



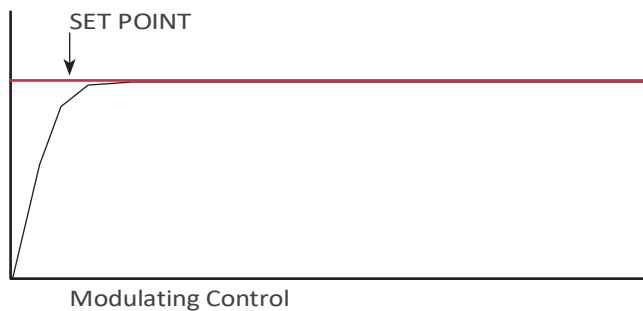
# What is OpenTherm?

## Modulating control

OpenTherm is the name given to a form of communication of information between modulating (condensing) central heating appliances and room thermostats. It sets the rules as to how the appliance and room thermostat communicate with each other.

### Modulating Control

Modulating control is a method of control used by modern heating systems in the UK. Instead of switching a boiler on and off at intervals, modulating control allows the amount of heat provided by the boiler to be controlled to match the varying demand signal.



Many boiler and control manufacturers now recognise the energy savings potential of modulating control, so have adopted OpenTherm as the best method to control a heating system efficiently.

### How does OpenTherm work?

The standard way to control a heating system is to switch the boiler on and off at intervals with On/Off controls. OpenTherm provides more precise control on the boiler through the control of the gas valve.

It allows the amount of heat provided by the boiler to be controlled to match the varying demand signal. By reducing the flow temperature to a minimum as it leaves the boiler, OpenTherm modulation helps the boiler efficiency by running at lower flow temperatures for longer periods; this ensures more of the heat exchanger is at condensing temperatures.

### Identifying the products

Every OpenTherm product can be recognised by the OpenTherm Logo being displayed on the product or the packaging. The logo's presence guarantees a minimum level of interaction between appliance and room thermostat.



**Evohome controller**  
(ATP921R3100)



**Single Zone Thermostat**



**CM700 and CM900 Programmable Thermostat range**  
(CM721; CM727 and CM921; CM927)



**Sundial RF² Pack 3 & Pack 5**



Note the products must be paired with the **R8810A1018 OpenTherm Bridge - NB not Sundial RF² Pack 5**



**DT92E Digital Thermostat**

# OpenTherm

## Standards For Heating Controllers

OpenTherm is a multi point to point communication protocol for use in residential heating. OpenTherm needs the same type of connection as in all modern installations, i.e. a 2-wire low voltage and polarity-free connection.

In addition OpenTherm can also be used as a wireless protocol. The communication protocol describes the way digital information is exchanged between central heating appliances and room thermostats.

## FEATURES & ADVANTAGES

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- The essential function which every OpenTherm controller must provide is the communication of the Control Set Point (heat requirement) to the heating appliance. This requirement is calculated by the controller on the basis of the difference between the set temperature and the desired one, or another form of control such as outside temperature control.
  - Using OpenTherm devices allows many advantages for the end-user and the installer and also minimises the impact on the environment
- For the End User:**
- Increases the efficiency of the Heating System reducing costs
  - Ability for remote control of the boiler bringing future advantages in remote monitoring of the heating system
  - Extra functions
- For the installer:**
- No batteries required
  - Increases the life of the boiler
  - Ready for future expansion
  - Devices are as simple to install as current On/Off devices
  - 2 wire low voltage connection
- No need to configure.
  - Easily tested by testing by closing the connection
  - Provides a status of the boiler on the display
  - The OpenTherm Logo makes it easy to select the right product