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Wireless Water Level Loggers

The wireless water level loggers are small, rapidly deployable, energy-efficient telemetric loggers for monitoring wells, that store their measurement data in the Munisense INSIGHTNOW™ cloud platform. The water level data can be accessed via smartphone, tablet or web browser, tailored to the role of the user. Managing an entire water monitoring network as well as individual water level loggers becomes much easier.

Self-sufficient and wireless

The energy-efficient loggers can work for weeks, months or even years on their internal battery, depending on the number of measurements and registrations in the INSIGHTNOW™ platform.

The loggers communicate with the INSIGHTNOW™ platform via GPRS or NB-IoT. The meters are suitable for networks that may need immediate action on measurements or where loggers are used for short periods of time.
For long term measurements and measuring in remote locations the communication intervals can be set to day(s) to increase battery life.

In addition to alarms of water level changes, the INSIGHTNOW™ platform immediately reports the failure of a meter, battery or data transmission upon determination.

This enables issues to be solved quickly and secures insight in reliable data from the water network.

Integrated GIS information

Map-driven user interface with GIS layers like buildings, subsurface, elevation map and legend. Fully integrated with dashboards for measuring network, location and measuring point and with graphs including ground level and manual measurements.

Easy installation

Years of operation on single battery

Sample interval from 5 seconds to hours

Adjustable Water Level Alarms

Automatically validated data

Integrated GIS information

| Specifications water level loggers	**LV5** GPRS and **LV7** LTE-M, NB-IoT
Type measurement specifications	
Water pressure	
• Range	4, 10, 20 m H$_2$O (absolute)
• Resolution	0.01 % FS
• Precision	± 0.03 % FS (typical)
• Accuracy at 25°C	± 0,05 % FS (typical)
• Long term stability	± 0.02 % FS *
• Maximum pressure	3x range
Water temperature	
• Range	-20 - 50 °C
• Resolution	0.4 °C
• Precision	± 0.4 °C (max.)
• Accuracy, calibrated	0 °C (at 20°C)
Atmospheric pressure (requires optional valve)	
• Range	300 - 1100 hPa
• Resolution	0,01 hPa
• Precision	±0,12 hPa
• Accuracy, calibrated	0 hPa
Timestamp accuracy	< 0.5 sec/day
Sampling, measurement interval	5 sec. - 24 hours
Logging capacity	25.000 measurements
Management information	
• Battery voltage	yes
• Radio quality (RSSI) in dBm	yes
Environmental conditions	
Temperature	-20 - 60 °C
Relative humidity	0 - 99 %
Ingress protected housing	IP67
Supplied sensor	
Cable length	5 m **
Material	
• Cable material	PE-HD
• Sensor body	RVS 316L
• Sensor	ceramic AL$_2$O$_3$
• Ingress protection	IP68
• Identification	unique, lasermarked on RVS
• Suitable for drinkingwater	yes
Diameter	25 mm (at 4 m H2O, 5 m cable)
	otherwise 18,5 mm
Energy	
Battery (non rechargeable)	Li/SOCl2
Capacity	14 Ah
Replaceable	yes
Voltage	3,6 V
Operating time, depending on the quality	
of the connection, the selected measure-	
ment and reporting interval, approx.	3 years LV5 / 6 years LV7
Communication	
GPRS integrated	LV5
Both LTE-M and NB-IoT integrated	LV7
Antenna	integrated
Options	
Pressure valve (atmospheric pressure, relative sensor)	
External puck antenna	
Dimensions and weight	
Diameter body and cap	Ø 50 mm & Ø 62 mm
Length body incl. cap	180 mm
Weight body and sensor	500 grams

* After 30 days, over the rest of the entire lifespan - see EC EN 60770-1
** Other cable lengths upon request: 10, 15, 20 m or another length.

Everything at a glance
The portal can interpolate water levels or dewatering depth on the map. Even the values from the graph can immediately be visualized on the map in time.
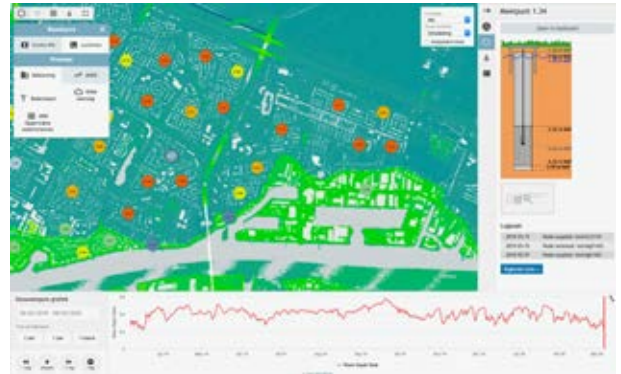
Above: **example of a user portal with at a glance**
• metadata of the selected measurement point,
• time series of dewatering detph of the measurement point
• map with color coding per measurement point and AHN2 height map

LV water level meters;
available for use with 1 or 2 sensors

About Munisense
Munisense develops, produces, supplies and manages innovative measurement solutions for businesses and governments. Solutions that give stakeholders direct online insight into noise, water quality, water levels and air quality. The information is online available at any time for visualization, analysis or periodic reports. This way managers and policymakers can measure in real time; remotely, reliable and smarter.

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