

## Solo II display USER MANUAL



making energy engaging in-home | mobile | online Welcome to **geo**'s energy management service. You've taken the first step towards complete control of your consumption and microgeneration. Your new **Solo II** will help you manage, control and visualise your energy – leading you effortlessly towards optimum efficiency.

In this guide you'll find everything you need to quickly and simply set up and start using your **display**. You'll also find more information about how the monitor works and how it can help you. In **microgeneration mode** you can identify the best times to use heavy-load appliances (such as your washing machine or tumble dryer). In **consumption mode** you can use the **display** to help you reduce CO<sub>2</sub> and save money by giving you real-time, visual feedback on your energy consumption.

You will also have access to energy**note**, our online energy management service that presents all your data in greater detail. There is no limit to the amount of data you can upload. See, analyse and explore for years to come.

You should find everything you need in this guide, but if you don't, get in touch and we'll be happy to help.

# Microgeneration and consumption modes

The **Solo II** can measure either **consumption** (default) or **microgeneration** – but not concurrently. Please note that when you have chosen either of these modes then it is not advisable to switch to the other. If you do, you will lose the data you have been collecting (from whichever mode you had previously set up). If you choose to switch modes, the **display** will reset to day one.



## Contents

1. WHAT'S IN THE BOX? 5	5
<ul> <li>2. SOLO II LED CONSUMPTION</li> <li>Setting up</li> <li>Configuring your display</li> <li>Basic configuration <ul> <li>Time and date</li> <li>Budget</li> <li>Tariffs</li> <li>Standing charge</li> <li>Temperature - set point</li> </ul> </li> <li>Advanced configuration <ul> <li>Mode and preferences</li> <li>Currency</li> <li>Temperature unit</li> <li>Electricity meter</li> <li>Sleep mode</li> <li>Week start</li> </ul> </li> </ul>	5
<ul> <li>3. SOLO II CT CONSUMPTION</li> <li>Setting up</li> <li>Configuring your display</li> <li>Basic configuration <ul> <li>Time and date</li> <li>Budget</li> <li>Tariffs</li> <li>Standing charge</li> <li>Temperature - set point</li> </ul> </li> <li>Advanced configuration <ul> <li>Mode and preferences</li> <li>Currency</li> <li>Temperature units</li> <li>Calibration</li> <li>Sleep mode</li> <li>Week start</li> </ul> </li> </ul>	1
4. SMART PLUGS 1	L6
<ul> <li>5. SOLO II LED GENERATION (MICRO-GEN)</li> <li>Setting up</li> <li>Basic configuration <ul> <li>Time and date</li> <li>Feed-in tariff (FiT)</li> <li>Temperature - set point</li> </ul> </li> <li>Advanced configuration <ul> <li>Mode and preferences</li> <li>PV array (kW)</li> <li>Currency</li> <li>Temperature units</li> <li>Generation meter</li> <li>Sleep mode</li> </ul> </li> <li>Solo II displayWeek start</li> </ul>	L <b>7</b>

<ul> <li>6. SOLO II CT MICROGENERATION (MICRO-GEN)</li> <li>Setting up</li> <li>Basic configuration <ul> <li>Time and date</li> <li>Feed-in tariff (FiT)</li> <li>Temperature - set point</li> </ul> </li> <li>Advanced configuration <ul> <li>Mode and preferences</li> <li>PV array (kW)</li> <li>Currency</li> <li>Temperature unit</li> <li>Calibration</li> <li>Sleep mode</li> </ul> </li> </ul>	21
<ul> <li>Week start</li> <li>7. READING YOUR DISPLAY <ul> <li>Speedometer</li> <li>Numbers along the top</li> <li>Numbers along the bottom</li> <li>Budget bar and prediction</li> <li>Microgeneration threshold</li> <li>Temperature</li> <li>LED indicator</li> <li>Icons <ul> <li>Signal strength</li> <li>Battery</li> <li>Tariff</li> </ul> </li> </ul></li></ul>	25
<ul> <li>8. USING YOUR DISPLAY <ul> <li>Changing units</li> <li>Viewing your history</li> <li>Energy stopwatch</li> <li>Pairing</li> <li>Main sensor</li> <li>Temperature sensors 1 &amp; 2</li> <li>Bridge</li> </ul> </li> </ul>	28
9. ENERGYNOTE ONLINE SERVICE	30
10. FAQs	31
11. TECHNICAL INFORMATION	32
12. LEGAL INFORMATION	32
13. SAFETY INFORMATION	32

4

# **1. WHAT'S IN THE BOX?**





Power supply x 2



Transmitter (and batteries)

Sensors





LED sensor

CT sensor



or

Internet bridge



Solo II display



Display stand

## **3. SOLO II LED CONSUMPTION**

**Please note**: by choosing [CONSUMPTION] mode, you will not be collecting data for [MICRO-GEN] mode. If you choose to switch modes you will lose all data you have collected as the display will reset to day one.

### Setting up

1. Plug the power supply into the **display**.

Your **display** will turn on automatically when you plug it into the mains supply.



- 3. The pulse output is a flashing red light on the front of your meter.
- 4. Stick the square velcro around the pulse output.
- Place the LED sensor over the square velcro on the meter ensuring that the geo logo is facing you.



Whenever the **display** is turned on, you will see the [SET CLOCK] screen.

Use the  $\triangleleft$  and  $\triangleright$  buttons on the front of the **display** to adjust the time and date – then press  $\measuredangle$  when you have finished.

2. Remove the battery tab from the **transmitter.** 



6. Plug the **LED sensor** into the **transmitter**.



#### **Configuring your display**

Before you start using your **Solo II** we need to take you through a few simple set-up steps. The **Solo II** has two sets of configuration: [BASIC] configuration (information you may wish to change often) and [ADVANCED] configuration (information you may only set up once or alter occasionally).

#### **Basic configuration**

Press and hold ♣ for three seconds to enter configuration mode then press ◀ or ▶ button to choose your configuration mode preference.

Using the 🐔 button select [BASIC] settings.



You will be asked to set the following:

- [SET TIME]
- [SET YEAR]
- [SET MONTH]
- [SET DAY]
- [BUDGET]
- [TARIFF 1]
- [TARIFF 2]
- [TARIFF 3]
- [STANDING CHARGE]
- [SET-POINT]

#### **Time and date**



If you've already set this up press  $\pounds$  to confirm all. Should you want to change it you can find the **settings** on **p6**. The **display** also reminds you to check the time and date each time it is powered up.

#### **Budget**



You can set yourself a daily, weekly or monthly personal budget which the **display** will use to help you manage your electricity. The **display** can then tell you whether you're on target to be within your budget, and how you've compared over the past few days, weeks, months or the whole year.

If you enter a monthly cost the **Solo II** will automatically calculate the equivalent daily or weekly cost when it needs to. This makes it easy for you to enter a budget that makes sense to you.

You can get an idea of what to set as your budget by looking at recent electricity bills. Please note, the budget is just the energy used and doesn't include any standing charges.

Use the ◀ and ▷ buttons to select whether you want a daily, weekly or monthly budget, then press ♣ to confirm.

Next adjust the value of budget you would like using the ◀ and ▶ buttons and press ♣ to confirm.

### Tariffs



You need to enter the price you pay for your energy. If you have only one tariff, then enter the cost per kWh. This can be found on your electricity bill.

If you have a block tariff you can work out an average from your recent bills and enter as one tariff.

What is a block tariff? A block tariff means that for the first x number of kWh in each billing period you pay a more expensive tariff than normal.

How to calculate it: take the total cost of electricity for the period (e.g. £120) and divide it by the amount of kWh you used.

#### Example:

If you were billed £120 this quarter and you used 1000kWh, then enter the sum of  $\pm 120/1000$ kWh =  $\pm 0.12$ /kWh in the display setting [TARIFF 1].

Use the  $\triangleleft$  and  $\triangleright$  buttons to set the tariff and then press  $\mathcal{A}$  to confirm.

If you don't have a second tariff, then leave [TARIFF 2] cost as zero.

If you do have a second tariff, for example cheaper electricity overnight, then enter the cost per kWh for that second tariff. If a second tariff is entered then you need to enter the time that tariff starts and ends.



Use the  $\blacktriangleleft$  and  $\triangleright$  to set the second tariff and then press  $\pounds$  to confirm.

Use the  $\triangleleft$  and  $\triangleright$  buttons to set the time the second tariff switches on and then press  $\mathscr{A}_{u}$  to confirm.



Use the  $\blacktriangleleft$  and  $\triangleright$  buttons to set the time the second tariff comes off and then press  $\mathcal{A}$  to confirm.



If you have entered a second tariff then you are prompted to enter a third tariff. If you don't have one then simply leave it as zero.

## Standing charge



If you pay your supplier a standing charge you can enter that amount here.

Use the  $\triangleleft$  and  $\triangleright$  buttons to set the daily standing charge and press  $\pounds$  to confirm.

#### **Temperature**



The **display** can tell you if your home is running warmer or cooler than your ideal temperature.

Use the ◀ and ▷ buttons to set the temperature and press ♣ to confirm.

### **Advanced configuration**

Press and hold  $\pounds$  for three seconds to enter the configuration mode. Using the  $\triangleleft$  and  $\triangleright$ buttons select [ADVANCED] and then press  $\pounds$  to confirm.



You will be asked to set the following:

- [MODE]
- [CURRENCY]
- [TEMPERATURE UNITS]
- [PULSE]
- [DISPLAY OFF]
- [DISPLAY ON]
- [WEEK START]

## Mode and preferences



You can use the **display** to monitor your energy use [CONSUMPTION] or generated energy [MICRO-GEN]. The default is [CONSUMPTION] mode.

Using the ◀ and ▶ buttons select [CONSUMPTION] and press ♣ to confirm.

#### Currency



Using the ◀ and ▶ buttons select your currency and press ♣ to confirm.

#### Temperature



Select whether you want the temperature to be shown in (°C) or (°F).

Using the  $\triangleleft$  and  $\triangleright$  buttons select °C or °F and press  $\clubsuit$  to confirm.



You need to tell the **display** about your electricity meter. The **display** works by detecting the LED flashing on the meter, but it needs to be told how many times the pulse flashes per kWh of energy consumption. This is normally written on the front of your meter e.g. '1000 imp/kWh'.

Using the  $\blacktriangleleft$  and  $\triangleright$  buttons enter the value for imp/kWh from your meter and press  $\clubsuit$  to confirm.

## Sleep mode



The sleep mode allows you to tell the **display** to turn off overnight. This is done by entering the [DISPLAY OFF] time and the [DISPLAY ON] time. During this time the backlight of the **display** will be turned off – if you want to see the **display** whilst it is asleep simply press any button and it will wake up for 60 seconds. If you don't want to use the sleep mode then you can set it to OFF.

Using the ◀ and ▷ buttons set the [DISPLAY ON] time to [DISPLAY OFF] then press ♣ to confirm.

If you set a [DISPLAY ON] time, you will then need to set the [DISPLAY OFF] time again using the  $\triangleleft$  and  $\triangleright$  buttons and then press  $\pounds$  to confirm.

#### Week start



Set your preferred day for the start of the week. This is used by the display when showing the energy usage for the [LAST WEEK] and [THIS WEEK].

Using the ◀ and ▷ buttons select your preferred day and press ♣ to confirm.

## **3. SOLO II CT CONSUMPTION**

**Please note**: by choosing [CONSUMPTION] mode, you will not be collecting data for [MICRO-GEN] mode. If you choose to switch modes you will lose all data you have collected as the display will reset to day one.

#### Setting up

1. Plug the power supply into the **display.** 

Your **display** will turn on automatically when you plug it into the mains supply.

Whenever the **display** is turned on, you will see the [SET CLOCK] screen.



Use the  $\triangleleft$  and  $\triangleright$  buttons on the front of the **display** to adjust the time and date – then press the  $\pounds$  button when you have finished.

2. Remove the battery tab from the **transmitter.** 



For a **single phase** pack (one mains sensor):

- At your electricity meter, clip the sensor around the mains live cable. Locate your mains live cable, this is usually identified by the colour brown, red or the letter "L". You should hear a 'click' to indicate the sensor has been tightly closed.
- Insert the other end of the sensor cable in to the socket in the bottom of the transmitter and ensure it is fully inserted.



For a **three phase** pack (three mains sensors):

- 5. At your electricity meter, clip the sensors around the mains live cables (attach one sensor per cable). Locate your mains live cable, this is usually identified by the colour brown, red or the letter "L". You should hear a 'click' to indicate that the sensors have been securely fastened.
- 6. Insert the other end of the cables in to the socket in the bottom of the **transmitter** and ensure they are fully inserted.



#### **Configuring your display**

Before you start using your **Solo II** we need to take you through a few simple set-up steps. The **Solo II** has two sets of configuration – [BASIC] configuration items that you may wish to change often, and [ADVANCED] configuration items that you may only set up once or alter occasionally.

#### **Basic configuration**

Press and hold  $\overset{\circ}{\overset{\circ}{\overset{\circ}}}$  for three seconds to enter configuration mode then press  $\triangleleft$  or  $\triangleright$  button to choose your configuration mode preference.

Using the & button select [BASIC] settings.



You will be asked to set the following:

- [SET TIME]
- [SET YEAR]
- [SET MONTH]
- [SET DAY]
- [BUDGET]
- [TARIFF 1]
- [TARIFF 2]
- [TARIFF 3]
- [STANDING CHARGE]
- [SET-POINT]

#### **Time and date**



If you've already set this up press to confirm all. Should you want to change it you can find the **settings** on **p11**. The **display** also reminds you to check the time and date each time it is powered up.

#### Budget



You can set yourself a daily, weekly or monthly personal budget which the **display** will use to help you manage your electricity. The **display** can then tell you whether you're on target to be within your budget, and how you've compared over the past few days, weeks, months or the whole year.

If you enter a monthly cost the **Solo II** will automatically calculate the equivalent daily or weekly cost when it needs to. This makes it easy for you to enter a budget that makes sense to you.

You can get an idea of what to set as your budget by looking at recent electricity bills. Please note, the budget is just the energy used and doesn't include any standing charges.

Use the **◄** and **▷** buttons to select whether you want a daily, weekly or monthly budget, then press the *♣* button.

Next adjust the value of budget you would like using the ◀ and ▶ buttons and press ♣ to confirm.

### Tariffs



You need to enter the price you pay for your energy. If you have only one tariff, then enter the cost per kWh. This can be found on your electricity bill.

If you have a block tariff you can work out an average from your recent bills and enter as one tariff.

What is a block tariff? Your block tariff means that for the first x number of kWh in each billing period you pay a more expensive tariff than normal.

How to calculate it: take the total cost of electricity for the period (e.g. £120) and divide it by the amount of kWh you used.

#### Example:

If you were billed £120 this quarter and you used 1000kWh, then enter the sum of  $\pm 120/1000$ kWh =  $\pm 0.12$ /kWh in the display setting [TARIFF 1].

Use the  $\triangleleft$  and  $\triangleright$  buttons to set the tariff and then press  $\mathcal{A}_{=}^{\mathcal{A}}$  to confirm

If you don't have a second tariff, then leave [TARIFF 2] cost as zero.

If you do have a second tariff, for example cheaper electricity overnight, then enter the cost per kWh for that second tariff. If a second tariff is entered then you need to enter the time that tariff starts and ends.



Use the  $\blacktriangleleft$  and  $\triangleright$  buttons to set the second tariff and then press  $\pounds$  to confirm.

Use the  $\blacktriangleleft$  and  $\triangleright$  buttons to set the time the second tariff switches on and then press  $\pounds$  to confirm.

Use the  $\blacktriangleleft$  and  $\triangleright$  buttons to set the time the second tariff comes off and then press  $\mathscr{A}_{*}^{\mathfrak{g}}$  to confirm.



If you have entered a second tariff then you are prompted to enter a third tariff. If you don't have one then simply leave it as zero.



## Standing charge



If you pay your supplier a standing charge you can enter that amount here.

Use the  $\triangleleft$  and  $\triangleright$  buttons to set the daily standing charge and press  $\mathcal{L}$  to confirm.

### Temperature



The **display** can tell you if your home is running warmer or cooler than your ideal temperature.

Use the ◀ and ▷ buttons to set the temperature and press ♣ to confirm.

## **Advanced configuration**

Press and hold  $\pounds$  for three seconds to enter the configuration mode. Using the  $\triangleleft$  and  $\triangleright$ buttons select [ADVANCED] and then press  $\pounds$  to confirm.



You will be asked to set the following:

- [MODE]
- [CURRENCY]
- [TEMPERATURE UNITS]
- [CALIBRATION]
- [DISPLAY OFF]
- [DISPLAY ON]
- [WEEK START]

## Mode and preferences



You can use the **display** to monitor your energy use [CONSUMPTION] or generated energy [MICRO-GEN]. The default is [CONSUMPTION] mode.

Using the ◀ and ▶ buttons select [CONSUMPTION] and press ♣ to confirm.

#### Currency



Using the  $\triangleleft$  and  $\triangleright$  buttons select the  $\pm$  symbol and press  $\clubsuit$  to confirm.

#### Temperature mode



Select whether you want the temperature to be shown in (°C) or (°F).

Using the  $\triangleleft$  and  $\triangleright$  buttons select °C or °F and press  $\clubsuit$  to confirm.

## Calibration



The calibration factor is an advanced setting that typically won't need to be adjusted. Calibration adjusts the accuracy with which the load is measured and the default is 1.00. During normal usage this won't need to be changed.

However, if you think the accuracy could be improved and you want to recalibrate your display, more details can be found at www.greenenergyoptions.co.uk/solo2

#### Sleep mode



The sleep mode allows you to tell the **display** to turn off overnight. This is done by entering the [DISPLAY OFF] time and the [DISPLAY ON] time. During this time the backlight of the **display** will be turned off – if you want to see the **display** whilst it is asleep simply press any button and it will wake up for 60 seconds. If you don't want to use the sleep mode then you can set it to OFF.

Using the ◀ and ▷ buttons set the [DISPLAY ON] time to [DISPLAY OFF] then press ♣ to confirm.

If you set a [DISPLAY ON] time, you will then need to set the [DISPLAY OFF] time again using the ◀ and ▷ buttons and then press ♣ to confirm.

#### Week start



Set your preferred day for the start of the week. This is used by the **display** when showing the energy usage for the [LAST WEEK] and [THIS WEEK].

Using the ◀ and ▷ buttons select your preferred day and press ♣ to confirm.

## **4. SMART PLUG PACK**

[CONSUMPTION] mode only

#### Shop online:

http://store.greenenergyoptions.co.uk

#### energynote:

www.energynote.eu

Smart Plugs (available separately) help you track and control appliances. Set up through energynote – our online energy management service – you can schedule Smart Plugs to turn appliances on/off at particular times of the day. You can also keep a close eye on the true cost of running appliances, as scheduling, consumption and control can all be viewed from the home PC or on the move on a smartphone. Wherever you are, you have full control over your energy use.

Two types of **geo Smart Plugs** are available: an '**active**' version that can be monitored and controlled and a '**passive**' version that can only be monitored – suitable for appliances that shouldn't be turned off such as fridges or freezers.

## **Adding a Smart Plug**

Adding a **Smart Plug** on the **Solo II** system is only possible through the energy**note** website with a web pack. www.energynote.co.uk

- 1. First set up an account.
- 2. From your home screen on the energy**note** site, click on the settings link in the top right hand corner.
- 3. Scroll down the page to the **Smart Plug** Pairing section.



- Hover your cursor over Add for the Smart Plug you would like to pair.
- 5. Click on the **Add Smart Plug** link that becomes available. The system will now give you five minutes to complete the next steps.
- With the Smart Plug plugged into a mains socket, press and hold the button on the front for 10 seconds until the button colour changes to amber. It will pair with the system after a few seconds. Energynote will confirm a successful pairing.

You can now label the **Smart Plug** choosing from a drop-down menu.

## **Renaming a Smart Plug**

- 1. From your home screen on the energy**note** site, click on the settings link in the top right hand corner.
- 2. Scroll down the page to the **Smart Plug** Pairing section.
- 3. Hover your cursor over the **Smart Plug** you would like to rename.
- Click on the label device link that becomes available and choose from one of the options in the drop-down list.
- 5. Click set to confirm.

## **5. SOLO II LED GENERATION [MICRO-GEN]**

**Please note**: by choosing [MICRO-GEN] mode, you will not be collecting data for [CONSUMPTION] mode. If you choose to switch modes you will lose all data you have collected as the display will reset to day one.

## Setting up

1. Plug the power supply into the **display.** 

Your **display** will turn on automatically when you plug it into the mains supply.

Whenever the **display** is turned on, you will see the [SET CLOCK] screen.



- Use the **◄** and **▷** buttons on the front of the **display** to adjust the time and date then press the ♣ button when you have finished.
- 2. Remove the battery tab from the **transmitter.**



- 3. The pulse output is a flashing red light on the front of your meter.
- 4. Stick the square velcro around the pulse output.
- Place the LED sensor over the square velcro on the meter ensuring that the geo logo is facing you.



6. Plug the **LED sensor** into the **transmitter.** 



## ▲ Microgeneration mode

Your Solo II is set to show electricity consumption. In order to view microgeneration data you'll need to change the mode.

Press and hold ♣ for three seconds to enter configuration mode. Using the ◀ and ▷ buttons select [ADVANCED] and press ♣ to confirm. Scroll through the menu until you see [MICRO-GEN] then press ♣ to confirm.

#### **Basic configuration**

Press and hold ♣ for three seconds to enter configuration mode. Using the ◀ and ▷ buttons select [BASIC] and press ♣ to confirm.



You will be asked to set the following:

- [SET TIME]
- [SET YEAR]
- [SET MONTH]
- [SET DAY]
- [FIT]
- [SET-POINT]



## Feed-in tariff [FiT]

The feed-in tariff is the price you are paid for the energy you generate. You can find that on your bill. It's usually shown per kilowatt.

e.g. Feed-in tariff = £0.20/kW

#### **Temperature**



The **display** can tell you if your home is running warmer or cooler than your ideal temperature.

Use the ◀ and ▶ buttons to set the temperature and press ♣ to confirm.

## **Advanced configuration**

Press and hold ♣ for three seconds to enter configuration mode. Using the ◀ and ▶ buttons select [ADVANCED] and then press ♣ to confirm.



You will be asked to set the following:

- [MODE]
- [PV ARRAY KW]
- [CURRENCY]
- [TEMPERATURE UNITS]
- [PULSE]
- [DISPLAY OFF]
- [DISPLAY ON]
- [WEEK START]

## **Mode and preferences**



You can use the **display** to monitor your energy use [CONSUMPTION] or generated energy [MICRO-GEN]. The default is [CONSUMPTION] mode.

Using the  $\blacktriangleleft$  and  $\triangleright$  buttons select [MICRO-GEN] and press  $\overset{\mathfrak{R}}{\leftarrow}$  to confirm.

## PV array kW



You will be prompted to put in the maximum power that you expect to generate. This tells the **display** the correct range to show on the speedo. You can set it to 2, 4, 6, 8 or 20kW by using the  $\triangleleft$  and  $\triangleright$  buttons and pressing  $\pounds$  to confirm.

#### Currency



Using the ◀ and ▷ buttons select your currency and then press ♣ to confirm.

#### **Temperature**



Select whether you want the temperature to be shown in centigrade (°C) or farenheit (°F).

Using the  $\triangleleft$  and  $\triangleright$  buttons select °C or °F and press  $\clubsuit$  to confirm.

## **Generation meter**



You need to tell the **display** about your generation meter. The **display** works by detecting the LED flashing on the meter, but it needs to be told how many times the pulse flashes per kWh of energy generated. This is normally written on the front of your meter, e.g. '1000 imp/kWh'.

Using the  $\blacktriangleleft$  and  $\triangleright$  buttons enter the value for imp/kWh from your meter and press  $\mathscr{E}_{W}$  to confirm.

### **Sleep mode**



The sleep mode allows you to tell the **display** to turn off overnight. This is done by entering the [DISPLAY OFF] time and the [DISPLAY ON] time. During this time the backlight of the **display** will be turned off – if you want to see the **display** whilst it is asleep simply press any button and it will wake up for 60 seconds. If you don't want to use the sleep mode then you can set it to OFF.

Using the ◀ and ▷ buttons set the [DISPLAY ON] time to [DISPLAY OFF] then press ♣ to confirm.

If you set a [DISPLAY ON] time, you will then need to set the [DISPLAY OFF] time again using the  $\triangleleft$  and  $\triangleright$  buttons and then press  $\clubsuit$  to confirm.

#### Week start



Set your preferred day for the start of the week. This is used by the **display** when showing the energy usage for the [LAST WEEK] and [THIS WEEK].

Using the ◀ and ▷ buttons select your preferred day and press ♣ to confirm.

## 6. SOLO II CT MICROGENERATION (MICRO-GEN)

**Please note**: by choosing [MICRO-GEN] mode, you will not be collecting data for [CONSUMPTION] mode. If you choose to switch modes you will lose all data you have collected as the display will reset to day one.

## Setting up

1. Plug the power supply into the **display.** 

Your **display** will turn on automatically when you plug it into the mains supply.

Whenever the **display** is turned on, you will see the [SET CLOCK] screen.



Use the  $\triangleleft$  and  $\triangleright$  buttons on the front of the **display** to adjust the time and date – then press the  $\mathcal{A}_{\mu\nu}$  button when you have finished.

2. Remove the battery tab from the **transmitter.** 



For a **single phase** pack (one mains sensor):

- At your generation meter, clip the sensor around the mains live cable. Locate your mains live cable, this is usually identified by the colour brown, red or the letter "L". You should hear a 'click' to indicate the sensor has been tightly closed.
- 4. Insert the other end of the **sensor** cable in to the socket in the bottom of the **transmitter** and ensure it is fully inserted.



For a three phase pack (three mains sensors):

- 5. At your generation meter, clip the sensors around the mains live cables (attach one sensor per cable). Locate your mains live cable, this is usually identified by the colour brown, red or the letter "L". You should hear a 'click' to indicate that the sensors have been securely fastened.
- 6. Insert the other end of the cables in to the socket in the bottom of the **transmitter** and ensure they are fully inserted.



## ▲ Microgeneration mode

Your Solo II is set to show electricity consumption. In order to view microgeneration data you'll need to change the mode.

Press and hold ♣ for three seconds to enter configuration mode. Using the ◀ and ▷ buttons select [ADVANCED] and press ♣ to confirm. Scroll through the menu until you see [MICRO-GEN] then press ♣ to confirm.

#### **Basic configuration**

Press and hold ♣ for three seconds to enter configuration mode. Using the ◀ and ▷ buttons select [BASIC] and press ♣ to confirm.



You will be asked to set the following:

- [FIT]
- [SET-POINT]

## Feed-in tariff [FiT]



The feed-in tariff is the price you are paid for the energy you generate. You can find that on your bill. It's usually shown per kilowatt.

e.g. Feed-in tariff = £0.20/kW

#### Temperature



The **display** can tell you if your home is running warmer or cooler than your ideal temperature.

Use the ◀ and ▶ buttons to set the temperature and press ♣ to confirm.

## **Advanced configuration**

Press and hold ♣ for three seconds to enter configuration mode. Using the ◀ and ▶ buttons select [ADVANCED] and then press ♣ to confirm.



You will be asked to set the following:

- [MODE]
- [PV ARRAY KW]
- [CURRENCY]
- [TEMPERATURE UNITS]
- [PULSE]
- [DISPLAY OFF]
- [DISPLAY ON]
- [WEEK START]

## **Mode and preferences**



You can use the **display** to monitor your energy use [CONSUMPTION] or generated energy [MICRO-GEN]. The default is [CONSUMPTION] mode.

Using the  $\blacktriangleleft$  and  $\triangleright$  buttons select [MICRO-GEN] and press  $\overset{\mathfrak{R}}{\leftarrow}$  to confirm.

## PV array kW



You will be prompted to put in the maximum power that you expect to generate. This tells the **display** the correct range to show on the speedo. You can set it to 2, 4, 6, 8 or 20kW by using the  $\triangleleft$  and  $\triangleright$  buttons and pressing  $\pounds$  to confirm.

#### Currency



Using the ◀ and ▷ buttons select the £ symbol and then press ♣ to confirm.

#### Temperature



Select whether you want the temperature to be shown in centigrade (°C) or farenheit (°F).

Using the  $\blacktriangleleft$  and  $\triangleright$  buttons select °C or °F and press  $\clubsuit$  to confirm.

## Calibration



The calibration factor is an advanced setting that typically won't need to be adjusted. Calibration adjusts the accuracy with which the load is measured and the default is 1.00. During normal usage this won't need to be changed.

However, if you think the accuracy could be improved and you want to recalibrate your display, more details can be found at www.greenenergyoptions.co.uk/solo2.

### Sleep mode



The sleep mode allows you to tell the **display** to turn off overnight. This is done by entering the [DISPLAY OFF] time and the [DISPLAY ON] time. During this time the backlight of the **display** will be turned off – if you want to see the **display** whilst it is asleep simply press any button and it will wake up for 60 seconds. If you don't want to use the sleep mode then you can set it to OFF.

Using the ◀ and ▷ buttons set the [DISPLAY ON] time to [DISPLAY OFF] then press ♣ to confirm.

If you set a [DISPLAY ON] time, you will then need to set the [DISPLAY OFF] time again using the  $\triangleleft$  and  $\triangleright$  buttons and then press  $\clubsuit$  to confirm.

#### Week start



Set your preferred day for the start of the week. This is used by the **display** when showing the energy usage for the [LAST WEEK] and [THIS WEEK].

Using the ◀ and ▷ buttons select your preferred day and press ♣ to confirm.

# 7. READING YOUR DISPLAY

## Speedometer



The speedometer shows you how much electricity you are consuming or generating right now depending on which mode you have selected. The **display** refreshes automatically every three seconds.

The speedometer shows power up to 20kW and will update every three seconds.

## Numbers along the top



These show how much energy has been consumed or generated over the time period you have asked it to show. You can view this in cost, earnings, currency or carbon.

## Numbers along the bottom



These show how much energy has been consumed or generated over the time period you have asked it to show. You can view this in cost, earnings, currency or carbon.

## **Budget bar and prediction**



[CONSUMPTION] mode only.

If you have set yourself a budget, then the display shows if you are predicted to be under or over your budget (today, this week, this month) or were over/ under your budget (yesterday, last week, last month).

The **display** predicts whether you will be within your budget for the period shown. It predicts this from your consumption so far, and its estimate of your future consumption based on how you have used energy previously. If the **display** is predicting you'll be in budget then it will show a tick, if it predicts you will be over budget then it will show a cross. If neither is shown then you are exactly on budget. Note that the budget doesn't include any standing charge element, it just measures the amount of energy used.



## **Microgeneration threshold**

[MICRO-GEN] mode only.

This lights up when you are generating enough power to run a heavy-load appliance (e.g. your tumble dryer or washing machine).

## Temperature



The **Solo II** has one built-in sensor that is displayed on the left. If the temperature of your home is higher than the temperature you set on the display, the display will show the heatwave icon (). If the temperature is lower, the display will show the snowflake icon (). You can purchase an additional sensor that you can pair to the second slot on the right.

### LED indicator

The LED indicator is located to the right side of the ▶ button. This shows your current energy use.



## lcons

## Signal strength



The signal strength icon shows the quality of the radio connection to the **transmitter**. If **ull** is

flashing the communication is intermittent. Try moving the **display** and the **transmitter** closer together.

## Battery



This — will flash when the batteries in the **transmitter** are running low. If you lose power

altogether you don't need to worry, as the **transmitter** will hold the data for 30 days.

### Tariff



The money bag symbol indicates the tariffs you are using based on what you

have set up and which of the tariffs is currently active.

If you are only using tariff 1 one money bag will be displayed.

If you use tariffs 1 and 2 (e.g. day and overnight tariffs) the tariff that is active is shown by two money bags:

- When the day tariff is active, you will see two money bags.
- When the day tariff is active but due to change within 30 minutes, one of the bags will flash.
- When the night tariff is active, you will only see one money bag.

# 8. USING YOUR DISPLAY

## **Changing units**

You can change how you display the unit of consumption or generation by pressing . You can view usage in cost, earnings, currency or carbon.

## Viewing your history

To view previous usage, press the set button. The display will cycle through the previous periods of usage:

- Today
- Yesterday
- Day before yesterday (displayed as the named day of the week)
- This week (from the start day to now)
- Last week (the previous week, start day to start day)
- This month (calendar month, from the 1st of the month to now)
- Last month (previous calendar month)

A long press of the ◀ or ▷ buttons will take you back to the home screen.

Note that the speedometer and upper digits always relate to 'Today'.

## **Energy stopwatch**



The energy stopwatch mode is entered by pressing the  $\blacktriangleright$  button on any of the consumption screens.

The energy stopwatch allows you to measure the energy consumption of a task, such as running the dishwasher, to see how much it costs.

On entering the stopwatch mode the display will briefly show the word [STOPWATCH] and then show the current status.

The stopwatch is started and stopped by pressing the ◀ button.





- The stopwatch is reset by pressing and holding
- The stopwatch units can be changed by pressing 2.
- To leave the stopwatch screen, press 🕨

Whilst the stopwatch is running the  $\odot$  icon is shown. You can return to the home screen or any other screen whilst the stopwatch is running.

#### Note:

- The upper portion of the display continues to show today's usage whilst in stopwatch mode.
- The maximum duration for the stopwatch is 24 hours.

## Pairing

To enter pairing mode press  $\blacktriangleleft$  and  $\triangleright$  at the same time for a few seconds.

## Transmitter [MAIN SENSOR]

If the main sensor (**transmitter**) is already paired it will show [CONN] (connected). If not, it will show [NONE].

To unpair the **transmitter** press and hold subtraction with the **display** shows [NONE].

#### For the LED transmitter

To pair the **transmitter** press and hold the button on the **transmitter** until the LED flashes. The **display** is now paired and will show [CONN].

#### For the CT transmitter

Your **Solo II** uses an integrated temperature sensor. On the display menu it's shown as **temperature sensor 1**. If you choose to pair an additional temperature sensor you can pair this to **temperature sensor 2** (currently empty). If you wish to use two additional temperature sensors, you'll need to overwrite temperature sensor 1.

#### **Temperature sensors**

Your **Solo II** uses an integrated temperature sensor. On the **display** menu it's shown as **temperature sensor 1**. If you choose to pair an additional temperature sensor you can pair this to **temperature sensor 2** (currently empty). If you wish to use two additional temperature sensors, you'll need to overwrite **temperature sensor 1**.

Remove the battery tab from the temperature sensor



\_\_\_ battery tab

## Temperature sensor 1

For when you want two additional temperature sensors.

The **Solo II** uses its integrated temperature sensor for sensor 1. If you prefer to use two additional temperature **Solo II** display sensors (available separately) then one can be paired in place of the integrated sensor.

The **display** will show [T1 SENSOR], and will show [NONE] if it is using its integrated sensor.

- 1. To pair an additional sensor, ensure the **display** is showing [NONE] and then press and hold the button on the additional temperature sensor until its LED flashes. The **display** will pair and change to [CONN]
- 2. To unpair the additional sensor and use the integrated sensor instead, press and hold the button until the **display** shows [NONE]

### **Temperature Sensor 2**

(available separately)

The **display** will show [T2 SENSOR], and will show [CONN] if a sensor is paired.

- To unpair the additional sensor press and hold the button until the display shows [NONE]
- 2. To pair an additional sensor, ensure the **display** is showing [NONE] and then press and hold the button on the additional temperature sensor until its LED flashes. The **display** will pair and change to [CONN]

#### Bridge

The **Solo II** connects to the web using the **bridge**.

The display will show [BRIDGE] If it is already paired with a **Bridge**, the **display** will show [CONN]

- 1. To unpair the **bridge**, press and hold the button until the **display** shows [NONE]
- To pair the bridge, ensure the display is showing [NONE] and then press the button on the bridge to initiate pairing. After a few seconds the display will change to [CONN]

## **9. ENERGYNOTE ONLINE SERVICES**



#### www.energynote.co.uk

The **Solo II** pack come with a **bridge**. The **bridge** connects wirelessly to your **display** and to the internet via an Ethernet connection to your broadband router.

The online service allows you to:

- Personalise the display on your website

   you can view your energy use in lots
   of different ways so you can choose the
   one that suits you best.
- View your entire consumption history

   the display holds up to one month of
   information, but your website keeps a
   complete record.

- Name each of your Smart Plugs (consumption mode only) for easy reference. That way you are less likely to turn off the wrong appliance.
- Switch individual Smart Plugs on/off.
- Schedule Smart Plugs to switch on/off at set times.
- Do all of the above from anywhere you can access the internet. You can use your smartphone to do all of this.

## 10. FAQs

- Q. Why is my display not showing any data?
- A. The display is out of range of the transmitter. Either move them closer together or move the display to somewhere with better signal strength. If you're still having problems, call the helpline.
- Q. Why has my display turned itself off?
- A. You have sleep mode enabled. You can change this under configurations [ADVANCED].
- Q. How can I see the signal strength for the external temperature sensor?
- A. The signal strength can be viewed on the pairing screen.



- Q. What is the microgeneration threshold?
- A. The threshold is set to 750W. If you're generating more than this, the S icon will light up.

- Q. Can I export the data from my Solo II into Excel?
- A. Yes. First upload your data from your display onto energynote. You can then export it as a .csv file into Excel. From your energynote homepage, go to Devices and press download (as shown below).

		Welcome to Energymote	0	English	Lag	out
nergy <b>note</b>		tere e	() Devices	₽ Settings	Acalysis	<b>0</b> 149
ergy data analysis		Electricity Ma	ins 💽	ø		
Data Range	Last Update	Daily Budge	st Today			15 minute di
(KWP)						
27.90				18		
20.92						
13.95						
6.97		Autom			-	
0.00	December 2012		January	2013		

For further technical support please visit www.greenenergyoptions.co.uk/solo2



# **11. TECHNICAL INFORMATION**

Model	Display	Transmitter	LED Reader
Rated voltage	230Vac 50Hz	3 x AA 1.5V batteries	N /A
Input power	0.25W	0.2W	N /A
Operation	0 to 40°C	-20 to 50°C	-20 to 50°C
Humidity	85% non-condensing	85% non-condensing	85% non-condensing

## **12. LEGAL INFORMATION**

**geo** is a registered trademark of Green Energy Options Ltd. Copyright 2013 Green Energy Options Ltd. All rights reserved.

Green Energy Options Limited (**geo**) makes no representations and gives no warranties of any kind in relation to the contents of this document and all warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, hereby excluded.

In particular, **geo** assumes no responsibility for any errors or omissions that may appear in this document and makes no commitment to either update or keep current the information contained in this document.

**geo** retains the right to make changes to this document (including any specifications contained herein) at any time without notice.

No part of this document may be modified, copied, reproduced, republished, published, transmitted or distributed in any form or by any means without the prior written consent of **geo**. The contents of this document are to be used solely for the purpose for which they are provided by **geo** and for no other purpose.

All content, text, graphics and all other materials contained in this document are owned by **geo** (or its licensor's), and all proprietary and intellectual property rights (including copyright, design rights, trade secrets, trade names, logos and trade marks) wherever arising in relation to this document vest in **geo** (or its licensor's) and all such rights are reserved.

## **13. SAFETY INFORMATION**

- ∧ Keep the display away from water
- Clean with a soft, dry cloth
- If any of the components appear damaged, contact us
- ▲ This is a self-installing display. There is no need for you to connect or disconnect any cabling – and you won't need access to your electricity meter
  - Do not fit rechargeable batteries

- To protect the environment, please take your batteries to a recycling centre for safe disposal
- For use in a dry, indoor environment only
- Please only use the power supply provided
- CE This product is RoHS compliant and CE approved

Ŵ