

Smart Home

What is a Smart Home?

What is a smart home?

- ▶ A smart home is a residence that uses internet-connected devices to enable the remote monitoring and management of appliances and systems, such as lighting and heating.
- ▶ Smart home technology -- also often referred to as home automation or domotics from the Latin word domus, meaning home -- provides homeowners security, comfort, convenience and energy efficiency by letting them control smart devices, often using a smart home app on their smartphone or another networked device.
- ▶ A part of the internet of things (IoT), smart home systems and devices often operate together, sharing consumer usage data among themselves and automating actions based on the homeowners' preferences.

HOME SMART HOME



Key features and functions of a smart home:

- ▶ **Remote control and automation:** Smart homes allow homeowners to manage various aspects of their homes remotely, such as adjusting the temperature, controlling lights, and managing security systems.
- ▶ **Interconnected devices:** Many smart home devices are designed to work together, allowing for seamless integration and automation.
- ▶ **Increased efficiency and energy savings:** Smart homes can help optimize energy consumption by automating tasks like adjusting thermostat settings and controlling lighting.
- ▶ **Enhanced security:** Smart home security systems, such as smart locks, cameras, and alarms, provide increased protection and peace of mind for homeowners.
- ▶ **Convenience and ease of use:** Smart homes offer a more convenient and user-friendly experience by automating tasks and allowing for remote control.
- ▶ **Integration of AI and voice assistants:** Some smart homes incorporate AI-powered voice assistants, allowing homeowners to control their homes with simple voice commands.

Examples of smart home devices and features:

- ▶ **Lighting control:** Smart lighting systems allow you to control lights remotely, set schedules, and even create different lighting moods.
- ▶ **Climate control:** Smart thermostats can learn your preferences and automatically adjust the temperature, saving energy and increasing comfort.
- ▶ **Security systems:** Smart locks, cameras, and alarm systems provide enhanced security and remote monitoring capabilities.
- ▶ **Home entertainment:** Smart TVs, speakers, and streaming devices can be integrated into a smart home system, allowing for centralized control and enhanced entertainment experiences.
- ▶ **Appliances:** Many appliances, such as refrigerators, dishwashers, and ovens, can be connected to a smart home system and controlled remotely.

Lighting controls

- ▶ Smart home lighting is a simple and customisable way of lighting a property. It promotes efficient light usage and therefore helps to reduce energy bills. Both bulbs, switches and security lights can be purchased.
- ▶ Smart lighting systems are connected to the internet and controlled via an app on a smartphone or tablet, or a smart speaker, such as Alexa or Google Home. The system can be controlled remotely from anywhere. And lights can be scheduled to turn off and on, adding additional security when away from home.



How Does a Smart Home Lighting System Work?

- ▶ A smart home lighting system works by connecting smart lighting products to an app on a smart device, either through Wi-Fi or Bluetooth. They allow the homeowner to control the connected smart lighting product through smartphones, tablets, or smart speakers, such as Alexa or Google Home. And when they're connected through Wi-Fi, they can be controlled from anywhere in the world.
- ▶ Smart lighting components include smart light bulbs, smart downlights, smart LED strip lights, smart PIR security lights and smart switches.
- ▶ To convert normal lights to smart lights, you simply replace regular light fittings, switches, and bulbs with smart versions. You can start with just one smart light bulb or expand the system and add additional smart lighting products around the home.
- ▶ Most smart lighting products don't need to be connected to a smart hub. However, a smart hub will be required if you're connecting many smart lights or other smart home products to the same system, so they work together. Most smart hub brands only work with their own brand of components, so always check compatibility before you buy.
- ▶ When it comes to smart switches, it's important to note that they should not be used with smart light bulbs or other smart light fixtures. This is because a smart switch controls the light bulb or light fitting that's connected to it. So, the bulb or light itself doesn't need to be smart as well.

What is Smart Heating?

- ▶ Smart heating is a home heating system that's connected to the internet via Wi-Fi and controlled remotely through a smartphone, tablet, or PC. And the convenient thing about smart heating is that you don't have to be at home to control it.
- ▶ The most essential component of smart heating is the smart thermostat, as the system's primary function is to adjust the heating temperature and switch it on and off. But smart home heating systems go beyond just that.
- ▶ They come with all sorts of clever features, such as detecting open windows, turning the heating off if no one is home, turning it on when they're about to return, and much more. We'll cover these features in more detail later in this guide.
- ▶ Other smart heating products include radiator valves, central heating control packs, and electric radiators. And there are many different brands available.

How Does Smart Heating Work?

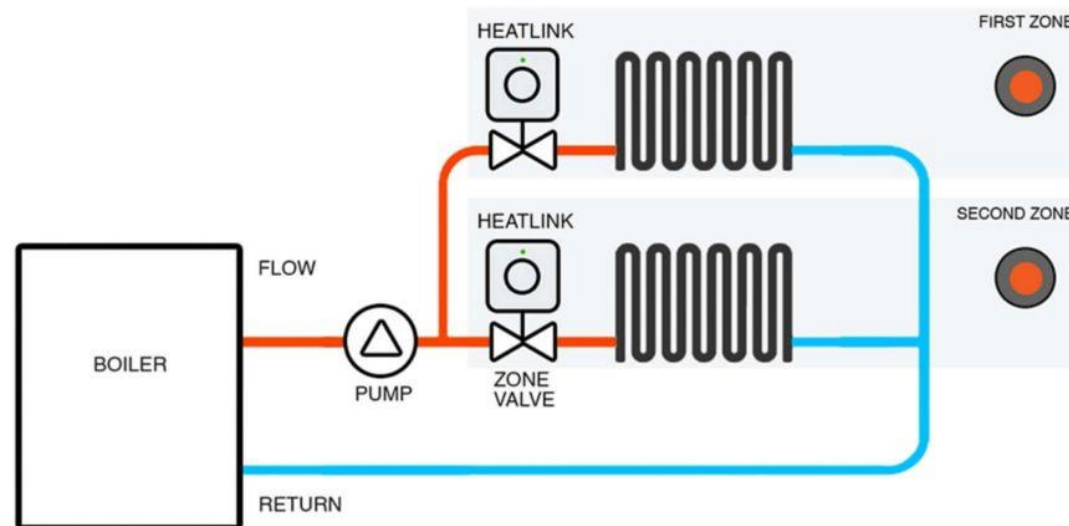
- ▶ Smart heating works by connecting a heating system with the internet so it can be controlled remotely using a smart device through Wi-Fi.
- ▶ Smart heating components include:
 - ▶ Smart room thermostats
 - ▶ Smart central heating control packs
 - ▶ Smart radiator valves
 - ▶ Smart electric radiators.
- ▶ Once smart heating components are installed, download an app (each smart heating manufacturer will have their own) and follow the instructions to connect it to the system.
- ▶ Most can also be connected to a smart speaker, such as Alexa or Google Home, so the system can be voice-controlled. And, if you don't have a smart device, some smart heating systems can connect to a website via a PC. Connectivity does vary for each brand, so always check before you buy.

How Does Smart Heating Work? (cont.)

- ▶ Once the components and the app are set up, program the system via the app: when the heating needs to switch on and off and the temperature setting.
- ▶ These are the system's primary functions, much like a standard system. But a smart heating system allows more flexibility than that.
- ▶ The pre-set functions can be over-ridden, even when no one is home. Some smart heating systems can learn habits and adjust the heating accordingly, such as tracking movement, turning the heating off when nobody's in, and much more.
- ▶ Smart heating controls can be connected to most types of heating systems.

How Does a Smart Thermostat Work?

- ▶ Smart thermostats connect to a boiler (or other heating systems) via the existing thermostat's wired connection.
- ▶ The smart thermostat then connects to the internet and communicates with an app on a smartphone, tablet or computer via Wi-Fi.
- ▶ The app works as a programmer to control heating remotely.



SMART PLUGS & SWITCHES

- ▶ Investing in smart plugs and switches is an easy and cost-effective way to turn electrical devices into smart home devices.
- ▶ But, before you buy, it's essential to understand all the options.
- ▶ This smart plugs and switches buying guide explains what they are and how they work.
- ▶ We'll also cover the types available, set-up, features, costs, advantages, and disadvantages.

What is a Smart Plug?

- ▶ A smart plug is a plug with built-in technology that allows it to be connected to the internet through Wi-Fi.
- ▶ The plug's power supply, and therefore the power supply of any electrical item plugged into it, can then be controlled remotely through a smartphone or tablet or with a smart speaker using voice commands.
- ▶ What does a smart plug do?: Smart plugs allow users to turn electrical items on and off at any time, automate them with schedules or set timers.
- ▶ They can also be connected to other smart home devices as part of a larger smart home system.
- ▶ Smart plugs are helpful all around the home. For example, they can be used with lamps to turn lights on when no one's home.
- ▶ They can provide peace of mind that products such as hair straighteners are switched off. They can turn the radio and a coffee machine on with a voice command in the morning.
- ▶ And they're ideal for use in hard-to-access plug sockets. Some smart plugs can also monitor energy usage to help control electricity bills.

How do Smart Plugs Work?

- ▶ Smart plugs work by plugging them into a wall socket, downloading the relevant app on a smartphone or tablet, and following the on-screen instructions to connect them.
- ▶ Some smart plugs also require a smart hub, which acts as a go-between for the plug and the internet router. Most smart plugs connect to their app through Wi-Fi, while others use Bluetooth.
- ▶ Once a smart plug is set up, any electrical device can be plugged into it, allowing the user to control the device through the app or a smart speaker. And when they're connected through Wi-Fi, they can be controlled from anywhere in the world as long as there's an internet connection.
- ▶ Instead of a smart plug, you can install a smart power socket. It works in the same way but must be wired into the electrics. Smart plugs and sockets do the same thing, so always use one or the other, never both.

What are Smart Sockets?

- ▶ Wi-Fi smart sockets are plug sockets that connect to the internet through Wi-Fi so they can be controlled using a smartphone or tablet from anywhere in the world.
- ▶ They can also be controlled by voice commands through a smart speaker when the user is at home. Smart sockets must be wired into the electrics, which is best carried out by an electrician.
- ▶ Smart sockets are hardwired in place of a “regular” socket, and they come in a variety of different finishes.
- ▶ The features available for smart sockets vary but can include built-in energy monitoring, setting timers and schedules, automation, and a countdown function.
- ▶ Smart Extension Leads: As with a standard extension lead, a smart extension lead allows a single socket to be turned into multiple sockets, with the added benefit of being automated or controlled remotely.
- ▶ Some smart extension leads also come with remote controls. Ports are often surge-protected and can be controlled individually.

What are Smart Switches?

- ▶ Smart switches are wall switches with built-in technology that allows them to be connected to the internet through Wi-Fi.
- ▶ Once set up, the switch can then be controlled remotely through a smartphone or tablet or with a smart speaker using voice commands.
- ▶ What does a smart switch do?: Smart switches allow users to turn electrical appliances or lights on and off at any time, from anywhere, and to automate them with schedules or set timers.
- ▶ They can also be connected to other smart home devices as part of a larger smart home system.
- ▶ Smart switches are ideal for controlling a home's primary lights or for use with wired-in kitchen appliances controlled with a switch.
- ▶ Smart switches replace standard switches, so they must be wired into the electrics. They work through an app on a smartphone or tablet. Simply download the app and follow the on-screen instructions to connect them.

How to set up Smart Plugs, Switches and Sockets

- ▶ Setting up smart plugs and switches is a relatively simple process. However, smart switches and sockets need to be wired into the electrics.
- ▶ Most require a neutral wire connection to operate, but not all standard switches and sockets have them. So, we recommend that a qualified electrician does the wiring part of the process.
- ▶ Once smart plugs are plugged into the wall socket, or smart sockets and switches have been wired in, the process is simple.
- ▶ It includes downloading the relevant smart plug or switch's app onto a smartphone or tablet, creating an account, or logging in and following the steps to pair the app with the smart item, connecting it to the Wi-fi or Bluetooth, and then setting up schedules or relevant connections with a smart speaker for example.
- ▶ Smart plugs and switches can also be set up to work with other smart home gadgets, such as smart lighting, smart heating, smart security and other smart home products.

SMART SECURITY

- ▶ We all want to feel safe and secure in our homes and protect our property when we're not there.
- ▶ And installing smart security is one way of achieving that. But what exactly is smart security, and how will it help?
- ▶ What smart security is, the types of smart security systems available, how they work, their features and their costs.

What is Smart Security?

- ▶ Smart security is the collective name for home security devices that connect to the internet through Wi-Fi.
- ▶ They allow homeowners to protect and monitor their homes using an app on a smartphone or tablet.
- ▶ And the great thing about smart security is that people can check in on their homes from wherever they are. So, if there is a break-in or a fire, for example, the emergency services can be alerted straight away.
- ▶ There are several types of smart security systems available, they each play their own part in securing the home, such as offering protection from intruders, surveillance, accessibility, and fire, smoke and carbon monoxide protection.

How Does a Smart Home Security System Work?

- ▶ Smart home security works by connecting different smart home security devices to the internet through Wi-Fi.
- ▶ They allow the homeowner to monitor the security of their property remotely using a smart device.
- ▶ Smart security components include smart camera systems, smart cameras, smart doorbells, keyless door locks, smart fire, smoke and CO alarms, smart burglar alarms and smart sensors.
- ▶ Once smart security components are installed, download an app (each smart security manufacturer will have their own) and follow the instructions to connect the system.
- ▶ Smart security systems can be simple or complex, depending on the level of security needed.
- ▶ As a minimum, a smart doorbell will allow the homeowner to monitor activity at their front door - the primary entry point to the home.
- ▶ But the system can be expanded to a full home security system that covers the whole property - with smart home cameras, motion sensors, door and window sensors and an alarm.

Difference Between Smart and Traditional Alarm Systems

- ▶ Smart security systems have many benefits over traditional alarm systems, such as:
- ▶ Alerts are received via a smartphone when the user is away from home, giving real-time updates on activities and allowing them to respond immediately. A traditional alarm relies on neighbours or passersby to respond.
- ▶ There's no need to pay for professional monitoring as you can do with a traditional alarm system. Instead, smart security allows homeowners to monitor their homes themselves.
- ▶ They are more technologically advanced, with sophisticated features and the ability to sync with other smart devices.
- ▶ They can be controlled remotely through a smartphone. Unlike a traditional alarm system, if you forget to turn a smart alarm system on before leaving the house, it can be done remotely from a smartphone.
- ▶ They are easy to install as a DIY project. Traditional alarm systems usually require professional installation, which incurs extra costs.