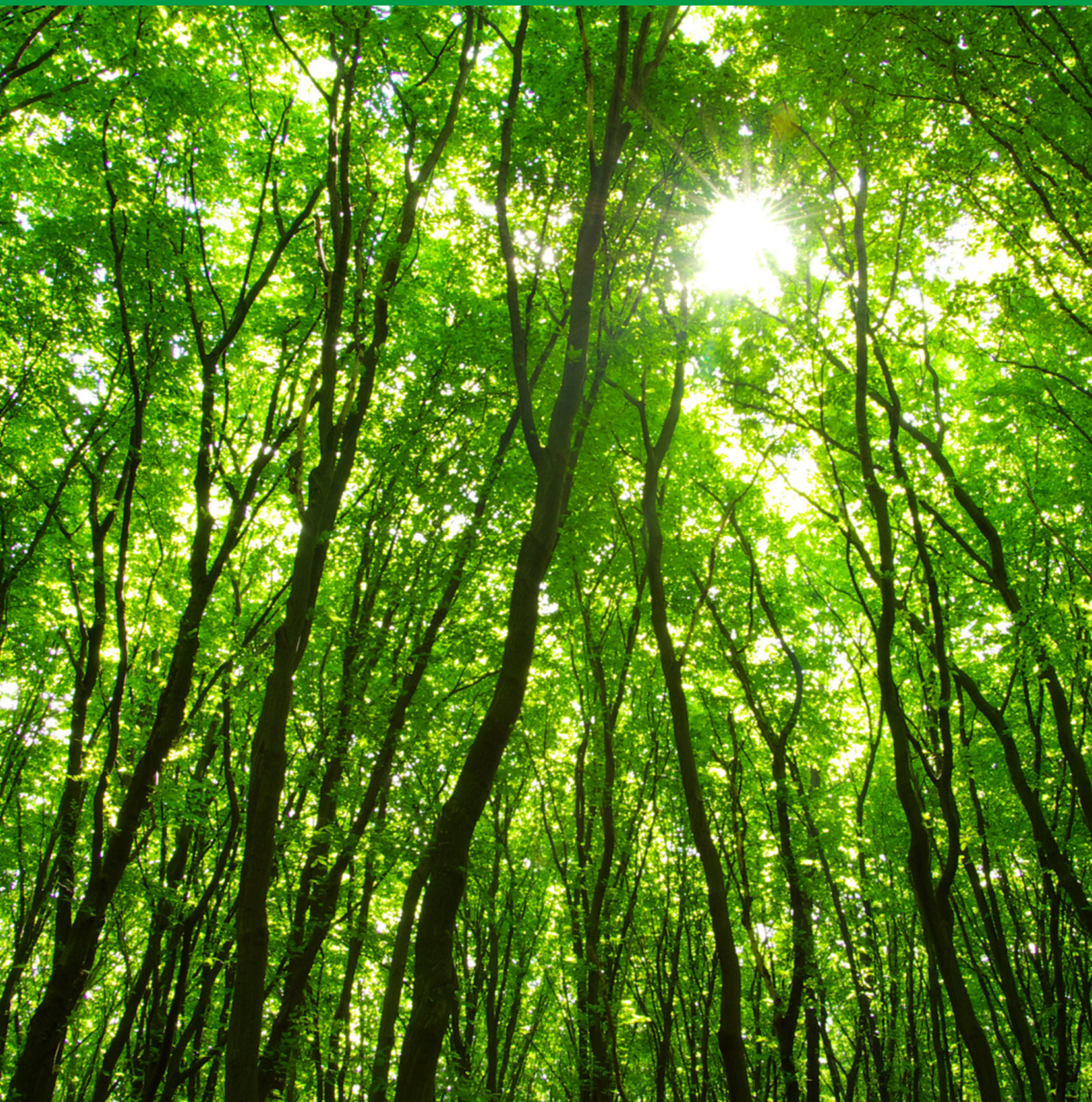


LoRa sensors



LoRa® Internet of Things (IoT)

LoRa communication in measurement solutions

LoRa® (Long Range) is a wireless technology designed for reliable, energy-efficient transmission of measurement data over long distances. This makes LoRa ideal for IoT applications where sensors are deployed in hard-to-reach locations and must operate on battery power for extended periods.

- **Range & flexibility:** Operating at 868 MHz in Europe, LoRa offers coverage up to 15 km in rural areas and in 2-5 km in urban environments. This enables sensors to be installed far from the central receiver, without the need for expensive infrastructure.
- **Cost-efficient:** By using license-free frequencies, operational costs are kept low. LoRa is perfect for applications where measurement data does not need to be sent continuously, but at intervals of 5 minutes or less frequently.
- **Low power consumption:** LoRa is optimized for long battery life up to 10 years depending on transmission interval and environmental conditions minimizing maintenance and replacement costs.
- **Secure & reliable:** End-to-end encryption ensures secure data transmission. Alarm functions provide immediate alerts when preset limits are exceeded, even with long message intervals.
- **Cloud integration & remote management:** Sensors are easily managed via Hitma's Online Sensor platform, where settings, alarms, and reports can be centrally configured and accessed. Users receive notifications via email or app in case of deviations or faults, and can view both current and historical measurement values through a web browser at any time.
- **Application in smart measurement solutions:** Thanks to flexible network architecture (public or private) and the ability to connect various sensor models and external probes, LoRa is ideal for industrial and commercial applications requiring reliability, scalability and long-term measurement accuracy.

In summary, LoRa forms the foundation of Hitma's smart wireless measurement solutions, enabling organizations to manage their measurement data securely, efficiently, and with future-proof flexibility.



OnlineSensor

Your smart platform for wireless measurement and monitoring

OnlineSensor is hitma's cloud platform that brings all your environmental and process measurements together in one place. Whether you're tracking temperature, relative humidity, dew point, barometric pressure, or CO₂, OnlineSensor turns raw sensor data into actionable insights and instant alerts, accessible through any web browser and mobile app.

Why customers choose OnlineSensor



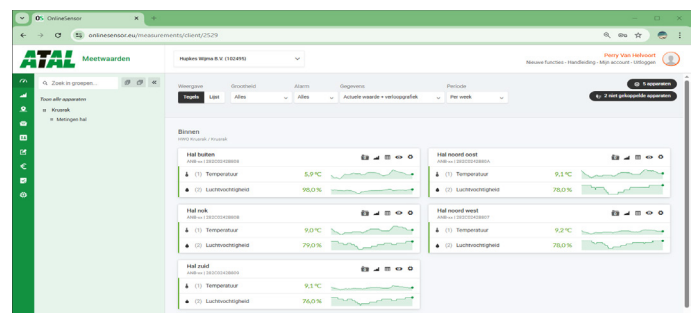
- Seamless with LoRa sensors
- ATAL's ALR-series LoRa® sensors connect natively to OnlineSensor over LoRaWAN, delivering long-range, low-power data with battery life up to 10 years perfect for dispersed sites and hard-to-reach areas.
- Instant visibility & control
- See live and historical values in intuitive dashboards
- Reliable alerts that matter
- Get email and mobile notifications the moment limits are exceeded or a fault occurs (loss of radio connection, measurement error, low battery). Configure recipients per severity to match your SOPs.
- Built for teams & compliance
- Create sensor groups and user groups, assign role-based access, and generate clear reports for audits and quality systems. Unlimited data storage keeps your history intact.
- Flexible network options
- Connect via public or private LoRaWAN, WiFi or other supported interfaces. Scale from a single room to multi-site operations without complex infrastructure.

Typical applications

- **Laboratories & cleanrooms:** Continuous monitoring with alarms for excursions; documentation for ISO/GLP/GMP environments.
- **Cold chain & storage:** Long-range coverage across warehouses and outdoor areas, with battery-powered sensors that minimize maintenance.
- **Facilities & schools:** Air quality and comfort tracking (CO₂, temperature, humidity) for healthy, energy-efficient buildings.
- **Industrial processes:** Rugged sensing with external probes for liquids, cryogenic ranges, and challenging environments.

Key capabilities at a glance

- Web dashboards for live & historical data
- Email & app notifications on alarms and faults
- Role-based access for teams and partners
- Unlimited data storage for long-term trends
- Easy report creation (for audits and compliance)



ALR-series – Wireless measurement with LoRa®

The ALR-series from ATAL delivers precise measurement of temperature, relative humidity, and atmospheric pressure, with data transmitted via the energy-efficient LoRaWAN network. This advanced technology enables seamless data transfer to secure cloud storage, allowing users to access both real-time and historical values through a standard web browser.

Key features:

- **Integrated LCD display:** Each sensor features a clear LCD screen showing current measurements and battery status.
- **Long battery life:** Depending on transmission frequency and environmental conditions, battery life ranges from 1 to 10 years — minimizing maintenance and maximizing uptime.
- **Robust & reliable:** Wx9xx devices are engineered for durability against external influences, making them suitable for demanding industrial and commercial environments.
- **Flexible alarm settings:** Set alarms for each measured variable. Receive instant notifications via email or smartphone app when thresholds are exceeded.
- **Versatile models:** Choose from a wide range of sensor types, including models with internal sensors and options for external probes, to fit your specific application needs.

Applications:

ALR-sensors are ideal for industries and organizations that require reliable, long-term measurement accuracy, such as laboratories, warehouses, cleanrooms and production facilities.

Measured Parameters:

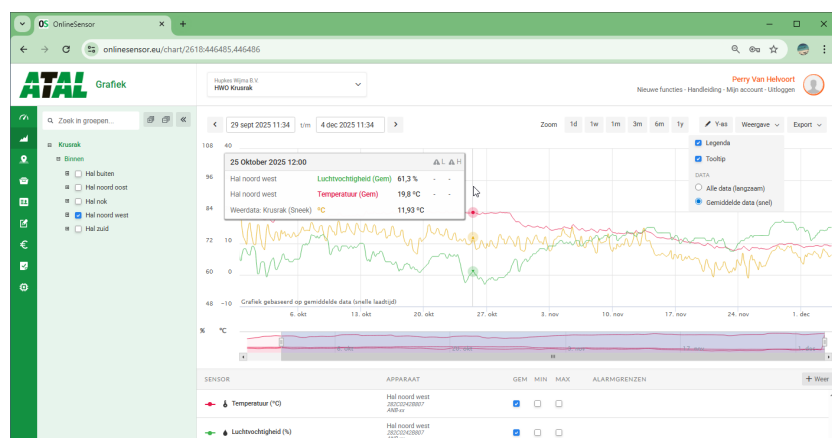
- Temperature
- Relative humidity
- Atmospheric pressure



Temperature, humidity and barometric pressure **wireless measurement**

Measured values		Temperature					Measured values		Measured values
Sensor models		ALR-01	ALR-02	ALR-03	ALR-05	ALR-05C	ALR-11	ALR-11R	ALR-18
Temperature internal	Range	-30 to +60 °C	-	-30 to +60 °C	-	-	- 30 to +60 °C	According to the probe	-30 to +60 °C
	Accuracy	± 0.4°C	-	± 0.4 °C	-	-	± 0.4 °C	According to the probe	± 0.4 °C
Temperature external	Range	-	-90 to +260 °C	-200 to +260 °C	-200 to +260 °C	-200 to +260 °C	-	According to the probe	-
	Accuracy*	-	± 0.2 °C	± 0.2 °C	± 0.2 °C	± 0.2 °C	-	According to the probe	-
Relative humidity	Range	-					0 to 100 % RH	According to the probe	0 to 100 % RH
	Accuracy**	-					± 1.8 % RH	± 1.8% RH	± 1.8 % RH
Dew point ***	Range	-					-60 to +60 °C	According to the probe	-60 to +60 °C
Barometric pressure	Range	-							600 to 1100 hPa
	Accuracy	-							± 1.3 hPa
Class of protection of case with electronics / sensors		IP65 / -				IP20 / -	IP65 / IP40		

* Accuracy of device w/o probe in measuring range of -90 to 100 °C (in range +100 to +260 °C is accuracy ±0,2 % of measured value)
 ** Accuracy of sensing element; from 0 to 90 % RH at 23 °C
 *** For dew point accuracy, refer to the graphs in the device manual



External temperature probes

Versatile, accurate, and built for demanding applications

ATAL offers a comprehensive range of external temperature probes, designed for precise measurements in a variety of environments and applications. Each probe is engineered for reliability, durability and long-term performance.

Flexible lengths:

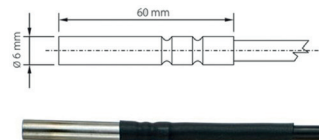
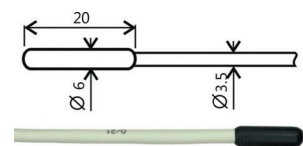
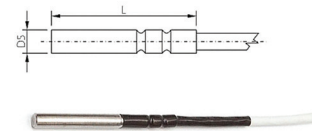
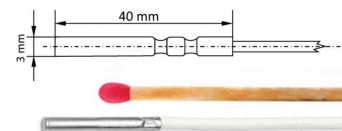
Probes are available in 1, 2, 5 and 10 meter cable lengths, allowing for easy installation in both compact and large-scale setups. For optimal accuracy, it is advised not to use probes longer than 20 meters.

High precision:

Unless otherwise specified, all probes are manufactured to Class A accuracy standards, ensuring consistently reliable results.

Application-specific designs:

- **Ultra-thin probe:** Universal, for general applications, fast response time.
Range -50 °C to +200 °C, TEP-102b (Hirschmann), TEP-102c (Cinch).
- **Cryogenic probe:** Specially developed for ultra-low temperature measurements in laboratory and industrial settings. Range -190 °C to +150 °C,
TEP-102B-CRYO (Hirschmann), TEP-102C-CRYO (Cinch).
- **Cost-effective probe:** Durable plastic housing with a slower response time, rated IP67 for robust protection. Range; -30 to 80 °C,
TEPX-102x (Hirschmann), TEPX-102C (Cinch).
- **Watertight probe:** Universal, watertight (IP68), design for long-term monitoring in liquids. Range -80 °C to +200 °C, TEP-102B-WP (Hirschmann), TEP-102C-WP (Cinch).



Battery powered for maximum flexibility

All ATAL devices are powered by internal lithium batteries, supporting long-term, maintenance-free operation. Battery life depends on transmission range and ambient temperature and can last from 1 up to 10 years.



BATT-C
Replacement Lithium battery
3,6 V, size C



ATXV-AC07
Lithium battery 3,6 V/AA

Model	ALR-01, ALR-02, ALR-03, ALR-11, ALR-11R, ALR-18	ALR-05, ALR-05C
5 minutes:	1 year	3.0 years
10 minutes:	2 years	6.0 years
15 minutes:	2.5 years	7.5 years
20 minutes:	3 years	9.0 years
30 minutes:	4 years	> 10 years
1 hour:	6 years	> 10 years
2 hours:	7 years	> 10 years
3 hours:	8 years	> 10 years
4 hours:	8.5 years	> 10 years

* Battery life in standard operation is approximately up to 2.5 times longer than in Mobile Operation mode at maximum range.

** Other possible intervals are 6, 8, 12, and 24 hours.



Your distributor

Hitma B.V.

hitma-instrumentatie.nl

+31(0)297-514 833