

i-sense®

Air quality monitor

User manual



**i-team Professional
b.v.**

Hoppenkuil 27b, 5626 DD Eindhoven, The
Netherlands





Original user manual, written in the English Language

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Model: i-sense®

Date: 15/09/2021

Product code: i-sense

Version: v.1.0



FASTER

The i-sense helps you to determine what rooms require more cleaning because they detect increased CO2 levels indicating more usage of a space. This allows you to focus on the right spaces and get the job done faster.



CLEANER

Using its CO2 sensor, the i-sense can help cleaning staff to focus on high contact and high occupancy spaces that require more detailed cleaning. This ensures a better clean due to more focus on important areas.



GREENER

i-sense helps to keep you informed of VOC levels. VOC levels can often be harmful to the environment. Having advance notice of high VOC levels can help you make adjustments for a greener space.



SAFER

The i-sense measures the quality of the air in a space. If there is poor or even dangerous air quality, i-sense will let you know. With this information you ensure that you can take steps to improve air quality and be notified if it changes.



BETTER FOR EVERYONE

The color LED lights on the i-sense units give you a visual indication of air quality without the need to look through data. This allows people entering into a space to immediately see the quality of the air and feel better about where they are.



Preface

Thank you for choosing i-sense, the device designed to monitor the quality of air. Air quality is a measure of how clean or polluted the air is. Monitoring air quality is important because clean air is safer and better for everyone. Probably the most common indicator is carbon dioxide (CO₂), produced by human breathing and emitted by appliances. Other indoor air quality indicators are humidity and volatile organic compounds (VOCs). VOCs are a group of chemicals that are often found in buildings. They may or may not give off a smell, like paint, air fresheners, cleaning products, cosmetics and many more. Also found in the air is a mixture of solid particles and liquid droplets called particulate matter (PM). Some PM particles, such as dust, dirt, soot, or smoke, are large enough to be seen. Others are so small they can only be detected using an electron microscope. The fine particles pose the greatest risk to our health.

The i-sense is easy to use when you follow the instructions. Please read the user manual carefully. Become familiar with the correct operation and maintenance procedures. Store the manual in a safe place. The manual is an essential part of the i-sense and must be handed over to the new owner upon resale or exchange. Each i-sense has a unique serial number that can be found on the bottom of the main body. Your i-partner needs this number when you order parts.

When this manual refers to “the manufacturer” this means: Future Cleaning Technologies B.V., an affiliate company of i-team Professional in Eindhoven, the Netherlands. When this manual mentions “the partner” your local i-team reseller and support service partner is referred to.

Purpose of the user manual

The purpose of the user manual is to provide the user with information during the life of the i-sense in such a way that the i-sense is used correctly, efficiently and safely, even in the event of reasonably foreseeable misuse.

The user manual contains instructions regarding:

- personal operator safety;
- intended and non-intended use of the i-sense;
- instructions for daily use;
- maintenance instructions;
- storage conditions;
- disposal of the i-sense.

These instructions must be considered to avoid risks that could lead to physical and/or material damage.



Target audience

This user manual is intended for operators of the i-sense and their supervisors, as well as partners and importers.

Operators of the i-sense

The i-sense may only be operated by a person who has correctly read and understood the instructions in this manual or is trained by an experienced operator who has read and understood the instructions in this manual.

Reading guide

The following symbols and terms are used throughout this manual to alert the reader to safety issues and important information:

Symbol	Term	Explanation
	WARNING	Indicates a hazardous situation which, if the safety instructions are not followed, can lead to injuries of the operator or bystanders, light and/or moderate damage to the product or the environment.
	CAUTION	Indicates a hazardous situation which, if the safety instructions are not followed, can lead to light and / or moderate damage to the product or the environment.
	BATTERIES	Indicates a battery-operated machine, batteries must be charged according to the instructions in the separate Class I Battery Charger user manual. Batteries must be disposed of according to your local laws and regulations.
	ATTENTION	Indicates a liability situation, where the manufacturer or its partners and affiliates cannot be held accountable for damages caused by non-compliance.



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1 Introduction

The i-sense® is an easy and safe device to use. This manual helps you get started and explains the operation and maintenance procedure.

The battery should be fully charged before use. You can do this by plugging the i-sense in to a wall socket or by charging the i-power 8.7 battery separately in a battery charger (not included). Please refer to your i-partner for more information on chargers.

This manual is intended for those who work with the i-sense and perform daily maintenance. The manual must be read in full before the first actions. This manual describes the correct method of use, safety measures, maintenance and transport.

i-team continuously improves all its products based on user experience and feedback. Any deviations between the texts and/or images from the manual and your product can therefore arise from a difference in model or from possible changes due to continuous development and innovation.

1.1 Intended use of the product

The i-sense is specially developed to monitor the quality of air, in civil and industrial environments. It is intended for use indoors and in a dry environment only. It is suitable for commercial use. For example: in hotels, schools, hospitals, factories, shops and offices.

1.2 Non-intended use of the product



WARNING

Non-intended use can have consequences for the safety of operators and bystanders and will void the warranty on the product.

The i-sense is not intended to modify your air quality, it only provides relevant data on the quality of air.

1.3 Lifespan

For a longer lifespan of the i-sense, clean it and check it for damage after each use.

1.4 Modifications

It is not permitted to make modifications to the design of the i-sense without consultation and permission from the manufacturer. This affects the warranty, see section 1.6.



1.5 Specifications

Model:	I-sense basic	I-sense plus	I-sense pro
Body size (L x W x H):	130 x 129 x 65 mm	145 x 130 x 145 mm	145 x 130 x 145 mm
Weight (excl. battery):	0.36 kg	0.91 kg	0.91 kg
Weight (incl. battery):	Not applicable	1.61 kg	1.61 kg
Power source:	5 V USB-C wall power	i-power 8.7 battery or 5 V USB-C wall power	i-power 8.7 battery or 5 V USB-C wall power
Battery spec i-power x:	Not applicable	14.4 V 8.7 Ah	14.4 V 8.7 Ah
Run time on battery:	Not applicable	≈ 85 hours	≈ 85 hours
Charger type:	Not applicable	External	External
USB-C charging (5 V 2 A) time :	≈ 200 hours	≈ 200 hours	≈ 200 hours
i-charge 5 time:	Not applicable	≈ 1 hour	≈ 1 hour
i-charge 7 time:	Not applicable	≈ 2 hours	≈ 2 hours
VOC measurement range and accuracy:	0 - 1000 ppb ± 75 ppb	0 - 1000 ppb ± 75 ppb	0 - 1000 ppb ± 75 ppb
PM measurement range and accuracy:	400 - 5000 ppm ± 100 ppm	400 - 5000 ppm ± 100 ppm	400 - 5000 ppm ± 100 ppm
CO ₂ measurement range and accuracy:	0 - 600 µg/m ³ ± 10%	0 - 600 µg/m ³ ± 10%	0 - 600 µg/m ³ ± 10%
Temperature measurement range and accuracy:	-45 - 125 °C ± 5 °C	-45 - 125 °C ± 5 °C	-45 - 125 °C ± 5 °C
Humidity measurement range and accuracy:	10 - 100 % ± 1 %	10 - 100 % ± 1 %	10 - 100 % ± 1 %

1.6 Warranty

The i-sense® should only be used as intended and described in this manual. Using the i-sense in any other way will void the manufacturer's warranty. The warranty period is 1 year.

1.7 Identification

Each i-sense® has a unique serial number that can be found on the bottom of the main body. Your i-team partner needs this number when you order parts.

Explanation type plate:



Product type: i-sense

Serial number:

Distributor:
i-team Professional
Hoppenkuil 27 b
NL-5626 DD Eindhoven

Figure 1

2 Description

The i-sense consists of:

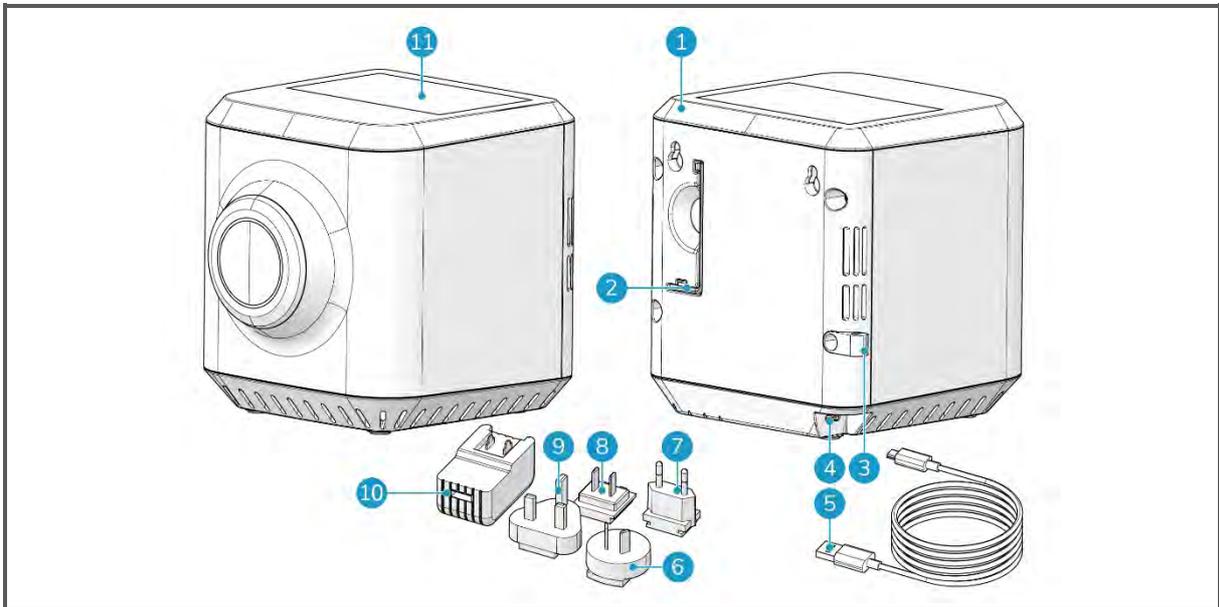


Figure 2

Legend

- | | |
|-------------------------|------------------------|
| 1. A main body | 6. An AP power adapter |
| 2. An Allen key | 7. An EU power adapter |
| 3. A cable relief clamp | 8. A US power adapter |
| 4. A USB-C port | 9. A UK power Adapter |
| 5. A USB Cable | 10. Main power adapter |
| | 11. LCD Screen |



2.1 Touch screen display

1. CO₂ button
2. TEMP/HUM button
3. SOUND button
4. Battery indicator
5. ON/OFF button
6. TIME button
7. RATE button
8. VOC button
9. PM button

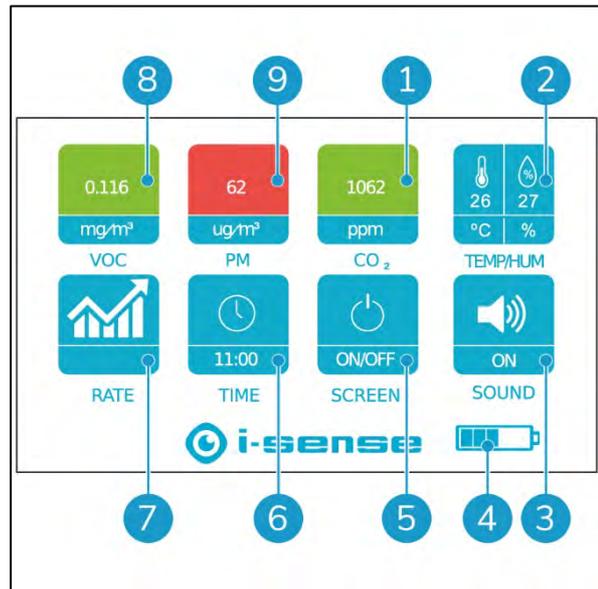


Figure 3

2.2 Explanation of display buttons

Button	Function	Technical details
VOC	Checking the chemical content in the air	mg/m ³
PM	Checking the dust particles in the air	µg/m ³
CO ₂	Checking the carbon dioxide in the air	ppm
TEMP/HUM	Checking the air temperature or humidity	°C/°F / %
RATE	Checking the history	
TIME	Updating the date/time	
SCREEN	Turning off the screen	
SOUND	Turning the sound ON or OFF	

2.3 Explanation of display color

Term	Green color	Yellow color	Red color
VOC (mg/m ³)	< 0.4	< 0.5	≥ 0.5
PM (µg/m ³)	< 10	< 15	≥ 15
CO ₂ (ppm)	< 1000	< 1500	≥ 1500

2.4 Explanation of device color

Device color	Number of green display color	Number of yellow display color	Number of red display color
Green	3	0	0
Green	2	1	0
Yellow	2	0	1
Yellow	1	2	0



Yellow	0	3	0
Red	1	1	1
Red	1	0	2
Red	0	2	1
Red	0	1	2
Red	0	0	3

3 Safety

Safety comes first. Therefore, please take time to read and understand these safety instructions. Improper use can cause harm or void the manufacturer's warranty.



WARNING

STOP OPERATION IMMEDIATELY if the i-sense® does not perform properly or makes an unusual noise. Service the i-sense before you continue the operation.



WARNING

DO NOT use the i-sense on damp or wet surfaces. This will cause damage to the i-sense and is dangerous to the user. The damage caused by the use on a wet surface is not covered under the warranty.

3.1 Battery (If applicable)

General precautions



CAUTION

- Always comply with the battery charger user manual.
- Before first time use you must fully charge the battery pack.
- Remove the battery pack from the charger when it is fully charged.
- Do not crush, pierce or damage in any way.
- Do not heat or incinerate.
- Do not short-circuit.
- Do not dismantle.
- Keep dry.
- Only charge between 5° C~40° C / 41° F~104° F.
- Only use between 5° C~45° C / 41° F~113° F.
- Storage temperature: -10°~40° C / 14° F~104° F, but battery pack must be brought to a temperature of at least 5° C / 41° F before being used.



Health hazards

WARNING

If exposed to any of the battery pack chemicals, please follow the procedures below:



Eyes - Flush the eyes with plenty of water for at least 15 minutes, holding the upper and lower eyelids open from time to time.

Inhalation - Leave the area in which the contact occurred immediately and seek fresh air. Use oxygen if available.

Ingestion - Give the person at least two glasses of milk or water. Induce vomiting if the patient is conscious. Seek medical attention.

- A damaged or leaking battery can cause chemical burns upon contact.
- Risk of battery chemical exposure only occurs if the battery pack is abused or damaged.
- Contact of electrolyte and lithium with skin and eyes should be avoided.

4 Transport and storage

- do not store the i-sense® outdoors;
- store the i-sense in a dry place;
- if applicable, remove the battery in case the i-sense is stored for a longer period. See section 5.4;
- if applicable, fully charge the battery before using the i-sense again, see User Manual of the i-charge® 5.



5 Assembly and installation

The i-sense® does not require assembly. The i-sense plus and i-sense pro can be used with an i-power® 8.7 battery, the battery is not included and needs to be installed in the i-sense.

5.1 Unboxing

The i-sense is packed in 1 box together with a USB cable and a wall plug.

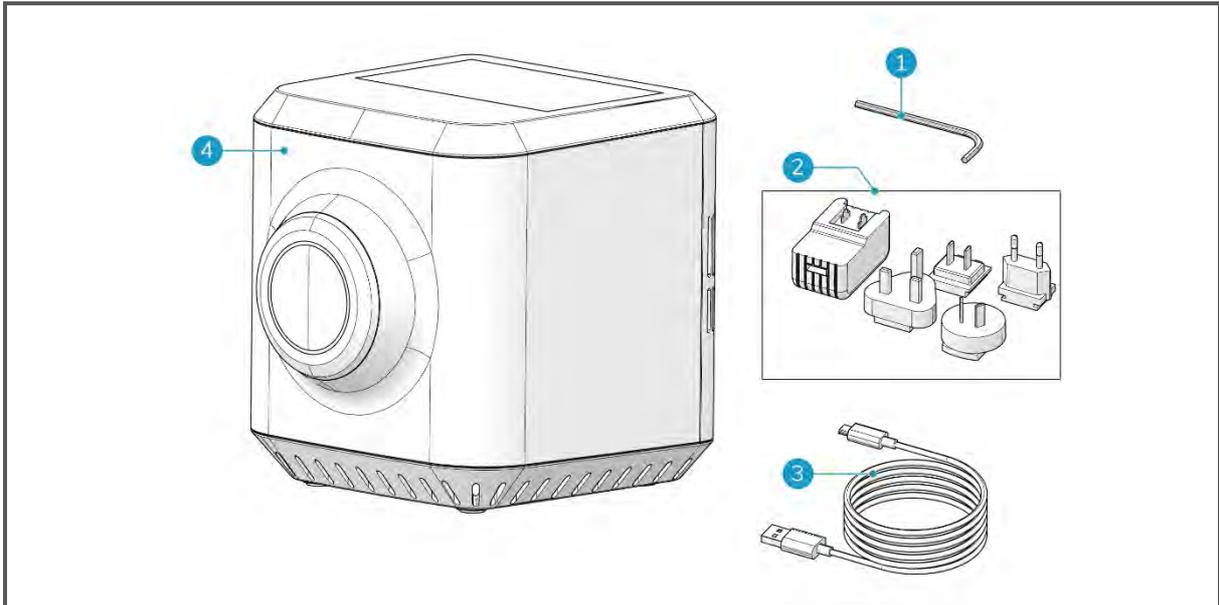


Figure 4

Legend

1. An Allen key (i-sense plus and pro)
2. A charger set
3. A USB cable
4. A main body

5.2 Assembly USB plug

1. Connect the USB charger (Figure 5, pos 2) to the USB cable (Figure 5, pos 1).

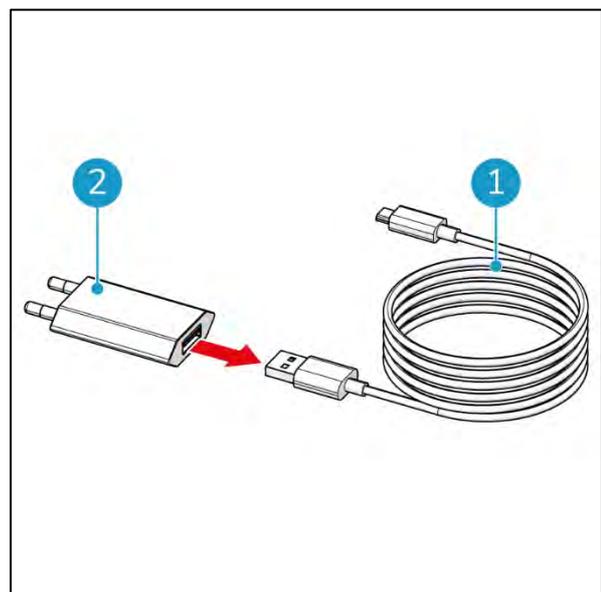


Figure 5



5.3 Installing the i-sense

1. Connect the USB cable to the USB port (Figure 6, pos 1).
2. Connect the charger to a wall socket (Figure 6, pos 2).
3. The display will show battery charging or USB (Figure 6, pos 3).

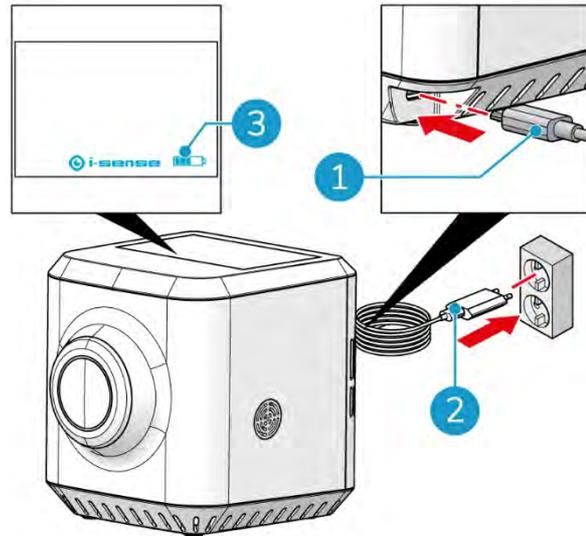


Figure 6

5.4 Inserting and removing the battery (Optional for i-sense plus and pro)



ATTENTION

Fully charge the battery the first time you load the i-sense.

1. Remove the four Allen screws (Figure 7, pos 3) using the Allen key (Figure 7, pos 5).
2. Remove backside (Figure 7., pos 4) of the i-sense.
3. Remove or insert the battery (Figure 7., pos 2) by pushing the yellow button (Figure 7, pos 1).

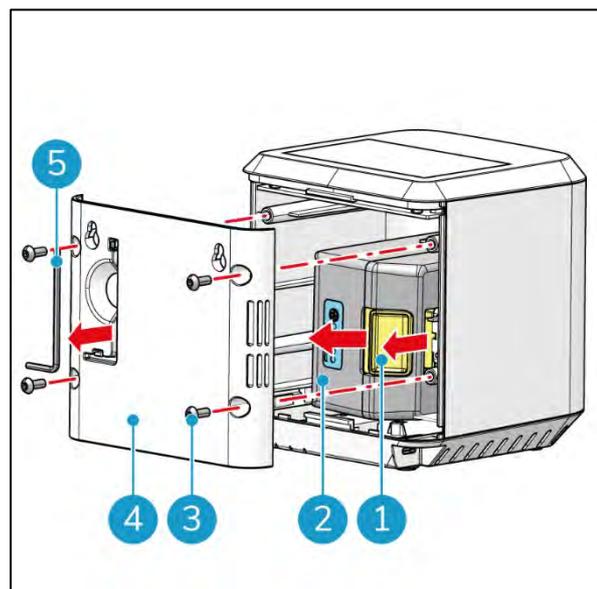


Figure 7



5.5 Adjusting/Replacing clock battery (i-sense plus and pro ONLY)

1. Remove the silicon ring around the clock.
2. Remove the Allen screw using the Allen key on the back of the i-sense.
3. Remove the clock from the i-sense.
4. Remove the plastic safety clip from the side of the clock
5. Use the side wheel to adjust the time.
6. To replace the battery, Open the back with a small flat screwdriver and replace the battery.
7. Replace the back cover
8. Replace the clock in the i-sense by taking off the Allen screw using the Allen key
9. Replace the silicon ring around the clock.

6 Operation

6.1 General navigation

1. With the previous button (Figure 8, pos 1) you can go to the previous day. Maximum up to 7 days.
2. With the next button (Figure 8, pos 2) you can go to the next day.
3. With the home button (Figure 8, pos 3) you can go to the main screen.

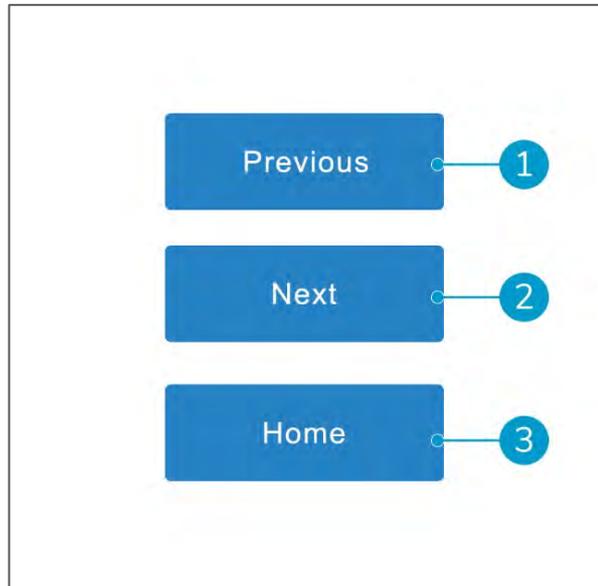


Figure 8



6.2 Turning on the i-sense

1. Touch the touchscreen on the top of the i-sense (Figure 9, pos 1) with your finger.
2. The Home screen lights up.

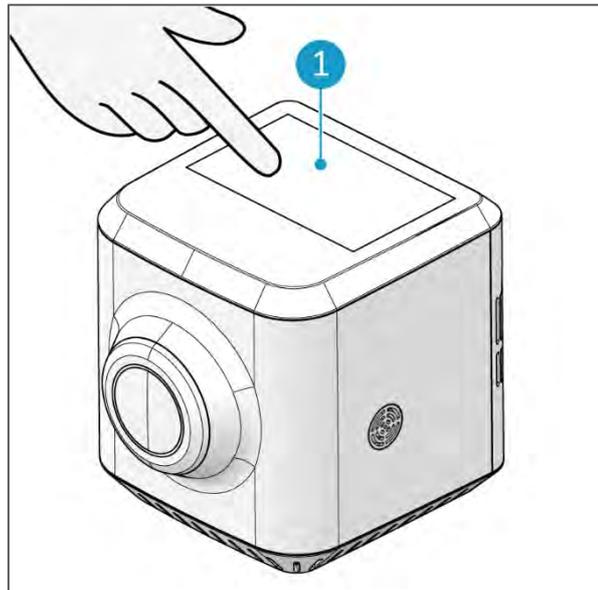


Figure 9

6.3 Checking the chemical content in the air

1. Touch the VOC button (Figure 10, pos 1) with your finger.
2. The VOC overview opens (Figure 11).

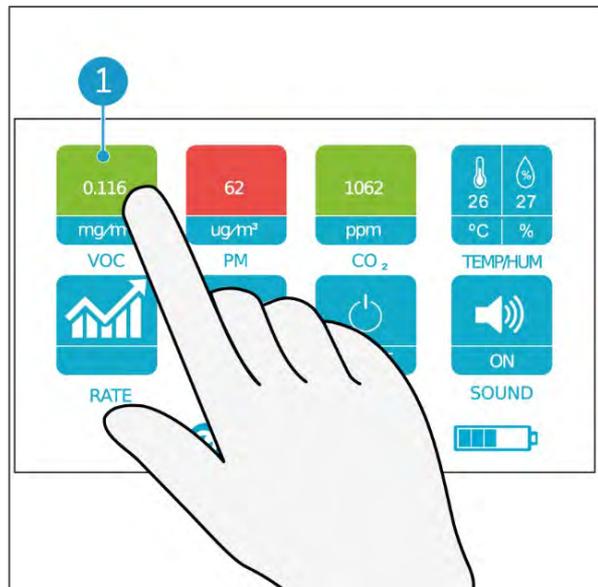


Figure 10

3. In this overview you can read the chemical content in the air during the last 24 hours.
4. Use the previous and next buttons to read the chemical content in the air of the past days. You can go back up to 5 days.
5. Touch the home button to go back to the main screen.

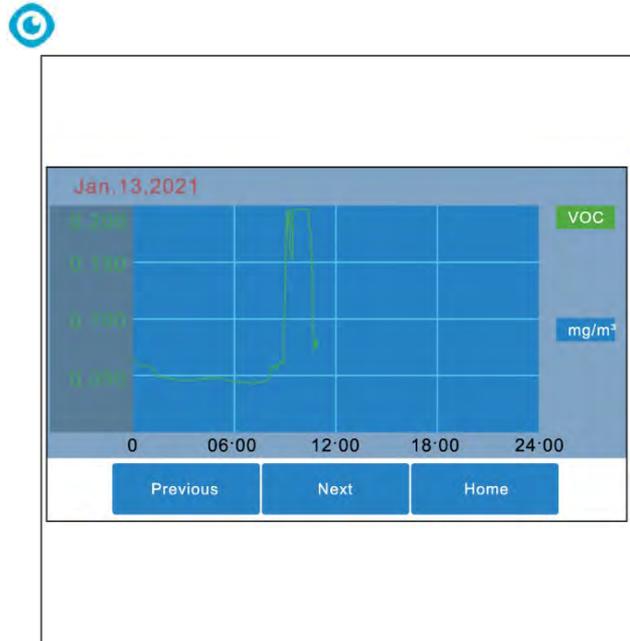


Figure 11

6.4 Checking the dust particles in the air

1. Touch the PM button (Figure 12, pos 1) with your finger.
2. The PM overview opens (Figure 13).

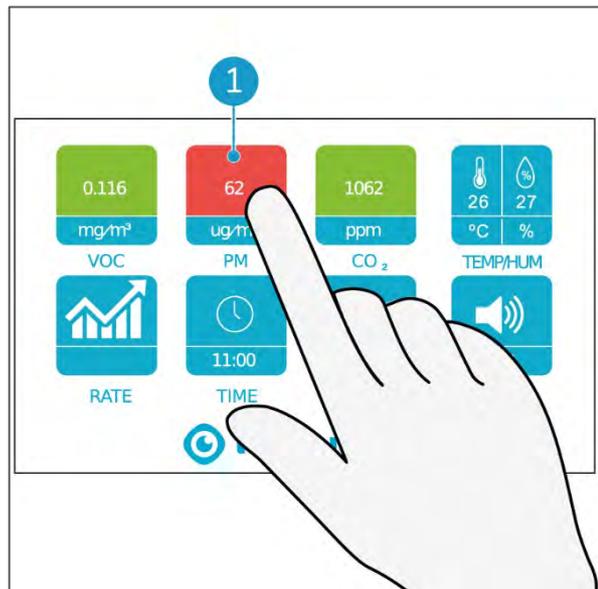


Figure 12

3. In this overview you can read the dust particles in the air during the last 24 hours.
4. Use the previous and next buttons to read the dust particles in the air of the past days. You can go back up to 5 days.
5. Touch the home button to go back to the main screen.



Figure 13

6.5 Checking the carbon dioxide levels

1. Touch the CO₂ button (Figure 14, pos 1) with your finger.
2. The CO₂ overview opens (Figure 15).

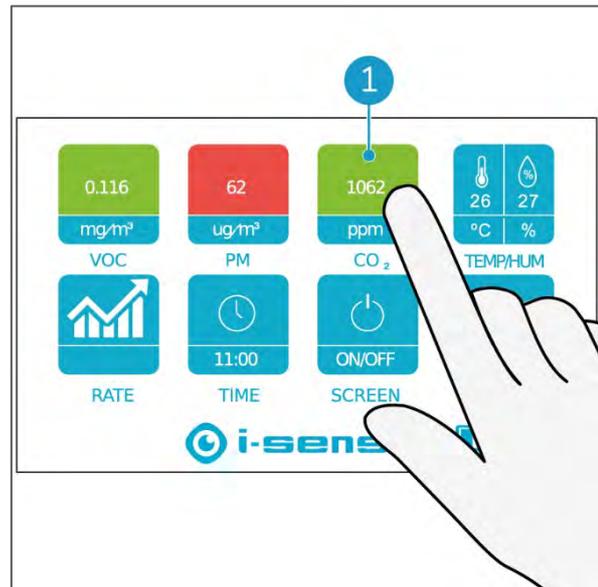


Figure 14

3. In this overview you can read the carbon dioxide levels during the last 24 hours.
4. Use the previous and next buttons to read the carbon dioxide levels in the air of the past days. You can go back up to 5 days.
5. Touch the home button to go back to the main screen.

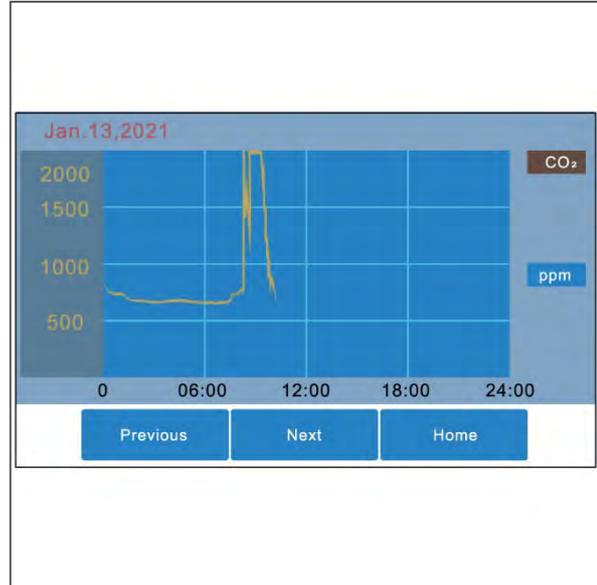


Figure 15

6.6 Checking the air temperature or humidity

1. Touch the TEMP/HUM button (Figure 16, pos 1) with your finger.
2. The TEMP/HUM overview opens (Figure 17).

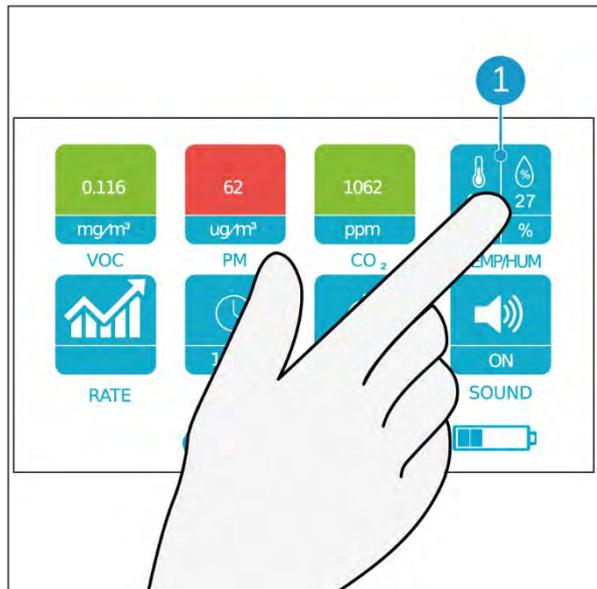


Figure 16

3. In this overview you can read the temperature and air humidity content during the last 24 hours.
4. Use the previous and next buttons to read the temperature and air humidity of the past days. You can go back up to 5 days.
5. Touch the home button to go back to the main screen.

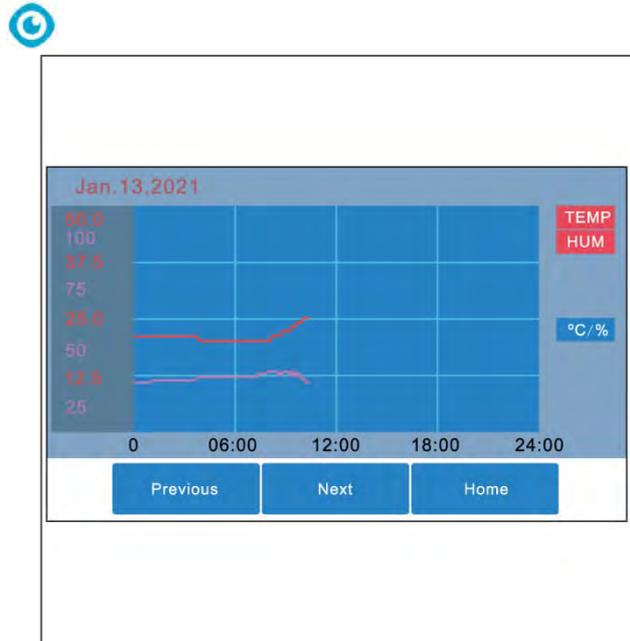


Figure 17

6.7 Checking the history

1. Touch the RATE button (Figure 18, pos 1) with your finger.
2. The history overview opens (Figure 19).

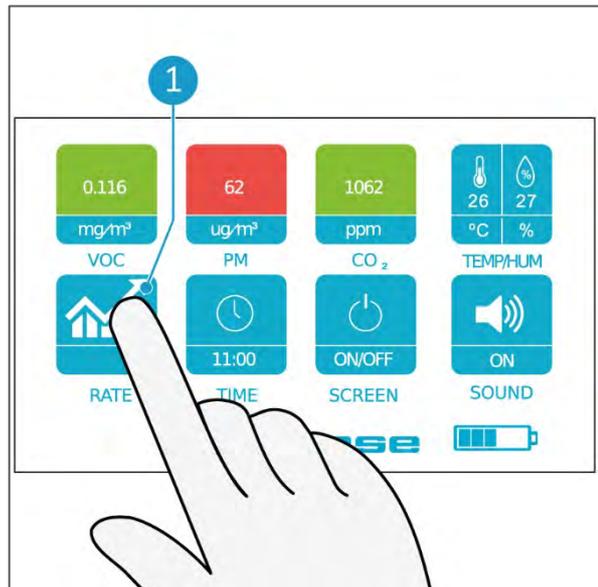


Figure 18

3. In this overview you can read the air freshness during the last 24 hours.
4. Use the previous button (Figure 19, pos 7) and next button (Figure 19, pos 1) to check the readings of the past days. You can go back up to 5 days.
5. Use the TEMP/HUM button (Figure 19, pos 3), CO₂ button (Figure 19, pos 4), PM button (Figure 19, pos 5) and VOC button (Figure 19, pos 6) to switch between
6. Touch the home button (Figure 19, pos 2) to go back to the main screen.

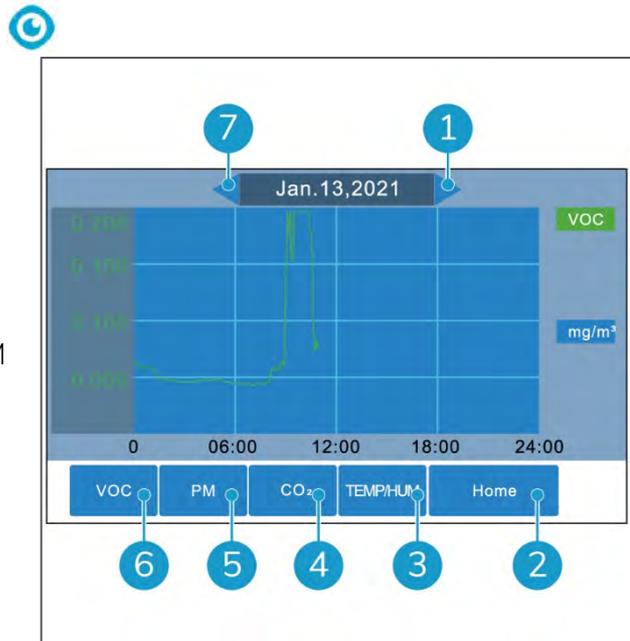


Figure 19



6.8 Checking and changing the date and time

1. Touch the TIME button (Figure 20, pos 1) with your finger.
2. The date and time overview opens (Figure 21).

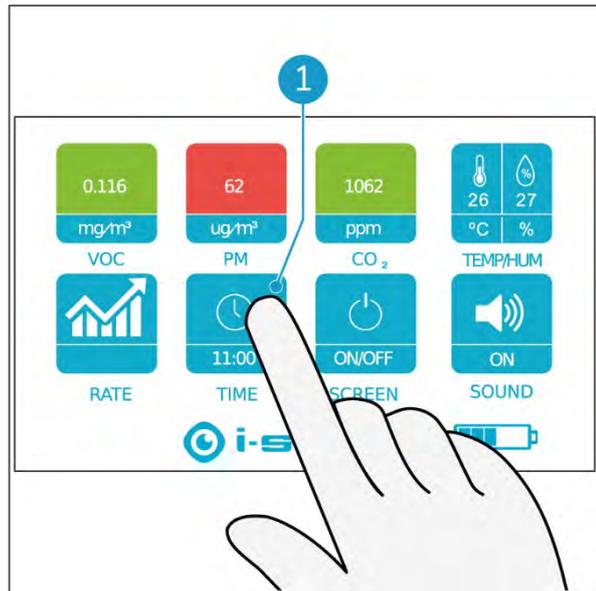


Figure 20

3. In this overview you can check the:
Time; touch the Time tab (Figure 21, pos 1);
Date; touch the Date tab (Figure 21, pos 6).
4. Use the plus buttons (Figure 21, pos 5) and minus buttons (Figure 21, pos 4) to adjust the date and time as needed.
5. Touch the set button (Figure 21, pos 3) to confirm the new date or time.
6. Touch the home button (Figure 21, pos 2) to go back to the main screen.

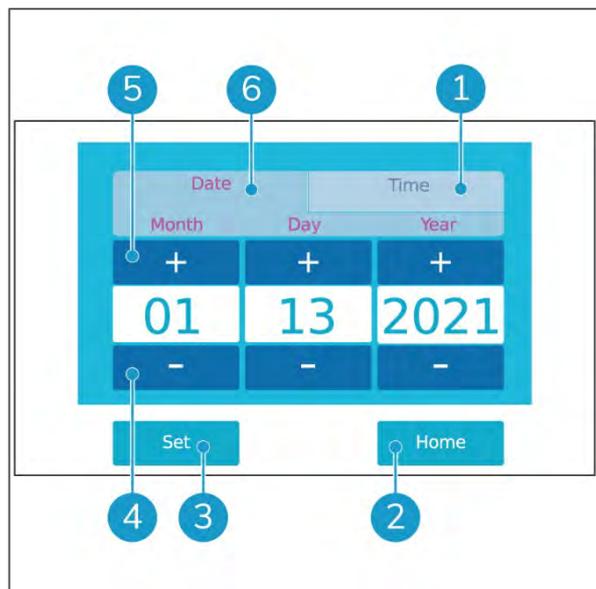


Figure 21



6.9 Turning off the screen

1. Touch the SCREEN button (Figure 22, pos 1) with your finger to turn off the screen.

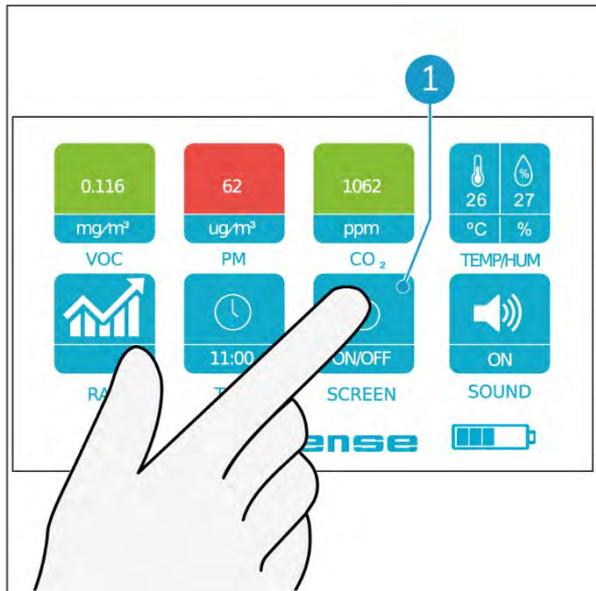


Figure 22

6.10 Turning the sound on or off

1. Touch the SOUND button (Figure 23, pos 1) with your finger to turn the sound on or off.

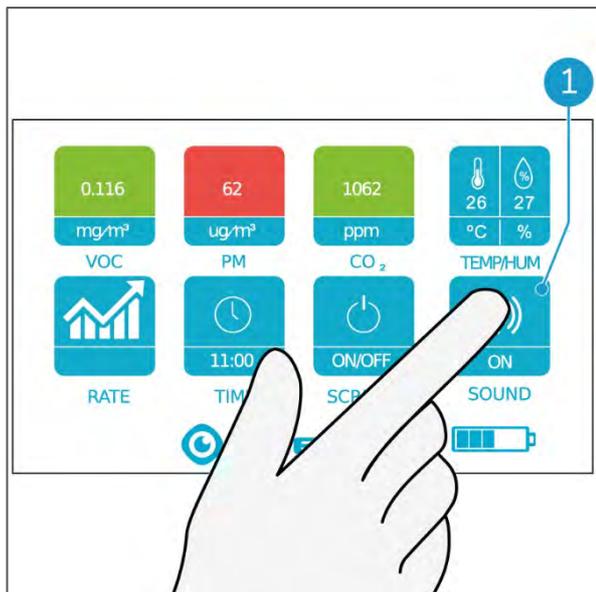


Figure 23

6.11 After operation

Turn of the screen of the i-sense. See section 6.9.



7 Maintenance



WARNING

Before you start maintenance or replacing parts; **Turn off the i-sense® and remove the battery (if applicable).**

The i-sense does not require much maintenance. However it is recommended to clean the machine after using it and before storing it.

For a proper functioning and a long lifespan of the i-sense, it is important to follow the recommended maintenance intervals mentioned in this manual.

Maintenance that is not described in this manual should be done by your i-sense partner. Please make sure to have the model and serial number of the i-sense available when you call a partner. For more information please fill out the contact form on www.i-teamglobal.com.

7.1 Cleaning

Clean the exterior of the machine using a slightly damp cloth.

7.2 Damaged or worn parts

Damaged or worn parts need to be replaced immediately. Contact your local i-team Global partner or visit www.i-teamglobal.com for more information.

7.3 Maintenance frequency

To ensure proper and safe operation throughout the life of the i-sense®, it is recommended to have an authorized i-team partner check the machine after the first 50 hours of use and then every 125 hours afterwards.

7.4 Storage

See section 4.



8 Trouble shooting

Problem	Cause	Solution
i-sense® does not work	No battery	Insert battery.
	Empty battery	Charge battery.
	ON/OFF switch off	Turn on ON/OFF switch.
Battery not charging	Battery is end of life	Replace battery.
	Battery charger is broken	Replace charger.
Sensors seem incorrect	Air flow is not good	Ensure side and bottom air vents are not blocked



9 Decommissioning and disposal



ATTENTION

It is the responsibility of the i-sense® owner to dispose of the product.

At the end-of-life the i-sense still contains valuable resources and needs to be disposed of according to your local laws and regulations regarding recycling of electrical equipment.



1. If applicable, remove the battery for separate disposal (see section 5.4).

TIP:

Alternatively, keep the battery for use in another piece of i-team equipment.

2. Remove all loose components.
3. Dispose of all items according to your local laws and regulations.

TIP:

Contact your local i-team partner to explore all possibilities of returning components at the end-of-life of your i-sense.



9.1 Specifications

Model:	I-sense basic	I-sense plus	I-sense pro
Body size (L x W x H):	130 x 129 x 65 mm	145 x 130 x 145 mm	145 x 130 x 145 mm
Weight (excl. battery):	0.36 kg	0.91 kg	0.91 kg
Weight (incl. battery):	Not applicable	1.61 kg	1.61 kg
Power source:	5 V USB-C wall power	i-power 8.7 battery or 5 V USB-C wall power	i-power 8.7 battery or 5 V USB-C wall power
Battery spec i-power x:	Not applicable	14.4 V 8.7 Ah	14.4 V 8.7 Ah
Run time on battery:	Not applicable	≈ 85 hours	≈ 85 hours
Charger type:	Not applicable	External	External
USB-C charging (5 V 2 A) time :	≈ 200 hours	≈ 200 hours	≈ 200 hours
i-charge 5 time:	Not applicable	≈ 1 hour	≈ 1 hour
i-charge 7 time:	Not applicable	≈ 2 hours	≈ 2 hours
VOC measurement range and accuracy:	0 - 1000 ppb ± 75 ppb	0 - 1000 ppb ± 75 ppb	0 - 1000 ppb ± 75 ppb
PM measurement range and accuracy:	400 - 5000 ppm ± 100 ppm	400 - 5000 ppm ± 100 ppm	400 - 5000 ppm ± 100 ppm
CO ₂ measurement range and accuracy:	0 - 600 µg/m ³ ± 10%	0 - 600 µg/m ³ ± 10%	0 - 600 µg/m ³ ± 10%
Temperature measurement range and accuracy:	-45 - 125 °C ± 5 °C	-45 - 125 °C ± 5 °C	-45 - 125 °C ± 5 °C
Humidity measurement range and accuracy:	10 - 100 % ± 1 %	10 - 100 % ± 1 %	10 - 100 % ± 1 %



The i-Story

It's not just about cleaning machines.

It's about the well-being of people and the planet.

We are stoked about cleaning, thrilled about sustainability and wholeheartedly dedicated to keep on innovating.

We believe effective cleaning is more than 'just' the removal of soil. It means ensuring the health and safety of people, while making the job easier, simpler, more efficient and even fun. It means consistent results all over the world, while protecting the world. And it means creating partnerships to grow our global force for better cleaning. After all, it takes a team.

The i-team.

Made Blue

By operating i-mops, your partners, clients and users lower the water footprint whilst contributing positively to the availability of water in the world. Every day an i-mop is turned on, Made Blue simultaneously ensures someone else on the planet gets access to clean water. For every litre that the i-mop uses in operations, the i-team and Made Blue mirror clean drinking water in a developing country. The planet is a beautiful place with over 7 billion people. Humans need water to live, breathe, and enjoy their lives. Worldwide 2,7 billion people suffer from a shortage of drinking water. For 780 million people this situation is permanent: each year 3,5 million people die because of this. That's why Made Blue invests in projects in developing countries. We are a proud partner of Made blue. Made Blue mirrors the water used by i-team to create clean water in developing countries. 1 litre for 1 litre.



MADE BLUE



Access to clean water for All.



Original user manual, written in the English Language

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Model: i-sense®

Date: 15/09/2021

Product code: i-sense

Version: v.1.0