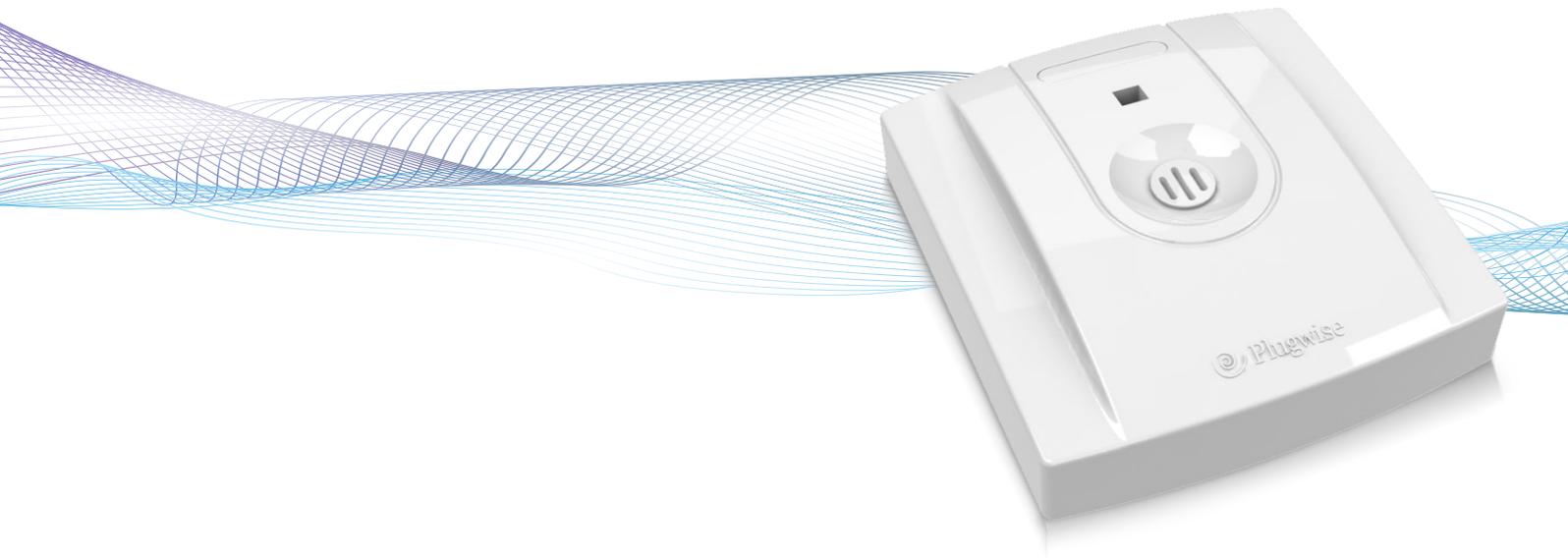




**Sense**

**Climate monitoring and management**

**Manual**



# Sense Manual

Thank you for buying this extension to your Plugwise system. With the Sense, you can wirelessly measure the temperature and air humidity in a room. In this way, you easily obtain insight into the climate in one or more rooms. The temperature sensor has a range of 0 to 60°C; the air-humidity sensor has a range of 5 to 95% RH. You can also link switch actions to certain measurement values. This does not require the computer to be left on.

This manual describes the installation of a single Sense, but the same steps can be followed if you want to install multiple Senses at the same time.

## Before you start

- We recommend that you follow this manual carefully; it is essential to take the steps in the correct order.
- To be able to use the Sense, you will require a Plugwise network consisting of at least a Stick or Stretch and a Circle+.

*A Plugwise network can never contain more Senses than 5 times the number of Circles. What this manual explains for the Circle also applies to the Stealth and the Sting, or a combination thereof.*

- Ensure that you use the latest version of Source and that your modules have the latest firmware version. You can check this by clicking the Updates button in Source. The Sense is only supported if all other modules have firmware version 2.36 (as of 13-05-2011) or later. If this is not yet the case, prior to the installation of the Sense, the other modules must first be updated. In Source, check whether the Stick and all of the modules are online.
- In Source, check whether the tick at the bottom left of the screen shows that the Stick is online: 
- In Source, check in the tree at 'Overviews' to see whether all devices are online. This is indicated by grey and yellow lights: 
- Only insert the battery when you start to use the Sense. A Sense uses a great deal more power if it is not connected to a Plugwise network.
- To use the Sense, it must be connected to a Plugwise network. The Sense can then be mounted on a wall. These steps are explained in more detail below.
- Check whether all components are present. If a component is missing, please contact us as soon as possible.

## Contents of the package

- Per Sense:



Mounting plate



Sense



1 3,6V AA battery



This manual

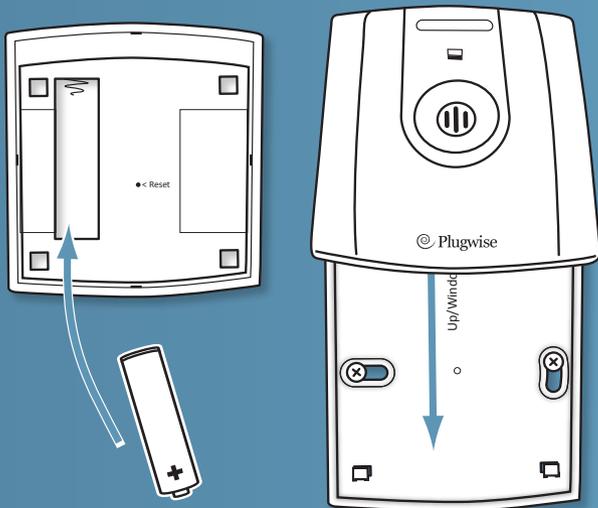
## 1. Adding the Sense to your Plugwise network

- ▶ Start Source and select Settings, Add Modules.
- ▶ When you are asked to select a network, select the network to which the Sense must be added.
- ▶ Fill in the ID of the Sense. This ID is indicated on the stickers that are attached to the back.
- ▶ Click the button with the green arrow:  Next, insert the AA battery in the Sense. Note the + and - marks.
- ▶ If you want to install multiple Senses, add the IDs for all of the Senses to the list. The Plugwise network will then search for the Senses with the new IDs in the list. Wait until Source indicates that the Sense is online. The circle with the question mark will then change into the following icon: 

*If the Sense is not found within several minutes, check whether the Plugwise network is operating correctly (refer to 'Before you start'). If the Stick and the other modules are available in Source and the Sense is still not shown as being online, follow the instructions to delete the network settings under 'Delete network settings', see: 'Advanced use'.*

- ▶ Click 'Next' and then 'Finish'.
- ▶ The Sense is now connected to your network.

## 2. Attaching the Sense to the wall



- ▶ Take the Sense to the location where it must be installed. This must be within 5 to 10 metres of a Circle.
- ▶ Check whether Source still indicates that the Sense is online. It can take several minutes for the network to process the new location of the Sense.
- ▶ Attach the Sense mounting plate to the wall. The Up/Window arrow on the inside of the mounting plate indicates the top. Ensure that the Plugwise logo on the front ends up in a horizontal position (see the corresponding figure). The optimal height of the Sense is 1.50 to 1.80 metres above the floor. In addition, the Sense must not be installed in direct sunlight, above a central heater and preferably not near a door or window. This can negatively impact the functioning of the Sense.
- ▶ When the mounting plate is attached to the wall, slide the Sense from above onto the plate until you feel the Sense click into place.

## 3. Use

### Communication in the network

The Sense contacts one of the Circles in your network. This Circle transmits the measurement data to the other Circles. If the Circle that the Sense tries to contact is unavailable, a connection will be made with another Circle. This can take several seconds.

The time interval between two transmissions of measurement data can be specified. As standard, the Sense is set to a transmission interval of 15 minutes.

The computer does not need to be switched on to be able to use the Sense.

### Switching and insight

The Sense can be set up to send switch commands if certain temperature or air-humidity values are exceeded: an On or Off command can be sent to appliances or lighting specified in advance within the Plugwise network. While doing so, the Sense does not take into account other switching actions in the network, such as those from the Plugwise Switch or Plugwise Source. As standard, switching actions from the Sense are switched off. It is not recommended to use the Sense as a thermostat.

An overview of the options for linking switching actions to the Sense in Source as well as other software functions is available in the latest Source manual. The manual is available at [www.plugwise.com/manuals](http://www.plugwise.com/manuals).

## Removing Sense

If the Sense will (temporarily) no longer be used, it can be removed from the Plugwise network.

- ▶ Start Source and go to Settings, Devices.
- ▶ The list of 'Non-assigned modules' is displayed to the right of the screen. Right-click the Sense and then click 'Delete'.
- ▶ The Sense will now be ignored by the network.
- ▶ To also physically remove the Sense from the ceiling, follow the steps as described in section 2, 'Attaching the Sense to the wall', in reverse order.
- ▶ **Note:** remove the battery. As long as the Sense is not assigned to a network, it will consume more power and the battery will drain more quickly.

## 4. Advanced use

### Connecting Sense to another network

After a Sense has been removed from a network (see the explanation above), it can be connected to another Plugwise system. To do this, follow the normal installation procedure.

### Restarting Sense

In case of problems, the Sense can be restarted. For this purpose, a reset button can be found on the back of the module, which can be activated by inserting a long, thin object such as a pin or a paperclip (not a pencil or mechanical pencil, which can break off) in the hole marked 'Reset'. When the LED light in the casing (on the front of the module) begins to flash, the Sense has restarted.

### Deleting network settings

You can also delete all of the settings saved on the Sense. As a result, the Sense will also forget its position in the network. To delete all of the settings, follow the instructions as described in the section 'Restarting Sense', but keep the reset button pressed until the rapid flashing of the LED light stops. This should take about 10 seconds.

### Firmware updates

When a new firmware version is available, the update can be downloaded and sent to the Sense. More information on firmware updates is provided in the Source manual. After you send the firmware update from Source, press the white wake button on the top of the front of the Sense. The Sense will then waken temporarily to receive and install the firmware update.

## 5. Technical details

### Specifications

Parameters	Min.	Nominal	Max.	Unit	Comments
<b>Environment</b>					
Operational	0 5		60 95	°C %RH	No condensation
Storage	10 20		50 60	°C %RH	No condensation
<b>Temperature measurement</b>					
Measurement range	0		60	°C	
Measurement accuracy	± 0.8		± 0.3	°C	Within a range of 0°C to 60°C
		± 0.6		°C	At 0°C
		± 0.3		°C	At 25°C
		± 0.8		°C	At 60°C
<b>Air humidity measurement</b>					
Measurement range	5		95	%RH	
Measurement accuracy	± 3.5		± 2.0	%RH	Within a range of 5%RH to 95%RH
		± 3.2		%RH	At 5%RH and at 95%RH
		± 2.2		%RH	Between 10%RH and 90%RH
<b>Power supply</b>					
Supply voltage	3.2	3.6	3.6	Vdc	A single 3.6V AA battery
Battery life	1	2		year	Based on 1 firmware update per year, a maintenance interval of 24 hours and 1 transmission of measurement data per 15 minutes
Power consumption			150	mW	
<b>Dimensions</b>					
		86 x 80 x 21		mm	Height x width x depth
<b>Memory</b>					
Storage capacity		512		kByte	Used for ZigBee firmware updates
Service life		100,000		Cycles	Programming/deleting
<b>ZigBee communicatie</b>					
Baud rate			250	kbps	O-QPSK
Frequency	2400			MHz	16 channels of the 2,4GHz ISM band
Bandwidth		2.0		MHz	5 MHz channel space
Reception sensitivity	-92	-97	-98	dBm	@ 1% per 20-byte packet
Transmission power	-32	3	5	dBm	

### LED

When the Sense sends data wirelessly via the Plugwise ZigBee protocol, a red LED light starts to flash in the casing.

## 6. Environment

Old electrical and electronic devices often contain valuable materials. Therefore, never dispose of discarded devices as normal household rubbish. Hand the device in to a local authority collection point for electrical and electronic devices.



Never throw batteries away with the household rubbish; instead hand them in at the special collection points.

## 7. Support and contact

A detailed Plugwise Source manual is displayed if you click the 'Help' button at the bottom of the screen. Our website contains a page of frequently asked questions:

**[www.plugwise.com](http://www.plugwise.com)**

If you still have questions, please contact us via the contact form on the support page on our website or via our service number. You can of course also contact us if components are missing. We would also be pleased to hear from you if you are happy with the delivered product.