

WIRELESS PLANT WATERING CONTROL SYSTEM

Russian Federation

Tambov State University named after G.R. Derzhavin

Design Bureau "Telecommunication Systems"

The wireless system is a local network with a central controller and humidity sensors, radio-controlled water shut-off devices, a wireless temperature and humidity sensor, and a light sensor, combined into a single system.

The number of control devices is hundreds and more. Water shut-off devices also function as routers in the plant watering control system.

The system provides irrigation of a large area with water shut-off devices and other system devices - from 30 m to 100 m.

Irrigation control is carried out on the basis of data from soil moisture sensors, features of the irrigation regime set by the farmer.

Relevance

The system allows to automatically control soil moisture based on remote tasks and indicators of moisture sensors. It reduces labor costs significantly, increases the quantity and quality of the crop.

The use

The wireless system is designed to provide automatic irrigation control over large areas based on a schedule or based on data obtained from soil moisture sensors.

The network is based on energy-saving technology with minimal radio frequency emissions.

Uniqueness

The wireless system is centralized, where the main node is a universal controller for data control and collection.

For remote control of the system, cellular communication and Wi-Fi are used, for irrigation control - an energy-saving data transmission technology of the IEEE 802.15.4 standard.



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