1. GENERAL FAQs

1.1 How many SENSE devices can be linked to one account?

The Sense app allows to link 6 devices per account. It is possible to add multiple accounts but this slows down the app considerably and makes the interpretation of the data more difficult.

1.2 How do I add new devices to my app?

You can add new devices as follows:

- Go to the main screen and click on the 3 horizontal bars on the left.
- Click on 'My devices'.
- Click on 'Add device.' Here you click the product you want to add. You can make a selection between two Renson devices: WAVES and / or SENSE.

On your main screen you can navigate through your connected devices via the dropdown.
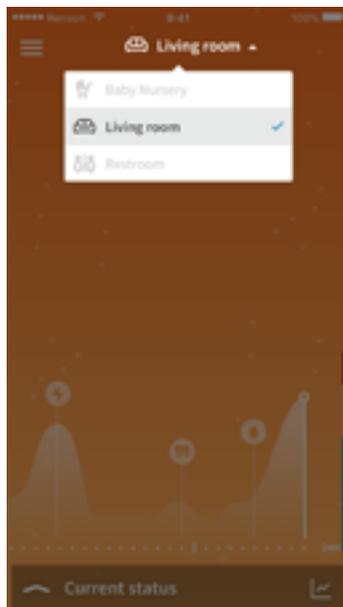
1.3 How do I add users to my device?

Once the device is linked to a user, it is possible to invite other users via the My-Lio web portal (https://user.my-lio.eu). In this way, you can add all users at once without them having to add the device again each time. This is done in the following way:

- Surf to: user.my-lio.eu (log in with the same info you used to register the devices)
- Click on the device you want to share with others
- Click on 'Invite users' at the top right
- Fill in the details and click on the check mark. You can then choose whether you want to add more people by clicking on '+ Add user'
- Click on 'Invite'

The added users will each receive an email with instructions. After downloading the Sense application the paired devices will be immediately visible.

1.4 How do I change the name of my device?

The device name can only be changed when you are on the same network with which the SENSE or WAVES device is connected.

Note: You cannot change the settings when you are connected with 4G!

- Go to the main screen and click on the 3 horizontal bars on the left.
- Click 'My Devices' and the device you want to rename.
- Then click on 'Installation details'. As soon as you click on the name, it can be changed.

As mentioned above, the name of a device can only be changed if both the device SENSE / WAVES and your smartphone are connected to the same network!

This also applies to the installation data. These will only be visible when both your devices and smartphone are connected to the same network.

1.5 How do you remove a device from your app?

- Go to the main screen and click on the 3 horizontal bars on the left.
- Click on "My devices" and on the device you want to disconnect.
- Then click on 'Disconnect device'.

You will then receive an email in your mailbox saying that you are no longer linked to the device in question.

2. FAQs SENSE

2.1 USAGE

2.1.1 What does the color and icon feedback mean on my SENSE?

CO$_2$

When the device is set as a CO$_2$ sensor only, the visual LED feedback only refers to the CO$_2$ content. Other sensors that are present in the device are still being measured and can be consulted in the SENSE App. No symbols are shown on the display (except for the cloud indicating CO$_2$) as the device is only set as a CO$_2$ meter. If the device turns red, that is solely caused by a too high CO$_2$ content.

- Blue LED ring: ≤ **800 ppm**
- Orange LED ring: **> 800 ppm & ≤ 1200 ppm**
- Red LED ring: **> 1200 ppm**

These limit values (800 and 1200 ppm) can be adjusted in the settings of the app.

This is a device-specific setting and must therefore be done on each individual device in case several devices are linked to 1 account.

Comfort Index

All sensors are shown on the display when detected: CO$_2$, VOC, relative humidity, temperature, light and sound. These sensors translate into symbols and thus indicate what is causing the lack of comfort/indoor air quality. This is based on a general calculation of the Comfort Index.

- Blue LED ring: **Good Comfort Index**
- Orange LED ring: **Average Comfort Index** due to e.g. relative humidity and VOCs
- Red LED ring: **Poor Comfort Index** due to e.g. temperature and CO$_2$

2.1.2 Does SENSE also remember data when the device is not connected to a network?

No, the device must be connected to a Wi-Fi network. In addition, the plug of your SENSE should always be plugged in.

2.1.3 Is there a dashboard or app to view all the information?

There is an app available that you can download and on which you can consult all the data of your SENSE. To be able to view it, it is important that your device is connected to a Wi-Fi network and that your device is plugged in. Only use the cable supplied with the product for this purpose.

2.1.4 Is it possible to view data over a longer period of time?

The exact data and history are visible in the app over a period of 7 days.

2.1.5 Do I have to change my network setting every time I move the device?

No, SENSE will remember the login data of the linked network. As soon as the power is restored, it will automatically search for its known network. Of course, it is important that the device is in a place where this network has sufficient range. If not, it will not be possible to complete the connection. If the range is sufficient, the device will connect automatically.

2.1.6 Update SENSE firmware / OS software

Software updates are carried out automatically when your SENSE is connected to the network.

After the software update you do not need to reconnect. No data is lost.

2.1.7   Am I an End User or Professional Installer and what is the difference?

End user = everyone who uses the device and data

Professional installer = someone who only installs the devices and will not be able to read/use data. This is usually an external party.

2.1.8   How do I manually enter the SENSE Wi-Fi menu?

Activate SENSE by touching the device with your full hand for 1 second. This can result in the three possible colors (blue, orange or red), whether or not combined with one or more icons:

Press the bottom arrow:

In this menu, the LED ring will light up purple and 4 arrows will be displayed. Use the top arrow when you want to install your device via WPS. Use the bottom arrow if you want to reset the Wi-Fi.

Click on the top and bottom arrow simultaneously for 1 second to enter the Wi-Fi menu:

2.1.9 How can you reset the SENSE network?

This is done either via this button description or via an entire factory reset.

You do not have to remove the SENSE device from the app, but you have to go through the entire flow again to install the device.

For visual instructions go to
FAQs SENSE —> USAGE —> 2.1.8 How do I manually enter the SENSE Wi-Fi menu?

- Activate SENSE by touching the device with your full hand for 1 second. This can result in the three possible colors (blue, orange or red), whether or not combined with one or more icons.
- Press the bottom arrow
- Click on the top and bottom arrow simultaneously for 1 second to enter the Wi-Fi menu
- In this menu, the LED ring lights up in purple.
- Then press and hold the bottom arrow for 5 seconds. This will cause the previously network be deleted.

2.1.10 Can SENSE also be used on an iPad?

Your SENSE device can be connected to a computer or iPad in order to establish the link to the Wi-Fi network. However, there are no visualisations visible as in the app. The existing application can be installed on a tablet. However, this will not be as visually attractive as on a smartphone.

2.1.11 How do I get more information about the sensors in the app?

When you click on 'current status' in the app, you can therefore press the icon itself (eg VOC icon). More information is released about the sensor and its thresholds.

2.2 SET-UP AND CONFIGURATION

2.2.1 How do you activate and change the CO_2 limit values in the app?

When you click on 'Only to be used as CO_2 sensor' as shown on the screen below, you will get access to the values and you can set them as desired.

2.2.2 What does a spinning blue LED ring with illuminated icons and arrows mean?

This feedback indicates the start-up of the device. It will be visible during the first use or occurs as a result of a power failure (whether deliberate or not).

After this feedback, your SENSE device will be operational again without loss of settings. This behaviour will end after 3 full turns. If after start-up you actively (by passing your hand over the device) request LED feedback within 30 seconds, it will not be shown yet. After 30 seconds it will be again available.

2.2.3 A Wi-Fi icon is visible in combination with a blue fill-up effect in the LED ring. What is happening?

This feedback indicates an update. As soon as the update is complete, a green LED ring will be shown. After this SENSE will automatically be operational again. The settings are kept.
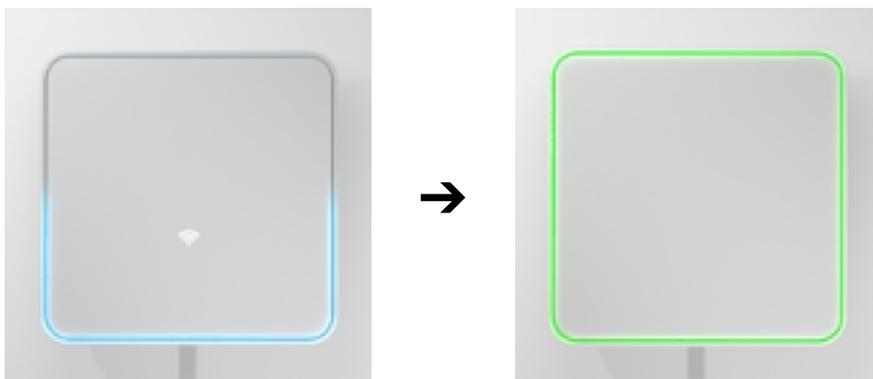
2.2.4 Is my SENSE connected to the network? How can I check this without using the app?

For visual instructions go to
FAQs SENSE → USAGE → 2.1.8 How do I manually enter the SENSE Wi-Fi menu?

- Activate SENSE by touching the device with your full hand for 1 second. This can result in the three possible colors (blue, orange or red), whether or not combined with one or more icons.
- Press the bottom arrow
- Click on the top and bottom arrow simultaneously for 1 second to enter the Wi-Fi menu
- In this menu, the LED ring lights up in purple.

If the Wi-Fi icon lights up continuously, it means that there are saved credentials. This means that the device will immediately connects to the Wi-Fi network when it becomes available. In case the Wi-Fi router cannot send a signal, SENSE cannot connect to it.

If the Wi-Fi icon flashes, this is a sign that no Wi-Fi credentials have been stored and the device, in other words, cannot connect.

In the latter case, this must be reconfigured using the app.

2.2.5 How can I connect SENSE to the network (WPS) without using the app?

Plug in your SENSE. The device will broadcast its 'SENSE network' for 40 minutes.

For visual instructions go to
FAQs SENSE → USAGE → 2.1.8 How do I manually enter the SENSE Wi-Fi menu?

- Activate SENSE by touching the device with your full hand for 1 second. This can result in the three possible colors (blue, orange or red), whether or not combined with one or more icons.
- Press the bottom arrow
- Click on the top and bottom arrow simultaneously for 1 second to enter the Wi-Fi menu
- In this menu, the LED ring lights up in purple.
- Then click on the top arrow. The LED ring will light up white.
- Go to your Wi-Fi router and then press the WPS button here:
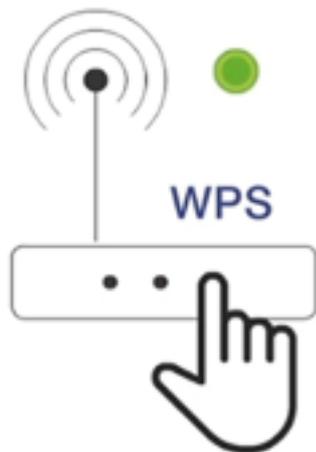
SENSE will then display a green LED ring if it has successfully received the WPS signal from the router.
If the signal was not found, you will see a red LED ring.

2.2.6 Can SENSE be linked to a 5GHz network?

No, this is not possible and will not be possible in the near future.
The network specifications for this device are: **802.11 b/g/n @2.4GHz**

2.2.7 Is it possible to use SENSE with a longer USB-C cable?

The included custom made USB-C cable is 1m50 long.

The longer the cable, the greater the loss and the lower the voltage that accrues to SENSE. There is a risk that the CO_2 sensor can no longer measure correctly. With a longer cable we can no longer guarantee optimal operation of the device.

2.2.8 Where do I best place my SENSE in a room?

- Place the device as centrally as possible in the monitored area.
- Place the device in the "breathing zone" for the most accurate measurements:
  - Between 70 centimeters and 1.8 meters from the ground *
 - For wall mounting, a height of 1.5 meters from the ground is ideal
- Do not place the device in direct sunlight
- Do not place the device on an outer wall, this wall is always colder. Is the exterior wall the only place for SENSE, place a wooden shelf behind the device.
- Do not place the device in hot or cold airflows

If the unit is placed on a height of less than 70 cm (such as a coffee table), the values will be slightly different. Please take this into account.

2.2.9 How do you activate and change the 'dark mode' on SENSE?

In the settings you can set the 'dark mode' of your device. Go to 'my settings', click on 'my devices' and then click on the device you wish to change. Under the visual set-up settings, this function can be activated. This function is especially useful when the device stands in the bedroom. You can personalize the intensity and time interval of your choice. So can you set the LED ring to light up less intensely. There are three functions that make it possible to personalize your choice:

- The slider allows you to turn dark mode on and off. When you slide the slider to the right and it turns blue, you are sure that the dark mode function is activated.
- When activating dark mode, you can also determine when the dark mode function should be off. By using the 'stop' and 'play' buttons, you can set the time. The 'stop' button means that dark mode will no longer be active at the set time. The 'play' button activates the dark mode from the time it is set.
- You can also determine the intensity of the LED feedback. The more you slide the slider to the right, the more intense the light from the LED feedback will be.
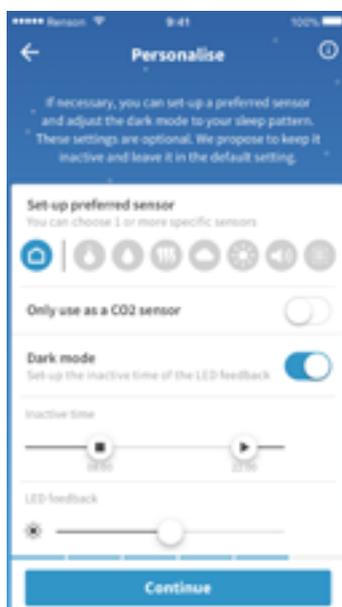
2.2.10 How do you change the time interval of the LED feedback?

By default, the time interval of the LED feedback of your device is set to 30 minutes. This means that every 30 minutes you receive visually a status update about your indoor air quality.

You can also personalize this via the visual settings. Via the slider you can choose to light up your device from a 3-minute time interval to a maximum of one hour.

If desired, the light intensity of the LED feedback can also be adjusted as desired.

2.2.11 Can I choose to set only 2 or 3 sensors of my choice for the LED feedback display?

If you do not want to use the global Renson comfort index, but only want to visualise 1 or more specific sensors on your on your devices, then this is also possible.

Go to visual settings. Click on the desired sensors. They will colour blue when selected.

This setting will only be imported on the LED feedback of the device itself. Therefore the colour of the device and the application will be different.

2.3 PROBLEMS DURING/AFTER INSTALLATION

2.3.1 SENSE cannot connect to the Wi-Fi network, now what?

One possible problem is a weak or lost Wi-Fi signal. Usually this is due to a too weak transmission power of a standard modem or router or because the space in which you installed SENSE is too far removed from that router. Obstacles such as concrete walls and thermal insulation with aluminium foil can negatively influence the signal.

If possible, change the location of your router. You can also turn the direction of the router antenna to the place where SENSE is installed.

Note: Not all routers have a movable antenna. Install a Wi-Fi repeater, also known as a range extender, to strengthen the Wi-Fi signal if the solutions above do not work.

2.3.2 What to do in case of connection problems with SENSE and your phone?

Check the following:
- Does the network meet the requirements prescribed by SENSE: 802.11 b/g/n @2.4GHz?
  If no, another network will be required.
- Is 4G off when the app searches for SENSE?
  If no, try again with 4G switched off.
- Is there a correct connection to the Sense's network (Acces Point = AP)? As soon as SENSE is plugged in, the device emits a signal for 40 minutes (AP). Check this with your Wi-Fi settings on your smartphone to see if it is connected to "SENSE_......"
  If not, try reconnecting to sense's network and go through the steps again.

2.3.3 My company network does not connect to my SENSE?

WPA2-Enterprise only to a limited extent possible.

Currently only PEAP-MSCHAPv2 and TTLS-MSCHAPv2 are supported.

Feel free to give us more details about the configuration of your network.

We use broadcast discovery for adding the device and viewing settings.

If this is blocked by default on your network, it may be possible to make an exception for your own smartphone. You can also add the device via its own Wi-Fi access point, which should always work.

2.3.4 My device is connected to the Enterprise network, but does not seem to be able to display data.

If it is certain that the device is connected to the correct network, the following things are possible reasons why the device does not connect to the server:
- The following setting in the network must be **OFF** to connect: BlockLAN to WLAN Multicast and Broadcast Data

2.3.5 My (highly secured) network does not accept automatically generated IP addresses. How can I get my device still online?

We currently do not support the setting of a static IP address on our devices. For IoT devices we recommend the use of a DHCP reservation.

A DHCP reservation is a preset IP address that is provided by a DHCP server based on the MAC address and is given to a device when it requests an IP address from a DHCP server.

2.3.6 What if my SENSE is stuck on an old software version?

When your Sense device crashes, you can use the factory reset button to restore the settings to the factory settings (CO_2 limits, preferred sensors, dark mode, …). In addition, the Wi-Fi network is forgotten.

Press the hard factory reset button on the side of the device for at least 10 seconds (see photo).

For this you will need a fine stick such as a paperclip

Make sure you press hard enough and long enough.

A red flashing LED ring will then appear when the factory reset button is released. When it becomes steady and green, the reset is complete.

2.3.7 My iOS device cannot find a local network?

With the latest version of iOS it is necessary to give permission to search on the local network. To check this on your device, go to 'settings', then to 'privacy policy' and click on 'local network'.

2.3.8 How come my customised name is not transferred to the My Lio online portal?

It is true that it is not synchronised. Ideally, the name of the device should be changed first in the app and then automatically updated on the online portal. We are working on this in the meantime, so soon it should not be a problem anymore.

2.3.9 How come my SENSE barely lights up?

The SENSE device now lights up every 30 minutes.

As soon as the device also detects other values in its sensor levels, they will also light up.

In the new app release of March 2021, you can shorten and/or enlarge this timeframe as you wish. Minimum time interval will be 3 minutes/maximum time interval will be 60 minutes.

2.3.10 How come my app background colour is not monochrome with the LED ring on my SENSE device?

In the app you can adjust the values of your sensors. For the time being in the current app, the explanation of the sensors and their treshold will be on 'fix'.

The adjustment of the tresholds and thus the colour indication according to your set values is only applicable on the SENSE device. In the dashboard of the app you will always get the feedback of the Comfort Index, not that of e.g. CO_2 only (if you would have adjusted this in the settings). and not

Attention: the data shown in the app can differ up to a maximum of 5 minutes from the feedback displayed on the SENSE device

2.4 FURTHER INFO ON SENSE

2.4.1 What do the icons mean?

Comfort Index

This is a general calculation of various measurements of the sensors, every 30 seconds. These work according to certain classes, and if a class exceeds its limit values it will result in a different colour. However, the three fixed colours remain: blue, orange and red.

Light

These aspects affects a person's well-being, but their use in the environment is also important. The right lightning is needed to carry out work tasks, to motivate us and, at the same time, to create a positive/creative atmosphere. Too much light intensity can also lead to eye fatigue and migraines, which in turn hinder our productivity and focus.

Sound

The intensity of sound and noise pollution affects our daily life and happiness. The sensor determines the sound level (in dB), which is not always audible to the human ear. In this way, acoustic comfort is guaranteed.

Temperature

Temperature affects more than just your comfort. It can also affect your performance, the quality of your sleep and the proper functioning of your immune system to fight off pathogens.

Relative humidity

The Relative Humidity is the ratio of moisture in the air. The RH can be both too low or too high. RH can affect the occurrence of respiratory infections and allergies, as well as the moisture content in the vicinity of thermal bridges (building).

VOC (Volatile Organic Compounds)

VOCs or volatile organic compounds are gases produced by aerosols, cleaning products, the emission of furniture, glue or other building materials. They can cause short- and long-term health problems.

CO_2

CO_2 is a substance that we exhale and that is used as a measure of air exchange indoors. The CO_2 content can quickly rise to unhealthy levels and can cause headaches, fatigue and difficulty concentrating.

2.4.2 Is SENSE a CO_2 measuring device?

Yes, but it is more than a CO_2 meter. SENSE has 5 other sensors besides CO_2.

You can choose how you want to use your device: exclusively as a CO_2 meter or as a Comfort monitor that also monitors other factors. The latter is the Comfort Index.

The SENSE display provides a colour feedback that prompts action. For example: screen colours red = action = extra ventilation. If you want to know the correct ppm value, you can consult the application.

It is not possible to read off the exact data on the device itself, but you can consult it in the app.

2.4.3 Can SENSE remove aerosols from the air?

No, the only link with these particles is the amount of CO_2 in the air. You can link this to an increased quantity of aerosols or not.

2.4.4   Where can I find a return policy?

You can find the policy at: https://www.renson.eu/nl-be/renson-sense-b2c.

2.4.5   Where can I find my warranty card?

Your invoice is your warranty card. The authorisation key is also your personal device number. It is important to keep this number.

The authorisation key is also your personal device number. It is important to keep this number. This is stated on the leaflet as well as on the device itself:

2.4.6   Can SENSE be purchased with batteries?

No, there is no version available that runs on batteries. Power via a USB-C cable is needed to guarantee the operation of all sensors.

You can always connect a power bank to it.

A small power bank of 1200mAh will guarantee smooth operation between 6 and 12 hours. A more powerful copy of 10000mAh can supply sufficient power for a day or 4 in normal operation.

2.4.7   How is the CO_2 sensor calibrated?

The CO_2 sensor is a self-calibrating sensor. Due to mechanical stress, assembly,… the CO_2 value at start-up can be too high. The sensor will adjust itself for the first time after 24 hours.

Below the explanation of the manufacturer:

"The sensor is shipped from the factory with empty ABC buffer. Following generic algorithm and default timing after the first startup the sensors will start saving data in the memory of ABC buffer every 4 hours. On the first 24th hour of continues operation the sensor will do first correction based on first 6 datapoints, after that the sensor will be increasing amount of data points until the ABC buffer is filled with the data."

It is important that the device is always connected and stays in power (at least the first week) otherwise it cannot keep itself in calibration.

2.4.8   What is the frequency of forwarding, for example, the CO_2 sensor data to the app?

This is 5 minutes for all sensors.