

# Temperature Data Loggers

**Withnell Sensors**  
Data Loggers, Thermocouples & Calibration

Sense )  
( Anywhere

- ✓ Wireless system, real time data
- ✓ Low cost set up and maintenance
- ✓ Accuracy up to 0.1°C
- ✓ Lifetime battery-up to 10 years
- ✓ Multi media alerts



**airo**  
SENSOR

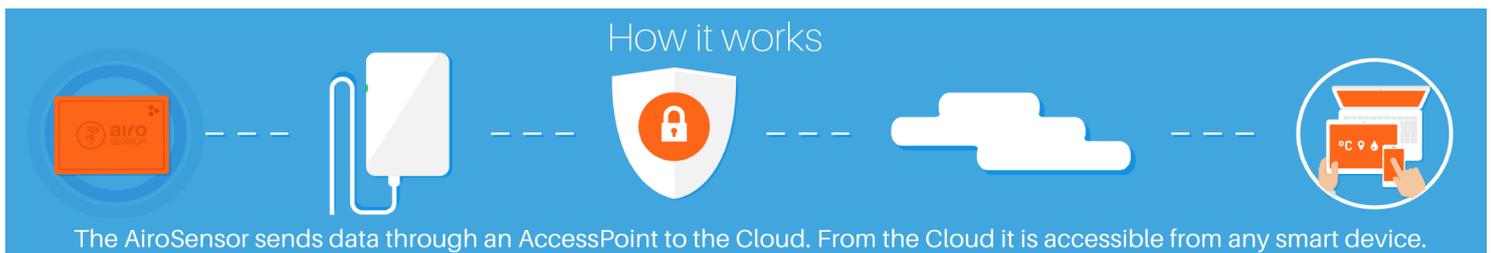
[www.withnellsensors.co.uk](http://www.withnellsensors.co.uk)  
[sales@withnellsensors.co.uk](mailto:sales@withnellsensors.co.uk)

SenseAnywhere's AiroSensor leads a new generation of **wireless, ultra low-power, cloud based data loggers**. The wireless frequency of the loggers allow you to put them directly into your refrigerators, freezers and cold stores. No cables, no mess



The AiroSensor communicates via **AccessPoints**. Wireless communication stretches up to 600m. In the event that an access point can not be reached the logger will store the measurement on it's internal memory then automatically offload these stored measurements as soon as contact with the AccessPoint is re-established. Ideal for logistics and shipping, measurements are supported for the full life cycle of your product.

Both the AiroSensor and the network are easy to install, use and maintain. No pairing and no switches or buttons to press.



### Temperature/Humidity

The AiroSensor features an accurate temperature and optional humidity sensor. Continuous logging and automatic wireless transfer of measurements means reporting and quality compliance has never been easier. No manual intervention is needed. Now your report requires data from just one source instead of data from all refrigerators used in the distribution chain. If things are temporarily stored outside of the required conditions, you will know when it happened and for how long, helping you to judge if the shipment is still within acceptable limits. Alerts can be configured to allow you to receive a SMS or email as soon as the Sensor goes out of specification.

### Accelerometer

The AiroSensor also has an accelerometer. The Accelerometer is used to detect movement. The sensitivity of the motion detection is remotely programmable and will allow tuning motion detection for the asset it is connected to. Besides motion also position (tilt) or shock can be detected. All these events are instantly transferred when the data logger is in range of an AccessPoint. The accelerometer can be used to track running hours, use at odd times and unauthorized use. It functions as theft protection of valuables that should not move e.g. in a museum or public building. The temperature and humidity sensors will also track the environmental conditions of your valuables.





### AccessPoints

When the loggers are out of range of an AccessPoint, e.g. when they are attached to goods that are in transit, temperature and humidity data is stored in the device's non-volatile memory. As soon as the data loggers come in range of an AccessPoint they automatically start off-loading their data. Arrival and departure times are also stored. All information is at hand without opening the package. The AiroSensor can store more than 15,000 temperature and humidity measurements. At a 5-minute interval this means that the logger can be out of range of an AccessPoint for more than 50 days.

### Cloud

Reliably collecting real-time data from many locations globally can be a challenging task. We use state of the art Cloud computing with Microsoft's Azure infrastructure, a database with SLA of 99.9% which is backed-up every 5 minutes, to fulfil this task. The real-time redundant database can offer the scalability, reliability, security and redundancy that is needed for these kind of applications. Through secure API's the data can then be shared and forwarded instantly to a WMS, TMS or ERP system. We work with system integrators to help customers implementing our data loggers in their applications.



### Security

The wireless communication between the AiroSensor and the network is a 2-way communication. The data logger will automatically discover the AccessPoints at a given location. The AiroSensor transmits its data to a central database waiting for a confirmation of good reception. When this confirmation arrives, the message is removed from the logger's memory. The protocol features re-transmission attempts and duplicate packet filtering so no event gets lost. This reliable Wireless Short Packet protocol together with the accelerometer can take up the task to use the AiroSensor as a reliable motion detector to protect valuable assets in- and outside.



### Easy to install



Register + connect = ready!



Under 10 minutes



No cables or software

### Easy to use



Cloud based



All industries



Accessible from any smart device

### Easy to maintain



No back-ups



No maintenance



Lifetime battery (10 years)

## Technical Specifications

AiroSensor model	T+RH	T+ RH ER	T	T ER
RF frequency (ISM band)	868 MHz			
Wireless range outdoor	100m	<b>600m</b>	100m	<b>600m</b>
Temperature range	-30°C to +70°C		-40°C to +70°C	
Temperature accuracy	±0.5°C (-30°C to -10°C) ±0.3°C (-10°C to 70°C)		±0.15°C (-40°C to 0°C) ±0.10°C (0°C to 70°C)	
Humidity range	0 – 100% RH (Non condensing)		-	
Humidity accuracy	Typ. ±2% RH (0-80% RH)		-	
Motion detection:	3-axis, sensitivity 0g – 16g, sensitivity remotely programmable			
Battery lifetime:	Up to 10 years with 5 min. interval = 1 million events			
Memory	15.000 events internally (52 days @ 5 min)			
Protection class:	IP 62		IP 67 (waterproof)	
Compatibility	CE, EN300328, EN55022, EN12830, class 1, storage & transport Climatic environment type: D			
LxWxH (mm) with holder	41x33x24	131x33x24	41x33x24	131x33x24



### Applications

- Cold Chain, GDP and HACCP compliance;
- Monitor temperature and humidity of goods during storage and in the distribution chain by just adding the AiroSensor to the goods;
- Remote monitoring of coolers and freezers in warehouses, stores or trailers;
- Climate control in greenhouses and plants;
- Protection and monitoring of pieces of art in museums or public places. Also during storage and transport and lending out periods;
- Automatic stock control of large or expensive goods that need to be kept within certain environmental conditions;
- Theft protection and unauthorized use detection.

# Get in Touch

Withnell Sensors Ltd  
The Old Silk Mill  
Bury Lane  
Withnell  
Lancashire  
PR6 8RX

+44(0) 1254-831375  
[www.withnellsensors.co.uk](http://www.withnellsensors.co.uk)  
[sales@withnellsensors.co.uk](mailto:sales@withnellsensors.co.uk)

-  Independent, expert advice
-  UK based installation engineers
-  Expert after sales care
-  Maintenance & service options