

Skyd'O Sensor



The SKYDOME Sensor verifies that a skylight is properly closed. Mounted directly on the window (or on the sash), the SKYDOME Sensor detects a position change thanks to an on-board inclinometer (accelerometer associated with the vertical of the mounting point).

The Sensor regularly monitors the inclination; in case of variation, an alert is transmitted via a public or private LoRaWAN® radio frequency network.

APPLICATIONS

- Skylight closure monitoring, skydome monitoring
- Detection of tilting (garage door), displacement (e.g. emergency ladder)
- Residential, industrial or tertiary use

BENEFITS & FEATURES

- LoRaWAN®, Class A
- Easy to install and use
- Autonomy > 8 years
- Tilt range: 0 - 180° from vertical
- Accuracy: 2° - Resolution: 1°
- IP65

CERTIFICATION

- RoHS, CE



Photo not contractual

The SKYDOME LoRaWAN® sensor is a battery-powered on-board system. It controls the position of a skylight or sash by checking its inclination.

The inclination is checked periodically (configurable period). If an inclination threshold is exceeded ("opening" and "re-closing" thresholds can be configured), an alert is immediately transmitted on the LoRaWAN® network.

The SKYDOME Sensor regularly transmits a frame of information (configurable period) on the LoRaWAN® network. The battery voltage has risen.

Powered by a battery, the autonomy of the sensor is more than 8 years for a configuration with a position check every 10 seconds and a radio transmission per day.

The sensor is attached to the sash using the adhesive fixing tape supplied. It can also be fixed with screws (not supplied) to the sash where possible.

The sensor must be kept away from any metal parts that could strongly attenuate the radio frequency transmission.

Designed for outdoor use, the SKYDOME Sensor is waterproof and protected against withstand outdoor constraints (rain, snow, sun, etc...).

Installation and commissioning is quick and easy. The Sensor is equipped with :

- a magnetic switch to activate or deactivate the Sensor,
- an NFC identification tag (product number, serial number, production batch)

The Sensor is delivered with a default configuration that can be reconfigured via the downlink, according to its ZCL application layer:

- interval between two tilt controls,
- alert threshold "opening", "re-closing".
- number of pre-alert confirmations
- periodicity on life frame.

WE HAVE THE SENSORS ADAPTED TO YOUR USES

nke Watteco is a leading European designer and manufacturer of intelligent radio frequency sensors and actuators as well as multi-protocol remote reading and data collection solutions.

nke Watteco is a member of the LoRa® Alliance.

TECHNICAL CHARACTERISTICS

RADIO FREQUENCY	
Frequency (MHz)	EU: 868-870
Transmitted power(dBm)	+14
Sensitivity(dBm)	-140
Embedded software	
Protocol	LoRaWAN®, Class A
Method of activation	Activation by Personalization (ABP) Over-The-Air Activation (OTAA)
Data Encryption	AES128
Measuring cycles	From 1s to 59s in steps of 1s or from 1 to 59min in steps of 1min (default 10s)
Periodicity on information frame	from 0h to 23h in steps of 1h or from 0d to 7d in steps of 1d (default 7d)
Alert threshold	Aperture threshold: adjustable in the range 10 to 180° in steps of 1° (30° by default) Re-closing threshold: - 5° in relation to the opening threshold - 5°. Battery voltage alert: range 0.1 to 3.6Volt in 0.1Volt steps (3Volt default)
Battery voltage transmission	Every 7 days by default reconfigurable from the remote server
Time stamping of measurements	The remote server can reconstruct the timestamp of each measurement.
Data compression	yes (differential coding) or no
INCLINATION MEASUREMENT	
Tilt control range	0 à 180°
Resolution	1°
Accuracy	2°
POWER SUPPLY	
Voltage	3.6V / 3600mAh - lithium battery
Autonomy in a range of +10°C to +25°C	> 8 years (by calculation) with one measurement / 10 seconds; one frame / 24 hours
INTERFACE	
NFC Tag	Product number, serial number, batch number
Buzzer	Commissioning follow-up; consideration of the SD card (not supplied)
Magnetic switch (ILS)	Switching the Sensor on / off
ALARM	
On tilt	Immediate transmission on threshold crossing
BOITIER	
Dimension (mm) - natural	92x92x56 - ABS PC with anti-UV treatment
Installation	Fixing by double-sided adhesive tape or screw (not supplied)
IP Class	IP65
Flammability	UL94-V0 HB
ENVIRONMENT	
Operating temperature (°C)	-20 / +60 (excluding direct solar radiation)
Storage temperature (°C; rH)	-10°C / +30°C; <75%rH
STANDARDS & REGULATIONS	
EN, 61000-4-2 EN 300-220-1 V2-4-1, EN 301 489 V1-6-1, RED Directive CE, RoHS	



PRODUCT NUMBER

REFERENCE	DESCRIPTION
50-70-143	LoRaWAN® SKYDOME SENSOR

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