



# MONITORING SOLUTIONS

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NB-IoT  
Wi-Fi, 2G/3G, radio



MICRO CLIMATE  
RECORDER



MONITORING THE FULLNESS  
OF GARBAGE BINS



WATER CONSUMPTION  
RECORDER



AIR  
CONTROL



ENERGY  
CONTROL

# MICROCLIMATE RECORDER



# PURPOSE AND SCOPE

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## Online/offline monitoring:



temperature



humidity



atmospheric pressure



air control



energy control

## Various places:



industrial buildings



mobile transport



residential buildings



open areas



MICROCLIMATE RECORDER

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# OUR SOLUTION – MICROCLIMATE RECORDER

## PORTABLE AN –61 CS



The principle of operation is based on measuring and converting signals from primary transducers of temperature and/or relative air humidity and/or atmospheric pressure with subsequent processing by a microcontroller.

The devices are available in various designs.

It is used as a stationary or autonomous device for recording the microclimate of various objects in:

- light and heavy industry;
- logistics;
- warehouses;
- pharmaceuticals;
- trade enterprises;
- utilities;
- and other industries where it is necessary to control the microclimate regime.



# FUNCTIONING PRINCIPLE AND TIME



Data reading  
interfaces  
**NBiOT, 2G/3G, Wi-Fi,  
radio**



Service life time:  
**5 years**



Battery life:  
**Up to 12 months**



Working temperature  
range:  
**-40 to +80°C**



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# MONITORING THE FULLNESS OF GARBAGE BINS



# OUR SOLUTION – A LITTER LEVEL SENSOR



Easy mountable on the bin wall



Simple calibration



NBIOT system transmits information about the filling level to the control center



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# FUNCTIONING PRINCIPLE AND TIME



Sensor transmits  
**ultrasound signal**



Working range – up  
to **4 m**  
(several sensors can be  
mounted for bigger bins)



Battery life:  
**2 to 4 years**



Working temperature  
range:  
**-40 to +65°C**



INFORMATION ALLOWS  
OPTIMISATION OF ROUTES  
AND TIMELY EMPTYING OF  
FULL BINS

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# WATER CONSUMPTION RECORDER



# OUR SOLUTION – WATER USAGE RECORDER



- Recorder is connected to the meter which records all changes in the meter reading;
- The readings are stored in the memory of the recorder and sent once a day to the server;
- The data is sent via NBIOT communication;
- On the server, all data are summarised and visualised.



# OPERATING PRINCIPLE OF THE RECORDER



Data acquisition  
– impulse,  
inductive



The recorder  
requires only two  
C batteries



Battery life:  
**3 to 6 years**



Operating  
temperature from:  
**-40 to +65°C**



The relevant control bodies can  
obtain accurate (factual)  
information and control:

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Correct provision of information



Correct payment for the service provided

