SENS

MANUAL

FEDERAL COMMUNICATION COMMISSION INTERFERENCE STATEMENT

FCC Part 15

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio technician for help.

FCC Caution

This equipment must be installed and operated in accordance with provided instructions and a minimum 20 cm spacing must be provided between computer mounted antenna and person's body (excluding extremities of hands, wrist and feet) during wireless modes of operation.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.

Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The equipment version marketed in US is restricted to usage of the channels 1-11 only.

Industry Canada License

This device complies with **Industry Canada license**-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This equipment complies with the safety requirements for RF exposure in accordance with RSS-102 §2.5.2. This equipment must be installed and operated in accordance with the provided instructions and a minimum 20 cm spacing must be provided between the antenna and any person's body during wireless modes of operation.

(i) The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Industry Canada License

Cet appareil est conforme à Industrie Canada exempts de licence standard RSS (s). Le fonctionnement est soumis aux deux conditions suivantes:

(1) Cet appareil ne doit pas pouvoir provoquer d'interférences et (2) cet appareil doit tolérer toute interférence, y compris les interférences qui pourraient causer un mauvais fonctionnement de l'appareil.

Cet équipement est conforme aux exigences de sécurité en matière d'exposition RF conformément à la RSS-102 §2.5.2. Cet équipement doit être installé et utilisé conformément aux instructions fournies et un espacement minimal de 20 cm doit être prévu entre l'antenne et le corps de toute personne pendant les modes de fonctionnement sans fil.

(i) L'appareil prévu pour une utilisation dans la bande 5150-5250 MHz doit uniquement être utilisé en intérieur afin de réduire les risques d'interférences potentiellement nuisibles aux systèmes mobiles par satellite;

Les utilisateurs doivent également être conscient que les radars à haute puissance sont désignés comme utilisateurs principaux (à savoir utilisateurs prioritaires) des bandes 5250-5350 MHz et 5650 à 5.850 MHz et que ces radars pourraient provoquer des interférences et / ou endommager les périphériques LE-LAN.

R&TTE COMPLIANCE STATEMENT

This equipment complies with all the requirements of DIRECTIVE 1999/5/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of March 9, 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity (R&TTE).

The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) As of April 8, 2000.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

EU Countries Intended for Use

The ETSI version of this device is intended for home and office use in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

The ETSI version of this device is also authorized for use in EFTA member states: Iceland, Liechtenstein, Norway, and Switzerland.

EU Countries Not intended for use

None.

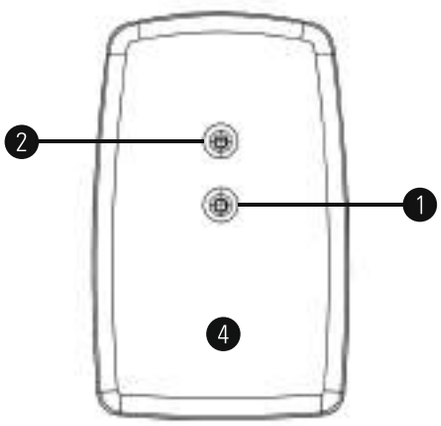
Declaration of conformity

Please go to www.senssolutions.se to find declaration of conformity

CONTENTS

OVERVIEW: SENSMITTER

CLIMATE



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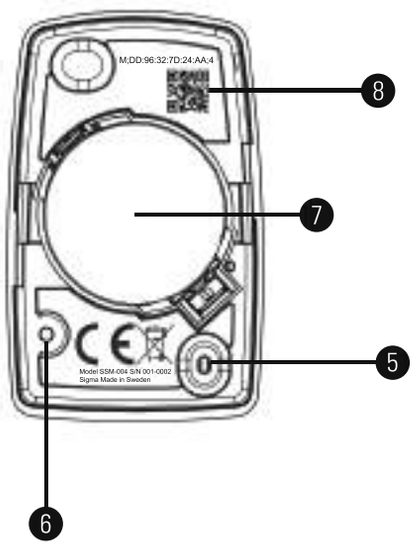
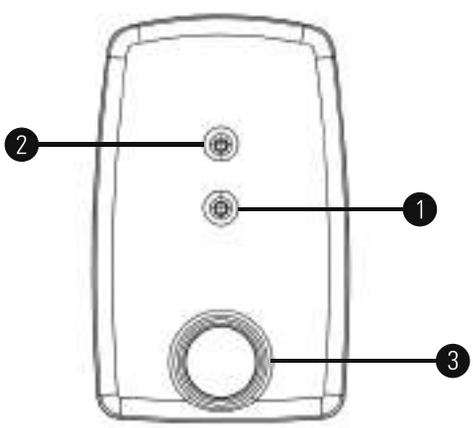


CONFERENCE



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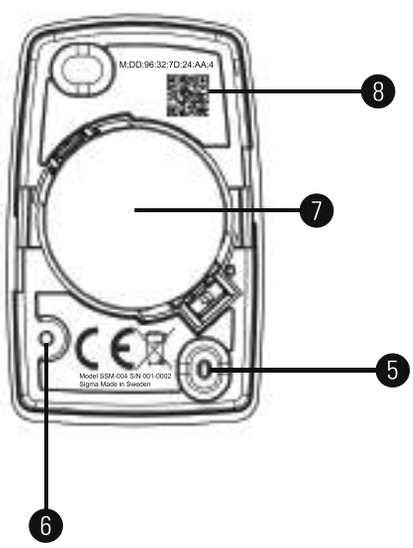
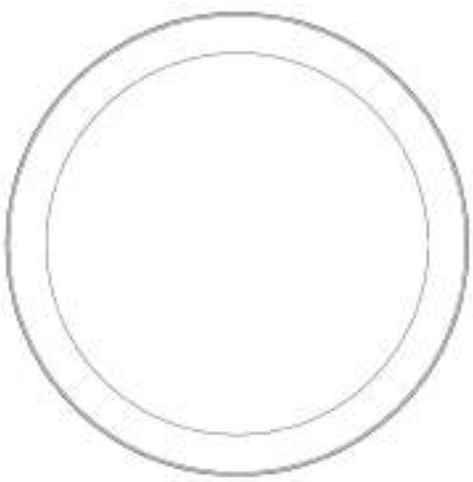


1	Light sensor
2	Temperature/Humidity sensor
3	PIR sensor
4	Air pressure sensor
5	LED
6	Reset button
7	Battery/ Battery holder
8	QR code

OVERVIEW: SENSGATE

FRONT



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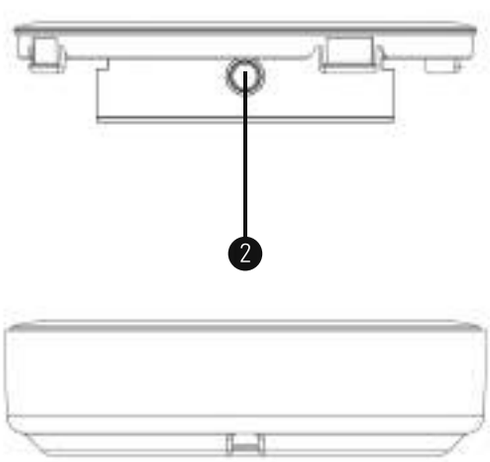
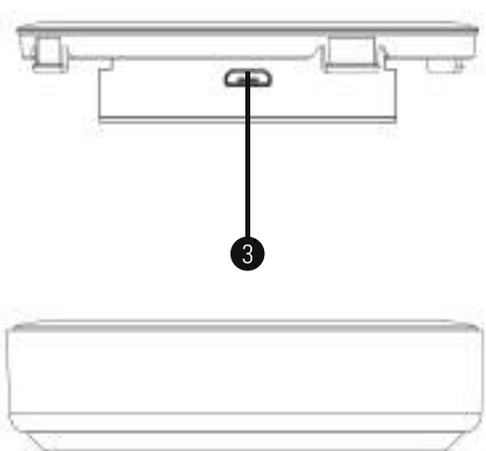




1	QR code
2	Power button
3	Mirco usb power outlet

OVERVIEW: SENSGATE LED LAMPS

SENSGATE DEPLOY FLOW:

1. Bluetooth LED lamp starts blinking BLUE and is ready for connection to receive registration ticket
   Error state : Bluetooth LED lamp starts blinking RED if the hub detects any error when creating the connecting to the deloy app device

2. Bluetooth LED lamp is constantly BLUE. Connection between sensgate and deploy app device done OK.

3. Bluetooth LED lamp is GREEN (Registration ticket received OK through BT and validated OK)
   Error state: Verification of security token and registration ticket fails, Bluetooth LED turns RED

3.5: Wi-Fi LED lamp is BLUE when the sensgate tries to connect to WiFi

4. Wi-Fi LED lamp turns GREEN when the sensgate has created a WiFi connection
   Error state Wi-Fi LED lamp turns RED when there's an rror when connecting to WiFi (e.g. wrong key or not found the SSID, etc.) When there's a problem with inbox/outbox connection, the gateway lamp turns RED

5: Gateway lamp turns GREEN when the setup is OK

   Any change of state for any LED, times out after 8 seconds.

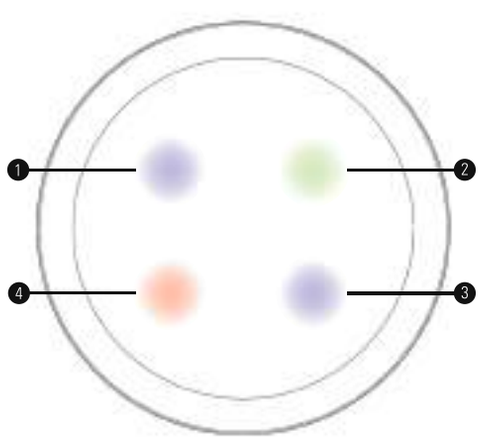
SENSMITTER DEPLOY FLOW:

1. The sensmitter registration LED lamp turns GREEN when the registration is OK
   Error state: If the registration doesn't go through, the sensmitter registration LED lamp will turn RED

TROUBLESHOOTING

1.Press the power button for 8 seconds in order to restart it. The LED lamps will turn red and shut down after some seconds. Restart process takes around 2-3 minutes before the sensgate is up and running again

2.To do a hard reboot, press the power button for approximately 15 seconds. The LED lamps will first turn BLUE and then RED, which initialize the reboot sequence. Restart process takes around 2-3 minutes before the sensgate is up and running again



1	Bluetooth LED lamp
2	Wi-Fi LED lamp
3	Gateway LED lamp
4	Sensmitter registration LED lamp

OVERVIEW: APPIOT

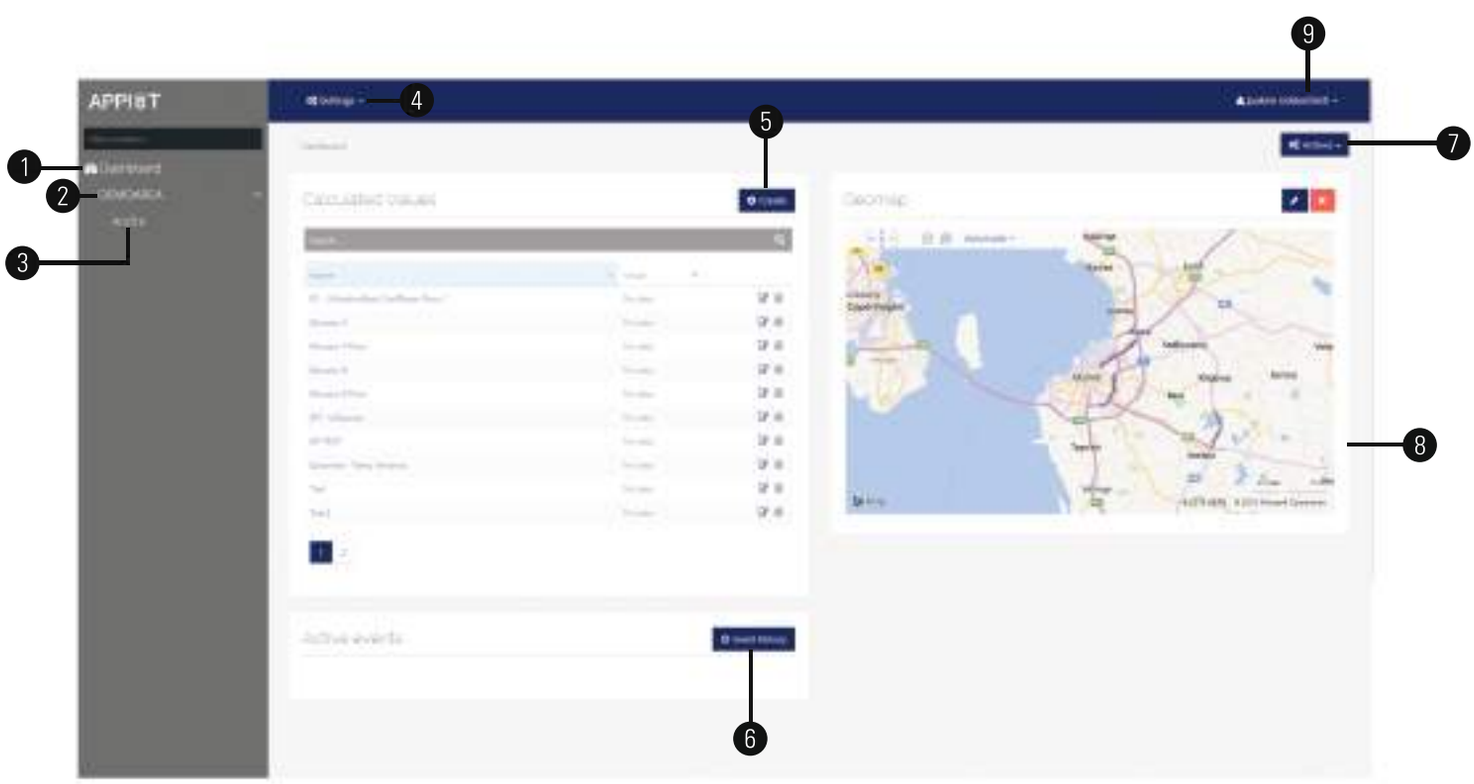
INTRODUCTION

AppIoT is the application that handles your network of sensors. With AppIoT you can analyze and process enormous amounts of data in real-time. The information is displayed in the user interface below and can be connected to maintenance systems and BI solutions.

INSTALLATION AND TEMPLATES

During the installation, templates are used in order to configure each individual sensmitter. When configuring a sensmitter, a configuration could be: how often it will report, and in which range of values that it report. For example if we have a sensmitter that has a temperature sensor, this sensmitter could then use a template called "indoor", which would enable the sensmitter to report the temperature once every hour.

In this way, the user simply select the template and does not have to worry about the underlying logic and settings. These templates can also specify what rules to apply. It's possible to have a rule that says that if the indoor temperature exceeds 26 degrees Celsius, a work order is created. This means that an installation could be done in a couple of minutes if templates are used during the installation



1	**Dashboard** Overview pane of all installations where the user can see active events, caluculated values and pinned graphs
2	**Location** Is the geographical location of the installation. Here the user is able to set the name of the location such as home or office
3	**Sub-location** Is the sub-location to the main location. A sub-location could be floor 1 or area A
4	**Settings menu** Is where the user is able to set up/add locations, tags templates etc.
5	**Calculated values** Is the button which enables the user to add calculated values to locations and sensmitters
6	**Event history** Shows all events , such as triggers and alarms.
7	**Location map setting** Is where the user is able to pinpoit the location on a map and where they can add a floorplan to the location
8	**Location map** Shows the location of the system on a map
9	**User menu** Is the menu which alows the user to log out from AppIoT

GETTING STARTED

1. To get started with your SENS kit, you first need to download the SENS app from the Google play store.
2. Find the app by searching for SENS (made by Sigma AB)
3. Once the app is downloaded, begin by starting up the app by clicking the “SENS app” icon

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ADDING NEW WI-FI SETTINGS TO YOUR SENSGATE

In order to add new wi-fi settings to an already deployed sensgates, do the following:

1. Plug your sensgate to a wall outlet.

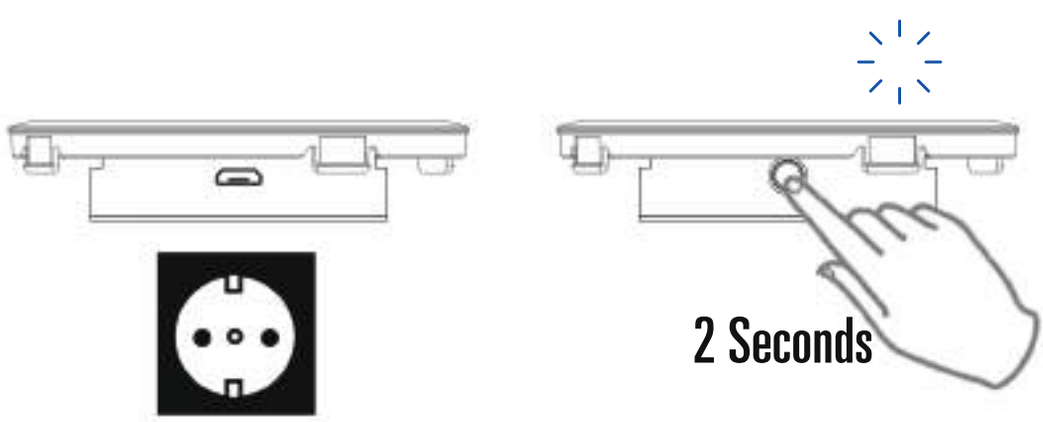
2. Press the sensgate button for 2 seconds, a blue LED should start blinking.

3. Press the 3 dots in the SENS app and press “settings”. Here you will be able to to add a Wi-Fi network to your SENS system.

4. Start by clicking the “add new network configuration” button. Here your have to enter the network configurations of the network that you want to connect to your SENS system.

Once this is done, prsss “Send to gateway” and scan the QR code of the sensgate.

*Note The sensgate should be installed in the celling in order to get best coverage and not used closer than 20 cm to the human body



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SETTING UP A SENS SYSTEM PART 1

In order to set-up your SENS system, you first have to add a Wi-Fi network to your SENS system.

1. Start up the SENS app by clicking the SENS icon.

2. Click the 3 dots in the top right corners to access settings.

3. Under settings you will be able to to add a Wi-Fi network to your SENS system.

4. Start by clicking the “add new network configuration” button. Here your have to enter the network configurations of the network that you want to connect to your SENS system

Once this is done, you can go back to the Login screen. Start by logging in with the given credentials found in the email. When this is done, you are able to set up your SENS system.

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SETTING UP A SENS SYSTEM PART 2

1. Start by adding a system location, which can be found under “settings”.

2. Once a location is added, you can add sensmitters and sensgates. Start by clicking the “Register gateway +” or “Register device” button.

3. Sscan the QR code of your device, which you can find on the backside of your device.

4. After the QR code has been scanned, you will be directed to the set-up page where you can configure your device. On this page you will be able to set templates (pre-configured settings),settings (your own custom made settings), floor plan, position and tags (used for analytics)

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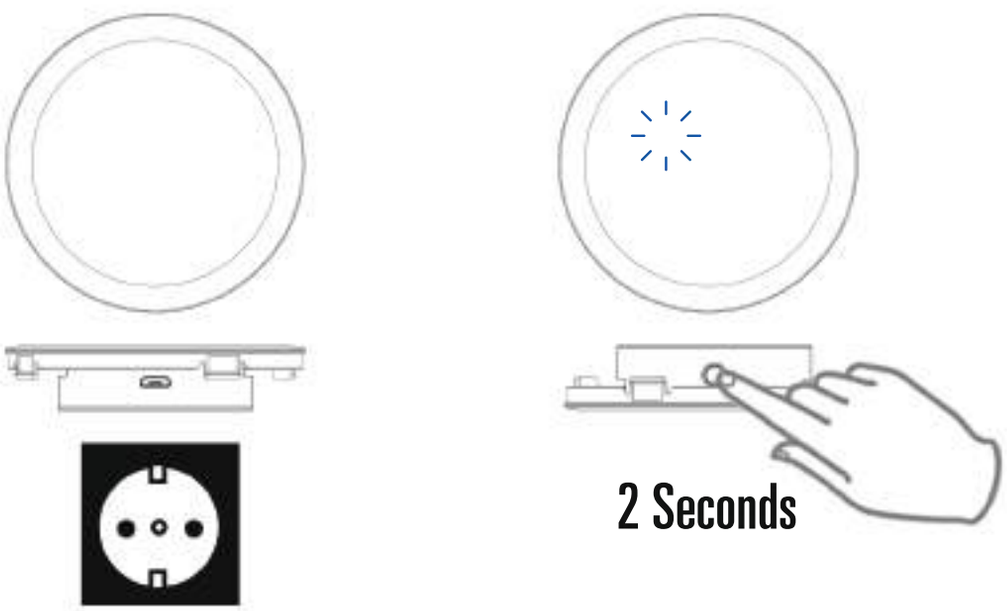
ADDING A SENSGATE TO YOUR SENS SYSTEM

1. Plug your sensgate into an outlet in order to turn on the device. Wait approx.1 minute to boot up the device

2. Press the power button for 2 seconds in order to put the sensgate in deploy mode. The Bluetooth LED lamp will start blinking BLUE (finformation about the different LED lamps can be found under “Overview: Sensgate LED lamps)

3. Start up the SENS app and choose the location where you want to add your sensgate.

4. Scan the QR code on the backside of the sensgate and finalize the setup buy configuring your sensgate with the settings that you desire



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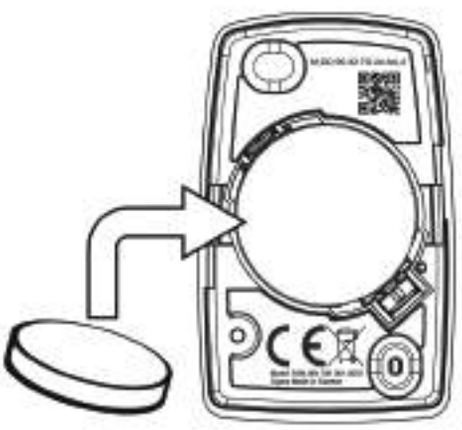
ADDING A SENSMITTER TO YOUR SENS SYSTEM

1. Power on your sensmitter by inserting a CR2450 coin-cell battery into the back of the sensmitter

2. The sensmitter LED will start blinking intensively with a green light to indicate that it is on and is ready to be added to your SENS system.

3. Add a sensmitter to your SENS system by locating your location in the meanue and press the "register a device" button under the devices section .

4. Scan the QR code of the sensmitter, which you can find on the backside of your sensmitter. After the QR code has been scanned, you will be directed to the sensmitter set-up page where you can configure your sensmit -ter.



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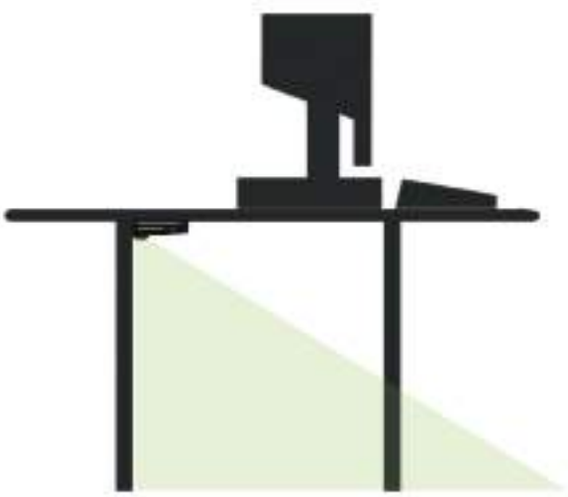
DESK OCCUPANCY INSTALLATION INSTRUCTIONS

1. In order to measure correctly, the desk occupancy sensmitter should be installed as shown in the picture below (top view of the sensmitter should be facing the edge of the desk)

2. The desk occupancy sensmitter should be placed in the center of the desk and approximately 60cm from the edge of the table (under the table as seen in the picture) and approximately 70cm above the floor to measure someone who is sitting (when standing, the height should be increased)

3. Under above circumstances, the desk occupancy will be able to detected presence with a 1,5m field of view (width)

4. Desk occupancy sensmitters will be able to detect if desks are occupied or not, whether you are standing or sitting



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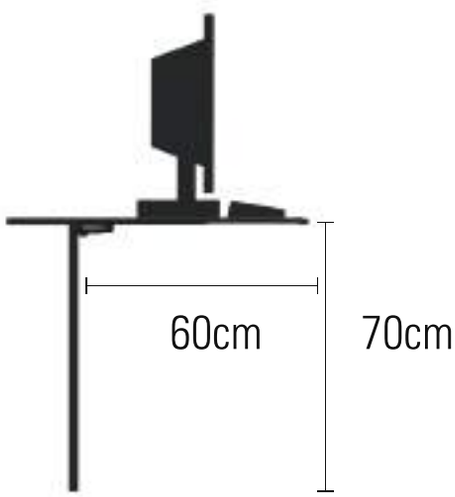

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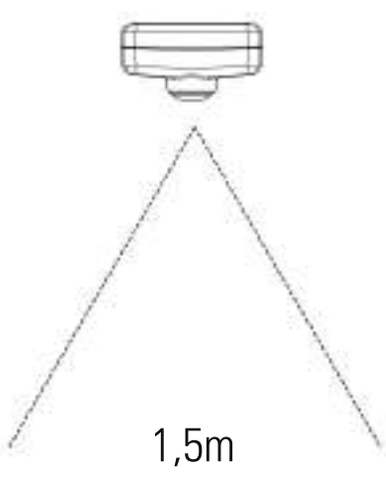

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