

Application overview autarkic environmental monitoring

Natural Hazards/Environment | Structural monitoring | Hydrology | Meteorology |
Traffic/Mobility | Drinking water networks



Natural Hazards / Environment

- Soil moisture (volumetric water content)
- Ground vibrations (Geophone)
- Soil movements (inclinometers, linear potentiometers, draw wire sensors)
- Snow depth measurements (ultrasonic- and radar sensors)
- Permafrost temperature measurements (semiconductor temperature chip)

Application examples:

Surveillance of rock movements

Datalogger Data-Safe800 with linear potentiometer.



Permafrost monitoring

Datalogger Data-Safe800 in Solar-Box with 6-fold temperature-string.



Structural monitoring

- Crack monitoring (linear potentiometers)
- Tilt monitoring (MEMS technology)
- Ground vibrations (Geophone)
- Anchoring force monitoring (rock anchors)
- Material moisture and temperature (semiconductor temperature chip, conductivity)
- Expansion measurements (resistance strain gauge)
- Position shifts (linear potentiometers, draw wire sensors, radar sensors)

Application examples:

Tilt monitoring

LoRa-measurement point with inclinometer, biaxial.



Crack monitoring

Datalogger Data-Safe800 with linear potentiometer.



Hydrology

- Groundwater level measurements (pressure sensors)
- Streaming water level measurement (pressure- and radar sensors)
- Stream velocity (ultrasonic sensors)
- Water quality (conductivity, temperature, PH, oxygen, turbidity)

Application examples:

Groundwater level monitoring

LoRa-measurement point with pressure sensor.



Water quality monitoring

Datalogger Data-Safe800 in Solar-Box with multi sensor (level, conductivity, temperature).



Meteorology

- Weather stations
- Ground frost surveillance
- Precipitation measurements
- Global radiation

(wind, pressure, temperature, humidity, hail, precipitation)
(semiconductor temperature chip, conductivity)
(Pluviometer, weighing precipitation gauge, radar sensors)
(Pyranometer)

Application examples:

Temperature surveillance

LoRa-measurement with high accurate temperature sensor.



Climate monitoring

Datalogger Data-Safe800 in splitter box with temperature and humidity sensor.



Traffic / Mobility

- Traffic flow monitoring (pulse counter from induction loop)
- Rail track movement (linear potentiometers, draw wire sensors)

Application examples:

Loggerbox small, with window



Loggerbox with Solar



Drinking water networks

- Flow monitoring (flow meter with pulse- or current-output signal)
- Reservoir level monitoring (piezoresistive level transmitter, ultrasonic, radar)
- Pressure monitoring (piezoresistive pressure transmitter)
- Water hammer detection (extremely low energy pressure transmitter)
- Water temperature surveillance (inline temperature gauges)
- Groundwater level measurements (pressure sensors)
- Water quality (conductivity, temperature, PH, oxygen, turbidity)

Application examples:

Pressure monitoring

Datalogger Data-Safe800 with pressure sensor



Groundwater level monitoring

Datalogger Data-Safe800 with pressure sensor.



