

Wireless system of monitoring groundwater level in a well

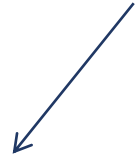
Russian Federation
Tambov State University named after G.R. Derzhavin
Design Bureau "Telecommunication Systems"

The system includes:

- software;
- file converter to CSV spreadsheet format

- central data collection and storage device

- water level monitoring device



Relevance

Irrational exploitation of groundwater can lead to depletion of aquifers and cause the failure of water intake facilities.

Therefore, the creation of a water monitoring system and control of its condition is of particular relevance.



The use

The monitoring system is designed to measure the level of groundwater in the well and store the obtained data for further analysis.



Uniqueness

The wireless monitoring system allows to combine up to 8 devices, which are remote from each other at a distance of up to 1 kilometer, into a single network.

- Two working modes: real-time mode and recording mode.
- Modern and user-friendly graphical interface.
- Customizable measurement schedule.
- Autonomous power supply from a battery or from a 220 V network.
- Storage of up to 1,000,000 measurements in the memory of the collector.

Technical specifications

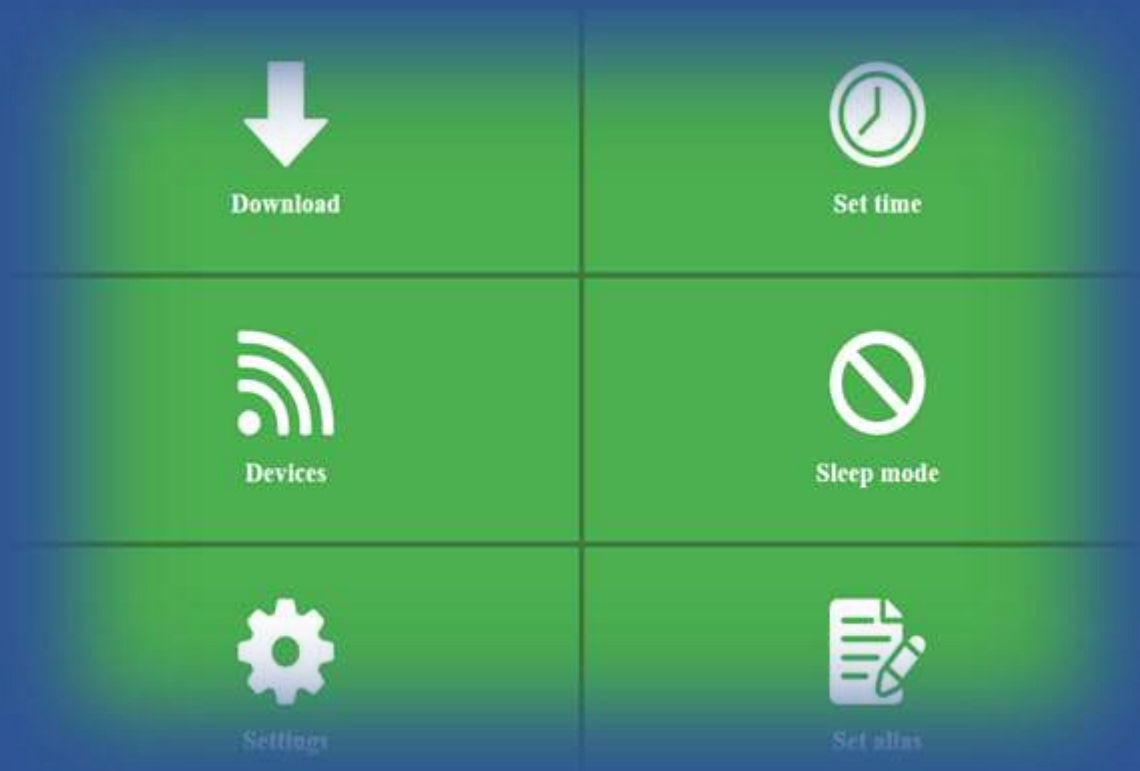
Parameter name	Value
Operating modes	Real Time / Recording
Radio frequency band, MHz	2400 - 2483.5
Protocol - IEEE802.11 b	25
Measurement error,% in the measurement range from 4 to 20 mA	0.25
Power supply	DC 12V / 0.01A / AC 220V
Number of wells, pcs., no more	8
Distance of the well from the data collection device in the line of sight, km, no more	1
Overall dimensions of the case, mm	114x64x55
Weight, kg	0.3



Water level monitoring device



The main screen of the Data collecting device GUI



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