munisense

Water quality - salinization

97.5% of all water on Earth is salty. Unfortunately, it is becoming increasingly common for salt water to cause problems on land.

Brackish seepage water

This salinization can occur in groundwater, surface water or on land due to, among other things, sea level rise in combination with soil and groundwater decline, which disrupts the balance between salt and fresh water. The pressure of it salt water expands while the counter pressure of the fresh water decreases. This makes it easier for brackish seepage water to reach the surface, resulting in salinization.

Irrigation, drinking water and infrastructure

The inflow of seawater into our waterways due to reduced rainwater discharge also has a direct effect on drinking water extraction and irrigation of agricultural areas.

When sprinkled with salt or brackish water, salt remains behind after evaporation. In addition, deep - often fossil - groundwater is often rich in minerals that remain on the land after irrigation. Which also results in salinization.

Furthermore, infrastructure projects can cause permanent disruptions to existing bubbles of fresh and salt groundwater.

It is therefore important for agriculture, construction works, drinking water extraction and for nature in general that the degree of salinization and the seasonal and weather influences are properly mapped out.

Salty-sweet gradient

The relationship between water level and salinization is important, partly because salt and fresh water are difficult to mix. That is why it is often important to measure at different depths to see the salt/fresh gradient.

Continuously measure salinity long-term

Works for years on one battery

Measuring interval from 1 sec. to 1 day

Alert in case of change

Integrated GIS information

Full picture

Large-scale salinization can be measured with the telemetric QU series water quality sensors. Together with the LV series level meters, the online portal provides the complete picture, both spatially using a GIS map, and temporally using time series graphs of both conductivity/ salinity and NAP (or other reference) water level.

When local precipitation information is needed to understand how the groundwater level and salinity behave during (intensive) rainfall, our TH series temperature, humidity and rain sensors can be used.

In addition to measuring conductivity, the QU devices can be equipped with pH, dissolved oxygen and turbidity sensors.

The QU series, like the LV series, uses the LTE-M network and all operators in the Netherlands use it. These last for years on 1 battery and can be adjusted remotely by the user measuring and transmitting interval.

Dashboards and views

Specifications sensor conductivity for QUx	
Measurement principle	sensor with 4 electrodes
• Sensor diameter	27 mm
• Range (in 4 ranges)	0,0 to 200,0 mS/cm
• Accuracy	+/- 1% of the range
• Range salinity	5 - 60 g/Kg
• Range TDS-KCl	0-133 000 ppm
• Inductive on request	
Temperature	
• Range	0 to +50°C
• Accuracy	+/- 0,5°C
Ingress protection	IP68
Cable length sensor	3 meters (7 or 15 m optional)
Dimensions and weight of the QUx	
Diameter body and cap	Ø 50 mm and Ø 62 mm
Length incl. cap	180 mm
Weight body with 1 sensor	600 grams

Recycling e-waste
Of course you can deliver or send us your old Munisense devices. We then ensure that they are included in our recycling process.

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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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