

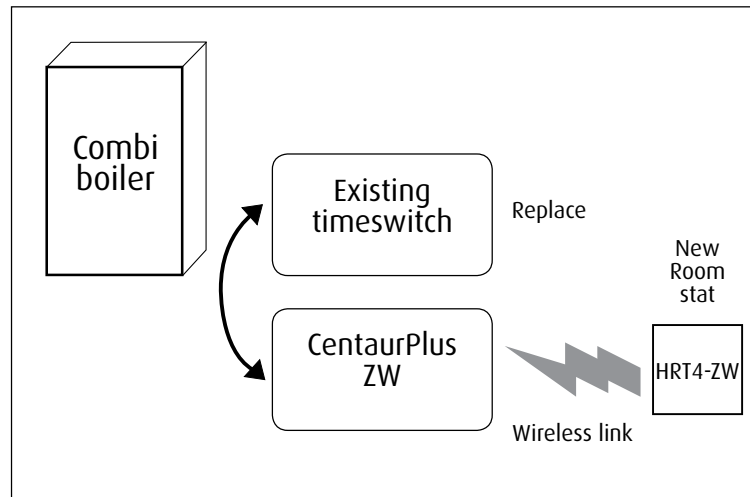
It is a rather worrying fact that an estimated 8 million homes in the UK have central heating systems that do not have a room thermostat of any sort fitted. Many of these installations are based on modern combi boilers with controls simply comprising a time switch and TRV's on suitable radiators.

When installing combi boilers this arrangement was often used until recent times as it kept the electrical control wiring to a minimum. The down side is that such systems are poorly controlled, subject to overheating and are wasting untold amounts of increasingly expensive energy. It therefore makes absolute sense to invest in a 'proper' controls package where the payback is rapid and the system efficiency maximised.

The introduction of a room thermostat provides a boiler interlock and will immediately start saving energy – in the region of 5-10% - so payback should be achieved within a couple of years of installation.

As one of the UK's leading designers and manufacturers of central heating controls, there is not much Horstmann does not know about control systems and efficiency.

Their latest CentaurPlus ZW electronic control combines proven Z Wave technology with a popular electronic timeswitch and the latest state of the art electronic energy saving room thermostat.



Installation is as simple as exchanging the old time switch for the new CentaurPlus ZW, installing the (battery powered) thermostat in a suitable location and establishing communication with two presses of a button. Simple!

If the existing timeswitch uses a standard 6 terminal wall plate then it may be possible to use the same wall plate to plug in the CentaurPlus ZW. Alternatively, the new wall plate can be exchanged for the existing unit using the same fixing centres and the wires screwed into the correct terminals.

Full exchange wiring information is supplied with the CentaurPlus ZW and further technical support is a phone call away.

The wireless digital thermostat should be sited in the same way as any room thermostat – away from direct sunshine and sources of heat other than the radiator which must be installed without a TRV in the area where the room stat is fitted.

The system will now be compliant with Part L1 of the 2010 Building Regulations for existing heating systems – a relatively quick and straightforward change over that can produce significant cost savings for the householder.

These two units can save up to **10%** in energy costs



CentaurPlus ZW timeswitch

- Wireless communication to room thermostat
- Built in Z Wave receiver
- Automatic BST/GMT time change
- Back lit display
- Boost and Advance
- Volt free contacts
- Suitable for combi boilers
- Helps to meet Part L of Building Regs
- Industry Standard 6 terminal wall plate

HRT4-ZW room thermostat

- Wireless communication to timeswitch
- Proven Z Wave wireless technology
- TPI energy saving software
- Large back lit display
- Digital display
- Conventional knob temperature adjustment
- Set temperature displayed
- Actual temperature at touch of dial

Why TPI is a winner:

Latest Horstmann HRT series room thermostats use TPI technology. How does this work and create energy savings?

The old way ...

Traditional room stats use either mechanical bellows or bi-metallic thermally operated switches. These are much less accurate in maintaining the room temperature at the 'set point' as they produce quite large swings of temperature caused by the differential between the on and off switch point

This causes the boiler to fire inefficiently and often over heat the room temperature above the set point.

... and the new

A TPI (Time Proportional Integral) thermostat makes a series of precise calculations once it has entered the control or proportional band.

When set to 6 cycles per hour the software will calculate the amount of heat needed during each 10 minute period and switch the boiler on for a proportion of that 10 minutes to maintain the set temperature. This stops the wide fluctuations in temperature that can occur with conventional thermostats. The integral feature of the TPI software then 'fine tunes' the calculations to constantly review its performance and carry out further fine adjustments if necessary.

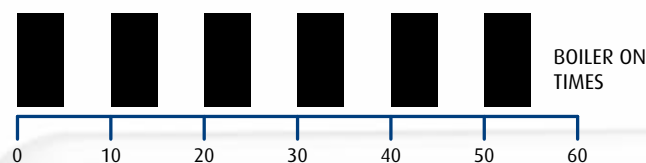
When used with a condensing boiler, the TPI thermostat will help to save energy as the control algorithm allows the boiler to operate in condensing mode more consistently compared to older types of thermostat.

This effect is achieved by being kept below the critical 56°C return water temperature needed for the boiler to operate in condensing mode for longer, as a result of the more accurate temperature control.

Re-calculating the control of heating load required every 10 minutes when in the proportional band will ensure a high level of control accuracy with resulting energy savings.

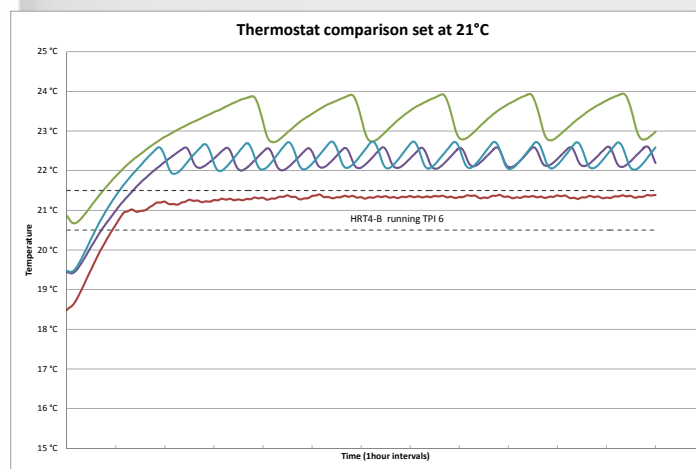
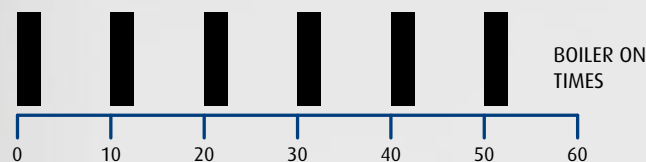
Example 1:

TPI set to 6 cycles per hour giving 50% load every 10 minute cycle.



Example 2:

TPI set for 6 cycles per hour giving approximately 25% load every 10 minute cycle.



This graph shows actual test results of 3 common mechanical room thermostats and the Horstmann HRT4-ZW room stat

CENTAURPLUS ZW

combined wireless timeswitch and room thermostat

The energy saving controls combination for combi boilers

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