighting controllers for him.

Challenges

We needed to develop a single-channel device (500 W rated power) for lighting control, built on leading-edge circuitry and powered by a microcontroller with RS-485 communication interface and Modbus support.

In addition to the hardware, we needed to develop a firmware that protects against overload and allows to at the same time control lighting from conventional switches or remotely using Modbus.

Solutions

We created a device and its software that meet the specified requirements. Key features of the device: it is compact and has a communication interface for control from a computer.

Features



Overload protection



Communication interface for control from a PC



Possibility to control lighting of 500 W rated power



Possibility to control lighting using conventional switches or remotely from a computer or via Modbus

Technologies



p-cad



Modbus



Autocad



AVR



MicroCAP