Scan
Presence detection
Manual

Scan Manual

Thank you for buying this extension to your Plugwise system. The Scan enables you to detect people's presence by means of an IR sensor and to switch appliances and lighting on and off when people are or are not present in a room. The wireless Scan is battery operated and communicates measurement data by means of the Plugwise ZigBee protocol. This does not require the computer to be left on. The Scan also has a 'daylight override' option to switch lights off automatically if the ambient light intensity is above a specified value for a certain period (the override option is switched off as standard).

This manual describes the installation of a single Scan, but the same steps can be followed if you want to install multiple Scans 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 Scan, you will require a Plugwise network consisting of at least a Stick or Stretch and a Circle+.

A Plugwise network can never contain more Scans 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 Scan 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 Scan, 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 Scan. A Scan uses a great deal more power if it is not connected to a Plugwise network.

• To use the Scan, it must be connected to a Plugwise network. Finally, the Scan must be mounted on the ceiling. 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.
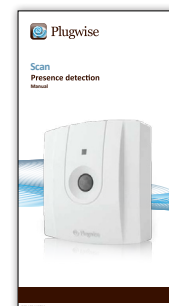
Contents of the package

• Per Scan:

Mounting plate

Scan

1 3,6V AA battery

This manual

1. Adding the Scan to your Plugwise network

‣ Adding the Scan to your Plugwise network.

When you are asked to select a network, select the network to which the Scan must be added.

‣ Fill in the ID of the Scan. 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 Scan, making note of the + and – marks.

‣ If you want to install multiple Scans, you can add the IDs for all of the Scans to the list. The Plugwise network will then search for the Scans with the new IDs in the list. Wait until Source indicates that the Scan is online. The circle with the question mark will then change into the following icon:

If the Scan 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 Scan is still not shown as being online, follow the instructions to delete the network settings under 'Delete network settings', see: 'Advanced use'.
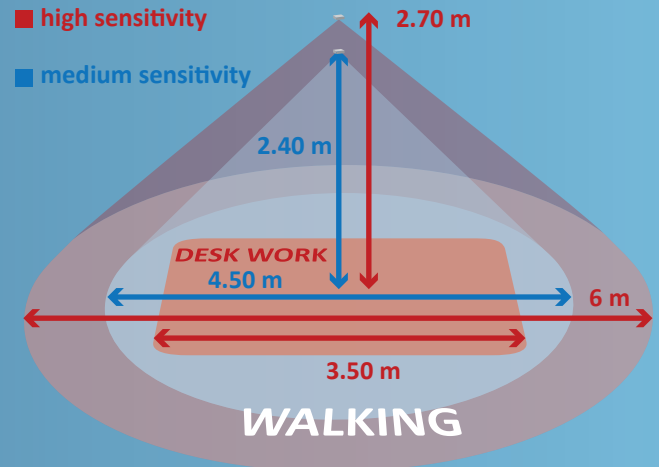
‣ Click 'Next' and then 'Finish'.
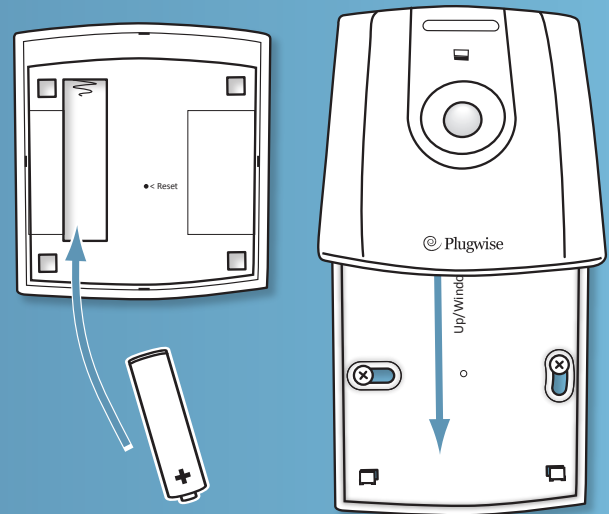
The Scan is now connected to your network.

2. Attaching the Scan to the ceiling

‣ Take the Scan to the location where it must be installed. The Scan must always be in contact with its 'parent' (for example, a Circle), otherwise no communication can take place. Additionally, to ensure proper functioning of the Scan, it should be installed in a location where it is not exposed to direct sunlight or car headlights and must not be directly exposed to an air conditioner or central heating/heater.

‣ This Scan has the following sensitivity settings:
  ‣ High sensitivity (particularly suited to office environments)
  ‣ Medium sensitivity (mainly for home use)
  ‣ Off

The following figure shows the range for the first two settings for various degrees of registered movements (for walking or desk work) at various optimal installation heights.

■ **high sensitivity**

■ **medium sensitivity**

2.70 m

2.40 m

DESK WORK
4.50 m

6 m

3.50 m

WALKING

‣ Check whether Source still indicates that the Scan is online. It can take several minutes for the network to process the new location of the Scan.

‣ Attach the Scan mounting plate to the ceiling. 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:

‣ When the mounting plate is attached to the ceiling, slide the Scan from above onto the plate until you feel the Scan click into place.
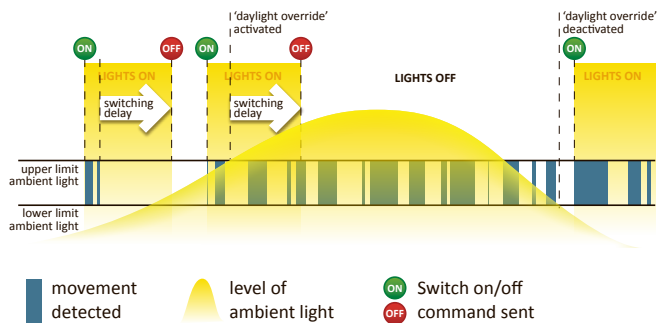
3. Use

Communication in the network

The Scan contacts one of the Circles in your network. This Circle transmits the measurement data to the other Circles. If the Circle that the Scan tries to contact is unavailable, a connection will be made with another Circle. This can take several seconds. The computer does not need to be switched on to be able to use the Scan.

Switching and insight

The Scan can be set up, for example, to switch on lighting automatically when human presence is registered. The Scan then sends a 'Switch on' command in case of a detected movement. If a 'Switch on' command has already been sent, the command will not be sent again. A switching delay can also be set up (1–255 minutes, 10 minutes is standard) to determine that lighting is switched off after a certain period in which no movement is detected. In addition, 'daylight override' can also be activated. Starting at a certain level of ambient light, bearing in mind the specified switching delay, the lighting is then switched off automatically. Detected movements will be ignored: no additional 'Switch on' command will be sent until the quantity of ambient light falls below a certain lower-limit value.

The following figure shows how the Scan responds to detected movements and ambient light in a given scenario.

An overview of the options for linking switching actions to the Scan in Source, as well as other software functions, is available in the latest Source manual. The manual is available at www.plugwise.com/manuals.

The Scan does not take into account other switching actions in the network, such as those from the Plugwise Switch or Plugwise Source.

Removing Scan

If the Scan 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 Scan and then click 'Delete'.

‣ The Scan will now be ignored by the network.

‣ To also physically remove the Scan from the ceiling, follow the steps as described in section 2, 'Attaching the Scan to the ceiling', in reverse order.

‣ **Note**: remove the battery. As long as the Scan is not assigned to a network, it will consume more power and the battery will therefore drain more quickly.

4. Advanced use

Connecting Scan to another network

After a Scan 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 Scan

In case of problems, the Scan 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 Scan has restarted.

Deleting network settings

You can also delete all of the settings saved on the Scan. As a result, the Scan will also forget its position in the network. To delete all of the settings, follow the instructions as described in the section 'Restarting Scan', 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 Scan. 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 Scan. The Scan will then waken temporarily to receive and install the firmware update.

5. 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.

6. Technical details

Specifications

Parameters	Min.	Nominal	Max.	Unit	Comments
Installation					
Installation height	2.40	2.70	3.50	m	
Environment					
Operational	0 5		60 95	˚C %RH	No condensation
Storage	-40 0		85 95	˚C %RH	No condensation
Power supply					
Supply voltage	3.2	3.6	3.6	Vdc	Single 3.6V (2400 mAh) AA Li ion battery
Battery life	2			year	Based on 1 firmware update per year, a maintenance interval of 24 hours and ± 20 switch actions per day.
Power consumption			150	mW	
Infrared detection					
Wavelength range	3		14	μm	Optimised for presence detection of people
Detection angle		170		°	Depending on position of installation
Detection range	0		6	m	
Dimensions		86 x 80 x 21		mm	Height x width x depth
Memory					
Storage capacity		512		kByte	Used for ZigBee firmware updates
Service life		100,000		Cycles	Programming/deleting
ZigBee communication					
Baud rate			250	kbps	O-QPSK
Frequency	2400		2483.5	MHz	6 channels of the 2.4 GHz 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 Scan sends data wirelessly via the Plugwise ZigBee protocol, a red LED light starts to flash in the casing.

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

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.