

How to set up your Plugwise network

The Plugwise system is based on a wireless communication protocol called ZigBee, which is optimized to consume as little energy as possible. Although that limits the broadcast range of a single module, large areas can be covered by the network, because modules can pass on information to other modules. Plugwise networks are easy to build up: the most efficient routes to send data from one to another module are found automatically.

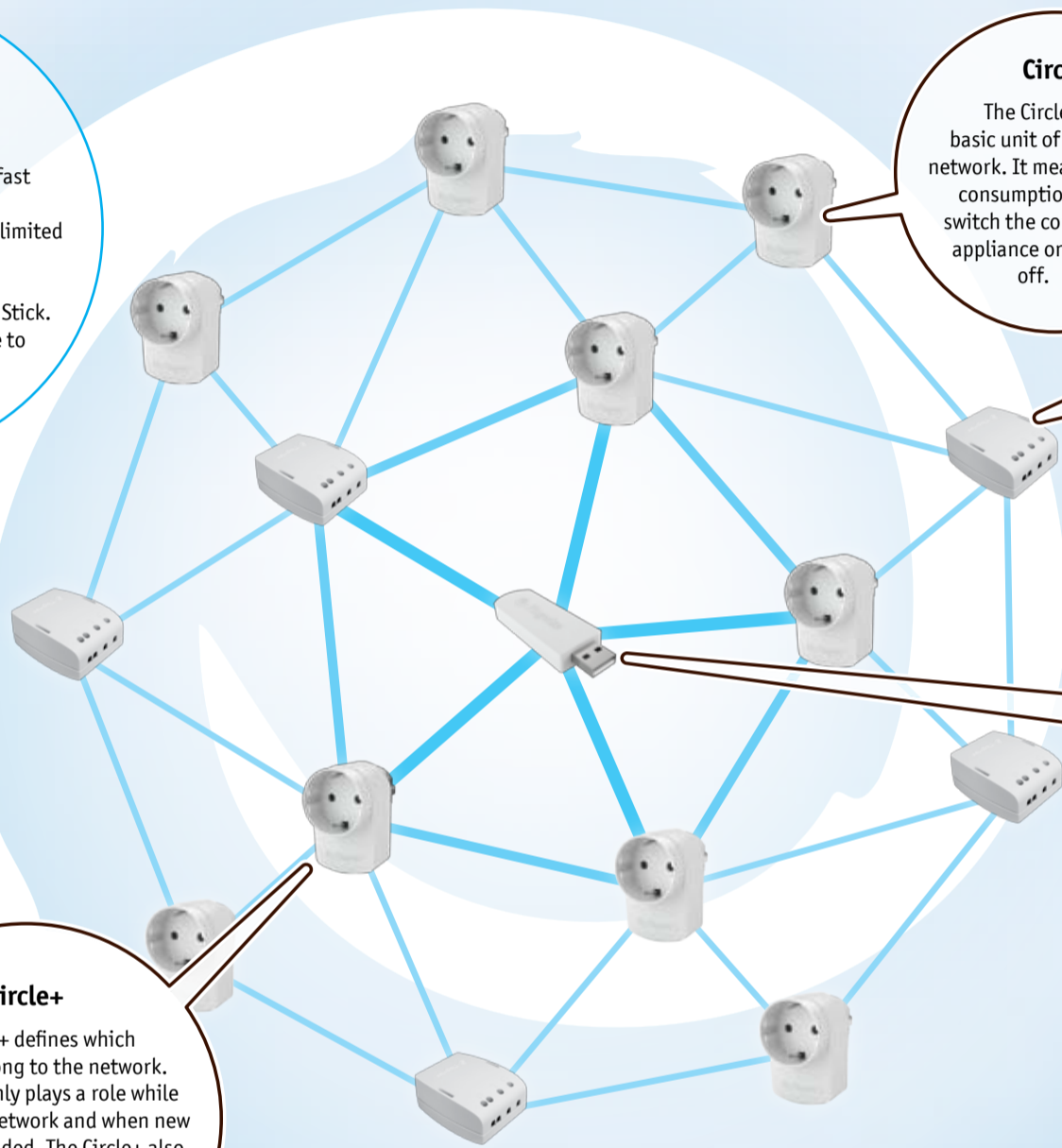
Plugwise devices that are connected to the ZigBee network are called modules. Examples are Circles, the Circle+, the Stick and build-in modules such as the Stealth. All power meter modules can pass information on to other modules. Moreover, all modules can communicate directly to the Stick.

A network can contain up to 65 modules. Plugwise Stretch Lite and Stretch Lite Pro (sold separately) make it possible to control multiple networks from one computer.

Good network configuration

- The illustration shows a reliable and fast network:
- The distance between 2 modules is limited to 5-10 meters.
 - The Stick is located in the centre.
 - The Circle+ is located next to the Stick.
 - Every module can communicate to at least three other modules.

Speed	
Stick location	✓
Circle+ location	✓

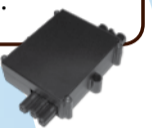


Circle

The Circle is the basic unit of a Plugwise network. It measures energy consumption and can switch the connected appliance on and off.

Stealth W

This version of the Stealth (optional) can be connected to any appliance with a Wieland GST 18I3 connector.



Stealth

Stealth performs the same functions as the Circle and can be built in.

Depending on your order, your set contains Circle modules, Stealth, Stealth W or a combination of these.

Stick

The Stick is the USB device that makes a personal computer capable of communicating with the Plugwise modules. For each network that is installed, a Stick is required. The location of the Stick does not have to be fixed, so it can be connected to a laptop computer. Keep in mind that every time the Stick is in a different location, new communication routing tables need to be generated, so data connections can be slow at first.

Circle+

The Circle+ defines which modules belong to the network. This feature only plays a role while installing the network and when new modules are added. The Circle+ also contains a clock that the other modules use to synchronize their time stamps.

Stealth+

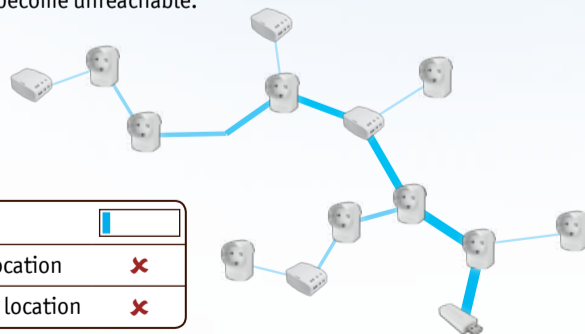
Stealth+ performs the same functions as the Circle+ and can be built in.



The Circle+/Stealth+ should always be installed first and should always be within the range of the network, even if no appliance is connected to it. A Plugwise network cannot contain more than one Circle+ or one Stealth+. For regular usage, there is no difference between a Circle+ or Stealth+ and the other modules. However, the Circle+/Stealth+ should be near the Stick when the network is build up. Also when updating firmware the Circle+/Stealth+ should be within range of the Stick.

Bad network configuration

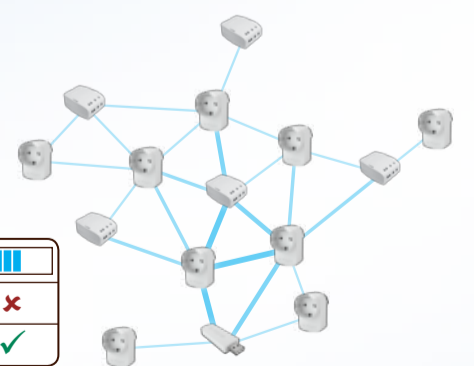
The energy consumption data and switching schedules for all modules will have to be sent through a single point, which will make the network very slow. Moreover, accidental displacement of a single module can cause a large part of the network to become unreachable.



Speed	
Stick location	✗
Circle+ location	✗

Acceptable network configuration

If it has been a while since the last time energy consumption data has been retrieved, it can take several minutes before the data from the distant modules will be received by the Stick.



Speed	
Stick location	✗
Circle+ location	✓