

Thank you for purchasing this Plugwise kit; the most advanced system for monitoring and control of your energy consumption available today. The system is managed by Plugwise Source, a software application that communicates with the Circles (the smart plugs) via a ZigBee wireless network.

The installation process consists of three steps: plugging in the Circles, installing Source and configuring the system. A detailed manual for Source will be shown if you click the application's question mark button.

Installing and configuring your kit can take approximately 45 to 90 minutes.

Contents of the package

Check the content of your package for the following parts. If a part is missing, please contact us as soon as possible.



1x Stick



1x Circle+



Circle

*Plugwise sticker at the back
with thick black line at the bottom*

license code



**Installation list with
software license code**



This manual

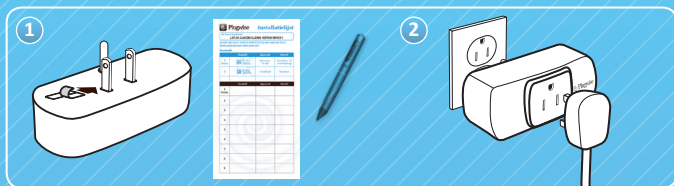
System requirements

In order to install Source you need a computer with at least the following specifications:

Windows XP/Vista/7
30 MB free disk space
1 GB memory

1 GHz processor
64 MB graphics card
Internet connection

1. Placing the Circles



Circle+

The Circle+ is the coordinator of the Plugwise 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 Circles use to synchronize their time stamps. The Circle+ should always be installed first and should always be plugged in within range (30 feet) of the rest of the Plugwise network, even when no appliance is connected.

- ▶ Take the Circle+ (recognizable by the sticker at the back with a thick black line at the bottom), the included installation list and a pen.
- ▶ Choose an appliance, located in the same room as the computer, to plug into the Circle+.
- ▶ Carefully tear off the lower code label and stick it in the space on the installation list. It is possible that the codes have already been printed on the installation list.
- ▶ Write the name of the appliance connected to the Circle+ next to the code on the installation list, as well as the location of the appliance.
- ▶ Put the Circle+ into the power socket and plug the appliance into the Circle+.

Circle(s)

- ▶ Repeat the above procedure for the other Circle(s).
- ▶ If Circles are placed close to each other, the Plugwise network will operate faster. Although Circles can bridge longer distances, it is recommended that the Circles are placed no more than 30 feet away from each other.
- ▶ Return to your computer when all Circles are connected and the installation list is complete.

It is not necessary to install all Circles at once as they can be added later via the settings menu. This is further explained in the Source manual.

Some examples of heavy energy users are: refrigerators, water heaters, ovens and water beds. Most people can save energy on lighting, digital TV tuners, internet routers and devices with a stand-by feature.

If you want to connect multiple appliances to one Circle, please take the inrush current of each appliance into account. The inrush current can be many times the nominal use current of the appliance.

2. Installing Plugwise Source

Plugwise Source is the software application that enables you to view energy usage data on your computer. It's also used to create schedules to automatically switch appliances on and off, so you can easily save on energy costs. Before you install Source, make sure you have completed the previous steps of this manual.

- ▶ Go to www.myplugwise.com and download the installation file. If you use Internet Explorer, click 'Run' if you are asked whether you want to run or save the file.
- ▶ Double click the installer file once it has been downloaded. A software wizard will guide you through the installation process.
- ▶ When Source has been installed, the Plugwise network configuration wizard will be shown.

Stick

- ▶ Plug the Stick into a USB socket on your computer after Source has been installed.

When a Windows dialogue box appears with the title 'unknown manufacturer', click 'allow' to continue your installation.

3. Configuring the Plugwise network

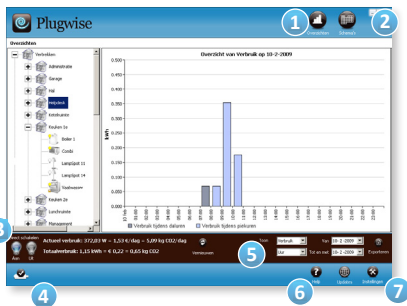
After the installation of Source has been completed, the configuration wizard starts up automatically. You can start the configuration wizard manually with the shortcut in your Windows menu 'Start'.

- ▶ The wizard will guide you through a number of screens to enter data in order to set up your network. The Source software manual offers support for every step taken by the configuration wizard. The manual appears if you click the question mark button at the bottom right of the window.
- ▶ At the end of the configuration procedure, you will receive an e-mail. After clicking the activation link in that e-mail, Source and your Plugwise network are ready for use!
- ▶ Keep the installation list with the license code in a safe place for future use.

It can take up to 10 minutes for all the Circles to be registered by the network. If a Circle is not found by the network during the configuration, you can add it manually via the settings menu. This process is explained in the Source software manual that appears if you click the question mark button at the bottom right of the Source window.

4. Use tips

With Plugwise Source you can measure the energy consumption of each of your appliances and switch the appliances on and off. By sending switching schedules to the Circles you can automatically switch appliances on and off and save on your electricity bill. Your computer can be turned off as energy measurement data and schedules are saved on the Circle's internal memory.



1. Reports displays graphs of your energy use, costs and related CO₂ emission. A report is generated after receiving one hour of data and is then updated hourly.

2. Schedules is used to define automatic switching schedules.

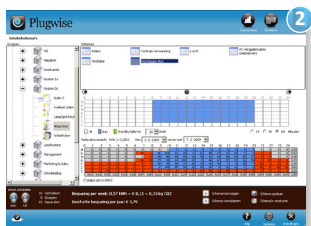
3. Direct Switching switches appliances

on and off manually.

4. Stick flashes if data is sent or received. Only remove the Stick from your computer when Source is closed.

5. Range of data shown by the graph.

6. Help shows a detailed manual for Source.



Make switching schedules to switch appliances on and off automatically.

7. Settings shows a menu to make changes to anything defined during the configuration. You can also add appliances and create groups there.

If you remove a Circle from the power socket and put it back in again, it will always switch to 'on', regardless of any switching schedule that is assigned to it. This can come in handy if you want to use an appliance that has been switched off automatically by a schedule.

5. Transfer of consumption data

By accepting the Plugwise license terms (available at www.plugwise.com) you are allowing the automatic transmission of the measurement data of your appliances to Plugwise. The data will be sent anonymously (unless you indicate otherwise) and are not linked to your location or ID in any way.

These technical consumption data are used by Plugwise to improve and extend the functionality of its products with the ultimate goal of a better environment and a sustainable world.

6. Safety information

Save these instructions for future reference.

Electricity and safety

- Install and use the products only in the manner as described in the user-documentation.
- The maximum allowed electrical current through a Circle is 15 A.
- Do not use the products if they are damaged or malfunctioning.
- Never connect electrical appliances to a Circle/Circle+, if the appliance or the cord shows any signs of damage.
- Do not let the products come into contact with water or other liquids.
- Never open up the casing of the product. The products do not contain components that you can service or repair.

Environment

Old electrical and electronic appliances often contain valuable materials. Never discard appliances with household waste; please recycle them at your local facility.

7. Support

A detailed manual for Plugwise Source can be viewed by clicking the 'Help' button at the bottom right corner of the window. Additionally, for answers to frequently asked questions please visit:

www.plugwise.com/en/support/faq

In case you have any questions which are still unanswered by the FAQ, or in case you require support or service, please send us an e-mail. We also welcome any feedback on our products.

e-mail: helpdesk@plugwise.com

8. FCC Declarations

Compliance statement (part 15.19)

This device complies with part 15 of the FCC Rules and to RSS210 of Industry Canada.

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning (part 15.21)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This in particular is applicable for the antenna which has been delivered with the Circle+/Circle/Stick.

15.105 statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

9. Technical data

Circle

Parameters	Min.	Nominal	Max.	Unit	Remarks
Power supply					
Supply voltage	85	120	140	VAC	
Frequency		50 / 60		Hz	
Power dissipation	0.19		0.9	W	115 VAC, 50 Hz, 77°F, unloaded
Output					
Output current			15	A	cos phi 1, max. inrush current: 80 A during 10 ms.
Energy measurements					
Accuracy (current usage)		5% ± 0.5 W			120V AC, 60 Hz, 73.4°F, range: 1.035-1800W
Accuracy (cumulative)		1% ± 0.2 W			1 hour cumulative data
Permanent memory					
Storage capacity		512		kByte	
ZigBee communication					
Baudrate			250	kbps	O-QPSK
Frequency	2400		2483.5	MHz	16 channels of the 2.4 GHz ISM band
Bandwidth		2,0		MHz	5 MHz channel spacing
Receiving sensitivity (signal/noise ratio)	-92	-97	-98	dBm	1% PER (20 byte packet)
Transmission power	-32	3	5	dBm	

Circle+

In addition to the specifications of the Circle, the Circle+ features a built-in clock.

Parameter	Min.	Max.	Unit
Clock operating time without power supply	6.0	8.6	Days

Stick

Parameters	Min.	Nominal/ type	Max.	Unit	Remarks
Power supply					
Supply voltage		5		Vdc	Powered by USB host
Dissipated power		0.375		W	
Connector		USB (A)			
Frequency	2400		2483.5	MHz	16 channels of the 2.4 GHz ISM band

Usage and storage temperatures for Circle, Circle+ and Stick

Environmental conditions	Min.	Max.
Temperature (operational)	0 °C	140 °F
Humidity (operational, non-condensing)	0 % RH	95 % RH
Temperature (storage)	-4 °F	158 °F
Humidity (operational, non-condensing)	0 % RH	95 % RH



Plugwise

Getting started with Plugwise

Installation manual

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