

Product Overview 2026

Data loggers, measurement buoys, sensors and software for water, groundwater and climate monitoring, developed and manufactured by TerraTransfer GmbH.

Aquatos Web LTX TYPE 1500

The flagship among our data loggers: it captures environmental measurement data and transmits it automatically via LTE-M to the Sensor Manager. Freely programmable, designed for long-term outdoor use and fully encrypted down to the firmware level. Available with and without sensors.



Highlights

- **LTE-M communication** with 2G fallback
- **Bluetooth 5 (BLE)** with PIN authentication
- Fully **encrypted following BSI recommendations**
- Real-time data access via the Sensor Manager web portal
- **Battery life up to 10 years**
- 24 SDI-12 channels
- Operating range -25°C to $+85^{\circ}\text{C}$
- **IP68** at 1 meter depth for 24 hours
- Above-ground and underground solutions
- Only signed firmware updates (BLE or mobile network)
- CE-certified (RED, EMC) · RoHS compliant

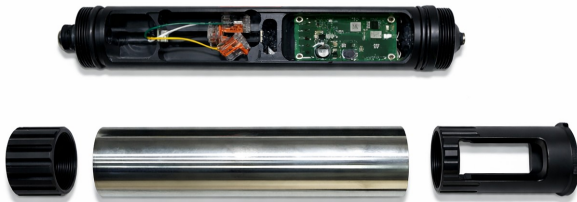
Also available in an aluminium enclosure

The Aquatos Web LTX in a robust **aluminium enclosure**, ideal for mounting in control cabinets, on walls or at monitoring sites without a 2" pipe installation. Supplied with a cable gland for connecting SDI-12 sensors; suitable sensors can be added as required.



Aquatos mini

Compact data logger with Bluetooth Low Energy for reliable acquisition of environmental measurement data, e.g. for groundwater or level measurements. Data is read out wirelessly via Bluetooth and transferred to a web portal for visualization. Available with and without sensors.



- Integrated **barometer**
- 1- or 2-inch housing
- Plug-in pressure and temperature sensor
- Storage for **250,000 measurement series**
- Batteries (lithium) user-replaceable · **service life up to 10 years**
- Optional: counter and temperature measurement chains

Aquatos nano

Compact submersible mini-logger as an all-in-one solution: sensor, data storage and Bluetooth communication in an extremely compact 1" submersible probe. Ideal for groundwater monitoring, level and water level measurement, and flood protection.

- **All-in-one:** sensor, logger and communication
- Extremely compact **1" submersible probe**
- Measurement of pressure and temperature
- Bluetooth Low Energy (BLE) short-range communication
- Robust design for demanding environments
- Integration with data loggers and mobile devices



Aquatos baro

Barometer data logger for recording **air pressure**, typically used as a reference at monitoring sites with absolute pressure sensors. Same compact design as the Aquatos nano, read-out via Bluetooth Low Energy.





Proven in the field: from **dams and reservoirs** to **alpine locations** and **critical infrastructure**.

Flood protection

Water management

Rivers, lakes & water bodies

Groundwater

Sensitive ecosystems

Dry regions

Sensor Manager

The Sensor Manager is available as a mobile web app or conveniently in the browser on a computer. Developed in-house specifically for Aquatos data loggers and continuously improved.

Abmelden

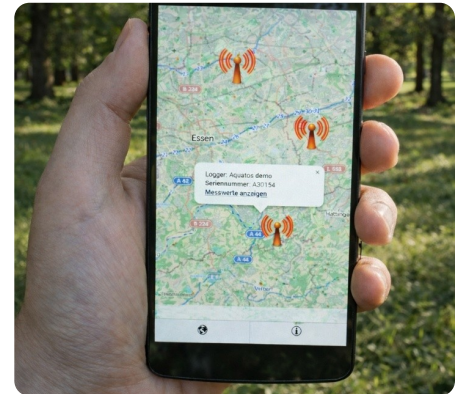
Statusmonitor

Suche

Filter

Serialnummer	Übertragungsintervall	Signalstärke	Speicher belegt	Spannung	Luftfeuchte	Temperatur	Position
100079	0 d 1 h 0 min 0 sec	8 dBm	51.71 %	2.926 V	59.70 %	17.71 °C	50.9895 / 7.75132
100060	0 d 1 h 0 min 0 sec	11 dBm	86.07 %	2.897 V	41.90 %	14.99 °C	51.0782 / 7.77977
100062	0 d 1 h 0 min 0 sec	4 dBm	59.14 %	2.761 V	53.00 %	9.03 °C	51.0909 / 7.89936
100119	0 d 1 h 0 min 0 sec	14 dBm	40.34 %	3.012 V	30.10 %	19.58 °C	51.4924 / 7.30019
100194	0 d 1 h 0 min 0 sec	13 dBm	20.95 %	2.678 V	56.60 %	16.01 °C	51.4936 / 7.29222
100212	0 d 1 h 0 min 0 sec	26 dBm	12.00 %	2.836 V	39.20 %	18.71 °C	51.0299 / 7.85032
100223	0 d 1 h 0 min 0 sec	7 dBm	45.57 %	2.863 V	44.00 %	17.15 °C	51.0239 / 7.81597
100341	0 d 1 h 0 min 0 sec	16 dBm	11.24 %	2.836 V	35.40 %	17.70 °C	51.0208 / 7.84228
210205	0 d 6 h 0 min 0 sec	12 dBm	7.42 %	3.659 V	51.80 %	12.57 °C	51.3977 / 6.55122
300102	0 d 6 h 0 min 0 sec	8 dBm	12.85 %	2.964 V	44.60 %	20.29 °C	51.4043 / 6.55090
300104	0 d 1 h 0 min 0 sec	6 dBm	7.17 %	2.666 V	59.50 %	21.57 °C	51.3977 / 6.55122
300105	0 d 6 h 0 min 0 sec	14 dBm	12.57 %	2.913 V	50.30 %	21.57 °C	51.5687 / 6.52508
300106	0 d 6 h 0 min 0 sec	11 dBm	25.03 %	2.999 V	43.80 %	18.35 °C	51.4024 / 6.54032
300120	0 d 6 h 0 min 0 sec	9 dBm	10.77 %	3.208 V	46.00 %	19.41 °C	51.5677 / 6.53324
300121	0 d 1 h 0 min 0 sec	8 dBm	12.74 %	3.189 V	43.70 %	19.95 °C	51.5753 / 6.53387
AB0001	0 d 1 h 0 min 0 sec	19 dBm	19.85 %	12.249 V	78.50 %	14.71 °C	51.4721 / 7.12779
AB0002	0 d 6 h 0 min 0 sec	9 dBm	51.13 %	12.079 V	0.00 %	4.41 °C	51.1187 / 7.69653
AB0003	0 d 6 h 0 min 0 sec	9 dBm	85.54 %	12.108 V	46.50 %	15.17 °C	51.4943 / 7.29967
AB0005	0 d 6 h 0 min 0 sec	1 dBm	67.44 %	11.758 V	89.00 %	14.94 °C	51.4007 / 6.54057
AB0007	0 d 6 h 0 min 0 sec	14 dBm	0.29 %	9.616 V	13.80 %	26.70 °C	50.9902 / 7.74972
AB0008	0 d 6 h 30 min 0 sec	9 dBm	60.27 %	11.499 V	19.20 %	0.23 °C	50.9902 / 7.74972
AB0009	0 d 1 h 0 min 0 sec	11 dBm	4.61 %	12.559 V	59.20 %	16.52 °C	51.5699 / 6.52578
AB0010	0 d 1 h 0 min 0 sec	9 dBm	75.84 %	11.663 V	80.90 %	13.13 °C	51.0909 / 7.89833

25 Zeilen | Letzte Aktualisierung: 01.10.2025 12:34



- Fully automated **Sensor Manager with database**
- Online access via browser or smartphone
- **Visualization** (hydrographs, maps) and export (CSV, FTP)
- User and **alarm management** (SMS/email)
- Intuitive status monitor (battery, signal strength)
- Long-term data storage (up to 10 years)
- GDPR-compliant and **BSI security**

Installation and Configuration

Configuration in the browser

All sensors and data loggers can be configured directly in the browser via Bluetooth (Chrome, Edge, Android), without any app installation. Quick commissioning and diagnostics on site.

Desktop tools

Windows tools for detailed configuration, diagnostics and firmware updates of sensors and data loggers are available for the workstation.

Firmware updates

All devices support encrypted firmware updates via BLE or mobile network (OTA). Only signed firmware is accepted: tamper-proof and future-proof.



Intelligent **measurement buoys** in combination with the Aquatos Web data logger: precise, low-maintenance water monitoring with **real-time data transmission**.

Standard Measurement Buoy

A robust, immediately deployable platform for continuous monitoring of water bodies, developed for municipalities, research institutions, environmental agencies and water management operators.



- **Stainless steel** float body, protective coating
- Central mast mount for antenna, logger and weather protection
- Stainless steel cable entry for measurement chains
- Temporary monitoring campaigns possible
- Integration into **early warning systems** (e.g. oxygen deficiency)
- Flexible expansion (e.g. vertical temperature stratification)

Shallow Water Buoy

Specially developed for shallow water bodies with measurement depths from 20 cm, ideal for lakes, ponds, wetlands or slow-flowing river sections.



- Specially designed for **shallow waters from 20 cm**
- Robust construction for long-term use
- Continuous data transmission and remote monitoring
- Adaptable with various sensors
- Reliable where conventional systems reach their limits

Temperature Measurement Chain

THERMISTOR CHAIN

Sensor systems for continuous temperature measurement at different depths, e.g. in water bodies or permafrost soils. Reliable, precise long-term data acquisition as a basis for analyses, models and forecasts.

- Up to **30 thermistor nodes**, individually configurable
- Measurement accuracy $\pm 0.1\text{ }^{\circ}\text{C}$ · resolution $0.01\text{ }^{\circ}\text{C}$
- Cable lengths up to 200 m
- Battery life up to 10 years
- Secure data transmission via M2M protocol
- Applications: permafrost, lakes, stratification analyses
- **Alarm functions** (SMS and email) for threshold exceedances



Climate Stations



Individual climate stations with **autonomous power supply** via solar and/or battery, specially designed for remote areas and different climate zones. Measurement data can also be transmitted **via satellite**. Combined with the Aquatos Web LTX, a low-maintenance all-in-one solution, including professional installation by us or our partners.

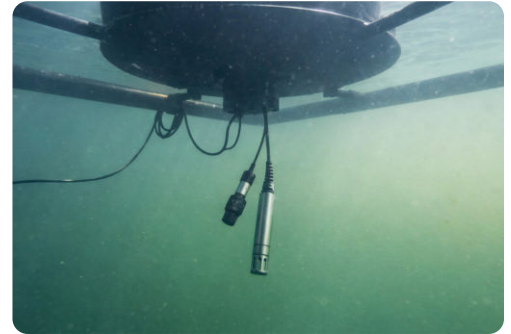
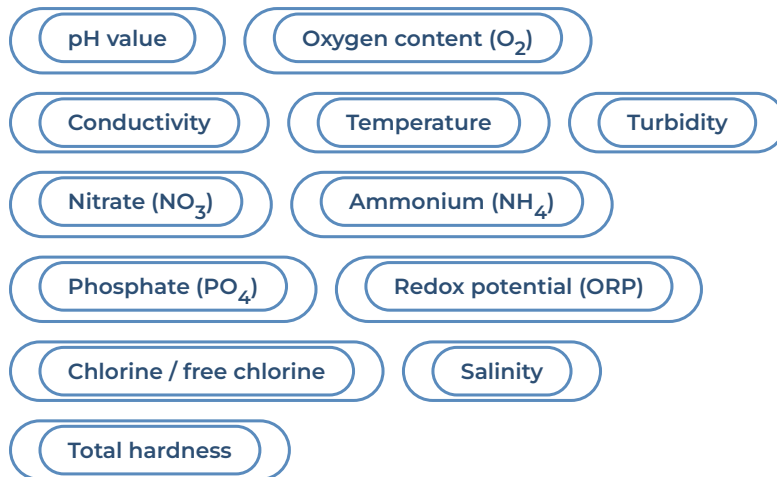
Weather Stations



Capture current meteorological data such as **temperature, humidity, air pressure, wind and precipitation**, e.g. for weather observation and forecasting, agriculture, building and energy technology, and environmental analyses. Focused on current weather conditions, while climate stations analyse long-term trends.

Sensor Options and Water Quality Parameters

The Aquatos data loggers can be equipped with various sensors, from pressure probes and radar sensors to multi-parameter probes. Measurable parameters:



Piezo Pressure Sensor TYPE 0312

High-precision piezoresistive submersible probe for measuring water levels and gauges. Housing made of stainless steel 316 Ti; the pressure diaphragm is available in stainless steel or titanium for saline waters.

- Housing **stainless steel 316 Ti**
- Pressure membrane stainless steel or **titanium**
- High-precision temperature (± 0.1 °C)
- 3-axis orientation sensor integrated
- Relative pressure (capillary) or absolute pressure (Lemo)
- Measurement ranges: **5, 10, 20, 30, 100 mWC**
- Accuracy **± 0.15 % FS**
- SDI-12 V1.3 + Bluetooth 5 (BLE)
- **IP68** at permanent submersion depth
- Ultra-low-power (< 10 μ A idle current)
- Configuration in the browser (Bluetooth)



Ceramic Pressure Sensor TYPE 0420

Robust submersible probe with a ceramic pressure membrane for measuring water levels and stages, particularly resistant to aggressive media, with excellent long-term stability.

- Ceramic pressure membrane
- Resistant to aggressive media
- Pressure + temperature measurement
- Measurement range **0–1 bar** (approx. 10 mWC)
- Relative pressure with capillary (10 m cable)
- Stainless steel housing
- SDI-12 V1.3 + Bluetooth 5 (BLE)
- **IP68** at permanent submersion depth
- Ultra-low-power (<10 µA idle current)
- Configuration in the browser (Bluetooth)



Pulse and Frequency Counter TYPE 0330

Compact counter adapter that converts pulses into digital SDI-12 signals: as a precipitation adapter for tipping bucket rain gauges or as an adapter for digital water meters.



Precipitation adapter for tipping bucket gauges

- Adapter for tipping bucket rain gauges
- Delta calculation for **precipitation intensity**
- Configurable conversion coefficients
- Pulse counter up to **9,999,999 pulses** · frequency up to 1,000 Hz
- SDI-12 V1.3 + Bluetooth 5 (BLE)



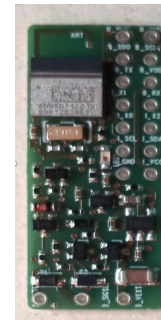
Water meter adapter

- For digital water meters (pulse output)
- Delta calculation for **flow rate** (e.g. l/min)
- Configurable coefficients (e.g. m³/pulse)
- Supply: 2.8–16 V
- Ultra-low-power (<10 µA idle current)

Modbus Converter TYPE 0210

Enables the connection of Modbus sensors (RS485) to the SDI-12 bus. The Modbus is dynamically powered, ideal for battery-operated IoT applications.

- **Modbus RS485 → SDI-12 conversion**
- Up to 10 Modbus registers manageable
- Dynamic power supply for the Modbus
- Standard 9600 8N1
- SDI-12 V1.3 + Bluetooth 5 (BLE)
- Setup via **QR code** or **in the browser**
- Supply: 2.8–16 V
- Ultra-low-power (<10 µA idle current)



 **Bluetooth®**
BLE 5
SDI-12 V1.3
2.8V-14V / I_q: <10µA

Accessories and Spare Parts

Robust sensor cages to protect the measurement probes, suitable adapters and clamps for different installation situations, various antennas for reliable data transmission: a comprehensive range for the professional installation of your systems.



Service Offerings

From planning and installation to ongoing maintenance: we support your monitoring site throughout its entire life cycle.

Installation

Complete installation service for all groundwater and water level monitoring points: above and below ground, on sheet pile walls or custom installations.

Maintenance

With our all-inclusive service package, we ensure regular or on-demand maintenance of your data loggers.

Custom manufacturing

For specific requirements at your measurement site, we work with you to design a tailored solution for optimal setup.





Get in touch

TerraTransfer GmbH

Ottostr. 19a

D-44867 Bochum

Phone: +49 (0)2327 83 44 85-1

Fax: +49 (0)2327 83 44 85-7

E-Mail: info@terratransfer.de

www.terratransfer.de