

adeunis LoRaWAN MOTION V2 Transceiver Presence and Luminosity User Guide

[Home](#) » [adeunis](#) » adeunis LoRaWAN MOTION V2 Transceiver Presence and Luminosity User Guide 

adeunis LoRaWAN MOTION V2 Transceiver Presence and Luminosity



Contents

1 PRODUCTS AND REGULATORY INFORMATION
2 DISCLAIMER
3 TECHNICAL SUPPORT
4 INTRODUCTION
5 ENVIRONMENTAL RECOMMENDATIONS
6 WARNINGS
7 RECOMMANDATIONS REGARDING USE
8 DISPOSAL OF WASTE BY USERS IN PRIVATE HOUSEHOLDS WITHIN THE EUROPEAN UNION
9 DEVICE OVERVIEW
9.1 Description
9.2 Package contents
9.3 General description
9.4 Dimensions
9.5 Circuit board
9.6 KARE platform compatibility
9.7 Technical Specifications
10 DEVICE OPERATION
10.1 Operating modes
11 Which mode do I want my device in?
11.1 Operation of the LEDs
12 REGISTERS AND FRAME DESCRIPTION
13 CONFIGURATION AND INSTALLATION
13.1 Configuration and installation of the transmitter
14 WIRING
14.1 Cabling Digital Input 2 via the terminal block
15 DOCUMENT VERSIONS
16 EU Declaration of Conformity
17 Customer Support
18 Documents / Resources
18.1 References
19 Related Posts

PRODUCTS AND REGULATORY INFORMATION

Information document	
Title	LoRaWAN MOTION V2 – User Guide
Sub-title	/
Document type	User Guide
Version	2.0.1

This document applies to the following products:

Nom	Référence	Version firmware
LoRaWAN MOTION V2	ARF8276A	Version RTU : V2.0.1 Version APP : V2.0.0

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TECHNICAL SUPPORT

Website

Our website contains a lot of useful information: information on modules and wireless modems, user guides, an configuration software and technical documents which can be accessed 24 hours a day

E-mail

If you have technical problems or cannot find the required information in the provided documents, contact our Technical Support on our website, section « Technical Support ». This ensures that your request will be processed soon as possible.

Helpful Information when Contacting Technical Support

When contacting Technical Support, please have the following information ready:

- Product type
- Firmware version (for example V1.0)
- A clear description of your question or the problem
- A short description of the application

INTRODUCTION

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ENVIRONMENTAL RECOMMENDATIONS

All superfluous packaging materials have been eliminated. We have done everything possible to make it easy to separate the packaging into three types of materials: cardboard (box), expanded polystyrene (filler material) and polyethylene (packets, foam protective sheets). Your device is composed of materials that can be recycled and reused if it is dismantled by a specialist company. Please observe local regulations concerning the manner in which waste packaging material, used batteries and your obsolete equipment are disposed of.

WARNINGS

Valid for products indicated in the declaration of conformity



Read the instructions in the manual.



The safety of this product is only guaranteed when it is used in accordance with its purpose. Maintenance should only be carried out by qualified persons.



Risk of explosion if the battery is removed with an incorrect type. Contact Adeunis for more information if needed.



Risk of explosion if the battery is replaced by an incorrect type

Please note: Do not install the equipment close to a heat source or in damp conditions.

Please note: When the equipment is open, do not carry out any operations other than the ones set out in this document.



Please note: Do not open the product as there is a risk of electrical shock.



Please note: For your own safety, you must ensure that the equipment is switched off before carrying out any work on it.



Please note: For your own safety, the power supply circuit must be SELV (Safety Extra Low Voltage) and must be from limited power sources.

The product must be equipped with a switching mechanism so that the power can be cut. This must be close to the equipment. Any electrical connection of the product must be equipped with a protection device against voltage spikes and short-circuits.

RECOMMANDATIONS REGARDING USE

- Before using the system, check that the power supply voltage shown in the user manual corresponds to your supply. If it doesn't, please consult your supplier.
- Place the device against a flat, firm and stable surface.
- The device must be installed in a location that is sufficiently ventilated so that there is no risk of internal heating and it must not be covered with objects such as newspapers, cloths, curtains, etc.
- The device's aerial must be free and at least 10 cm away from any conducting material.
- The device must never be exposed to heat sources such as heating equipment.
- Do not place the device close to objects with naked flames such as lit candles, blowtorches, etc.
- The device must not be exposed to harsh chemical agents or solvents likely to damage the plastic or corrode the metal parts.

DISPOSAL OF WASTE BY USERS IN PRIVATE HOUSEHOLDS WITHIN THE EUROPEAN UNION



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste by taking it to a collection point designated for the recycling of electrical and electronic appliances. Separate collection and recycling of your waste at the time of disposal will contribute to conserving natural resources and guarantee recycling that respects the environment and human health. For further information concerning your nearest recycling centre, please contact your nearest local authority/town hall offices, your household waste collection company or the shop where you bought the product



This symbol on the device or its packaging means the use of a DC voltage.

DEVICE OVERVIEW

Description

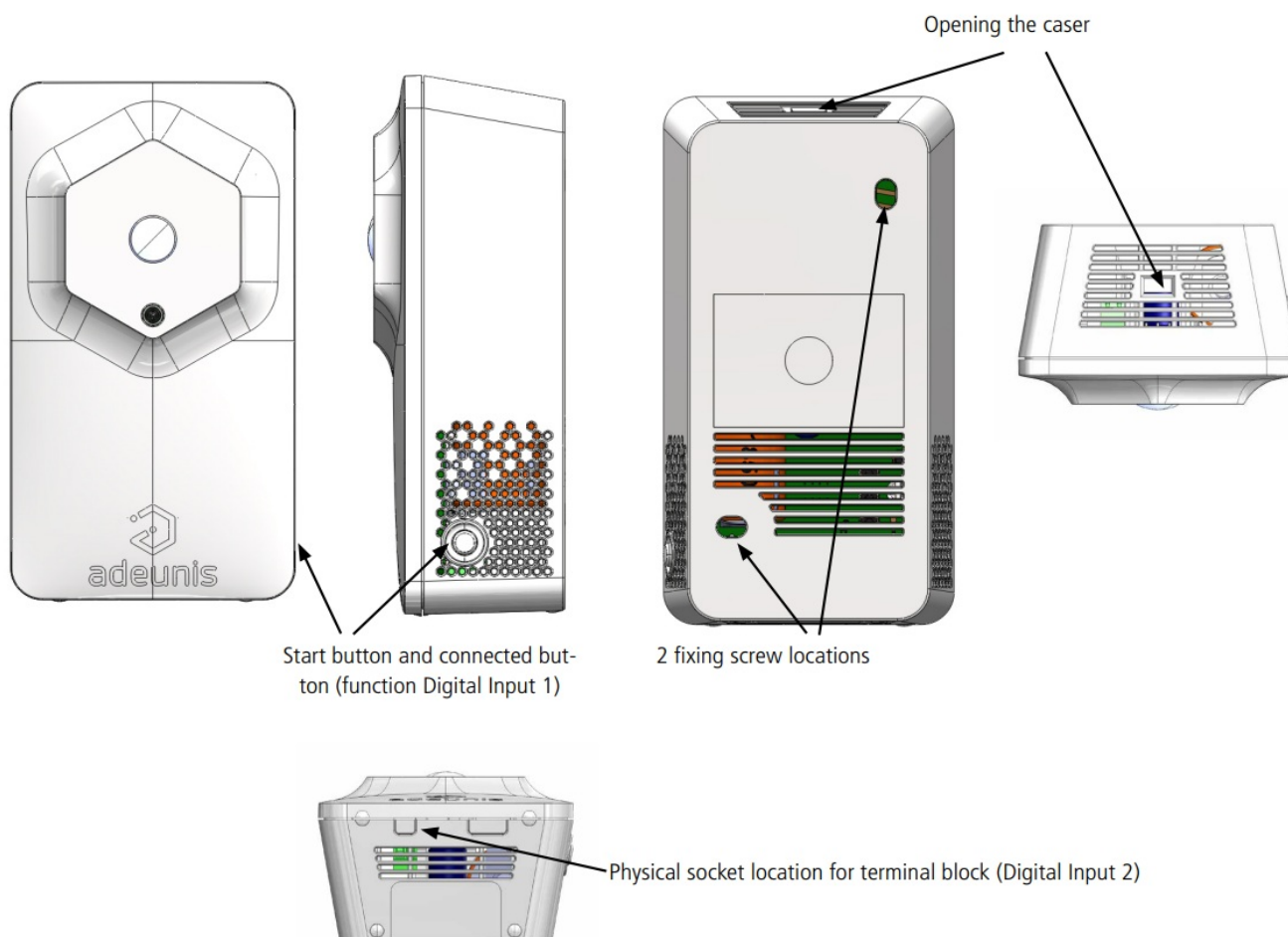
- The adeunis® LoRaWAN MOTION V2 device is a ready-to-use radio transmitter for detecting the presence of a heat source and so determine the occupancy of a room, it also indicate the brightness level in a room.
- This product meets the needs of users to monitor the occupancy and brightness of their buildings via an LPWAN network.
- The device issues data periodically, alarms (presence and no presence) and when thresholds are high or low (luminosity).
- The device includes 2 digital inputs: 1 through a button that send frames when pressed and an other to connect a dry contact sensor.
- The user can access the transmitter configuration locally via a micro-USB port or remotely via the LoRaWAN network. The user can configure, in particular, periodicity, sending modes, alarms and activation or deactivation of the digital inputs.
- The LoRaWAN Smart Building MOTION is powered by a replaceable internal battery.
- The device is compatible with the adeunis® KARE Device Management platform

IMPORTANT NOTE 1: The LoRaWAN Smart Building MOTION is delivered by default with an OTAA configuration, so the user can declare the device to a LoRaWAN operator

Package contents

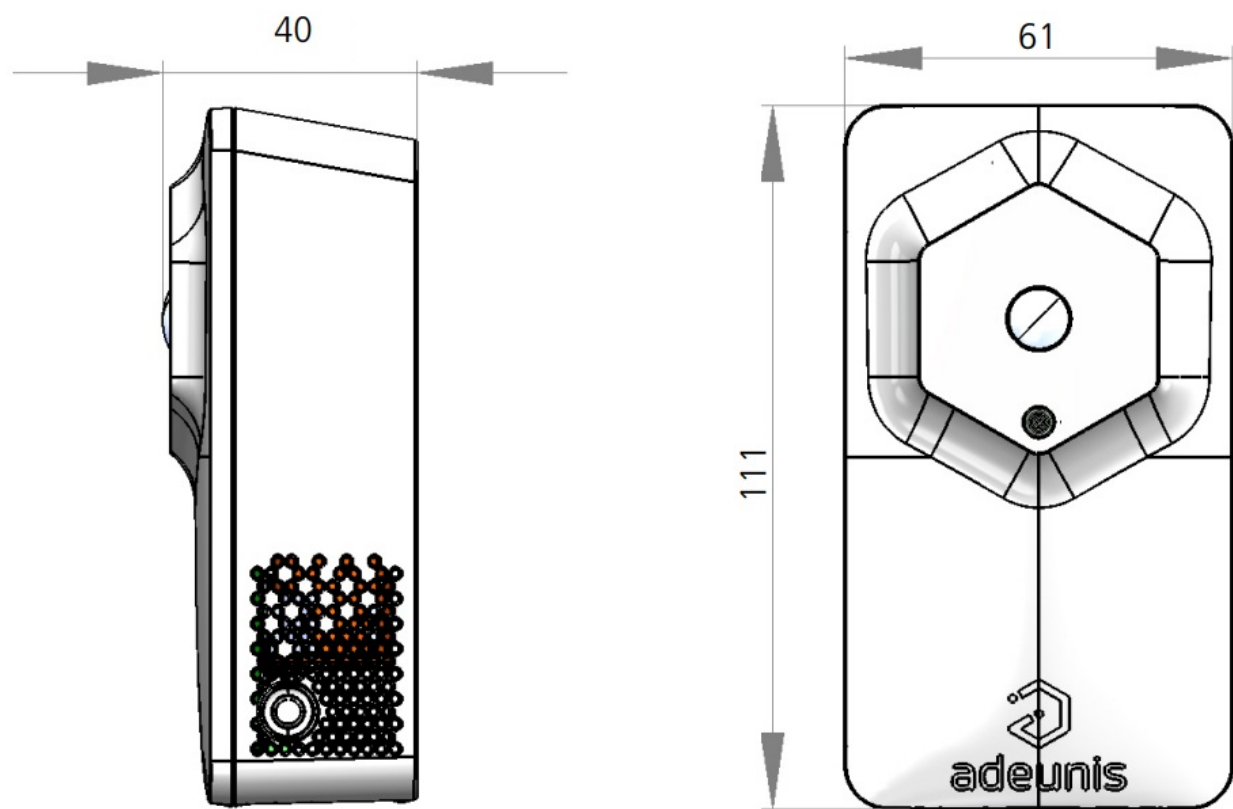
The device is delivered in a carton package containing the following: Front panel, rear panel and electronic board, Removable LiSOC12 FANSO (battery-pack ER18505H+W36+51021), 2 x CBLZ 3.5x 19mm screws, 2 x SX5 Fischer plugs

General description

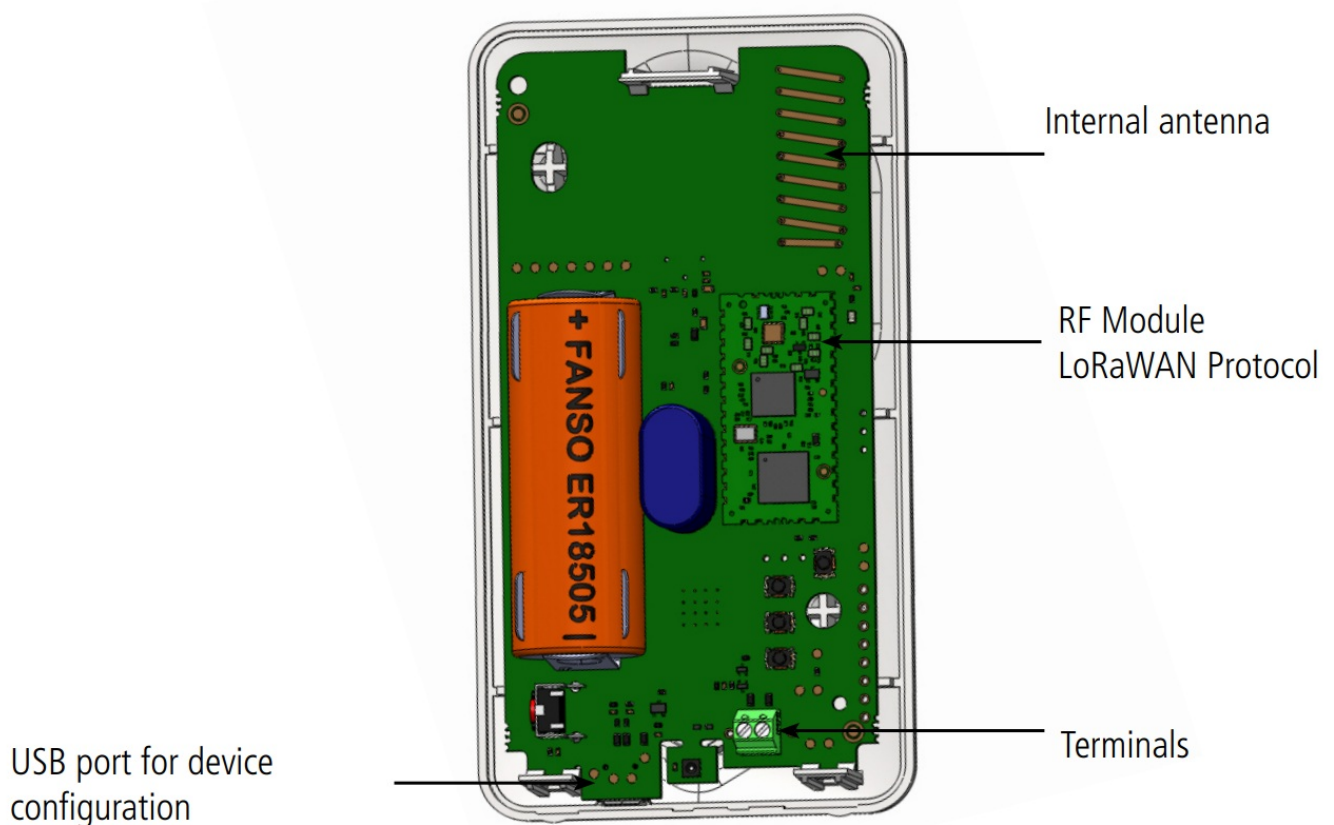


Dimensions

Values are in millimeters



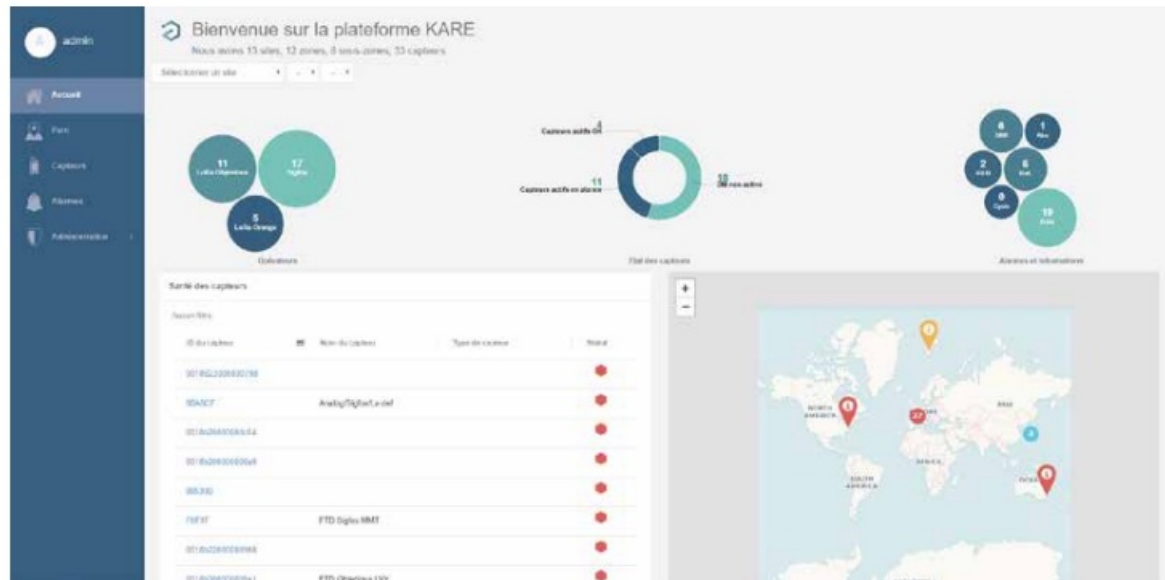
Circuit board



KARE platform compatibility

Using this platform, you can

- Act on your equipment park: simulate service life and change configuration remotely



Technical Specifications

General characteristics

Parameters	Value
Supply voltage	Nominal 3.6V
Power supply	Removable LiSOCl ₂ FANSO (battery-pack ER18505H+W36+51021)
Operating temperature	-20°C / +60°C
Dimensions	111 x 61 x 40 mm
Weight	102 g
Case	IP20
LoRaWAN Zone	EU 863-870 MHz
LoRaWAN specification	1.0.2
Max transmit power	14 dBm
Application port (downlink)	1

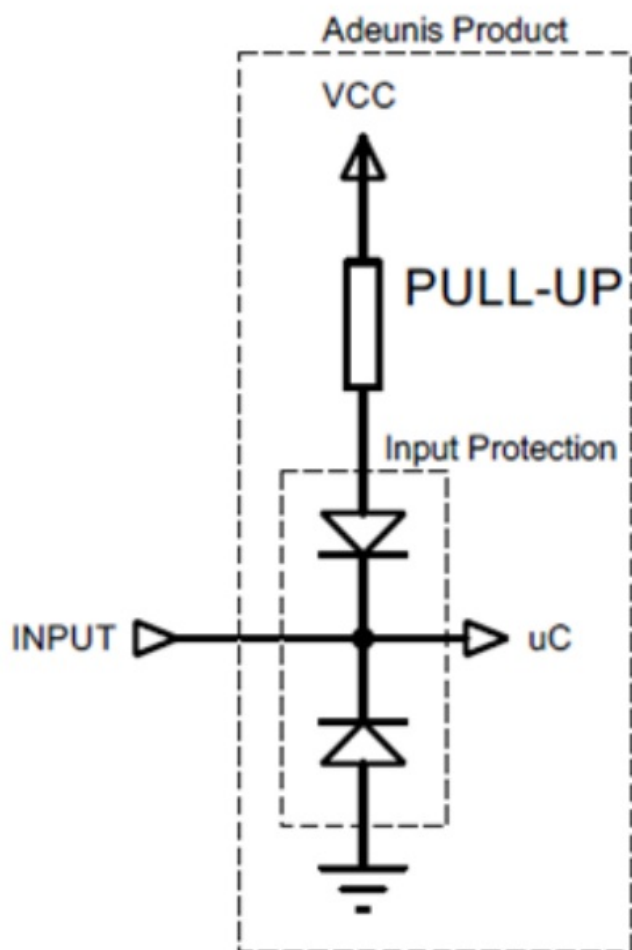
Autonomy

Use case	Autonomy SF7 (ans)	Autonomy SF12 (ans)
The least consuming: <ul style="list-style-type: none"> • Presence sensor disabled • Brightness polling every hour • 1 frame per day • No events on digital input(s) 	> 10	>10
The most consuming (worst case scenario): <ul style="list-style-type: none"> • 8640 presence detections per day (6 detections / minutes) = the oretical max • Polls brightness every 2 seconds = theoretical max • 144 frames sent per day = theoretical max • Digital Input(s) enabled: 86 400 events or 1 per second = theore tical max 	1.1	1.1
<ul style="list-style-type: none"> • 1440 detections per day (1 detection / minute) • Polls brightness every 10 minutes = theoretical max • 10 frames sent per day • Digital Input(s) disabled 	7.4	7.1
<ul style="list-style-type: none"> • Number of detections per day <250 • Polling: every 2 seconds • 10 frames per day • Digital Input(s) disabled 	5.8	5.6
<ul style="list-style-type: none"> • 100 detections per day (one detection every quarter of an hour) • Polls brightness once a day • 15 frames per day • 100 events on the digital input(s) 	>10	>10

The above values are estimates made under certain conditions of use and environment (25°C and 1 year of storage). They do not under any circumstances represent a commitment on the part of adeunis®.

Digital input interfaces

The schematic diagram of the digital input interfaces is as follows:



Maximum absolute values		Unit
Minimum input voltage	– 0,7	V
Maximum input voltage	+50	V

Electrical Characteristics		Unit
Minimum input voltage	0	V
Maximum input voltage	24	V
Equivalent input resistance	500	kΩ
Input frequency	10	Hz
Current consumption input level HIGH	0	μA
Current consumption input level LOW	6	μA

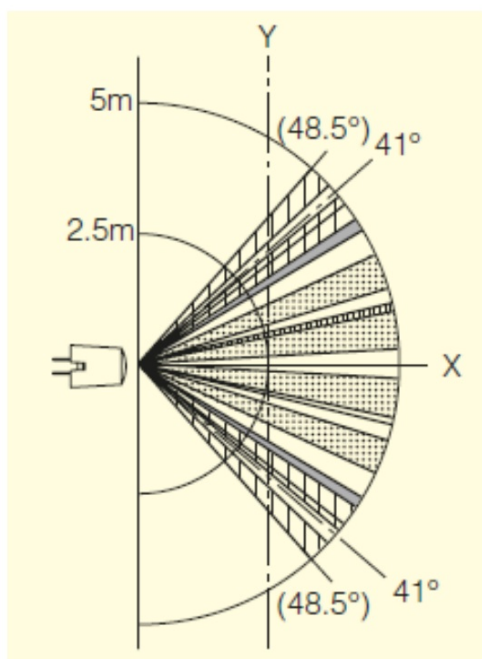
Values above the absolute maximum values will damage the device.

Characteristics of the embedded sensors

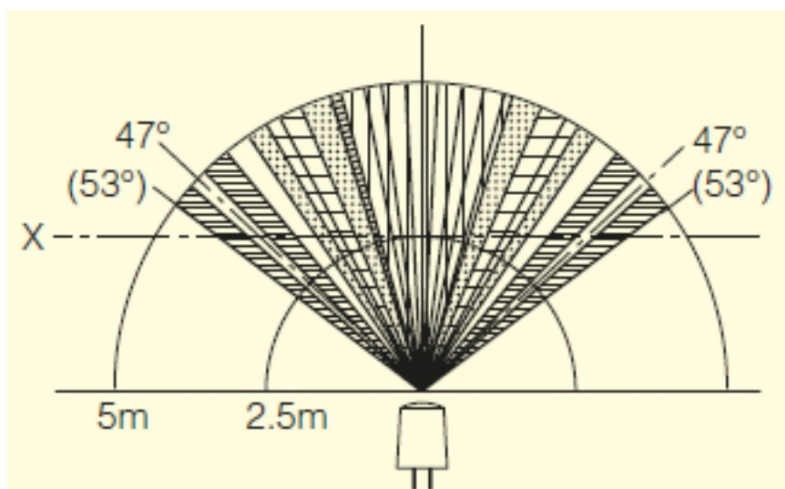
Electrical Characteristics			Unit
Presence (PIR)	Maximum detection distance	5	m
	Vertical opening angle	82	°
	Horizontal opening angle	94	°
	Minimum inhibition time after end of detection	10	s

Notes on the presence sensor:

- The body to be detected must have a temperature different by more than 4°C (+/-) from room temperature
- If the body to be detected has a temperature very different from the ambient T°C, the detection distance and the opening angle may be higher than the values indicated in the table above.
- Sources of intense heat can blind the sensor
- The sensor will have trouble detecting through a window (IR diffraction)



Side View (Vertical)



Top View (Horizontal)

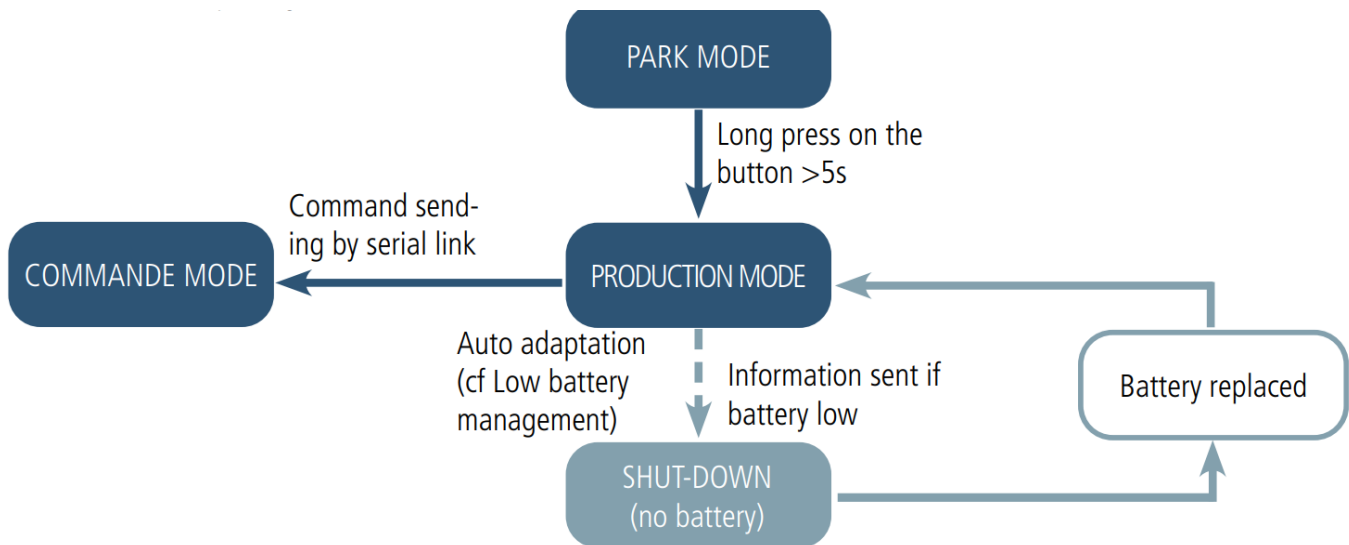
Electrical Characteristics			Unit
Luminosity	Measuring range	0 à 100	%
	Resolution	1	%
	The brightness measurement is a subjective measure representative of human percepti on given as 100%. 100% representing full daylight and 0% complete darkness.		

DEVICE OPERATION

Operating modes

IMPORTANT NOTE: adeunis® uses the Big-Endian data format

The device has several operating modes



PARK MODE

The device is delivered in PARK mode, it is thus in standby mode and its consumption is minimal. Exit PARK mode by pressing and holding the button for more than 5 seconds. The green LED lights up to indicate the detection of the pressed button and then flashes rapidly during the device start-up phase. The device then sends its configuration and data frames.

COMMAND MODE

This mode is used to configure the device registers. There are two ways to enter this mode:

- Open the adeunis® IoT Configurator application, connect a cable to the device's micro-USB port and connect it to the computer or mobile phone.
- Connect a cable to the micro-USB port of the device and enter command mode via an AT command.

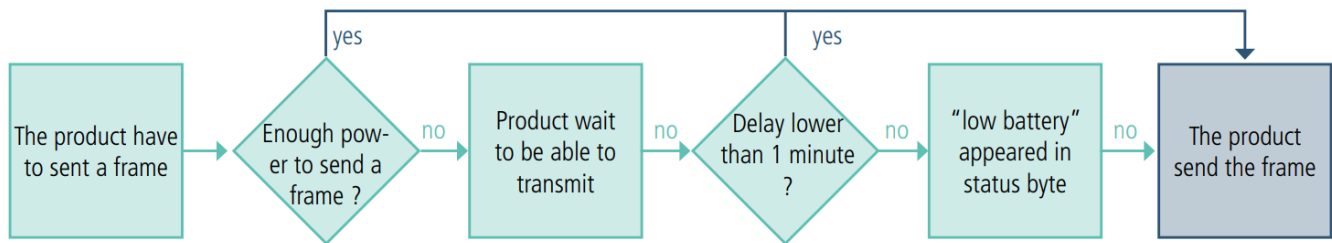
The output of the COMMAND mode is via the ATO command or the USB cable disconnection. The device will then return to its previous mode, i.e. PARK or PRODUCTION

PRODUCTION MODE

This mode allows the device to work in its intended end use.

Low battery management

When the product detect that the battery is not able to deliver the level of power required for a emission (extreme temperature or end-of-life of the battery), it waits to be able to transmit. If it detect that the generated delay is longer than 1 minute, it informs the user activating the "low battery" flag in the status byte of each frame sent.



The “battery low” flag is automatically disappearing when the battery is replaced or when temperature conditions are favorable to the proper functioning of the battery.

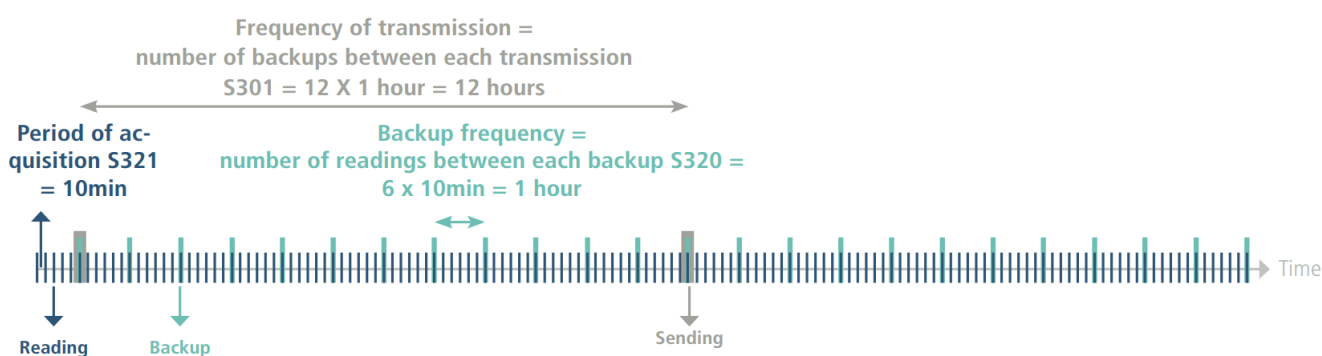
Three transmission modes to meet needs

The device can detect presence in a room, save this information and send it in three transmission modes.

	Periodic transmission	Transmission over threshold	Periodic transmission and over threshold
Definition	Periodic transmission allows data to be collected in a specified period of time, to be saved and sent on a regular basis for analysis over time.	The transmission of a frame over threshold makes it possible to read data – according to a given period and to send an alarm only if one of the thresholds is exceeded.	Mix of the two modes in order to be able to poll regularly to receive alerts if the threshold is exceeded and to save the information regularly to make the analysis over time.
Practical example of use	<p>I want to take a reading of my brightness rate every half hour and know the occupancy rate of the room during this period.</p> <p>I want to minimize my number of transmissions to optimize my autonomy, so</p> <p>I want to put the maximum number of readings in each frame without losing data.</p>	<p>I want an alert if it detects a presence in the room or if there is no more presence and if the luminosity is less than 20% (almost off).</p>	<p>I want to know the brightness and the occupancy rate of my room during the day.</p> <p>For this my product will send me an hour by hour brightness reading twice a day. However, I want to be alerted if the brightness of my room drops below 20% or if the room is occupied.</p>

Associated configuration	<ul style="list-style-type: none"> • Period of acquisition (S321) = 900 (900 sec x2 = 1800 seconds i.e. 30 minutes) • Frequency period (S320) = 1 (1 backup at each reading) • Frequency of transmission (S301) = 24 (24 backups per frame) • Presence alarm (S330) = 0 (alarm disabled) • Brightness rate alarm (S340) = 0 (alarm disabled) 	<ul style="list-style-type: none"> • Period of acquisition (S321) = 300 (300x2 sec = 10 minutes) • Frequency of transmission (S301) = 0 (no periodic sending) • Presence alarm (S330) = 1 (alarm activated) • Type of luminosity alarm (S340) = 1 (low threshold) • Low threshold (343) = 20 (as a percentage) • Low threshold hysteresis (S344) = 5 (as a percentage) the alarm is raised only if the brightness rises by + 5% compared to the threshold 	<ul style="list-style-type: none"> • Period of acquisition (S321) = 300 (300x2 sec = 10 minutes) • Frequency period (S320) = 6 (6 x 10 min = 1 hour) • Frequency of transmission (S301) = 12 (12 X 1 hour = 12 hours) • Type of luminosity alarm (S340) = 1 (low threshold) • Type of luminosity alarm (S340) = 1 (low threshold) • Low threshold (343) = 20 (as a percentage) • High threshold hysteresis (S330) = 5 (as a percentage) the alarm is raised only if the brightness rises by + 5% compared to the threshold
In the use	Paragraph 2.1.5.01	Paragraph 2.1.5.02	See schema below

CAUTION: The information sending capacity will depend on the network used. Here the case considered works with a technology LoRaWAN.



Procedure to follow to program its registers according to the chosen mode.

Which mode do I want my device in?



Periodic
+
Alarm

threshold

What period do I want between each reading?

A reading every X seconds

I divide the X value by 2 and I indicate it in the S321 register

A reading every X seconds

I divide the X value by 2 and I indicate it in the S321 register

A reading every X seconds

I divide the X value by 2 and I indicate it in the S321 register

When do I save the information?

I save each reading

I indicate 1 in my S320 register

I want to scan regularly for my alarm but I need to save the information every Y time

I indicate the Y value in my S320 register

In alarm mode I do not need to save the information

I do not need to enter a value in the S320 register

When will my frame be sent?

I want to maximize my frame to minimize the number of transmissions

I indicate the number of readings that I want in my frame in my register S301 (24 being the maximum possible in LoRaWAN without losing data)

I want to maximize my frame to minimize the number of transmissions

I indicate the number of readings that I want in my frame in my register S301 (24 being the maximum possible in LoRaWAN without losing data)

I set my alarms : S330 for the presence and S340 to S344 for luminosity

My frame is sent when my threshold is exceeded

I indicate 0 in my S301 register to disable the periodic mode

I set my alarms : S330 for the presence and S340 to S344 for luminosity

Example of possible configurations:

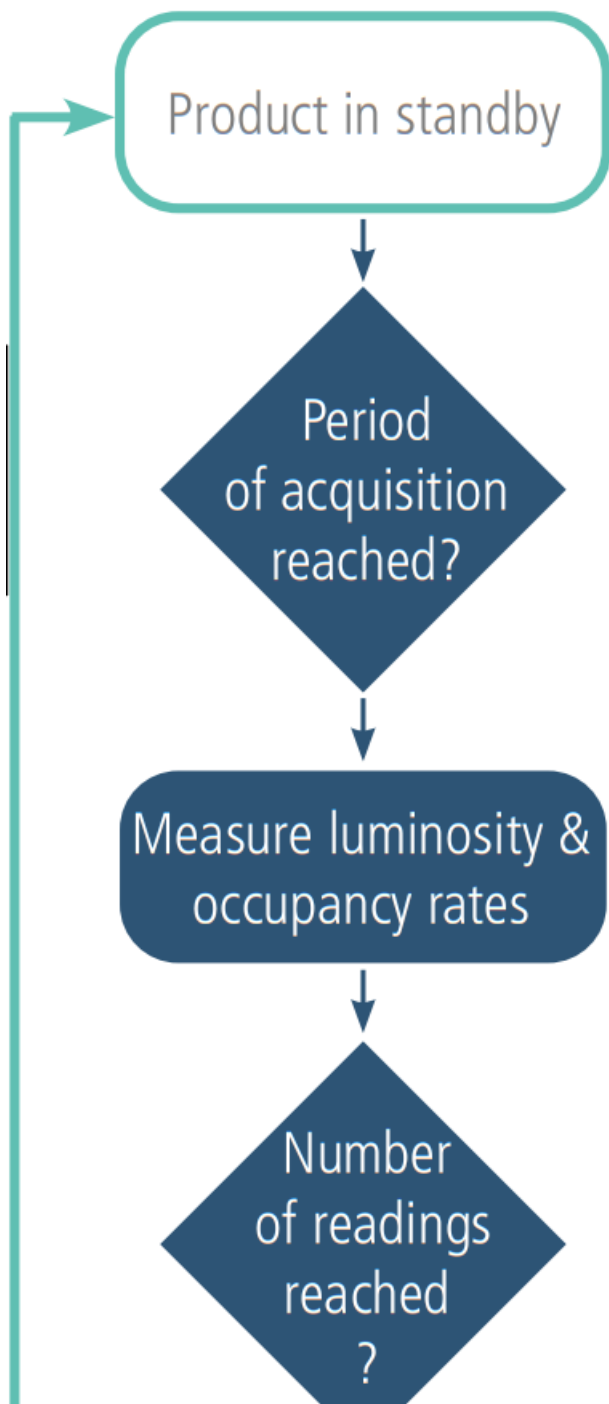
Desired case (except 100% event)	Associated configuration	Theoretical number of periodic frames sent per day
<ul style="list-style-type: none"> • Reading: 10 minutes • Backup: every hour (every 6 readings) • Sending: every half day (every 12 backups) 	<ul style="list-style-type: none"> • $321 = 300$ • $320 = 6$ • $301 = 12$ 	2 frames
<ul style="list-style-type: none"> • Reading: 10 minutes • Backup: at each reading • Sending: maximum tolerated by my frame (here, LoRaWAN) 	<ul style="list-style-type: none"> • $321 = 300$ • $320 = 1$ • $301 = 24$ 	6 frames
<ul style="list-style-type: none"> • Reading: 5 minutes • Backup: every 15 minutes (every 3 readings) • Sending: every hour (i.e., every 4 backups) 	<ul style="list-style-type: none"> • $321 = 150$ • $320 = 3$ • $301 = 4$ 	24 frames
<ul style="list-style-type: none"> • Reading: every hour • Backup: at each reading • Sending: at each backup 	<ul style="list-style-type: none"> • $321 = 1800$ • $320 = 1$ • $301 = 1$ 	24 frames
<ul style="list-style-type: none"> • Reading: every hour • Backup: at each reading • Sending: every 4 hours (every 4 backups) 	<ul style="list-style-type: none"> • $321 = 1800$ • $320 = 1$ • $301 = 4$ 	6 frames
<ul style="list-style-type: none"> • Reading: every 10 seconds • Backup: every minute (every 6 readings) • Sending: every quarter hour (every 15 backups) 	<ul style="list-style-type: none"> • $321 = 5$ • $320 = 6$ • $301 = 15$ 	96 frames

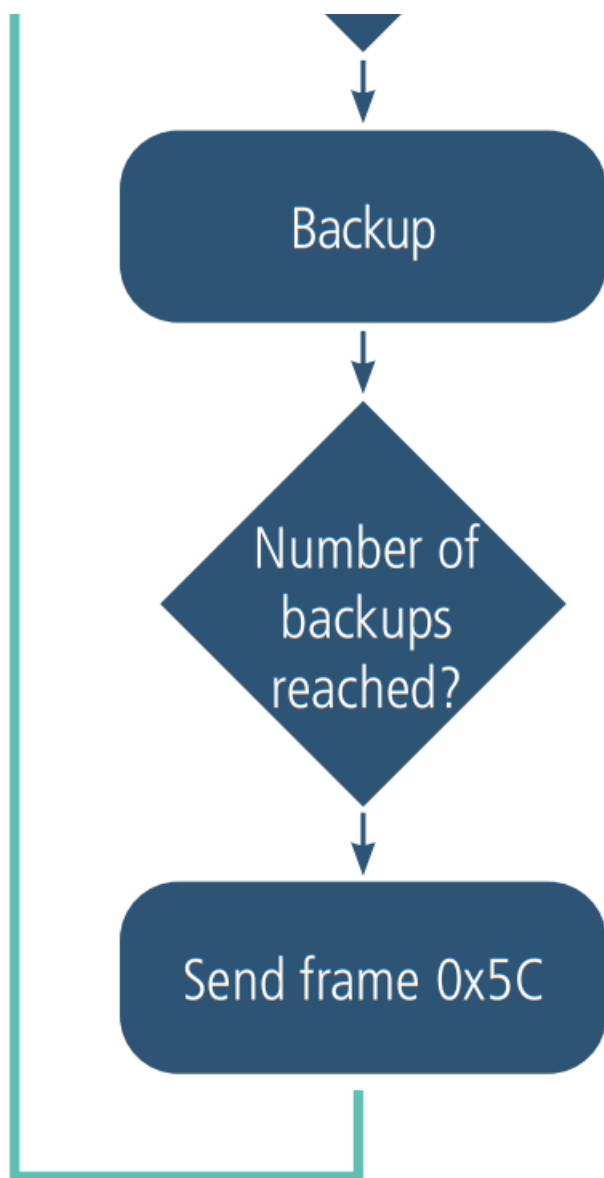
<ul style="list-style-type: none"> • Reading: every hour • Backup: at each reading • Sending: every 10 minutes (every 10 backups) 	<ul style="list-style-type: none"> • 321 = 30 • 320 = 1 • 301 = 10 	144 frames
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Periodic sending with or without history logs

The device allows the measurement and the periodic sending of the sensor values according to the following diagram:

The device makes it possible to record luminosity and the occupancy rates at a certain frequency, to store this information and then to send it periodically.





The occupancy rate correspond to the time where the room was occupied on the total time of the period (in %).

The parameters associated with this operating mode are:

- Period of acquisition (S321)
- Backup period (S320)
- Period of transmission(S301)

E.g.:

Register	Value encoding	Value	Result
S321	Decimal	5400	1 reading every 3 hours $5400 * 2\text{sec} = 10800 \text{ sec} = 3 \text{ hours}$
S320	Decimal	1	1 backup at each reading
S301	Decimal	2	Periodic mode with a period of 2 backup (2 * 3 hours) = every 6 hours
S330	Decimal	0	Presence alarm off
S340	Decimal	0	Luminosity alarm off

In this example:

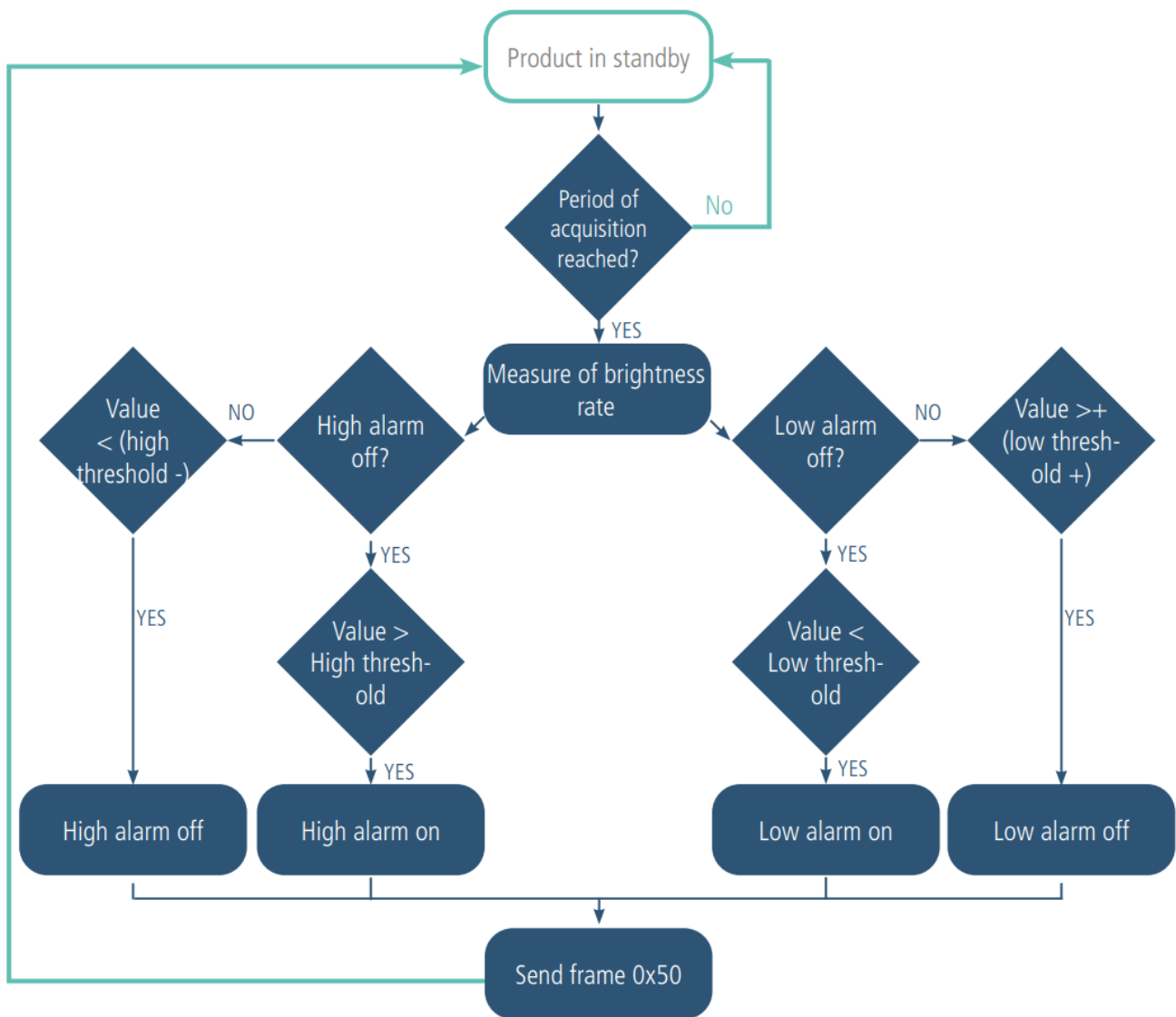
- The device takes the luminosity every 2 hours and measures the occupancy on this period, and saves the information
- The device will make 2 backups and send them 4 times per day
- The device is in pure periodic sending mode since the alarms have been disabled.

Be careful about backup and sending values that will also depend on the network used and its bandwidth.

Note: for a transmission without history, it is sufficient to set the register 301 (transmission period) to 1 so the device will send a frame to each backup.

Transmission over brightness threshold

The device allows detection of exceeding threshold (high and low) for the brightness rate according to the following schema. The device sends a data frame when a threshold is exceeded but also when returning to normal.



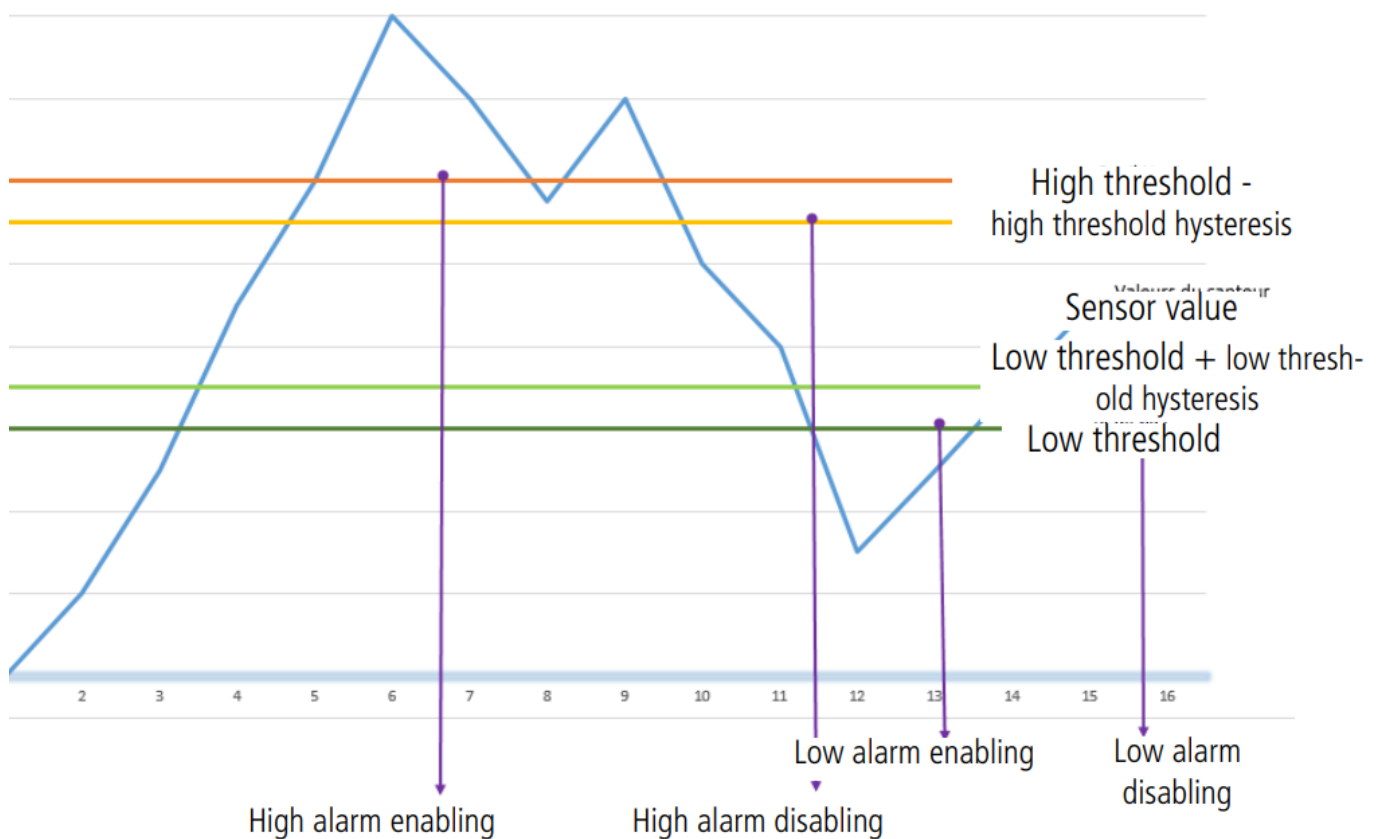
E.g.:

Register	Value encoding	Value	Result
S301	Decimal	0	Event mode (no periodicity)
S321	Decimal	300	One poll every 10 minutes (300/60 sec x 2)
S340	Decimal	1	Alarm type for low threshold
S343	Decimal	20	Brightness rate at 20%
S344	Decimal	5	Hysteresis at 5% above the low threshold of 25%

In this example:

- The device reads brightness rate every 10 minutes
- The device will sound an alarm if the brightness is below 20%
- The alarm will be disabled if the brightness drops below 25%

Explanation of thresholds and hysteresis:



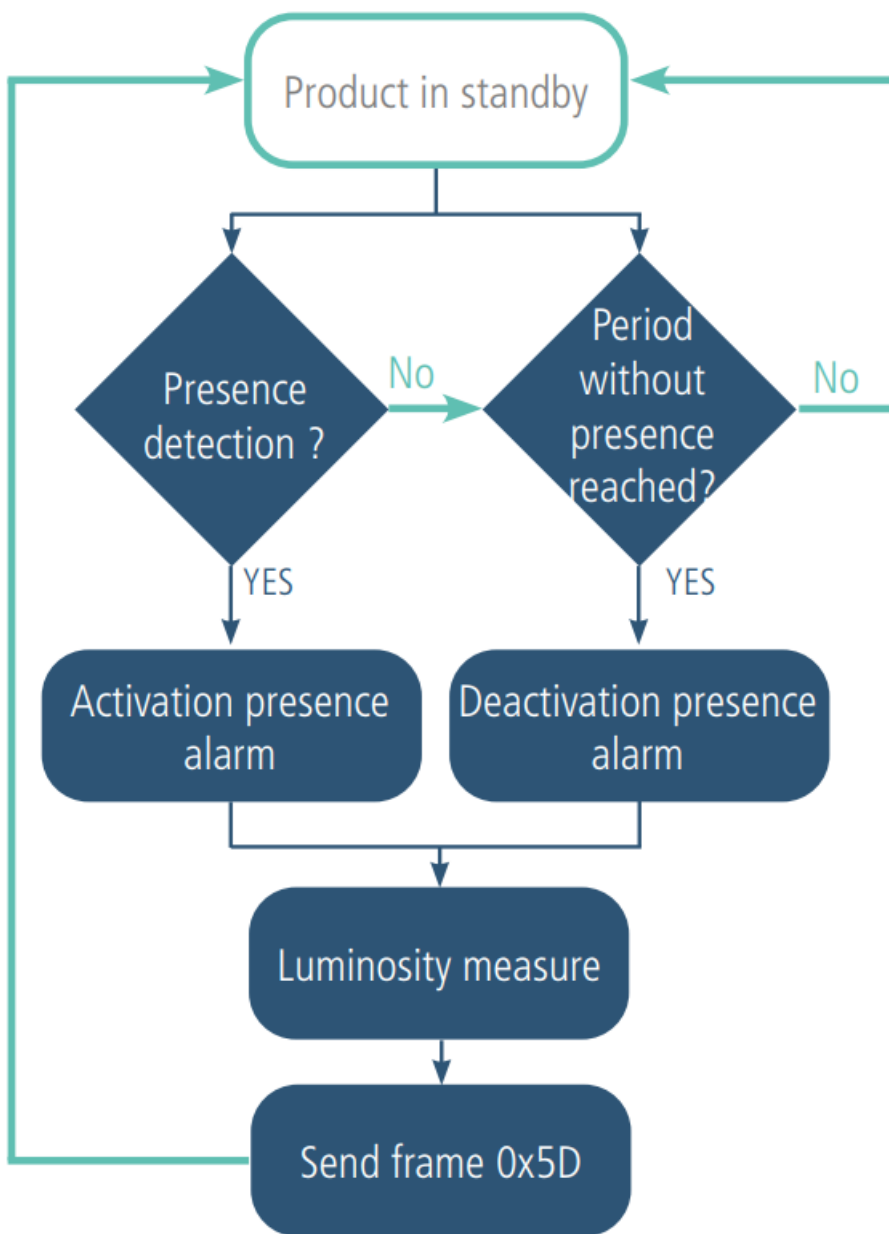
The parameters associated with this operating mode are:

- The transmission period (equal to zero in this use case) (register 301).
- The acquisition period (register 321)
- The high alarm threshold for the temperature sensor (register 331).
- The high alarm hysteresis for the temperature sensor (register 332)
- The low alarm threshold for the temperature sensor (register 333).
- The low alarm hysteresis for the temperature sensor (register 334).
- The high alarm threshold for the humidity sensor (register 341).
- The high alarm hysteresis for the humidity sensor (register 342).
- The low alarm threshold for the humidity sensor (register 343).
- The low alarm threshold for the humidity sensor (register 344).

Transmission over presence detection threshold

The product allows the transmission of an alarm frame if it detects a presence in the room or if it does not detect a presence for a certain time (determined by the user).

The parameters associated with this alarm are : alarm presence (S330) and the non presence time (S322).



Eg.

Register	Value encoding	Value	Result
S322	Decimal	30	When presence is not detected anymore, this delay allows the sensor to consider that the non presence is confirmed
S330	Decimal	1	Alarm activated

In this example:

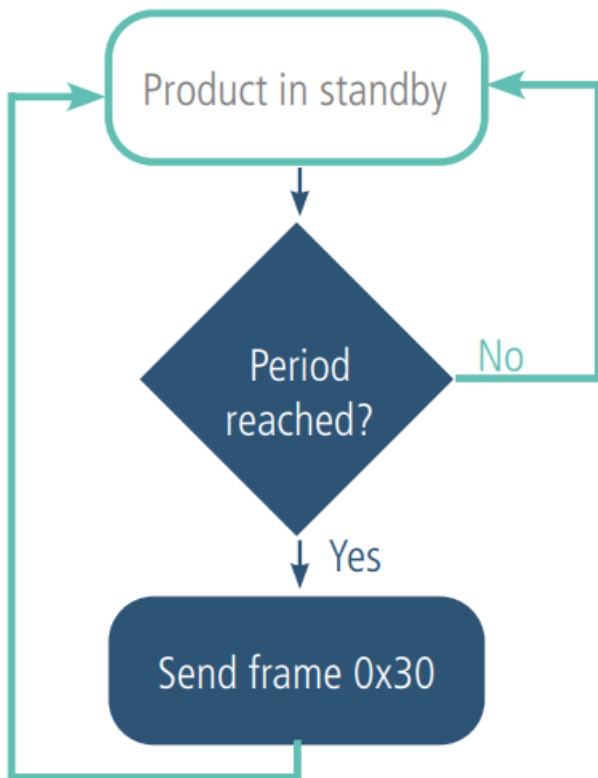
- The presence alarm is activated
- The device will sound an alarm if it detect a presence or if it do not detect a presence during almost 5 minutes.

NOTE: As described in 2.1.5 it is possible to combine the periodic mode and the alarm mode.

Transmitting the Keep Alive frame

If the device does not have periodic data configured, and no threshold is exceeded, it may not transmit data for a long time. So, to be sure that the device is working properly, it transmits a Keep Alive frame (0x30) according to a determined frequency (S300)

The parameters associated with this operating mode is the setting of the transmission period of the Keep Alive frame (register 300).



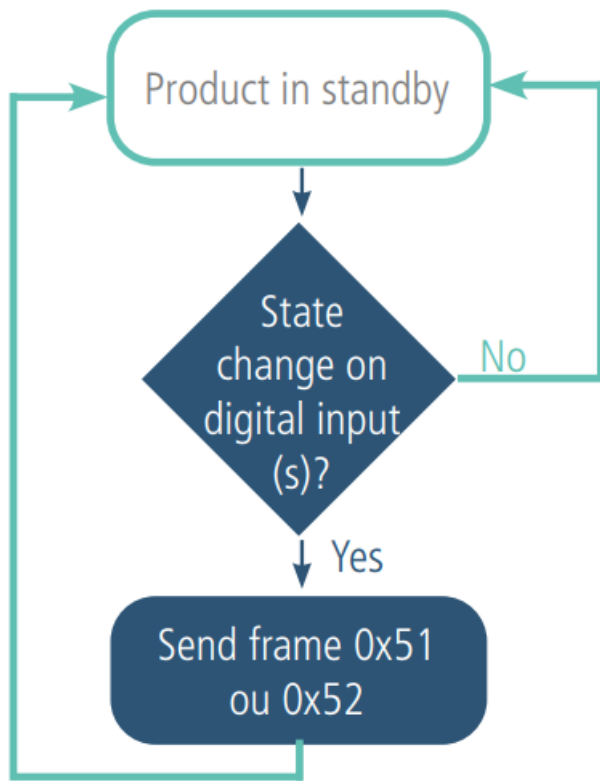
E.g.: I want a Keep Alive frame sent to me every 24 hours

Register	Value encoding	Value	Result
S301	Decimal	0	Disabling periodic sending
S300	Decimal	8640	$8640 \times 10 = 86\,400$ seconds or 1440 minutes or 24 hours

Digital Input alarm(s)

The device incorporates two digital inputs, one through the connected button and one via the terminal block, both for detecting a change in up and down state.

The device allows the sending of a frame following a change of state on one of its inputs according to the following diagram:



Example :

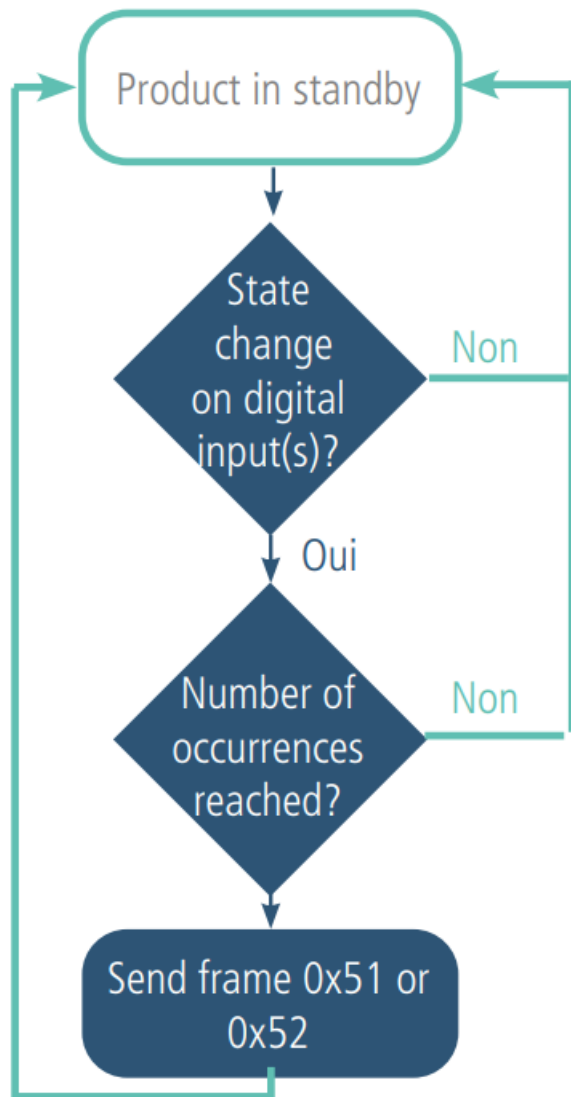
Register	Value encoding	Value	Result
S380	Hexadecimal	0x41	Configuration of the Digital Input 1 (button): <ul style="list-style-type: none"> • Detection of high edges • Debounce time* 100ms
S381	Decimal	1	The device sends a frame every time the button is enabled
S382	Hexadecimal	0x0	Configuration of the Digital Input 2 input (terminal block): <ul style="list-style-type: none"> • Disabled • No debounce time

* Debounce time: minimum time to take account of a change of state. For example, if this period is 10 ms all pulses (high or low level) whose duration is less than 10 ms will not be considered. This technique avoids potential rebounds during a change of state.

In this example the device:

- The device has a debounce time of 100ms and the button press alarm is enabled (register 380).
- The device sends a frame for each button press (register 381)
- The alarm via the terminal block is disabled (register 382)

NOTE: It is possible to program the sending of a frame only after a certain number of edge detections (S381/S383).



Eg

Register	Value code	Value	Result
S382	Hexadecimal	0x41	Configuration of the Digital Input 2 input (terminal block) : <ul style="list-style-type: none"> • Detection of high edges • Debounce time* 100ms
S383	Decimal	5	The device sends a frame every 5 times that a high edge is detected on Digital Input 2

* Debounce time: minimum time to take account of a change of state. For example, if this period is 10 ms all pulses (high or low level) whose duration is less than 10 ms will not be considered. This technique avoids potential rebounds during a change of state.

In this example the device:

- The device has a debounce time of 100 ms and the button press alarm is enabled (register 383).
- The device sends a frame as soon as it has detected 5 high edges on its digital input per terminal block (register S382)

The digital input operates only in event mode (no periodic sending).

Operation of the LEDs

Mode	LED red state	LED green state
Device in Park/Storage mode	OFF	OFF
Long button press (5 seconds) in PARK mode	–	ON when you press button for 1 second
Starting the device (after detecting long button press)	–	Fast flashing 6 cycles 100 ms ON / 100 ms OFF
Switching to command mode	Continuously lit*	Continuously lit*
JOIN process	<p>During the JOIN phase: flashing: 50ms ON / 1s OFF</p> <p>If JOIN phase ended (JOIN ACCEPT): Flashing: 50ms ON / 50ms OFF (6x)</p>	<p>During the JOIN phase: flashing: 50ms ON / 1s OFF (right after red LED)</p> <p>If JOIN phase ended (JOIN ACCEPT): flashing: 50ms ON / 50ms OFF (6x) (just before red LED)</p>
Low battery level	Flashing (500ms ON every 60s)	–
Device in default (return to factory)	Fixed	–
Button press in PRODUCTION mode	ON for 500 ms *	ON for 500 ms *
Presence detection	ON for 500 ms *	ON for 500 ms *

* The green and red LED lights simultaneously give a white/yellow rendering through the case.

REGISTERS AND FRAME DESCRIPTION

To know the content of the registers and of each frames (uplink and downlink) of the product, refers to the TECHNICAL REFERENCE MANUAL of the TEMP product, available on the adeunis website:

<https://www.adeunis.com/en/produit/motion-presence-brightness/>

CONFIGURATION AND INSTALLATION

Configuration and installation of the transmitter

To configure the product, it is recommended to use the IoT Configurator (android and Windows application).

- Google Play : <https://play.google.com/store/apps/details?id=com.adeunis.IoTConfiguratorApp>
- Windows 10: <https://www.adeunis.com/telechargements/>

To configure the product using AT Command or install the product, please refers to the INSTALLATION GUIDE adeunis® available on the website

WIRING

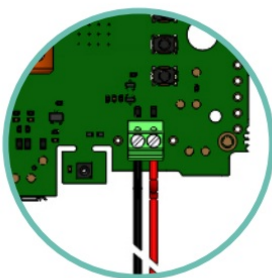
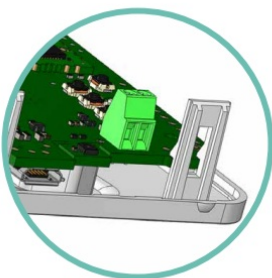
Cabling Digital Input 2 via the terminal block

In order to be able to combine a dry contact sensor with the device and thus benefit from its Digital Input 2, it is necessary to connect the sensor to the terminal block of the card.

Connection procedure for the wires:

1. Open the unit
2. Plug the two wires into each notch of the terminal block
3. Break the element of the casing so as to pass the wire onto the back of the casing
4. Configure the digital input 2 alarm
5. Close the unit
6. Restart the device with the button as for a first start

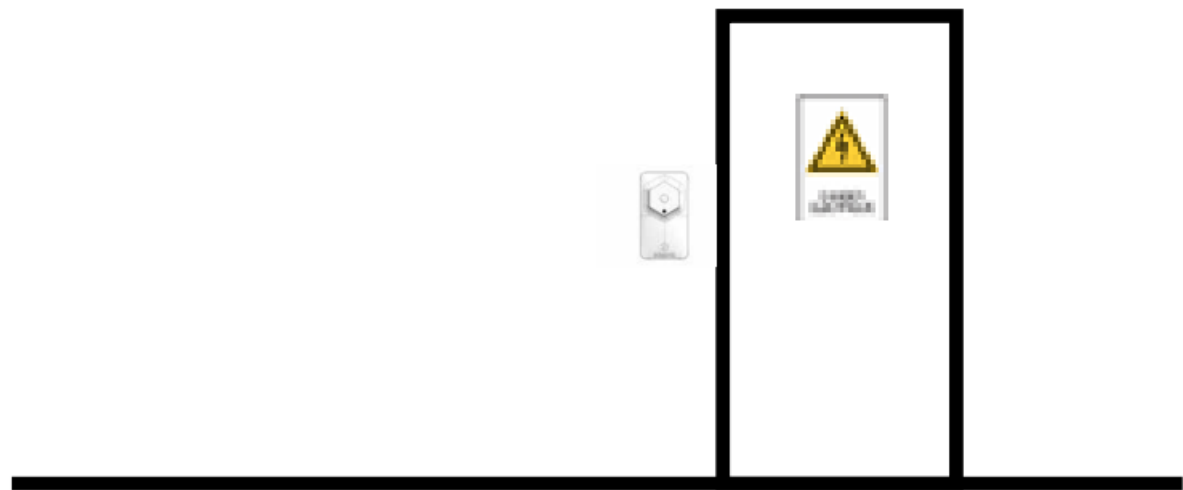
After this procedure the device will behave as during a first start.



E.g.:

The LoRaWAN SmartBuilding COMFORT device can easily be combined with a cabled door contact via the terminal block (Digital Input 2). Thus, positioned next to the door of a secure room under control, the device will be

able to send an alarm every time the door is opened/closed and thus enable the security manager or the building manager to verify compliance with the security requirements on the site.



DOCUMENT VERSIONS

Version	Content
V1.0.0	Creation
V1.0.1	Minor add-ons
V2.0.0	Change of APP and RTU Firmwares
V2.0.1	More information about the battery

EU Declaration of Conformity

WE

Adeunis

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04.76.92.01.62

www.adeunis.com

Declare that the DoC is issued under our sole responsibility and belongs to the following product:

Apparatus model/Product:

SB1 PRESENCE + LUMINOSITY LoRaWAN

Type:

ARF8276A

Object of the declaration:



The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Directive 2014/53/UE (RED)

The following harmonised standards and technical specifications have been applied:

Title:

Date of standard/specification

EN 300 220-2 V3.1.1

2017/02

EN 301 489-1 V2.1.1

2016/11

EN 301 489-3 V2.1.0

2016/09

EN 62368-1

2014

EN 62311

2008

July, 24th, 2018

Monnet Emmanuel, Certification Manager

Handwritten signature of Emmanuel Monnet in blue ink.

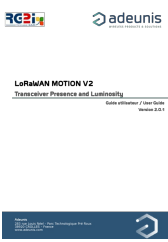
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Documents / Resources

	<p>adeunis LoRaWAN MOTION V2 Transceiver Presence and Luminosity [pdf] User Guide LoRaWAN MOTION V2 Transceiver Presence and Luminosity, LoRaWAN MOTION V2, Transceiver Presence and Luminosity, Transceiver</p>
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References

- [🔗 Spécialiste des solutions & capteurs connectés IoT | Adeunis](#)
- [🔗 MOTION: IoT brightness and presence sensor | Adeunis](#)
- [🔗 Optimize your industrial processes with IoT | Adeunis](#)
- [🔗 MOTION : capteur de luminosité et de présence IoT | Adeunis](#)
- [🔗 Les réponses à vos questions sur les produits Adeunis](#)