



The  
footprint  
system  
helps  
identify  
ways of  
reducing  
power  
and saving  
money

energy  
management

## Analysis

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Footprint records energy usage and presents the information on the dashboard. You can view graphs, make comparisons, and create pdf or csv reports.

## Costing

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Enter your own rates and Footprint will calculate the running or energy costs for all the equipment being monitored.



## Control Modules

Different levels of control are available via the dashboard from full automation to manual overrides.

Modules are built with intelligent smart meter technology, with each module recording the energy usage of any devices plugged in.

## Dashboard

The dashboard can be accessed via any standard internet browser, so no requirement for any additional software.

The **smart meter** is responsible for recording the energy usage of connected appliances.

The **auxiliary sockets** can be controlled via the dashboard and switched ON/OFF either manually or automatically.

The **master socket** remains ON at all times and it is recommended this socket is used for the PC.



The **gateway** is the link between the power modules and the dashboard. Transmitting data and sending instructions. Note: Gateway MAC addresses and PIN numbers, in relation to their location, need to be logged.



Please see page 31 for more information.

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Footprint is a system that gives the user total control. Connecting appliances to the Footprint power module will allow users to collate energy usage data, monitor activity levels and schedule power.

1

## The master socket with built in smart meter technology

The master socket is an uncontrolled outlet. The additional data obtained from this socket can be used to control the auxiliary sockets depending upon the operational mode set. The in-built smart meter measures and transmits highly accurate consumption data which can then be reported on.

2

## The gateway

The Gateway is the hub of the system. The gateway sends messages from devices, equipment or web browsers using SSL certificates to encrypt the information that is passed. The SSL certificate provides encryption between the web browser or device and the host server platform and implements 128 bit AES/TLS encryption for all traffic. The gateways need to be positioned a minimum of 2m from a Wi-fi access point.

3

## The power module

The power module allows users to connect appliances in order to make them smart as well as controllable. Using the recognised low power wireless technology of Zigbee®, the power module communicates to the Gateway allowing for energy monitoring and device control. Zigbee® has been designed for wireless mesh networking enabling hundreds of devices to transmit information to one another in real time. Due to its versatile nature, the mesh network also means that if one device stops transmitting, the system will continue to operate. The power modules are pre-configured to connect to the Gateway with minimal consumer set-up.

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## The dashboard

The control centre of operations, the Dashboard will allow different types of users to monitor activities and get involved. The Dashboard will collect energy usage and display it as usable data in the form of expenditure, CO<sub>2</sub>, and KWh used. Not only a monitoring tool, the Dashboard allows you to control the entire system.

### Audit

You now have the tools to show users their energy consumption on an individual, department or floor basis. This makes it easier for users to take responsibility and ownership of their own actions fuelling behavioural changes to take place.

### Target

When taking accurate readings it is easier for companies to benchmark a starting point and then look to introduce appropriate targets to measure the progress being made.

### Monitor

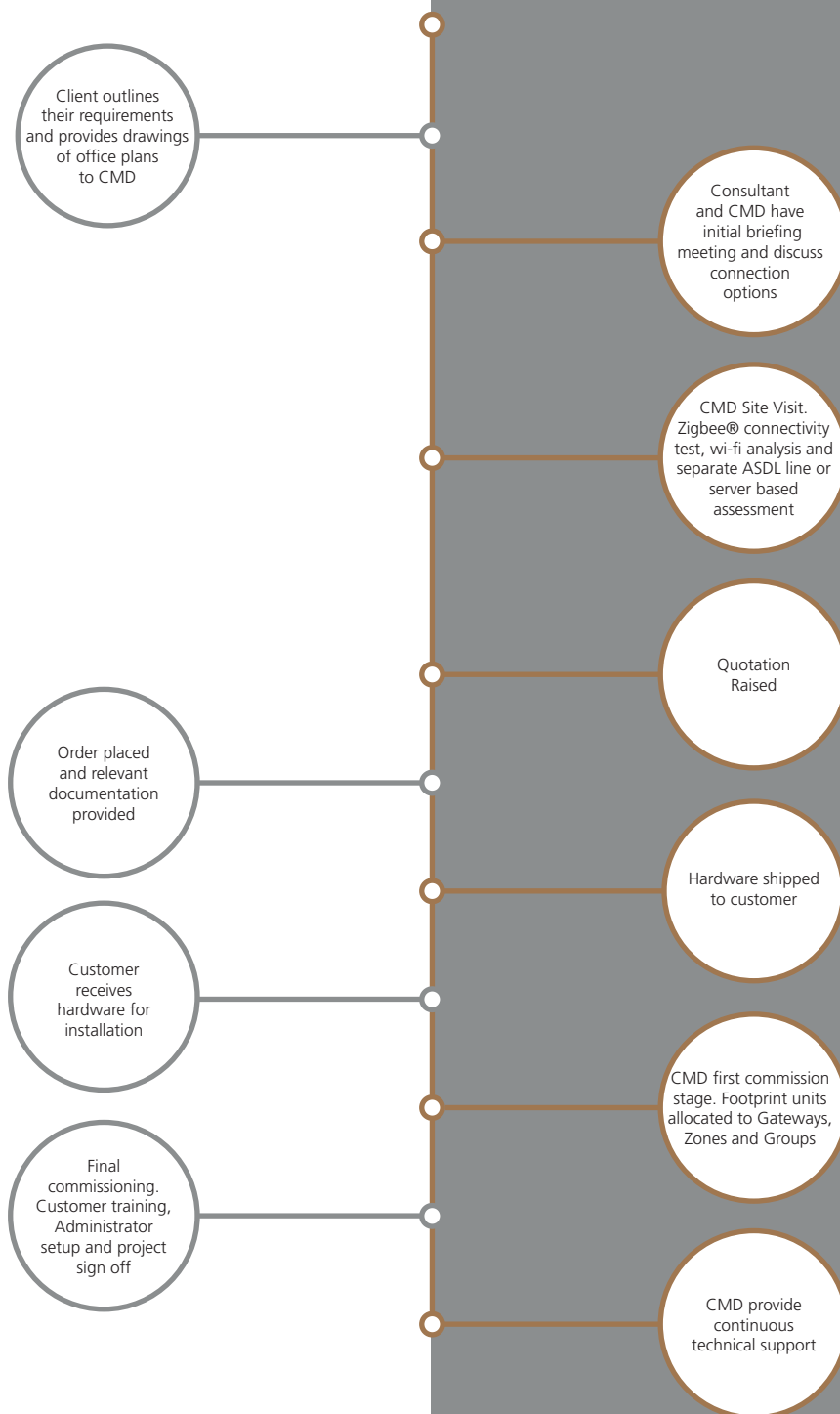
If you want to improve it you first have to monitor it. By seeing exactly how much electricity is being consumed, it is easier to introduce changes to make savings.

### Manage

With informed and evidence based data being available you can improve your energy use.

## External Process

## CMD Process



Code	Description
89E001GST	1 x power strip (Standard 1 x Master, 3 x Auxiliary Sockets)
161180*	1 x gateway (POE/Power over Ethernet) *Cat5e cables are needed to route back to the server room