Smappee Energy Monitor
US Installation Manual

English

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Version: 2.3

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A word from our CEO

Welcome to the world of Smappee.

You will soon notice that Smappee offers nothing but benefits. Immediately after its installation, Smappee will give you clear insight into your energy consumption. This will allow you to achieve savings straight away, without any concessions to comfort. And that's not all: you can now leave the house without any worries. After all, you can simply use the app to check whether or not you have turned off all your appliances.

Smappee will soon become part of your life. You will automatically become more conscious of how you use energy, which will contribute to a better environment for us all. Not only for us, but also for the following generations! And that might just be the biggest benefit of all.

Stefan Grosjean,
Founder and C.E.O. of Smappee

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Before you Start

Overview

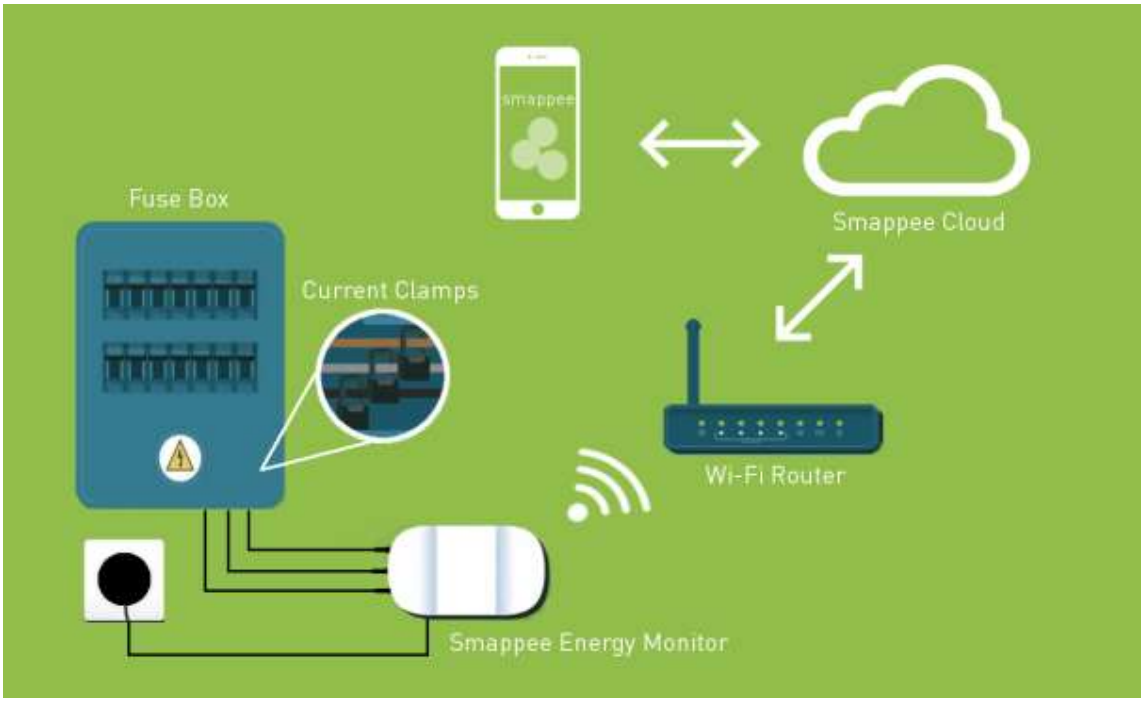
The Smappee monitor measures the energy consumption of your electrical appliances in your home and the production of your solar panels.

You can view the energy consumption and production of your home real-time on your smartphone or tablet. The Smappee app gives you direct insight into your energy consumption and costs.

How it all works

The Smappee monitor is connected to your home **Wi-Fi** router, to communicate with the Smappee cloud and the App.

Then, the Smappee monitor is installed near to the **breaker panel**. The sensors (**current clamps**) are connected to particular wires in or near the breaker panel, so that Smappee can measure the energy consumption of your home.



This manual helps you with all the steps needed for this installation.

Where to Start

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Safety instructions

Warnings

Please observe the following safety precautions to avoid possible electric shocks, fire, or personal injury:

- Use the product only as specified as otherwise the safety of the product is not sufficient.
- Do not use the product in environments with explosive gas or vapours, nor in damp or wet environments.
- Do not use damaged power cords and cables. Check the power cords and cables for damaged insulation and exposed metal. Check the connection of the power cords.
- Use only the power cord and cables that are supplied with the product.
- Do not use the product if it is damaged.
- Reparations should only be done by authorized technicians.
- Do not open the product. There is a potential for exposure to hazardous voltage.
- Use only specified replacement parts.
- Do not connect the product to a voltage higher than 240 V.
- Turn off the main power switch before you start the installation of the product.
- Follow local and national safety regulations for installation and use of electrical equipment.

Maintenance

- Clean only the outside with a dry, clean cloth.
- Do not use abrasive agents or solvents.

Technical specifications

- Dimensions: 6,3'' (L) x 4'' (W) x 1,3'' (H)
- Weight: 10,5 oz
- Wi-Fi 802.11 b/g/n 2.4 GHz
- Operating temperature: 14°F to 122°F
- Storage temperature: -4°F to 158°F
- Relative humidity: 0-80% 41°F to 104°F
- Sealing IP 20.
- Work altitude: 0 to 6500 ft
- EMC: EN 55022 (Class B)
- Overvoltage category: 300 V/CAT II
- ~110-240V 50/60Hz Max 5W

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Connect Smappee to your Wi-Fi

Overview

This section shows how to connect the Smappee to your Wi-Fi network.

Keep your Wi-Fi password secure

Security is important for Smappee. Therefore, the Smappee app securely transfers the password of your Wi-Fi network to the Smappee Energy monitor, so that it can connect to your Wi-Fi network

How it works

A new Smappee Energy monitor opens a temporary ad-hoc Wi-Fi network. When you perform the installation steps in the Smappee App, you connect your smartphone to that ad-hoc Wi-Fi network.

Then the Smappee app asks you for the password of your home Wi-Fi network and sends it directly to the Smappee Energy monitor.

As soon as the Smappee is connected to your home Wi-Fi network, it connects to the Smappee Cloud and is there linked to your App account.

Step by Step

Here are the steps you should perform for connecting your Smappee Energy monitor to your Wi-Fi network:

1. Download the app from the Apple App Store or Google Play.
2. Open the app and create your personal user account.
3. When using the App for the first time, you'll see three bubbles: Install, Buy, Logout. To proceed, press 'Install'.
4. Follow the instructions in the app.
5. Then, proceed to the section "Understand the Electrical Installation of your Home", on page 7.

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Understand the Electrical Installation of your Home

Overview

For a correct installation of the current sensors (current clamps), it is important that you understand the type of the electrical installation of your home.

Below you find some guidelines to identify which installation you have in your home.

Types

There are two major types of networks.

Type of installation	In what countries
Split Phase US	Most common type in the US and Canada.
3 phase ("Star")	Common type in modern and large homes in Europe, US, Asia and many other parts of the world.

If you are still unsure, please use this table to identify the type of installation in your home.

Type of Installation	Symbol on your electricity meter	Number of main cables in your breaker panel	Example
Split Phase US		2 cables (2 phase cables)	
3 phase ("STAR")		4 cables (3 phase cables + 1 neutral)	

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Connect Smappee to your Breaker panel

Introduction

This chapter describes how to connect the Smappee monitor to your breaker panel.

Remember! Before you can connect the Smappee monitor to the breaker panel you must first connect it to your Wi-Fi network as described in the previous chapters.

Consult a certified electrician

If you do not have knowledge about electrical installations, we strongly recommend to consult a certified electrician for the installation.

Installation Videos

Installation videos are available on our support website or on YouTube:

http://www.smappee.com/support/

https://www.youtube.com/channel/UCFBFXohTW60YDA-TKjCh7sg

Content of the Box

Depending on your region, you find the following items in the Smappee box.

- 1 Smappee Energy monitor or 1 Smappee Solar Energy monitor
- 1 power cord
- 2 or 4 current clamps
- 1 Comfort Plug (which is not needed during the installation)

Tools

For an easy and fast installation, we recommend to have a few tools ready:

- screwdriver
- flashlight

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US Split Phase Installation Without Solar

Introduction

The following steps describe **the US split phase connection without solar panels.**

Instructions

Step 1: First please locate your breaker panel and utility meter.

Step 2: Turn off the power and open up the breaker panel. (you might need a screwdriver for this)

Step 3: You'll see 2 wires coming from the utility meter. Ignore the blue/red wire (neutral wire) and any green/yellow wires (Grounding).

Step 4: The remaining wires are called the phase wires. They're usually grey, brown or black. In some installations other colours can be used for the phase wire.

Step 5: Take a current clamp and find the little arrow on the clamp. Check for the symbol **L ← K** in the clamp. The arrow shows the direction of the energy flow. Make sure that **L** points in the direction of the appliances (energy users) and **K** in the direction of the utility meter.

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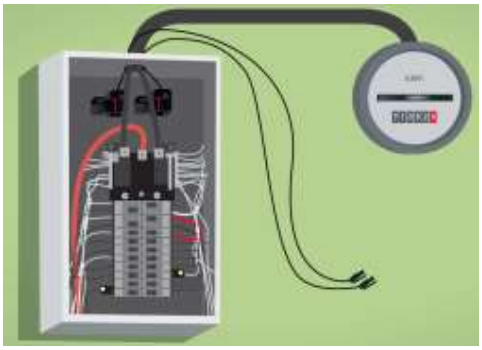
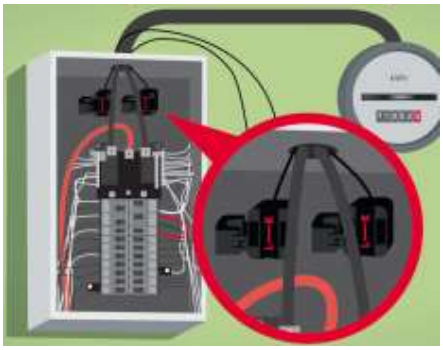
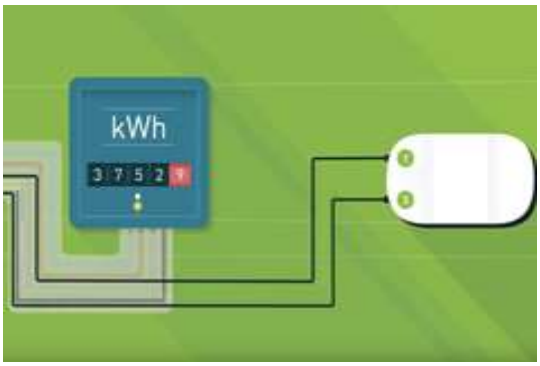
Step 6: Place the current clamps over the phase cables. Make sure that you properly close the clamps by pressing your thumb on the side until you hear a click. Please pay close attention to the direction of the arrow!





Step 7: Plug the ends of the current clamp cables into input 1 and 3 of the Smappee monitor.



Step 8: Now close the breaker panel (be careful not to jam the cable) and turn the power back on.

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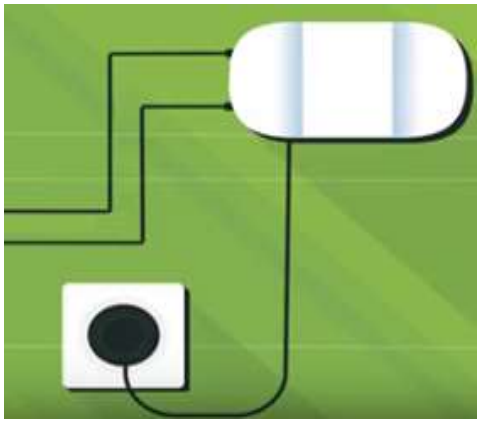
Step 9: Plug the power cord for the monitor into the wall socket and wait until the monitor shows a green heartbeat.



Step 10: You can now get started with the Smappee app.

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US Split Phase Installation With Solar

Introduction

The following steps describe **the US split phase connection with solar panels.**

Instructions

Step 1: First please locate your breaker panel and utility meter.

Step 2: Turn off the power and open up the electical panel. (you might need a screwdriver for this)

Step 3: You'll see 2 wires coming from the utility meter. Ignore the blue/red wire (neutral wire) and any green/yellow wires (Grounding).

Step 4: The remaining wires are called the phase wires. They're usually grey, brown or black. In some installations other colours can be used for the phase wire.

Step 5: Take a current clamp and find the little arrow on the clamp. Check for the symbol **L ← K** in the clamp. The arrow shows the direction of the energy flow. Make sure that **L** points in the direction of the appliances (energy users) and **K** in the direction of the utility meter.

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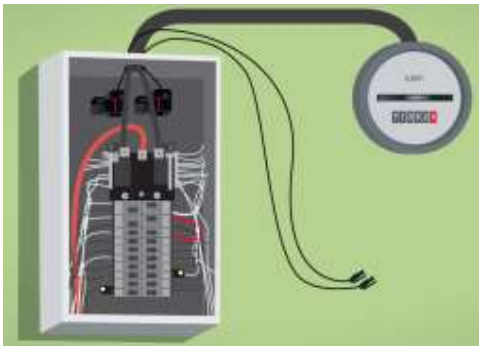
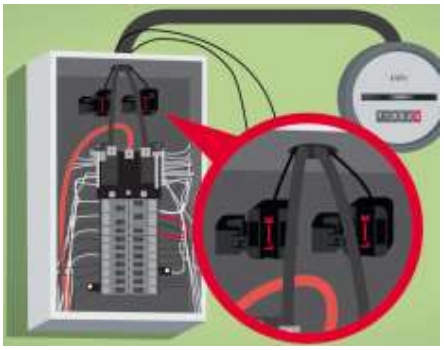
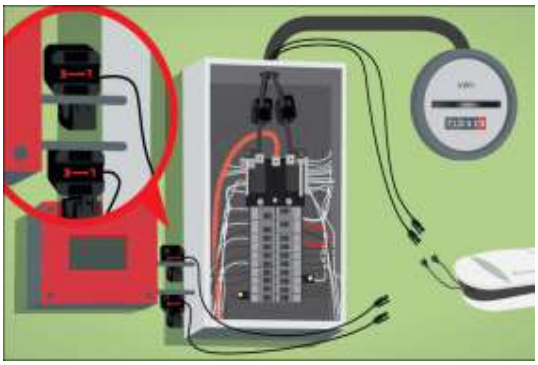
Step 6: Place the current clamps over the phase cables. Make sure that you properly close the clamps by pressing your thumb on the side until you hear a click. Please pay close attention to the direction of the arrow!



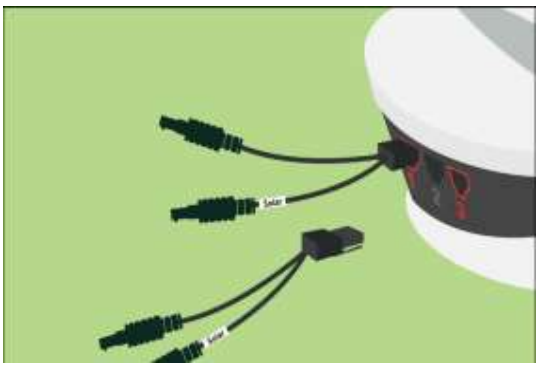


Step 7: Now locate the solar inverter and check the wires running to your breaker panel. You'll see 2 phase wires which are usually black, brown or grey.

Step 8: Take the current clamps (CT) and clamp them around the phase wires with the little arrow on the clamps pointing away from the solar inverter. Make sure that you properly close the clamps by pressing your thumb on the side until you hear a click.



Step 9: Connect the V-cables to input 1 and input 3 of your monitor



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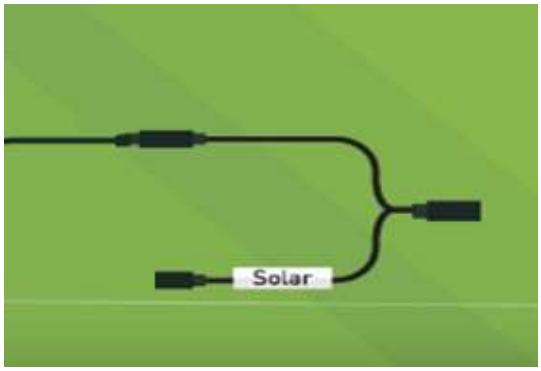
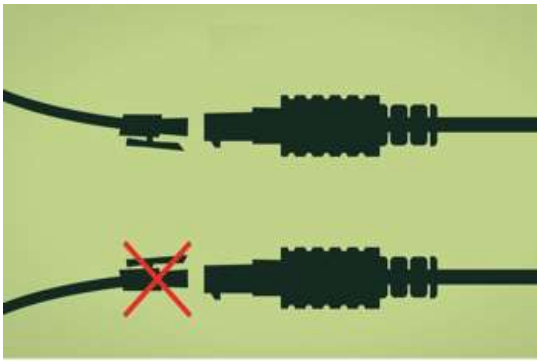
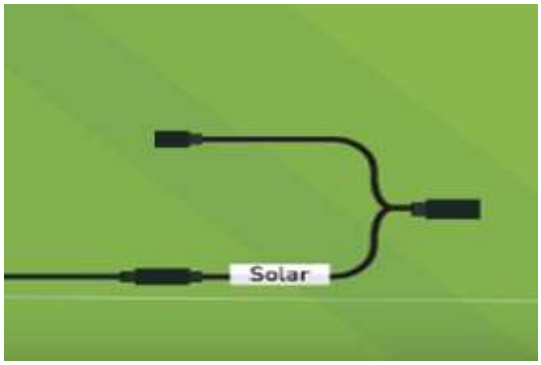
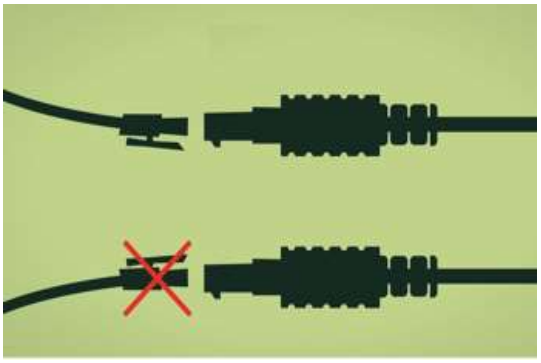
Step 10: Plug the cables of the clamps that are connected to the electrical installation in the unmarked legs of the V-cables. Please respect the polarity of the plugs!





Step 11: Plug the cables of the clamps that are connected to your solar installation in the legs of the V-cables marked with 'solar'. **Make sure that each V-cable contains the consumption CT and the solar CT of the same phase.** Please respect the polarity of the plugs!





Step 12: Now close the breaker panel (be careful not to jam the cable) and turn the power back on.

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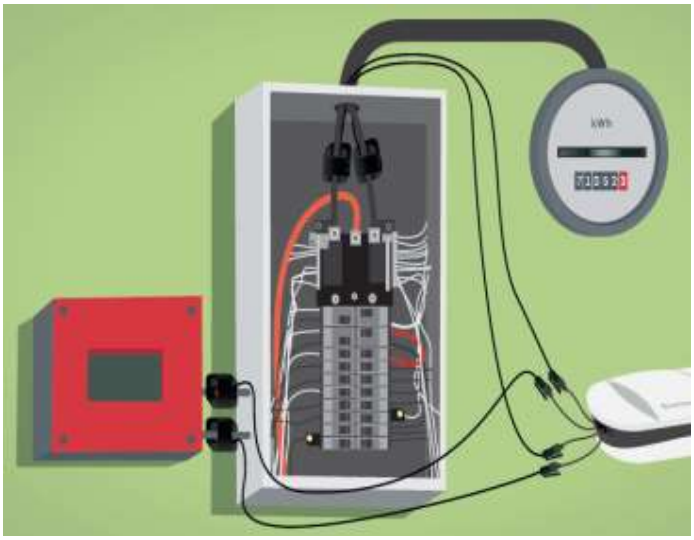
Step 13: Plug the power cord for the monitor into the wall socket and wait until the monitor shows a green heartbeat.



Step 14: You can now get started with the Smappee app.

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Declaration of Conformity

October 5, 2013

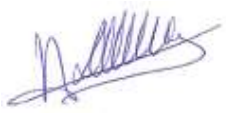
We,
Smappee nv
Evolis 100
8500 Kortrijk
Belgium

following the provision of the following EC Directives:
- 2006/95/EC The Low Voltage Directive
- 2004/108/EEC The Electromagnetic Compatibility Directive
1999/5/EC R&TTE Directive

hereby declare that the product:
Smappee monitor-e1

is in conformity with the applicable requirements of the following documents
* Emissions:
    Radiated Emission EN 55022 (Class B)
    Conducted Emission EN 55022 (Class B)
    EN 61000-3-2
    EN 61000-3-3
* Immunity:
    EN 55024
    EN 61000-4-2
    EN 61000-4-3
    EN 61000-4-4
    EN 61000-4-5
    EN 61000-4-6
    EN 61000-4-1
* Safety:
    EN61010-1 Ed 3.0 (2010-06),

Authorized signatory



Hans Delabie
Chief Operating Officer

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