

SIGFOX™ SKYDOME SENSOR



The Skydome Sensor verifies that a roof window is properly closed. Fixed directly on the window, the Skydome Sensor detects a change of position thanks to an onboard inclinometer (accelerometer associated with the vertical point of fixation).

Regularly the Sensor controls the inclination; if there is a variation, an alert is transmitted on the SIGFOX™ radio network, secure network, ultra narrow band, long range and low consumption.

APPLICATIONS

- Closure monitoring of roof window, skydome
- Tilt detection (garage door), movement detection (emergency ladder for example)
- Use in residential, industrial or tertiary

BENEFITS & KEY FEATURES

- SIGFOX™
- Easy installation and use
- Autonomy > 8 years
- Tilt range: 0 - 180 ° from the vertical
- Accuracy: 2 ° - Resolution: 1 °
- IP65

QUALITY & RELIABILITY

- RoHS, CE



The SKYDOME SIGFOX™ sensor is an on-board battery-operated system. It controls the position of a roof window, an opening by checking its inclination.

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

The SKYDOME sensor regularly transmits an information frame (configurable period) on the SIGFOX™ network. The battery voltage is raised.

Powered by a battery, the sensor autonomy is greater 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 opening, if possible on the inner inside (or outdoor if radio attenuation is significant) from adhesive tape provided. It can also be fixed by screws (not supplied) on the opening when possible.

The sensor must be clear of any metal parts that could strongly attenuate the radio frequency transmission.

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

Installation and commissioning are fast and easy. The sensor is equipped with:

- A magnetic switch that enables or disables the sensor,
- An NFC identification tag (product number, serial number, production batch)

The sensor comes with a default configuration; it can be reconfigured on site using an SDcard (not included):

- Interval between two inclination checks,
- Alert threshold "opening", "re-closing"
- Number of confirmations before alert
- Low battery warning threshold,
- Frame frequency, other internal operating parameters

The configuration of the SDcard can be modified by a simple text editor (Notepad under Windows PC for example).

NKE WATTECO, YOUR PARTNER IN SMART SENSORS & ACTUATORS

We are a European leader in designing and manufacturing highly reliable and low power consumption smart sensors, actuators and multiprotocol remote data solutions.

nke Watteco is an adopter member of the LoRa® Alliance

TECHNICAL CHARACTERISTICS

RF TRANSCEIVER	
Frequency (MHz)	EU: 868-870
Transmit power (dBm)	+14
Receiver sensitivity (dBm)	-126
FIRMWARE CONFIGURATION	
Protocol	SIGFOX™ 0U approval
Application layer	Owner without compression; no encryption
Interval between controls	From 1s to 59s in steps of 1s or from 1 to 59min in steps of 1min (default 10s)
Frequency on information frame	from 0h to 23h in steps of 1h or from 0j to 7j in steps of 1d (default 7d)
Alert threshold	Opening threshold: adjustable in the range of 10 to 180 ° in steps of 1 ° (30 ° by default) Reclosing threshold: - 5 ° with respect to the opening threshold - 5 ° Battery Voltage Alert: range 0.1 to 3.6Volts in 0.1Volt steps (3 Volts by default)
PRESSURE MEASURE	
Tilt control range	From 0 to 180°
Résolution	1°
Précision	2°
POWER	
Power supply	3,6V / 3600mAh – Lithium battery
Autonomy in a range of + 10 ° C to + 25 ° C	> 8 years (by calculation) with a measurement / 10 seconds; one frame / 24 hours
INTERFACE	
NFC tag	Product number, serial number, production lot number
Buzzer	Monitoring of start up taking into account the SD card (not included)
Magnetic switch(ILS)	Switching the sensor on / off
ALERTS	
Crossing of the inclination threshold	Immediate transmission after confirmations (configurable number)
Low battery voltage	Transmission in the information frame
MECHANICAL FEATURES	
Dimension (mm) – nature	92x92x56 - ABS PC (anti UV treatment)
IP class	IP65
inflammability	UL94-V0 HB
ENVIRONMENTAL	
Operating temperature (° C)	-20 / +60 (excluding direct solar radiation)
Storage temperature (°C ; rH)	-10°C / +30°C ; <75%rH
DIRECTIVES & STANDARD	
EN, 61000-4-2 EN 300-220-1 V2-4-1, EN 301 489 V1-6-1, Directive RED CE, RoHS	



ORDERING INFORMATION

REFERENCE	DESCRIPTION
50-09-078	SIGFOX™ SKYDOME SENSOR