

Installation and user guide

## In-Home Display



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# 1 Introduction

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This guide provides you with information about how to monitor your electricity consumption by means of an In-Home Display (IHD). The display described in this guide is a GEO Duet II display, in the following called "display".

The display provides you with real-time feedback on your electricity consumption. The display communicates wirelessly with your Kamstrup electricity meter via a ZigBee® module that you plug into your electricity meter.

The display lets you:

- View your current electricity consumption
- Track your electricity consumption over time

The display is designed for showing both your electricity and gas usage, but Kamstrup only shows the electricity consumption. It uses a radio frequency (via the wireless standard ZigBee®) to communicate directly with your meters.

Please read the important safety notice in this document before using your display.

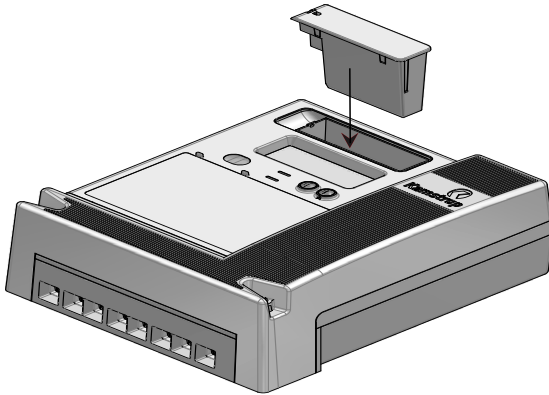
## 2 Setup

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Note that the display and the ZigBee® module can only be used together with the Kamstrup electricity meters of the type 382M and OMNIPOWER Variant 1.

Insert the ZigBee® module in the module area of the Kamstrup electricity meter.

The ZigBee® module and the display have already been paired by Kamstrup. Do not change the pairing.



### Connecting the power supply

Connect the power supply to the display. The display turns on automatically when you plug it into the mains.

### Batteries

The display comes pre-installed with 3 x AAA batteries.

When you first use the display, remove the battery tab on the back of the display.

The display can be powered with primary or rechargeable battery support.

### Wall mounting your display

The display can be either free-standing or wall-mounted.

To wall mount, remove the stand from the rear of the display by sliding it downwards and then secure it to the wall with one flat-head screw.

### Smart meter connection

Each time the display is turned on when powered by either the mains power supply or batteries, it will show **Connecting to smart meter...** while establishing the connection. This can take up to five minutes.

### 3 Display overview

#### Electricity & gas tariffs

The electricity icon (⚡) indicates the current electricity tariff rate, ⚡ indicates the lowest rate and ⚡⚡⚡ the highest.

This is the same for the gas icons (🔥) (not used).

#### Consumption LED

The LED indicator shows current energy use: green for low, orange for medium and red for high.

#### Home button

Pressing the button on the top of the display returns to the home screen.

#### Electricity consumption

The upper speedometer shows your current electricity load (kW) up to 22.250kW. It updates every 10 seconds.

The upper digits show the numerical value of the electricity load in whichever units you have chosen.

#### Gas consumption

The lower speedometer shows your recent gas load (kW) up to 50kW. It updates every 30 minutes.

The lower digits show the numerical value of the gas load in whichever units you have chosen.

(Not used)

#### Alert & message symbols

⚠ indicates an alert has been triggered.  
✉ indicates a new message or alert is waiting.

#### Lower part of screen

Shows detailed information and provides access to menus and settings functions.

See "Lower screen overview" for details.

#### Navigation buttons

Pressing any of these three buttons will perform the action written directly above the button.

In this example, pressing the right button will scroll down the menu.



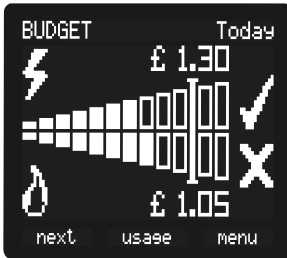
## 4 Lower screen overview

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Pressing the middle button will cycle through the different views and the left button through time periods.

After five minutes, the display will go to sleep. Press any button to see more detailed information or to access the menu.

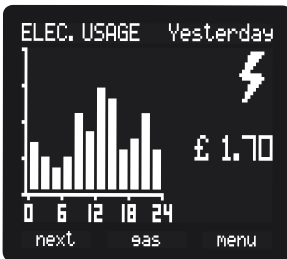
### BUDGET



The horizontal funnels show performance against a set budget with the ✓ or X indicating if the budget will be met or exceeded, along with the total consumption for the period.

Time periods are **Today**, **Yesterday**, **Week** and **Month**.

### ELEC USAGE



A set of graphs showing consumption over time for electricity.

In addition, the total for the period is shown in the selected units.

Time periods are **Today**, **Yesterday**, **Daily**, **Weekly** and **Monthly**.

### COMPARE ELEC

Here, you can see a comparison of periods, with the total consumption and indication of whether the budget was met or exceeded.

### ELEC BILLING

Here, you can see the costs for electricity for the billing period.

## 5 Menu options

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The main menu is available from the Home view and is selected by the middle button **menu**.

### **Exit**

Lets you return to the Home screen, and exit the menu.

### **Demo Mode**

Lets you take a tour of the main features of the display.

### **Your Tariffs**

Displays your range of electricity prices.

### **Budgets**

Allows you to view and set your budget.

### **Configuration**


Allows you to access various submenus to change the settings for e.g. the backlight, the user PIN and message alerts.

### **Advanced**

Provides you with information about your meter/network.


### **Messages**

Displays all messages received.

If your utility has sent you a message, you will see a  symbol on the upper screen. This symbol remains while unread messages are waiting for you.

### **Alerts**

Displays any alert generated by the display.

If your display has created a new alert, you will see the symbol  on the upper part of the screen. This symbol remains until all alerts have been acknowledged by pressing the **confirm** button.

### **Contact Us**

Shows the customer service contact details (not used).

### **Meter Reading**

Shows you your current electricity meter readings.

## 6 Safety notice

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It is important to observe some simple safety precautions when using this display. Safe operation of your display is impaired if used in a manner not specified by the manufacturer.



Keep the display away from water and other liquids. Disconnect from the mains power supply before cleaning (with a soft, dry cloth only). Please contact your supplier if any components appear damaged or faulty.



Your display is designed to be used in an indoor, domestic environment only.



To protect the environment, this display and its batteries must be disposed of safely at the end of its life.

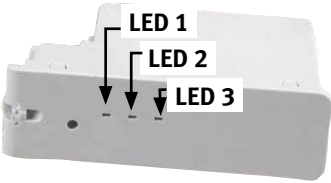


This display is CE approved.



This display complies with RoHS regulations.

## 7 Troubleshooting

Problem	Possible cause	Solution
The display has lost connection to the network.	<p>The display is not within wireless range of your electricity meter.</p> <p>Your meter's network has been disconnected due to a power outage or due to being serviced by a field technician.</p>	<p>Try moving the display closer to the meter or away from large obstacles.</p> <p>Note that LED 2 and LED 3 on the module show the signal strength:</p> 
The running total does not match your electricity bill.	Your display is intended for feedback purposes only and is not a billing tool. Discrepancies may exist between your display's running total and your bill, even if you reset your running total at the beginning of your billing cycle.	
The current consumption value does not change when you turn on/off a light.	Some electrical loads are too small to register a change in your meter's current electricity consumption value. For example, compact florescent light bulbs (CFLs) draw very little electricity and may not cause any visible difference in consumption.	
The display is not showing any information.	This could be because your display is out of range and is not communicating with the meter.	<p>Check your signal strength by selecting <b>Advanced &gt; Signal</b> from the main menu.</p> <p>If the meter network is lost, it will display <b>Connecting to smart meter...</b></p> <p>Try moving your display closer to the meter. If problems persist, please contact the customer service</p>

## Troubleshooting

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<b>Problem</b>	<b>Possible cause</b>	<b>Solution</b>
The display is blank or has switched itself off.	The display backlight may have turned itself off to conserve power. Press any button on the display to switch it back on.	If you are using batteries to power the display, the batteries may have gone flat. The running time is 30 hours.  We recommend that the display is powered continuously using the power supply provided.

## 8 Technical specifications

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The display is intended to be used indoors in a domestic environment. It is not suitable for outdoor use. It is intended to be installed and configured by a qualified installer only.

Dimensions	147 x 74 x 25 mm
Data storage	13 months
Power supply	230 Vac, 50 Hz / 110 Vac, 60 Hz 3 x AAA batteries (max 30 hours)
Operating voltage	5Vdc
Operating power	< 0.6W
Consumption	< 0.5 W [low power] / < 1.0 W
Radio	2.4 GHz ZigBee® (PA)
Display	4 colour PMVA backlit + White 5k pixel PMVA backlit
Operating temperature	0 to 40 °C
Operating humidity	0 to 85 % non-condensing
Contents	Duet II + stand PSU (UK, EU, US, Australia)

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

EN 300 328 V1.7.1  
 EN 301 489-1 V1.8.1  
 EN 301 489-3 V1.4.1  
 EN 61010-1  
 EN 60950-1

## 9 Ordering number

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In-Home Display and OMNICON ZigBee® module

6664200