



Trio II

User Manual



Welcome to your new **Trio II**. You've taken that all important first step towards complete control of your home energy use.

Your **Trio II** will help you manage and visualise your energy – helping you on the way to optimum efficiency and maximum cost savings.

In this manual you'll find everything you need to quickly and simply set up and start using your monitor. You'll also find out more information about how the monitor works, how it can help you and how you can identify ways to save energy (and money).

Hereby, Green Energy Options Ltd. (UK) declares that the radio equipment enclosed (identified by the product type numbers on the product label) are in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available online at <http://www.geotogether.com/EUDoC>.

Safety Information

-  Do not fit rechargeable batteries
-  Keep the **Trio II** away from water and other liquids. Clean only with a dry, soft cloth. If any components appear damaged or faulty, please contact your energy provider
-  For use in a dry, indoor environment only
-  It is not necessary for you to connect or disconnect any cabling or access your electricity meter
-  To protect the environment, these products and any batteries must be disposed of safely at the end of their life. Please take to a recycling centre for safe disposal
-  RoHS compliant
-  CE approved
-  Please only use the power supply provided

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Your Trio II Monitor

What's in the Box?

Your **Trio II** package contains the following items:

- **Trio II** energy monitor
- Monitor stand
- Micro-USB power supply

Powering the Monitor

Your **Trio II** monitor can be powered using the supplied power supply or with 3 x AAA alkaline batteries.

Do not use any other power supply with this monitor. The supplied power supply is not suitable for use with any other USB device.

It is not recommended to use batteries for a prolonged period.

To insert or replace the batteries, remove the stand from the monitor by sliding it downwards and then insert the batteries. Re-attach the stand.

Do not use rechargeable batteries in this monitor.

Monitor Stand

The stand may already be attached to your **Trio II** monitor.

Attaching the stand

To attach the stand, place the front of the stand over the tab at the bottom of the monitor and slide upwards until you hear a click.

Removing the stand

To remove the stand (to insert or replace the batteries), slide it downwards and then pull it away.

Monitor Overview

Push button to access the **Quick Access** screen or to return to the **Home** screen when you are on any other screen.

Touch to change to **Now, Today** and **Prepay** tabs.



The screen on the **Trio II** monitor is touch-sensitive - you only need to lightly touch it to interact with the screens.

In the top left of the screen, touching the  button will show the **Menu** screen and on other screens  will go back to the previous screen.

Touch the **£** or **kw** button to switch between showing cost or energy consumption.

What does it mean?

See what you're using

Your **Trio II** monitor makes your electricity and gas consumption visible, taking the guesswork out of understanding how much your home uses - both right now and historically.

What is a kWh?

Electrical and gas energy consumption is measured in **kWh** (kilowatt hours) - traditionally known as 'units'.

As items within the home consume energy during the day, the kWh total increases.

A **kW** (or kilowatt) is the rate at which energy is being consumed, so using 1.5kW for 1 hour would result in 1.5kWh of energy consumed.

It's about now ...

In the same way your car shows how fast your car is travelling, the electricity speedometer on the left of the Home screen shows how much electricity your home is consuming now.

Similarly, the flame shows you how much gas has been consumed within the past 30 minutes.

The electricity speedometer is updated every few seconds and the gas flame every 30 minutes.

To make it even easier to understand the hourly rates of consumption can show the rate of consumption in cost (£) and energy or power (kW).

For example, if the monitor says £0.15 for the rate of electricity consumption, then this means that if the rate remained the same it would cost 15p for the next hour.

Less is more

The lower the hourly rate of consumption, the less it will cost and the more you can save.

It is typical of a medium sized house to use around 250Wh or 4p per hour of electricity - so see how low you can get the speedometer.

If, when you have your lights off, your house is using more than this rate,

have a look around the home and see if any appliances can be turned off.

The gas flame should be off when your boiler and cooker have not been used for 30 minutes.

What is normal?

Don't worry if every now and again the usage is high - this can be normal.

The image below shows where the electricity speedometer will typically be when using certain appliances.



How can I use less?

Look for appliances around the home that are not always being used and can be switched off.

Often it's items such as a games console, sound system or even a clock radio in the spare room. Experiment with switching appliances off and see what affect that has on the speedometer.

Other ways to save include having less water in the kettle (only boil what you intend to use), lowering the temperature on the washing machine or raising the temperature of the freezer (-18C is cold enough).

Getting Started

Meter Connection

The screen will show **Connecting to smart meter...** for up to 5 minutes while the monitor connects to the smart meter(s) in your home.



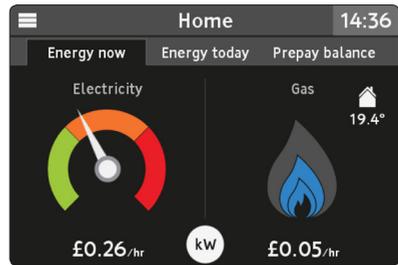
Should the screen show **No Network** then you will need to contact your energy provider to complete the installation.

If the screen shows **Lost Network**, then you may need to move the monitor closer to your smart meter(s) to re-establish the connection.

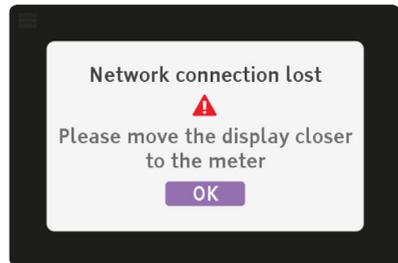
You can check the strength of the signal to the smart meter(s) by pressing the top button on the monitor.

Connection Established

Once your monitor has successfully established a connection to your smart meter(s), your **Trio II** will show the current consumption for electricity, recent gas usage and the house temperature.



If your monitor loses connection to the smart meter(s), then it will show the following alert:



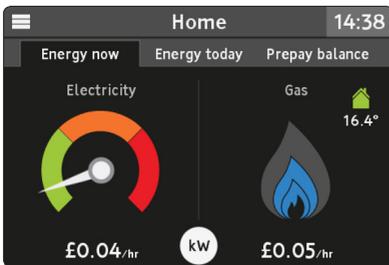
Try moving the **Trio II** closer to the smart meter(s) to re-connect.

Home Screen

Overview

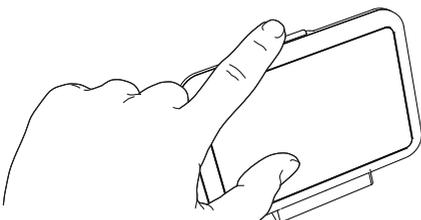
The **Home** screen is broken down into two or three tabs, depending on whether you have electricity or gas in credit or pre-payment mode.

When your **Trio II** is powered on, it will automatically show the **Home** screen once connected to the smart meter(s).

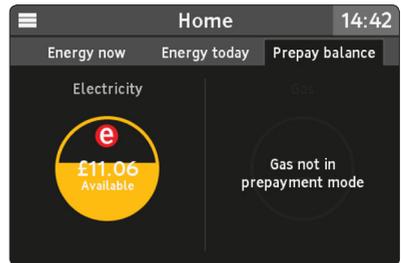
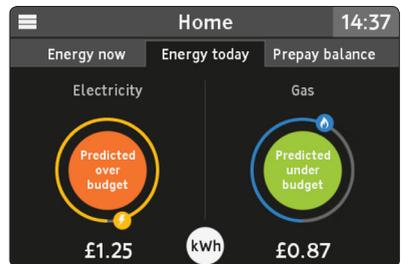


You can also, at any time, press the button on the top of the monitor to return to the **Home** screen.

Pressing the top button while on this screen will then show the **Quick Access** screen.

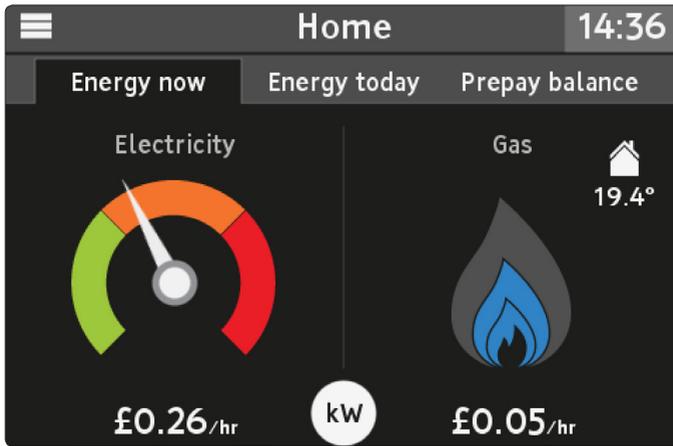


Touch **Energy now**, **Energy today** or **Prepay balance** (when in prepay mode) to switch between the tabs.



When you next return to the **Home** screen from other screens, the previously selected tab will automatically be shown.

Energy Now



The **Energy now** screen is divided in half, with the left side being about **Electricity** consumption now and the right about **Gas** consumption and the temperature (where available) within the home.

Depending on your smart meter configuration, only the available energy types will be shown - the gas flame will not be shown if you do not have a gas smart meter, for example.

This is the default screen shown when the monitor has started up, when the top button has been pressed or when the monitor has not been used for a period of time.

Touching the **kW** or **£** icon will change the values from being shown in cost as £/hr and energy as kW.

Electricity (left)

The dial on the left (only available when you have an electricity smart meter) shows the current rate of energy use for your home.

As your home uses more or less energy, the dial will move up and down.

The dial is divided into three zones - green, amber and red. As the dial moves between the zones, the colour of the button on the top of the display will change to match.

This means you can quickly see if your home is using a little or a lot of electricity from a distance or at times when the screen has dimmed or turned off overnight.

The current rate of consumption can be shown in cost as **£/hr** (default) or energy as **kW**.

Touch the dial to go to **Electricity history**.

Gas / House Temperature (right)

The gas flame indicates the recent consumption rate of gas for the home (where available). The usage readings are taken every half an hour.

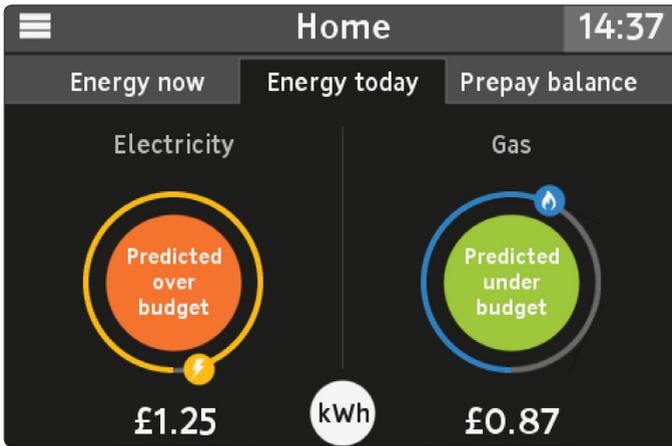
As more gas is consumed, the blue flame will increase in size.

Due to readings being taken every half an hour, the flame shows recent gas consumption and may not show when gas is no longer being consumed.

The house image on the right shows the current internal temperature of your home, as measured by the **Trio II** monitor, and indicates how the temperature compares with the desired "set point" (which can be changed within **Settings**) - green for more than 1°C below the set point, white for set point and red when more than 1°C over.

Touch the flame to go to **Gas history**, where available.

Energy Today



The **Energy today** screen shows the total consumption so far today for **Electricity** and **Gas**.

If you have set a budget for each fuel type (see **Settings**), then the monitor will predict - based on previous consumption for the same day of the week - if the total consumption today will be within budget.

As energy is consumed, the small yellow dot (for electricity) and blue dot (for gas) will orbit around the budget prediction to show how much of the daily budget has been consumed so

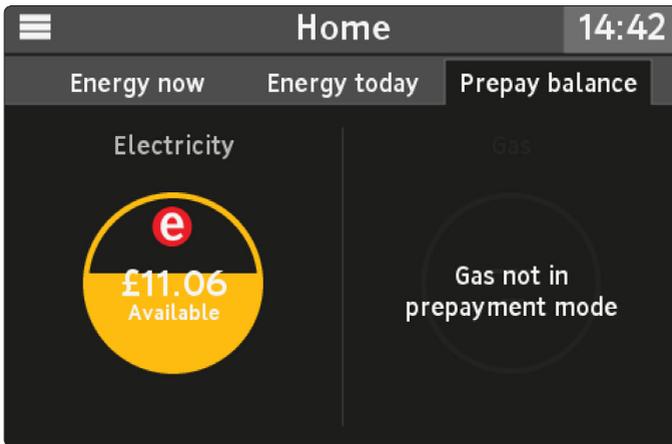
far today, starting and ending at the bottom.

The budget prediction is shown in green if predicted to be under budget, amber if over budget is expected or red if the budget has already been consumed.

Touch the **£** or **kWh** button to change between total cost and energy.

The budget can be set within the **Settings > Budgets** menu.

Prepay Balance



This screen is only shown if one or more prepayment meters are installed.

The **Prepay balance** screen shows the current available credit for prepayment meters.

Electricity is on the left and **Gas** on the right.

The circle will indicate the credit available (from £20 down to £0) and whether **Emergency credit** is available or in use.

Touching on the circle will show the **Electricity balance** or **Gas balance** screens.

You can change the minimum credit level under **Settings > Advanced > Low credit setting** to be notified on screen when credit is low.

If the red **e** symbol is flashing, then pressing the symbol will accept the available emergency credit.

Quick Access Menu

Overview

Pressing the home button on the top of the monitor while on the **Home** screen will show a set of buttons to quickly access some of the monitor's main features.



Electricity

- Touch this button to show the **Electricity history** screen

Gas

- Touch this button to show the **Gas history** screen

Status

- Touch this button to see the **System status** screen
- Orange or red indicate there is a problem - touch for more information

Settings

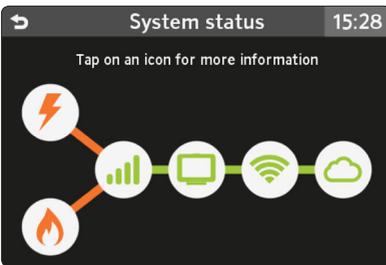
- Touch this button to see the **Settings** menu

The top right of the screen shows the current signal strength to the smart meter(s) and the WiFi network (if the optional WiFi module has been installed)

Press the home button again or touch the  button to return to the **Home** screen.

System Status

This screen can be accessed via the **Quick Access** menu.



Touch any of the icons to view more information on the different parts of the smart metering system.



Press the  button to return to the **Quick Access** menu.

The icons show the following:

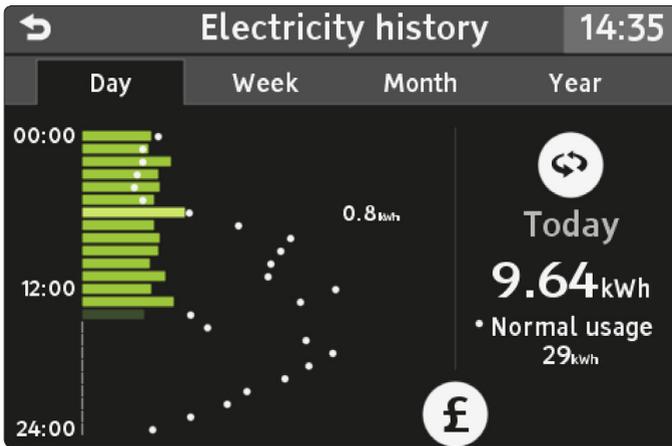
-  Status of the electricity meter (where fitted)
-  Status of the gas meter (where fitted)
-  Signal status between the monitor and the smart meters - the signal strength is shown on the **Quick Access** menu
-  This monitor (always green)

If the optional WiFi module has been fitted, then the following will also be shown:

-  Signal status to the local WiFi network - the signal strength is shown on the **Quick Access** menu
-  Connection status to the Cloud service

History Screens

Electricity History



By touching the **Electricity** section of the **Energy now** screen, or by selecting from the **Quick Access** or **Main** menus, you can see recent usage.

Day tab

The screen initially shows the current usage for today in energy (**kWh**), divided in to the 24 hours of the day.

Each bar represents one hour period and is shown in green. The lighter green bar is the highest hourly period for today and the darker green bar is the current hour or incomplete period.

For each bar the typical consumption for the period of the day is shown as a white marker, so it is clear to see if usage has been more or less than normal.

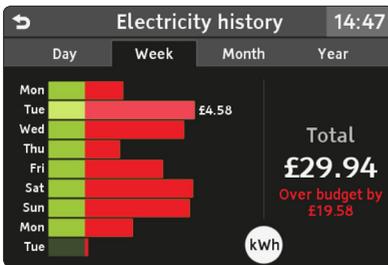
Touch any of the green bars to see the usage for that hour, the figure is shown to the right of the bar (0.8kWh in the example shown above).

Use the  button to switch between today and yesterday.

Touch the **£** or **kWh** to change between cost and energy.

Week tab

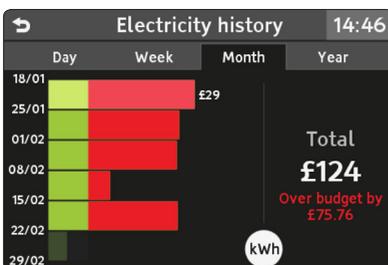
The week tab shows the electricity usage for the previous 8 days.



If a budget has been set (see [Settings](#) > [Budget](#)), then when in cost view (£) the days when the budget was exceeded are shown with the extra cost highlighted in red.

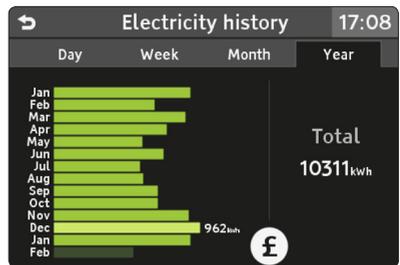
Month tab

This shows the previous weeks in the same way as the week tab.



Year tab

The final view is the Year tab which shows the previous 13 months of usage. As with the week and month tabs, you can see months that were above and below the budget.



Gas History

The same historical views are available for gas consumption.

Seasonal Adjustment

The budgets are seasonally adjusted to take in to account higher energy use during the winter months and less during the summer.

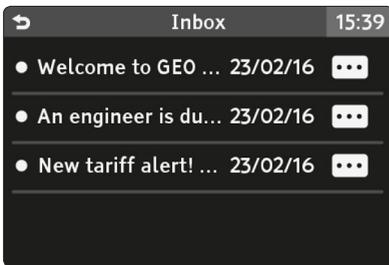
This can be disabled under [Settings](#) > [Budget](#).

Messages

Inbox

Your energy provider(s) may send you messages via your smart meter(s) and these will be shown in the Inbox.

When a new message is received you will also receive a notification on the screen and a sound. (The notifications can be changed under **Settings > Sound & Alerts.**)



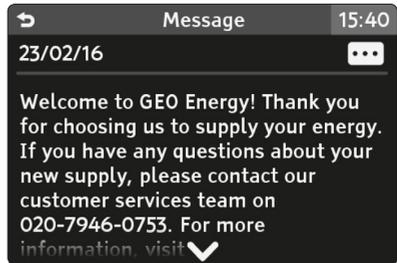
If a message has not yet been read, it will be shown in bold and have a marker to the left.

Press any message to view the message in full.

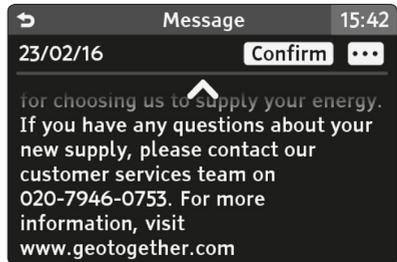
Reading a Message

When a message is first open, the date is shown at the top and the content of the message below.

If the message is longer than the space available, use the **▼** and **▲** buttons to view the rest of the message.



Some messages require confirmation or acceptance - scroll to the end of the message to see the options.



Deleting Messages

A message must have been read before it can be deleted.

Once read, press the **•••** button on the top right of the message to see further options.

Menu

Overview

The main menu can be accessed by touching the  button in the top left of the **Home** screen.



Use the  and  arrows to move through the menu items and then touch to access the menu item.

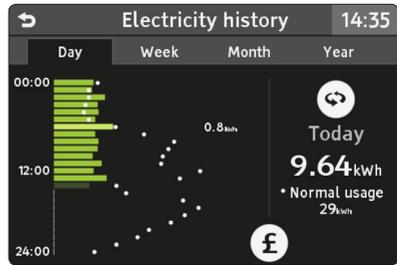
Electricity usage, **Gas usage** and **Settings** can all be accessed via the **Quick Access** menu.

See “Quick Access Menu” on page 14.

Touch the  button to go back a level.

Electricity Usage

Explore recent electricity consumption in the **Electricity history** screen (when available).



This screen can also be accessed via the **Quick Access** menu and touching the **Electricity** button.

See “Electricity History” on page 16.

Gas usage

Explore recent gas consumption in the **Gas history** screen (when available).

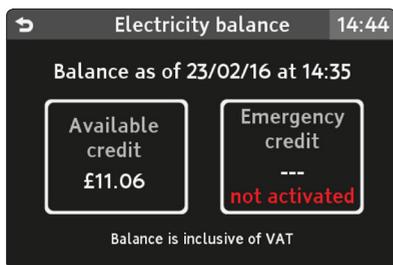
This screen can also be accessed via the **Quick Access** menu and touching the **Gas** button.

See “Gas History” on page 17.

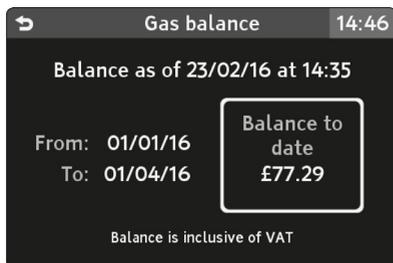
Meter Balance

Look at the current balance of energy used for electricity or gas since the last bill or to view your pre-payment balance.

Select to view the meter balance for **Electricity** or **Gas**.



Meter balance for pre-payment

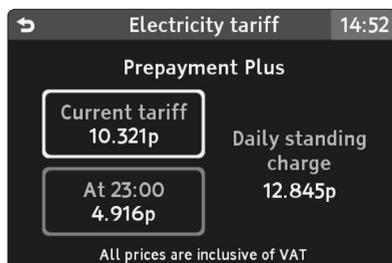


Meter balance for credit billing

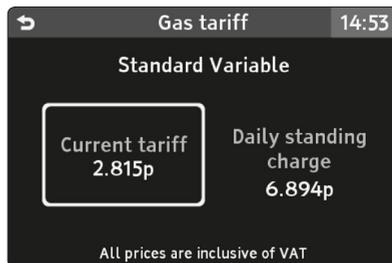
Use the  button to return to the **Menu** screen.

Tariffs

Look at the current and next electricity and gas prices and any other daily charges that may apply.



Example tariff with variable charges



Example of standard rate tariff

The screen shows the current chargeable unit of electricity or gas with any daily charges that may apply, excluding any applied discounts.

If you are on a variable tariff, then the upcoming rate is shown.



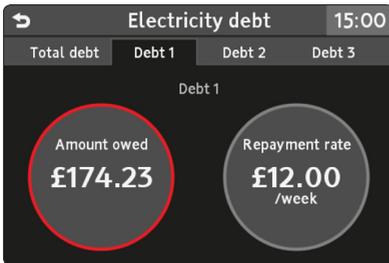
Debt

If you have a pre-payment meter and you have any outstanding debt with your energy provider, this will be shown with a breakdown of the charges and recovery rate.

Total debt refers to the combined total of all debts owed.



Combined debt



Detailed debt with recovery rate

Inbox

View messages that have been sent by your energy provider(s).

See “Messages” on page 18.

Meters

View details of your electricity or gas meter and the current meter reading.



Support

Contact details for your energy provider(s), (which may include a telephone number and email address).

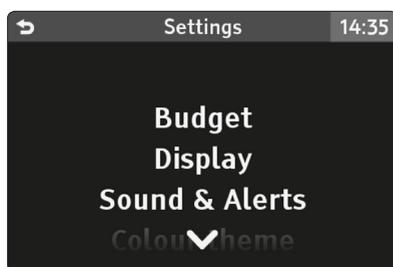
Settings

See “Settings” on page 23.

Settings

Overview

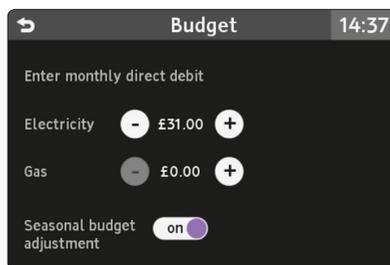
The settings menu can be reached from the main Menu or from the Quick Access menu.



Use the  and  arrows to change the setting selection and touch the setting title to view or change the selected setting.

Budget

Your **Trio II** monitor has been designed to help you track your energy usage and meet a budget you have set.



If you look at the **Energy today** tab on the **Home** screen, you will be shown how the energy usage for today compares against your set budget.

Use the **+** and **-** buttons to change the monthly budget.

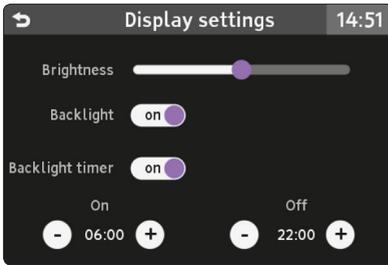
Seasonal adjustment

Your **Trio II** can adjust your budget to reflect the seasonal variation in consumption.

It is typical to use less energy in the summer months compared to the winter months.

Display

Use this setting screen to change the display settings for your monitor.



Brightness

Set the brightness of the screen. This affects all screens. Slide to change.

Backlight

When set to **ON**, your monitor will remain with the screen shown at all times (unless Backlight timer is on).

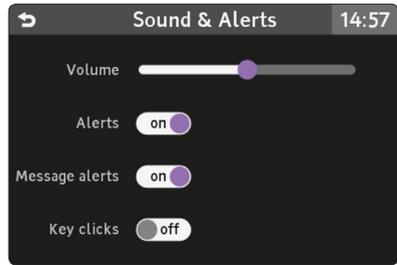
Backlight timer

When set to **ON**, the screen on your monitor will be shown between the times selected.

When the screen is off, touch the screen or press **Home** button to wake.

Sound & Alerts

Change the volume of warning tones and when you hear them.



Volume

This sets the volume of all sounds. Slide from left to right to change.

Alerts

Set to **ON** if you wish to receive audible notifications of new alerts.

Message alerts

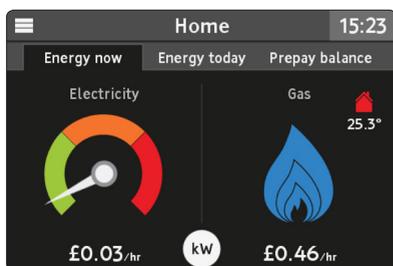
Set to **ON** if you wish to receive audible notification for new messages.

Key clicks

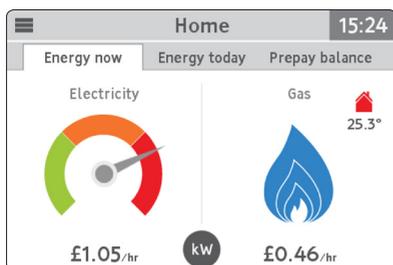
Set to **ON** to hear a sound as you type on the on-screen keyboard.

Colour Theme

Select between **Dark** and **Light** colour themes.



Default **Dark** theme



Light theme

WiFi Network

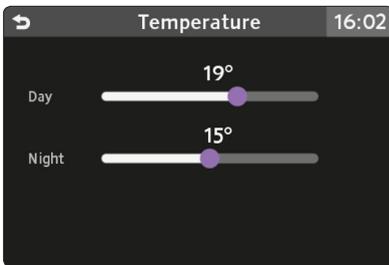
See 'Connect to WiFi Network' on page 27 on setting up and managing the WiFi network (if module fitted).

Online Setup

Please see 'Online Setup' on page 27 for setting up online services (if module fitted).

Temperature

The **Trio II** can display the house temperature on the **Energy now** tab (as measured by the monitor).



The desired set point can be set for **Day** and **Night** using the slider.

The temperature is shown on the **Home** screen and is coloured green if under or at the set point or red if over.

The **Trio II** does not control your heating - temperature readings are for information purposes only.

Advanced

The advanced features include:

Device info

Information including the serial number and software version of your **Trio II** monitor. You may need this information when contacting your energy provider.

Low credit setting

Use the buttons to set the minimum available credit before you receive an on-screen notification.

This is only available if you have a pre-payment meter.

Reset settings

Use this screen to remove all your user settings including budgets, temperatures, alerts and credit warning level.

Engineer

This screen is for installation engineer use only.

Online Setup

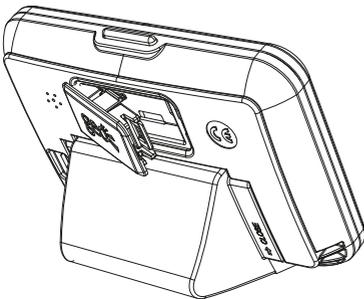
Introduction

Depending on your energy provider, your monitor may be enabled to connect to remote cloud services using an inbuilt WiFi module.

WiFi Module

If your **Trio II** has been supplied with the optional WiFi module, then please refer to the *Online Setup Guide* that accompanies this user manual.

To install the module, make sure the monitor is disconnected from the power supply and any batteries are removed, then remove the panel from the rear of the monitor and insert the WiFi module.



Remove and insert the WiFi module

Connect to WiFi Network

Your monitor will need to be connected to a local WiFi network to enable cloud services.

Access WiFi settings screen

- Press the menu (☰) button on the **Home** screen
- Scroll down to **Settings**
- Scroll down to **WiFi Network**
- Touch **Set up network**

Connection methods

There are three different ways to connect to a local WiFi access point:

- Use another WiFi device - such as smart phone or laptop - and connect to the monitor (preferred method)
- Use the WPS button on your broadband router
- Scan for the network and connect manually

Follow the on-screen instructions on connecting using one of the methods above.

App & Account Registration

Your energy provider may provide you with a smart phone app or other online service to view your energy usage remotely.

During the registration of the energy app, you will be required to enter a **Secure code**.

Select **Online setup** from the **Settings** menu and the screen will display a new secure code.



A secure code is received from the cloud service each time you access this screen and shown in the bottom right.

Read the instructions on the screen and within your energy app to complete the process.

Troubleshooting

FAQs

My monitor is not showing any readings

This could be because your display is out of range and not communicating with the smart meter.

You can check the signal strength from the **Quick Access** menu.

If the display cannot communicate with the smart meter, it will show **Connecting to smart meter ...** when the monitor is turned on.

If the display shows **Lost network** or **Not commissioned**, then contact your energy provider.

Why has my monitor's screen turned off or gone blank?

Your monitor may be off for a number of reasons:

Under **Settings > Display**, if you have selected the **Backlight** to be off or the **Backlight timer** setting to be on, then the screen will be blank when you are not using it (or it is scheduled to be off). Touch any button and the screen should come back on.

See 'Display' on page 24 for more information on the **Display** settings.

If the monitor is being powered by batteries, then it may be that they have run flat. Either connect your monitor using the supplied power adapter or replace the batteries.

The monitor will run for approximately 4 hours while on batteries so that you can carry it around the home to learn how different appliances work. It is not intended for prolonged use.



Error Codes

Your monitor may show an error code when something goes wrong. The most common codes are shown below.

Code(s)	Error	Resolution
1 ... 3	Monitor error	Your monitor has developed a fault. Please remove and re-insert the power supply or contact your utility provider.
20	Connection error	Monitor unable to communicate with the parent smart meter. Try moving the monitor closer to the smart meter(s) or contact your utility provider.
21, 25	Electricity meter error	Monitor cannot communicate with the electricity meter. If the problem persists, contact your utility provider.
22, 26	Gas meter error	Monitor cannot communicate with the gas meter. If the problem persists, contact your utility provider.
30	WiFi module not found	WiFi module error (if fitted). Please remove and re-insert the module.
31 ... 44	WiFi error	WiFi module unable to communicate properly. Please check your local WiFi and check your monitor's settings. (See Settings > WiFi network)

For all other codes, please contact your utility provider(s).

See **Menu > Support** for contact details.

Technical Specifications

Trio II Monitor

This product is intended to be used indoors in a domestic or small office environment. It is not suitable for outdoor use.

Model	PCK-TR-004
Rated voltage (display)	5Vdc and / or 3 x AAA 1.5V alkaline batteries
Rated voltage (power supply)	230Vac, 50Hz
Input power	0.5W
Operating temperature	0 to 40°C
Operating humidity range	85% non-condensing

This unit has been tested and conforms to the following standards:

- EN 300 328 V1.7.1 (2006)
- EN 55022:2006
- EN 301 489-17 V2.1.1
- EN 61010-1:2010 (3rd Edition)



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Version: SM2D-A-USG-001_1