

## DT92 WIRELESS DIGITAL ROOM THERMOSTAT

### PRODUCT SPECIFICATION SHEET



The new **DT92** family of wireless digital room thermostats is a range of market leading products designed to provide comfort with economy in modern heating systems.

Comprising a battery-powered room thermostat and a mains switching relay box, **DT92** features robust 2-way RF communications between the units. This allows signal strength testing to help the installation process. The RF link between both units is already set (pre-bound) at the factory, so the product is ready for immediate installation.

Energy efficiency is addressed by state-of-the-art TPI control performance and an **ECO** button energy saving feature. Applications include control of gas or oil-fired boiler systems, underfloor heating, electric heating and zoning systems.

With a modern fresh look that complements any style of décor, and a range of valued features for users and installers alike, **DT92** sets the standard for simple environmentally-friendly wireless room thermostats.

### FEATURES

- Energy saving TPI control performance
- Advanced self-learning control adapts to the environment and ensures close temperature control with minimum energy usage
- Slim modern styling
- Simple user interface with large high contrast display and easy-to-read characters
- Display shows room temperature, with option to inquire about setpoint
- 5°C to 35°C setpoint range with 0.5°C increments, using ▲ and ▼ buttons
- Off/standby button, allowing manual switch off, with frost protection active
- Adjustable off/standby setpoint 5°C to 16°C or DT92 can be set to off completely
- Room thermostat is battery powered by 2 x AA (LR6) alkaline cells giving up to 4 years battery life (minimum 2 years), with battery low warning
- Simple battery change by unclipping front cover
- Relay switching box is 230Vac mains powered with 24...230Vac SPDT potential-free contacts
- 5 A resistive, 3 A inductive switch rating
- 2-way RF communications at 868MHz radio frequency band, giving typical reliable range of 30m in houses
- Transmission and signal strength test features to guarantee good room thermostat placement
- RF link between units is pre-set at the factory
- Installer Mode allows operation to be customised for the application and the needs of the user
- NVRAM storage of setup parameters, ensuring these are never lost
- Setpoint limits can be programmed in
- Special 'fail-safe' mode, should RF communications be temporarily lost
- Manual override possible at relay box
- Optional table stand supplied for thermostat

### FEATURES UNIQUE TO DT92E ECO MODEL

- Energy saving ECO button allows user to change to a lower, energy saving setpoint for a timed period of their choosing (1...24 hours)
- Display shows countdown of time remaining in ECO energy saving mode

## SPECIFICATIONS

ELECTRICAL	
<b>Room thermostat</b>	
Power supply	: 2 x 1.5V IEC LR6 (AA) Alkaline cells
Battery life	: Minimum 2 years (with correctly specified alkaline cells)
Battery low warning	: Display indicates when battery power reserve is low. Unit will continue to function for a minimum of 4 weeks after the first indication is given
Battery replacement	: Configuration settings stored in NVRAM, so are retained during battery replacement
<b>Relay Box</b>	
Power supply	: 230 V, 50...60Hz 1VA max. Note – requires permanent mains power supply
Switch type	: SPDT (single pole double throw ) potential free
Electrical rating	: 24...230 V, 50...60 Hz, 5 A resistive, 3 A inductive (0.6pf)
Relay life	: 100,000 operations minimum
Wiring	: Terminal block for mains and relay wiring, for wires up to 2.5mm <sup>2</sup>
Wiring access	: Rear and left side
RF SPECIFICATION	
Operation band	: ISM (868.0-868.6) MHz, 1% duty cycle
Communication range	: 30 m in a residential building environment
Communication technology	: 2-way RF, using short, high rate transmissions to minimise air time and avoid collisions
Blocking immunity	: Receiver class 2 (ETSI EN300 220-1 version 2.1.1)
RF binding method	: Units are pre-bound at the Factory. Field re-binding can be done, if required
RF test features	: Transmission and signal strength tests to assist location of components
ENVIRONMENTAL & STANDARDS	
Operating temperature	: 0°C to 40°C
Shipping & storage temperature	: -20°C to 55°C
Humidity	: Humidity range 10% to 90% rh, non-condensing
IP class	: IP30
Approvals	: CE mark, complying with standards EN60730-1 (2001), EN60730-2-9 (2002), EN55014-1 (2006), EN55014-2 (1997), ETSI EN300 220-3, ETSI EN301 489-3 : WEEE & RoHS compliant

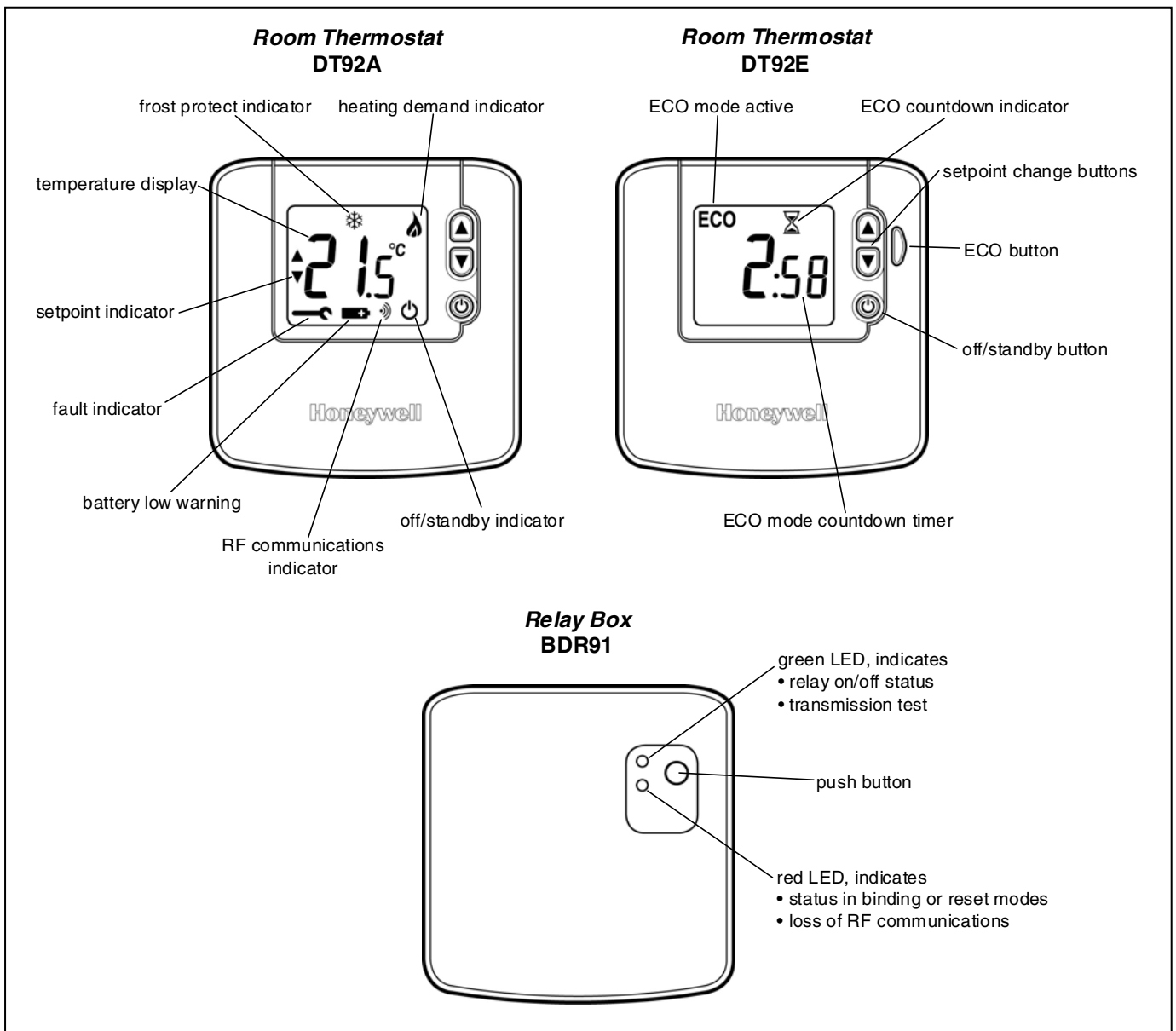
TEMPERATURE CONTROL	
Sensing element	: 10K (@25°C ) NTC thermistor
Temperature setting range	: 5°C to 35°C setpoint range in 0.5°C increments
Control form	: Self-learning TPI Fuzzy Logic algorithm
Proportional band	: 1.5°C adjustable up to 3°C in 0.1°C increments
Minimum on/off time	: 1 minute, adjustable up to 5 min in 1 min increments
Cycle rate	: Adjustable to suit the application 3, 6, 9, 12 cycles per hour
Temperature control accuracy	: ± 0.5°C (or better) at 20°C, 50% load and 3°C /hour temperature ramp
Frost protection	: 5°C when thermostat switched to off/standby, adjustable 5°C to 16°C : Frost protection not available in cooling mode
Positive off	: Positive off possible (no frost protection) by setting in Installer Mode
ECO energy saving	: Setpoint default 18°C, adjustable 5°C to 35°C
Fail-safe operation	: If temperature measurement system fails, unit will continue to operate on the assumption of a 10% load : If RF communication fails, relay box can be set to switch off or operate at 20% on
Relay box manual override	: Pressing the button on the relay box will temporarily override the current relay position. The relay status may change with the next communication from the room thermostat
USER INDICATIONS	
Information	: Current room temperature, setpoint, off/standby mode, relay box relay status (flame), RF communication, ECO mode active, ECO mode countdown.
Warnings	: Frost protection, internal fault, battery low, loss of RF communications. : Lockout (operation not permitted) and boiler fault are possible, depending on application and configuration of other RF products.
METRICS	
Dimensions	: 90 x 92 x 27mm (thermostat) : 90 x 92 x 30.5 mm (relay box) : 157 x 115 x 105 mm (pack)
Weights	: 154g (thermostat with batteries) : 96g (relay box) : 380g (pack)

## ORDERING SPECIFICATION

Model	Description	Literature
DT92A1004	Wireless digital room thermostat (System pack, comprising DT92A room thermostat + BDR91 Relay Box)	Multi-lingual
DT92E1000	Wireless digital room thermostat with ECO energy saving feature (System pack, comprising DT92E room thermostat + BDR91 Relay Box)	Multi-lingual

Note: the room thermostat and relay box in each system pack are pre-bound (linked together) at the factory. This means they will recognize and communicate with each other as soon as they are powered up. The complete device is therefore ready for immediate installation.

## CONTROLS / DISPLAY LAYOUT



## MAIN FEATURES

### Extra-Large Display

The DT92 has a large display, ensuring it is easy to read and allowing essential information to be displayed, when required. The large characters and high contrast screen are especially important for those with impaired vision.

### Simple Interface

The user interface has been made as simple as possible to make DT92 very easy to use. Buttons have been labeled ▲ and ▼ to identify them as the means of increasing and decreasing (respectively) the setpoint temperature. The display normally shows the actual room temperature. When one of the buttons is first pressed, the setpoint temperature is shown flashing, accompanied by the ▲ and ▼ symbols. Further buttons presses will increase or decrease the setpoint in increments of 0.5°C.

### Off/Standby Button, with Frost Protection

The off/standby button allows DT92 to switch off the heating (or cooling) system at the touch of a button. To prevent accidental switch-off, the button must be held for 2 seconds to activate the change. When off, DT92 will maintain control at a frost protection setpoint, factory set to 5°C but adjustable between 5 and 16°C. If required, frost protection can be switched off, to provide a positive off function. These adjustments are made by entering the DT92 *Installer Mode*.

### Installer Mode

The Installer Mode is where DT92 can be configured for different applications, and customized to meet the needs of the user. The operating properties that can be adjusted are called parameters, and these are described in detail on page 6.

Parameters are as follows:

- Minimum on/off time
- Cycle rate
- Proportional band width
- Temperature measurement offset
- Upper setpoint limit
- Lower setpoint limit
- Energy saving ECO temperature (on DT92E only)
- Selection of heat/cool changeover operation
- Off/Standby setpoint
- Room temperature sensor use (when used with HR80 intelligent radiator valves)
- Failsafe operation mode (if RF comms are lost)
- HR80 window open function enabling
- HR80 local override function enabling
- Reset all parameters to factory settings

Installer Mode is entered via a sequence of button presses. The buttons are also used to scroll between parameters and to make changes to their values.

### 2-Way RF Communications

RF communications between the room thermostat and the relay box is 2-way, making it more efficient and reliable, and allowing the room thermostat to display information from the relay box, such as actual relay status or communications loss.

### Signal Strength Test Mode

Another benefit of 2-way RF is to allow the room thermostat to display the strength of the signal that the relay box is receiving. This ensures the thermostat can be positioned in the best possible location for system performance.

### Reliable RF Communications in 868MHz band

868MHz is a well regulated band where continuously transmitting devices are not permitted. Together with a 1% transmission duty cycle, this means the possibility of interference or clashing messages is minimized, and increases the reliability of communications.

### NVRAM Storage of Settings

All parameter settings are stored in a special kind of memory called NVRAM so they will be retained indefinitely even if the batteries are removed.

### Advanced Self-learning TPI Control

DT92 uses a self-learning 'fuzzy logic' time-proportional control algorithm. This form of control is better than conventional PI control as it has a faster response and better performance in steady state conditions. It performs equally well in a wide range of different installations, and ensures energy savings by controlling closer to setpoint and minimising temperature overshoots.

### Additional Energy saving ECO feature

In a heating system, one of the best ways to save energy is to reduce the setpoint temperature. The DT92 green ECO button provides a simple and convenient way of doing this for a period of time of the user's choice. The ECO energy saving setpoint is pre-defined in the Installer Mode. The factory setting is 18°C, but it can be adjusted (between 5°C and 35°C) to give a timed boost, if required. When the ECO button is pressed, the user is given the chance to set the time required at this new temperature, from 1 hour to 24 hours in 1 hour increments. The display indicates that ECO mode has been set, and will count down the time remaining in energy saving mode. Should they wish to readjust the temperature setting, they can do that too, using the ▲ and ▼ buttons.

ECO mode is cancelled simply by pressing the ECO button again.

## INSTALLATION

### Installation Process

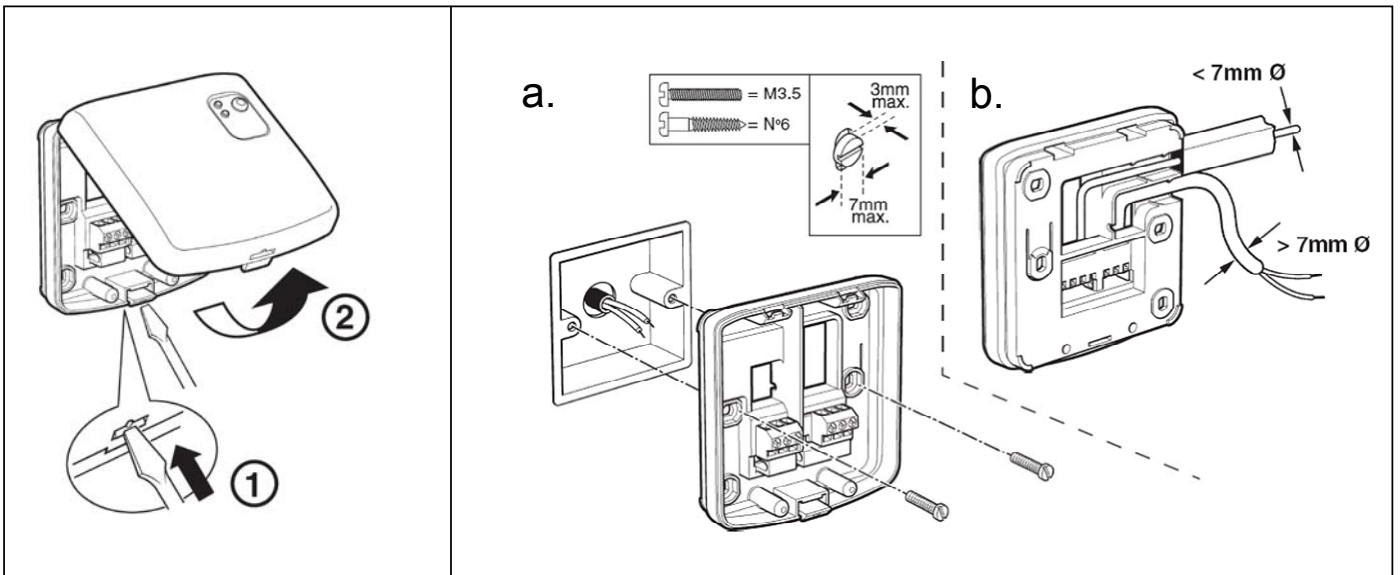
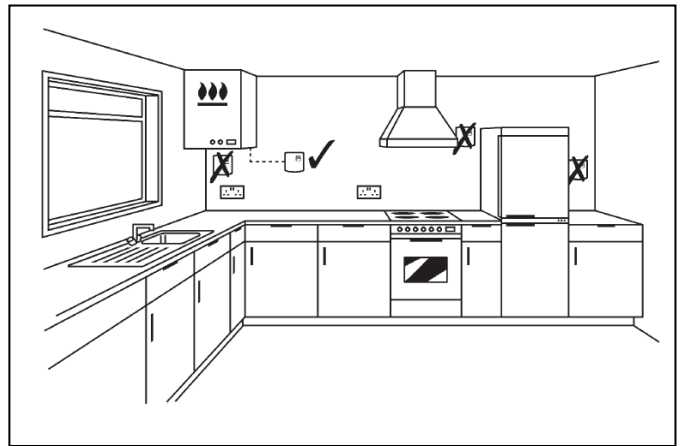
To ensure best system performance, there is an optimum sequence of installation operations and test steps. These are as follows:

1. Install BDR91 relay box, connect to mains, and power up.
2. Before mounting DT92 thermostat onto backplate, power it up (activate batteries).
3. Bring DT92 thermostat to a distance 2-3 m from relay box and initiate **RF Communication Test**. This confirms that relay box is wired correctly and that both devices are bound (linked) to each other. If this test does not work, the 2 units must be reset and bound to each other by following the procedure for **Binding / Re-binding**.
4. Take the DT92 thermostat to the proposed mounting location, and initiate the **Signal Strength Test**. This will indicate if the thermostat is suitably positioned to provide a reliable signal for the relay box. If the signal strength is too low, the thermostat must be repositioned.
5. When a suitable position is established, the backplate can be mounted on the wall and the thermostat can be attached to it.

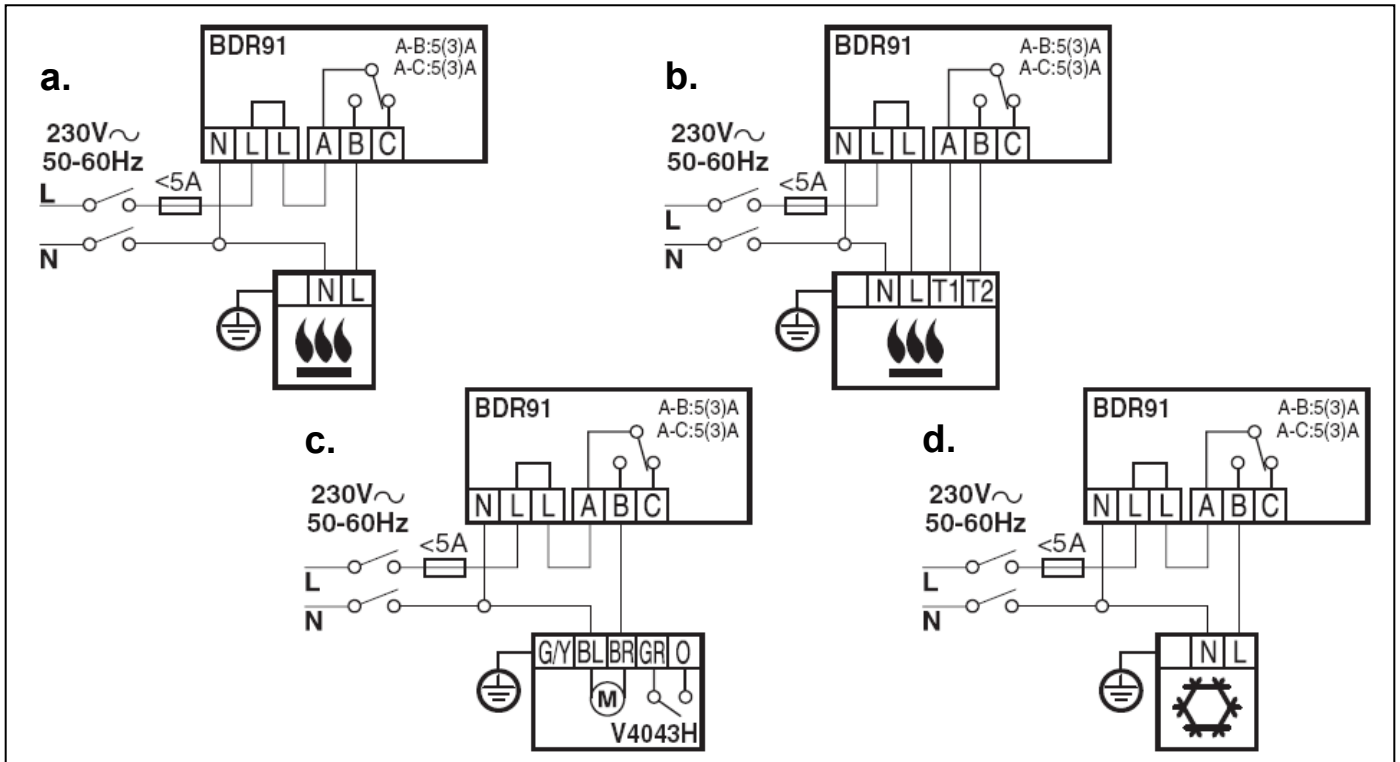
### Installing the BDR91 Relay Box

For best performance, the BDR91 Relay Box should be installed in an open space, at least 30cm distance from any metal objects including wall boxes and boiler housing. It should **not** be mounted on a metal wall box.

### Location



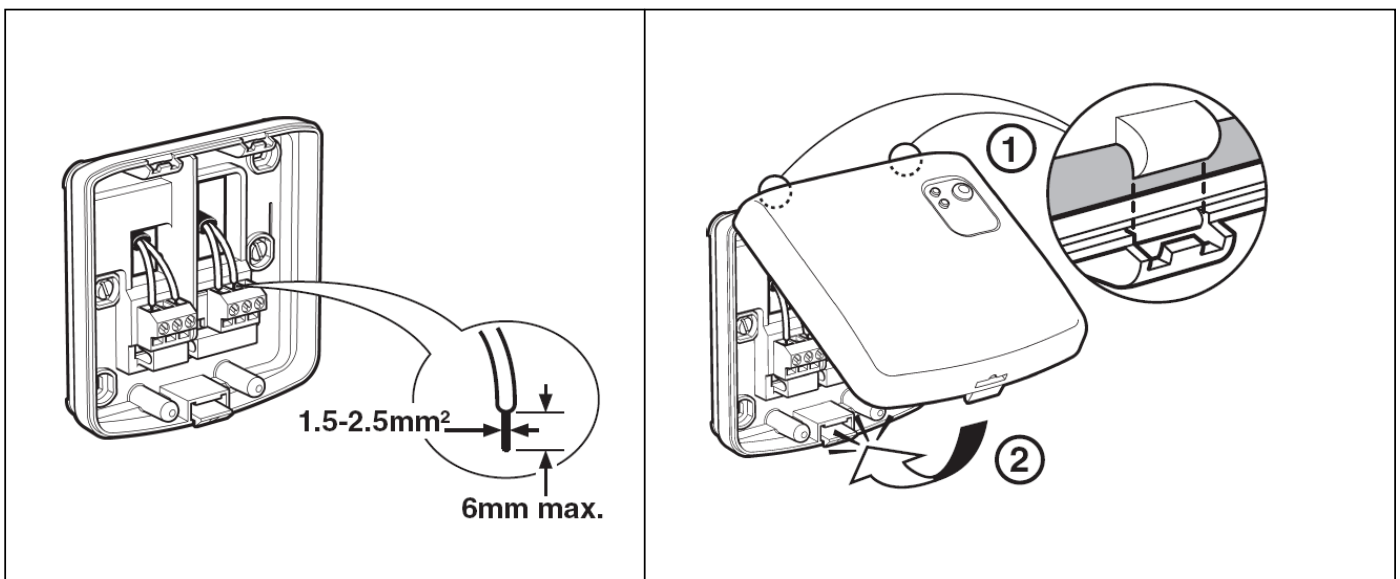
## WIRING CONNECTIONS



- a. Boiler
- b. Boiler (potential free connection)
- c. Zone valve
- d. Air conditioner

**Note:** BDR91 Relay Box requires a permanent mains power supply.

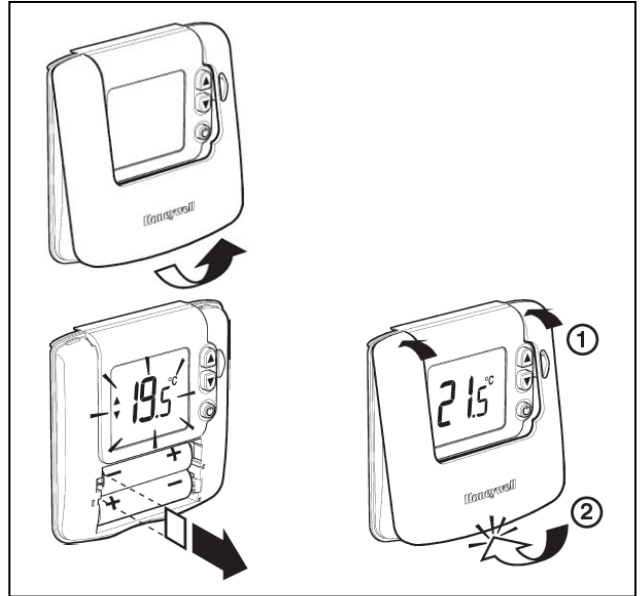
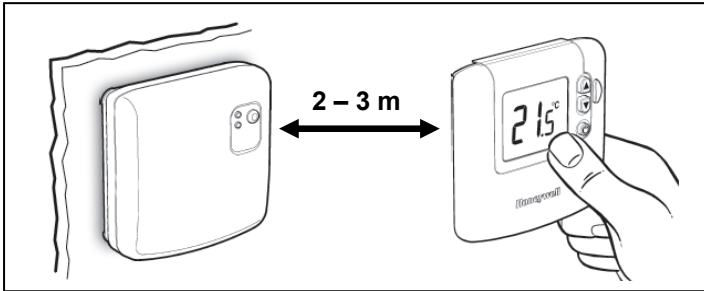
### Completing the BDR91 Relay Box Installation



**Installing the DT92 Room Thermostat**

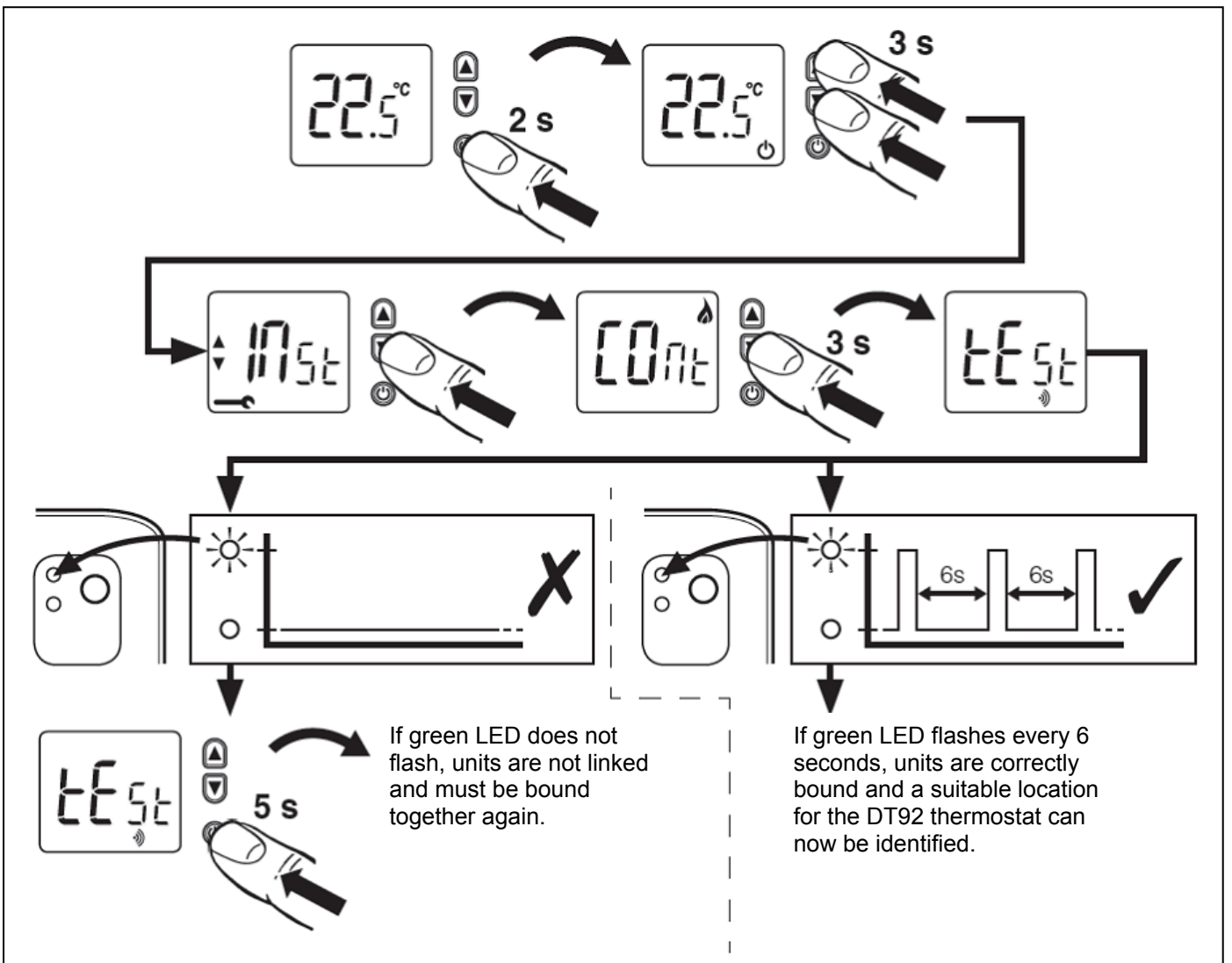
Before mounting the DT92 thermostat onto its backplate, power it up by removing the battery tab.

Bring the DT92 thermostat to a distance 2-3 m from relay box and initiate the **RF Communication Test** to confirm the BDR91 relay box is wired correctly and that both devices are bound (linked) to each other.



**RF COMMUNICATION TEST**

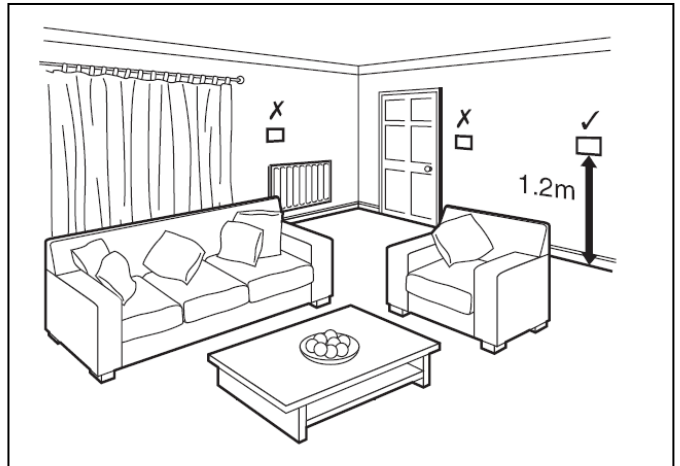
Initiate RF Communication Test by the following sequence of actions applied to the DT92 thermostat.



### Locating the DT92 Room Thermostat

For best performance, install in an open space where DT92 can sense the room temperature, and where the signal strength is high. The Room Thermostat can be mounted on a wall or on the optional table stand. Leave at least 30cm distance from any metal objects and at least 1 metre from any other electrical equipment. Do NOT position the thermostat near sources of heat (radiators, hot air vents, TV or lights), near doors or window, or in direct sunlight.

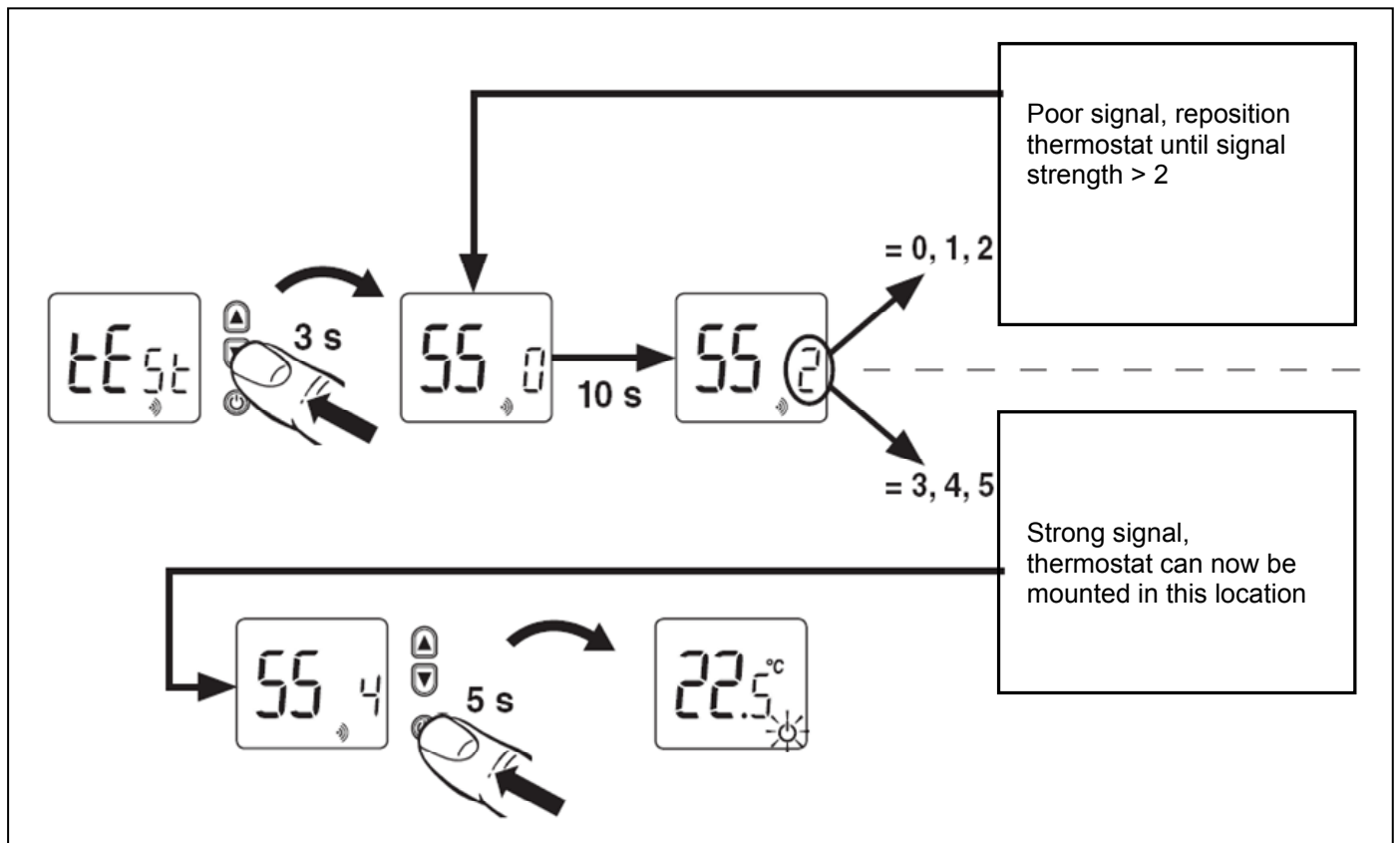
Select the preferred location and test the Signal Strength before installation.



### SIGNAL STRENGTH TEST

The Signal Strength Test is used to find a suitable position for the DT92 thermostat, such that the signal received by the BDR91 relay box is high strength. This will optimize system performance.

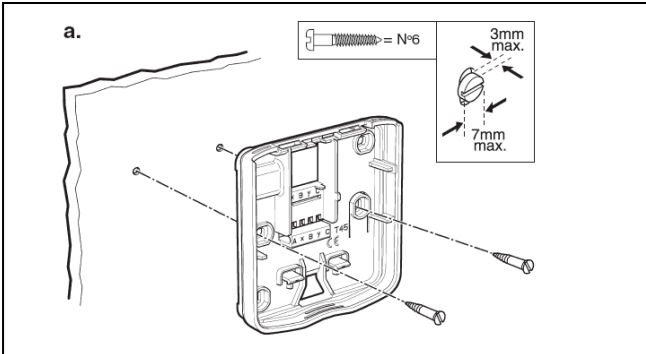
The BDR91 relay box measures the strength of the signal received from the room thermostat, and upon request, sends this measurement back to the room thermostat using the 2-way RF communication link. This is expressed as a number between 0 and 5, where 5 is the highest strength. If this number is 2 or less, the signal strength is too low, and room thermostat should be repositioned. The DT92 room thermostat continuously updates this measurement, every few seconds.



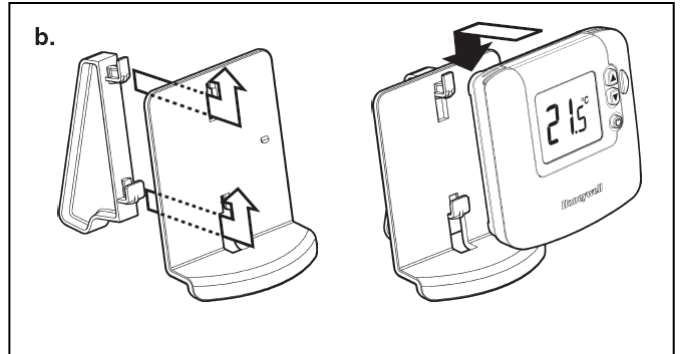


Mounting the DT92 Room Thermostat

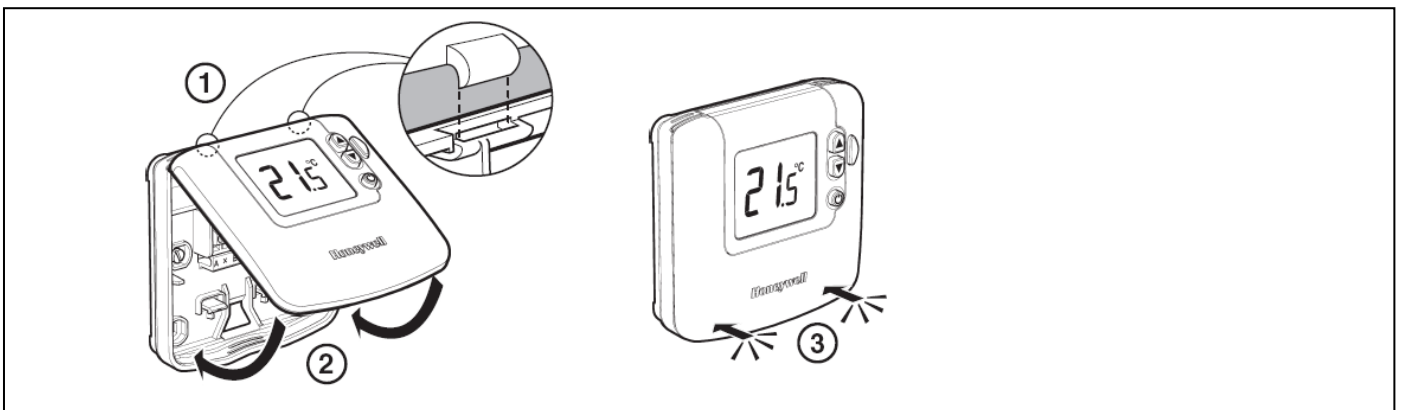
Wall mounting



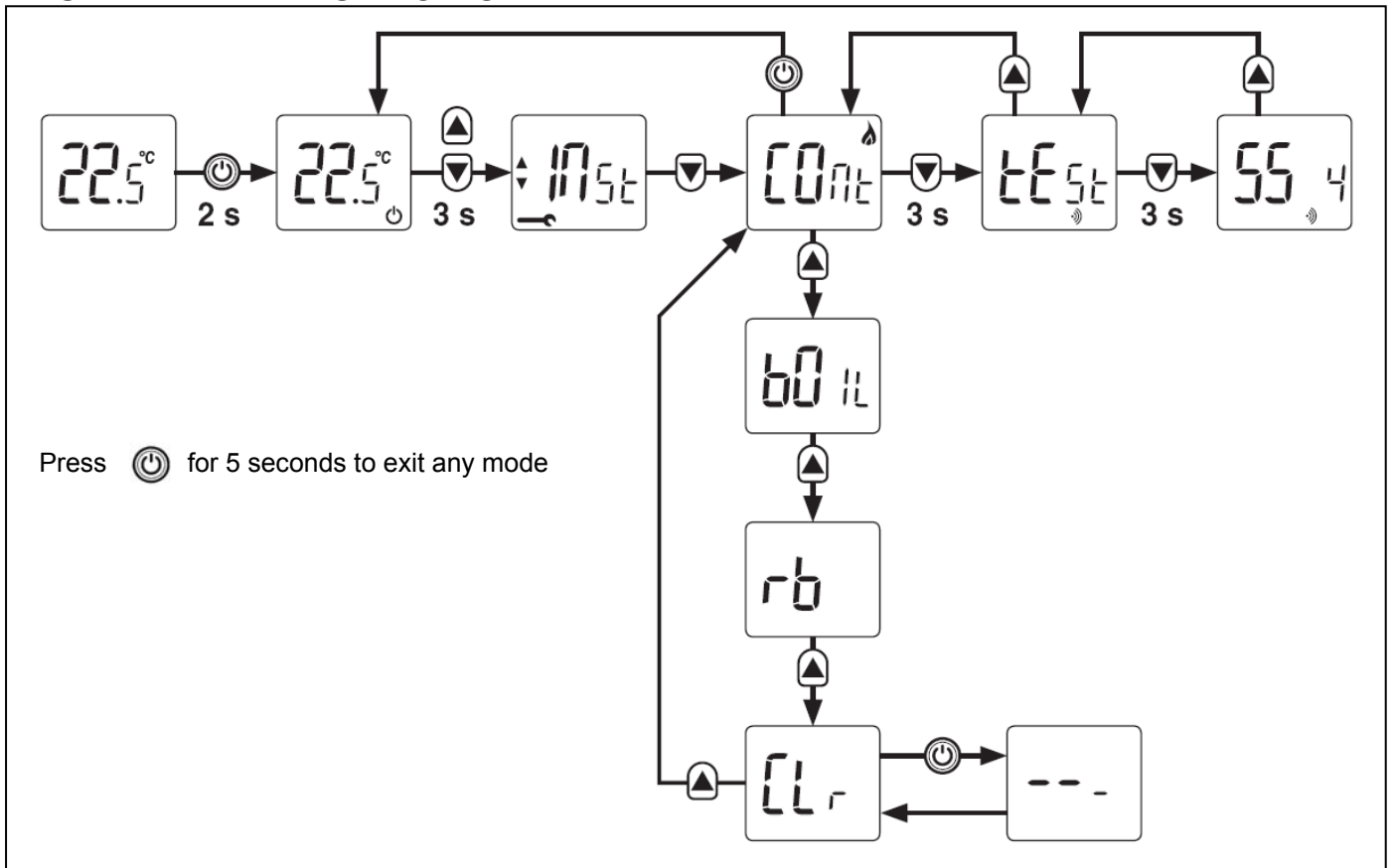
Optional table stand



Completing the installation



TEST AND BINDING FLOWCHART

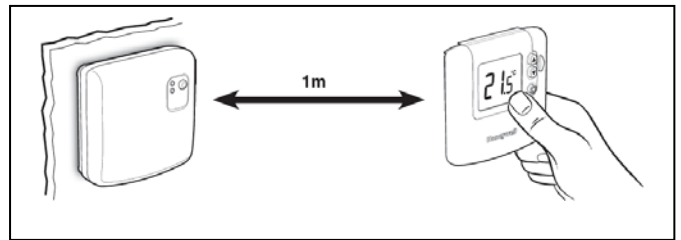


## BINDING / RE-BINDING PROCEDURE

The RF link between the Room Thermostat (DT92) and the Relay Box (BDR91) in Honeywell system packs is pre-configured at the factory and therefore both units should be installed at the same site. If products from individual system packs are separated, or mixed with other pre-configured system packs during installation, or a faulty unit is being replaced, the desired units must be specially configured to allow them to communicate with each other. This process is called Binding.

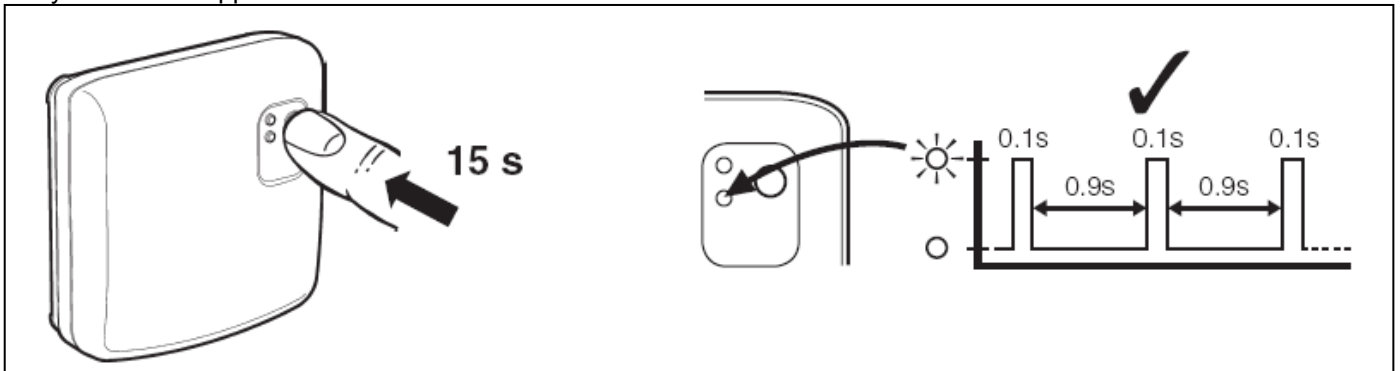
The sequence of operations required is:

1. Bring thermostat close to relay box (around 1m.)
2. Reset stored data in relay box
3. Put relay box into binding mode
4. Reset stored data in room thermostat
5. Put room thermostat into binding mode
6. Bind room thermostat to relay box



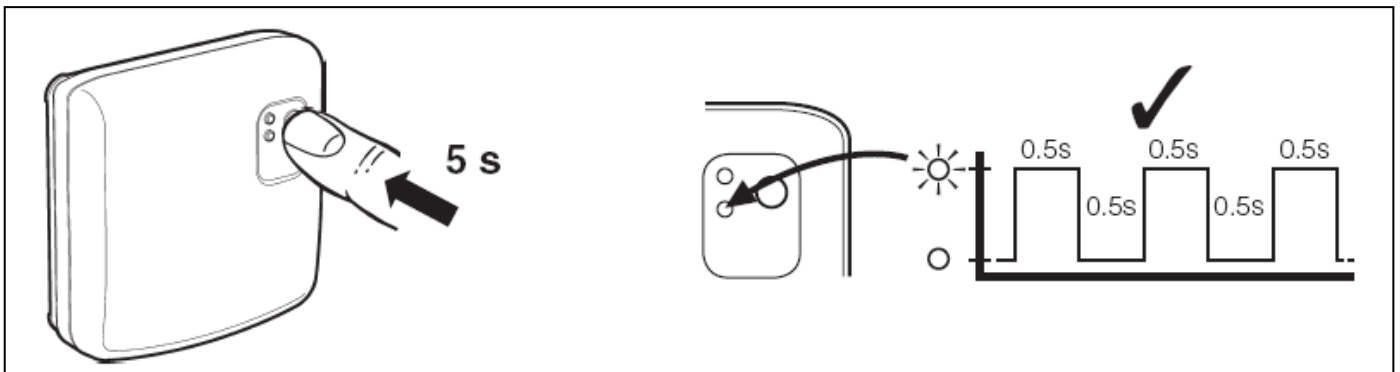
### Reset Stored Data in Relay Box

Press and hold the push button for 15s to reset the stored data in the BDR91 relay box. The red LED will give a brief flash every second to verify reset has happened.



### Put Relay Box into Binding Mode

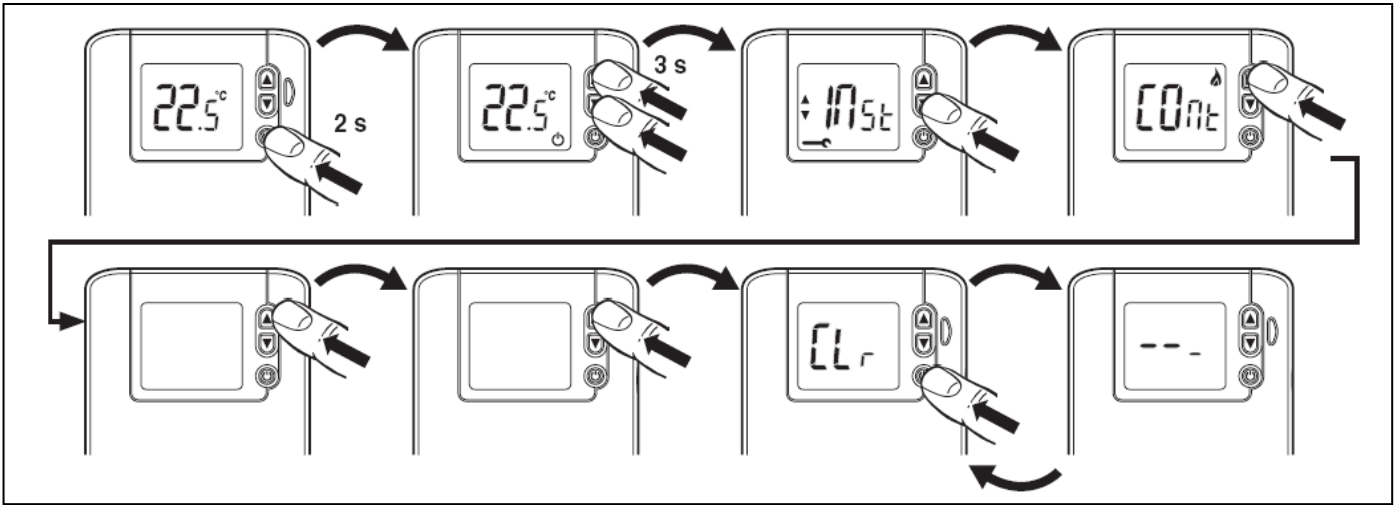
Press and hold the push button for 5s to put the BDR91 relay box into binding mode. The red LED will flash 0.5 seconds on, 0.5 seconds off to verify it is now in binding mode.



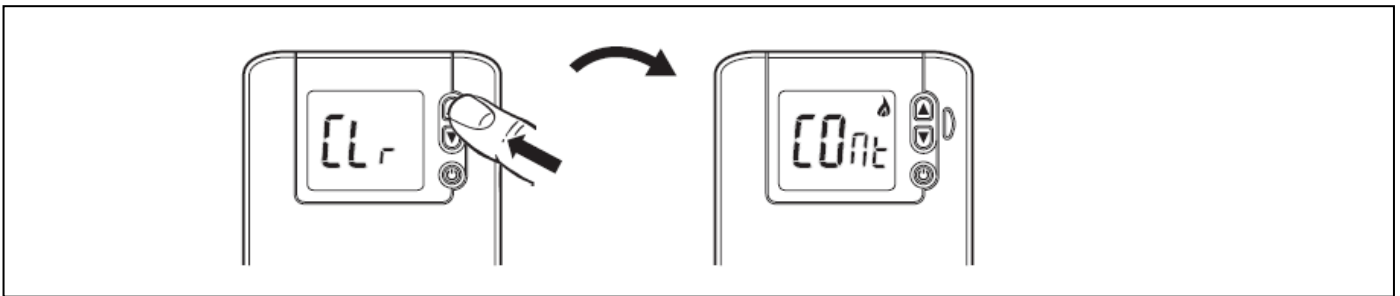
The BDR91 relay box will remain in binding mode for 3 minutes, before generating an error message if no valid binding instruction has been received. It must be put back into binding mode if further attempts to bind are required.

**Reset Stored Data in Room Thermostat**

Follow the sequence of steps below to reset the stored binding data in the room thermostat.



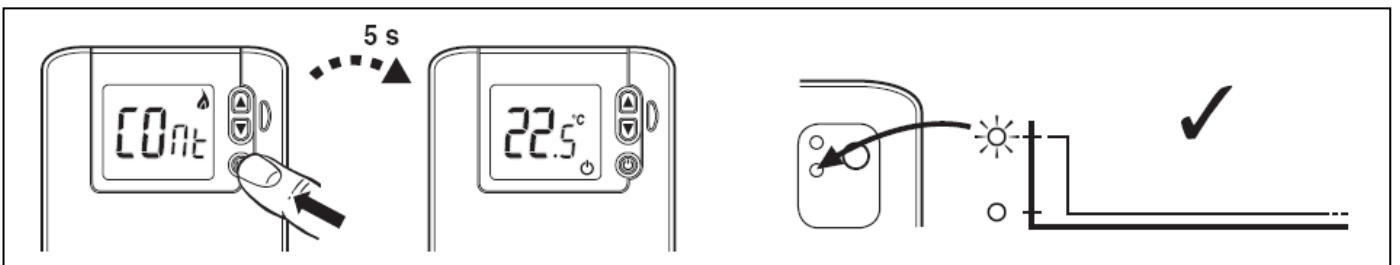
**Put Room Thermostat into Binding Mode**



**Bind Room Thermostat to Relay Box**

With both units in binding mode, pressing the off/standby button on the room thermostat will bind them together.

To verify it is now bound, the red light on the relay box will immediately stop flashing. After about 5 seconds, the room thermostat will come out of binding mode and go back to off mode.

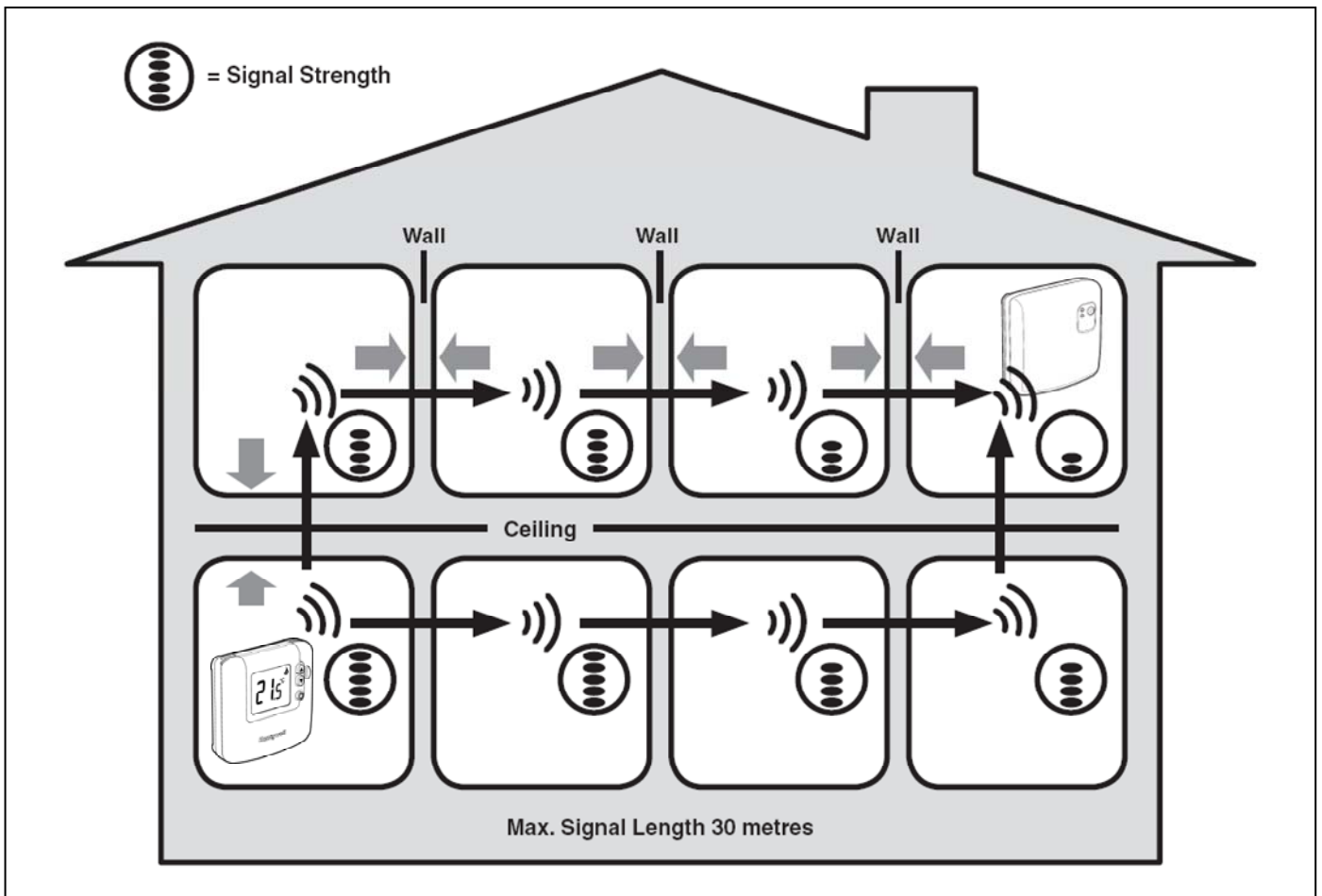


## SYSTEM OPERATION

### RF Signal Propagation

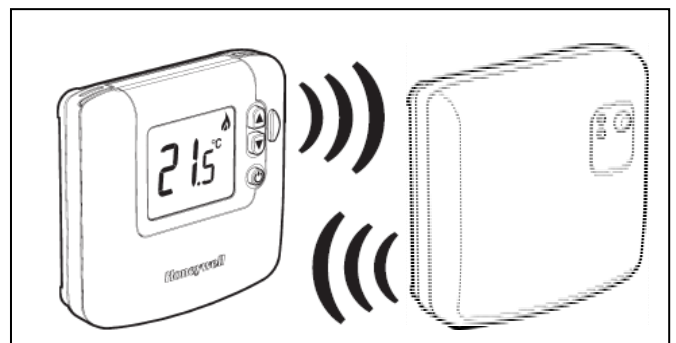
As the DT92 room thermostat and relay box communicate using RF technology, special care must be taken during installation. The location of the RF components as well as the building structure may influence performance of the RF system. DT92 uses 2-way RF technology, and this allows the signal strength to be measured and communicated, to ensure correct placement of the room thermostat in a high signal strength area. See **RF Communication Test** and **Signal Strength Test** sections for a description of these features.

Within a typical residential building the two products should communicate reliably within a 30m range. It is important to take into consideration that walls and ceilings will reduce the RF signal. The strength of the RF signal reaching the Relay Box depends on the number of walls and ceilings separating it from the room thermostat, as well as the building construction - the diagram below illustrates an example of typical signal strength reduction. Walls and ceilings reinforced with steel or plasterboard walls lined with metal foil reduce the RF signal significantly more.



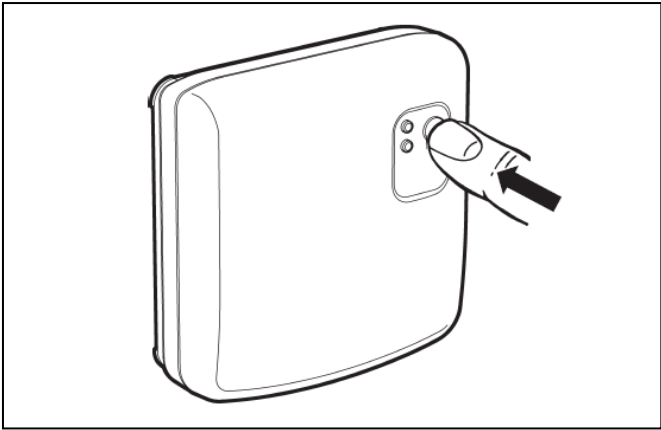
### Automatic Operation

The display on the DT92 room thermostat will indicate (by means of the flame symbol) the actual status of the relay in the BDR91 relay box. The green LED on the BDR91 relay box will illuminate when the relay is on, and will go off when the relay is switched off.



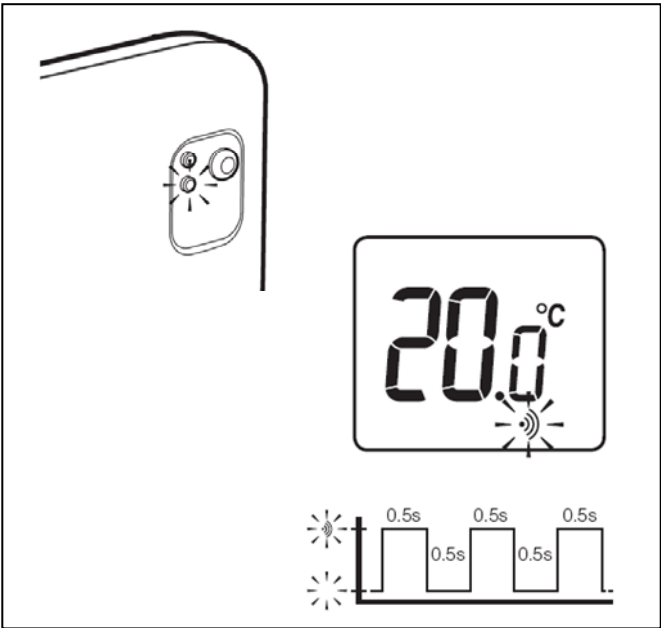
**Temporary Manual Override**

Pressing the button on the BDR91 will temporarily override the current relay operation. The green LED will indicate the relay position.

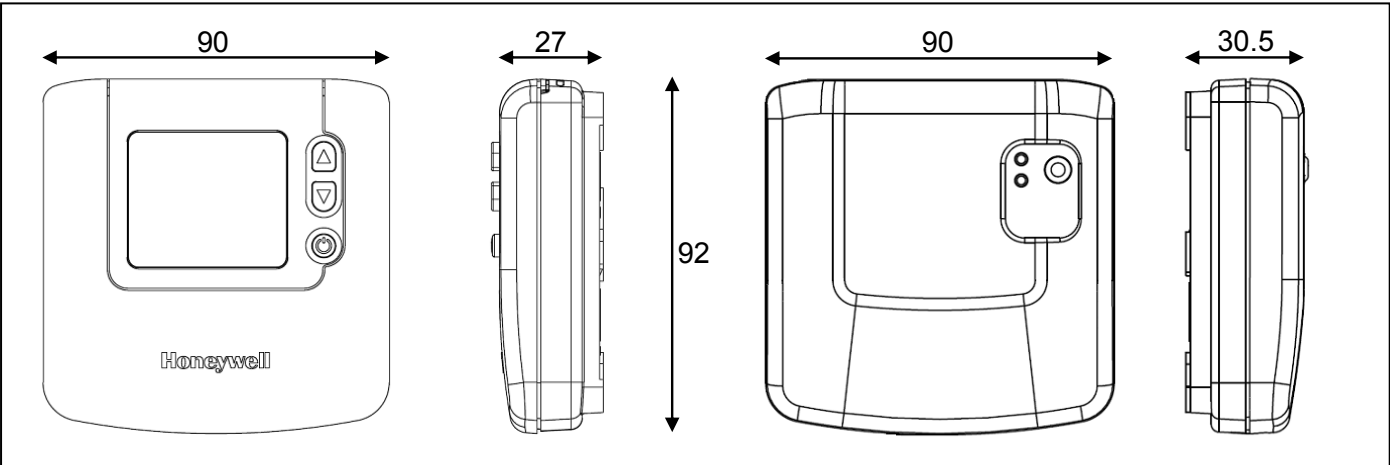


**Loss of RF Communications**

If RF communications is lost, for whatever reason, the BDR91 relay box will operate in failsafe mode (as set in the Installer Mode) and the red LED will illuminate. The DT92 room thermostat will flash the RF symbol until communications are restored.



**PRODUCT DIMENSIONS**



## INSTALLER MODE – APPLICATIONS SETTINGS

The DT92 has a special Installer Mode where some features can be adjusted to suit the application and the needs or lifestyle of the user. Each adjustable feature is called a Parameter. These are described below.

Parameter	Description and typical use
Minimum ON/OFF time	DT92 is able to set a minimum limit for the on and off times of the controlled device or appliance, to prevent damage or excessive wear. This minimum time can be set to 1, 2, 3, 4, or 5 minutes, and is particularly important for heating applications with oil boilers, or air conditioning applications with compressors. Recommended settings are shown in the next table.
Cycle rate	Within the control proportional band, the output will be cycled several times per hour, to give precise temperature control. This can be set to 3, 6, 9, or 12 cycles, depending on the application. Recommended settings are shown in the next table.
Proportional band width	The proportional band is the temperature band, adjacent to the set temperature point, within which the thermostat will cycle the controlled output (to control the boiler, for example). Above or below this band the output will either be fully on or fully off. The band can be adjusted up to 3°C (default 1.5°C) to provide improved temperature control. This is useful for (a) well-insulated homes with over-sized heating systems or (b) air systems with a fast response
Temperature measurement offset	If the thermostat is located in a particularly hot/cold location and cannot be moved, then the measured/displayed temperature can be adjusted by +/- 3°C. This is useful if the homeowner wants the reading to match the temperature display on another appliance.
Upper / Lower temperature limits	The normal upper temperature limit of 35°C can be reduced as low as 21°C to save energy. The normal lower limit of 5°C can be raised as high as 21°C to protect inhabitants from the cold.
Energy saving ECO temperature	On the DT92E ECO model, pressing the ECO button immediately puts the thermostat into energy saving mode, where it will control at this predefined temperature for as long as the user wishes. This temperature can be set from 5°C to 35°C.
Heating or Cooling operation	DT92 can be used for heating or cooling applications. If heating/cooling changeover is selected, the thermostat can be manually switched from heating to cooling (and back again) by pressing and holding the ▲ and ▼ buttons together for 3 seconds, in normal operating mode.
Off/standby setpoint	When the off/standby button is activated, the DT92 will control to a special off/standby setpoint. By default this is set to 5°C to provide frost protection, but it can be set up to 16°C if required. It can also be set off, by setting the parameter value to -- to provide a positive off function. In cooling mode the default setting is off.
Room temperature sensor use	In normal operation the DT92 uses its own temperature sensor. If it is operating in a wireless system with HR80 programmable radiator valves the DT92 needs to know that it is controlling HR80s. In addition, there is a choice of whether the HR80s can use their own in-built temperature sensors, or whether they will use the temperature sensed by DT92. The 3 choices then become: a) DT92 operating without HR80 b) DT92 operating with HR80, HR80 using their own temperature sensor c) DT92 operating with HR80, HR80 using the temperature sensed by DT92
Failsafe operation mode	Should RF communications be interrupted for a significant period of time, for whatever reason, it is possible to specify the desired mode of operation under these circumstances. The choices are for the Relay box to switch off, or for it to operate at 20% on.
HR80 window open function enabling	In a system where DT92 is operating with HR80 programmable radiator valves, the HR80 is capable of detecting whether a window has been opened. This parameter enables the HR80 response to this condition – it can either shutdown (enabled) or operate as before (disabled)
HR80 local override function enabling	In a system where DT92 is operating with HR80 programmable radiator valves, the user can override the room temperature setpoint using the HR80. This parameter can allow (enable) this operation, or prevent it (disable).
Reset parameters	This provides a means of resetting all the parameters to the factory supplied values.

Some parameters require to be set to match specific applications. Recommended settings are shown in the table below.

Specific Applications		Setting		What requires to be changed?
		Cycle s/ hour	Minimum on/off time	
Heating	Gas boilers (<30kW)	6	1	No changes required
	Oil boiler	3	4	1. Set minimum ON/OFF time to 4 minutes 2. Set cycle rate to 3 cycles/hour
	Thermal actuator	12	1	Set cycle rate to 12 cycles/hour
	Zone valve	6	1	No changes required
Air conditioning				1. Configure the thermostat to allow switching between heating and cooling modes (set parameter HC = 1) 2. Set the thermostat to the required mode of operation (heating or cooling) by pressing the ▲ and ▼ buttons together for 3 seconds when in normal run mode (does not work in off/standby mode).
	Heatpump / Air conditioner	3	4	1. Set minimum ON/OFF time to 4 minutes 2. Set cycle rate to 3 cycles/hour
	Fan-coil unit	6	1	No changes required

## INSTALLER MODE – HOW TO SET PARAMETERS

Each parameter is identified by a 2-letter code, and has a range of values. These are shown in the table below, followed by instructions on how to enter Installer Mode, how to select a parameter and change its value, and finally how to exit Installer Mode.

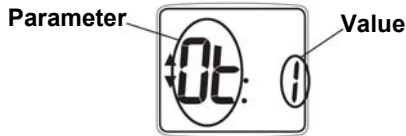
Description	Parameter	Range of values	Factory (default) value
Minimum ON/OFF time	Ot	1, 2, 3, 4, 5 minutes	1 minute
Cycle rate	Cr	3, 6, 9, 12 cycles/hour	6
Proportional band width	Pb	1.5 to 3.0°C	1.5°C
Temperature measurement offset	tO	-3 to 3°C	0
Upper setpoint limit	uL	21 to 35°C	35°C
Lower setpoint limit	LL	5 to 21°C	5°C
Energy saving ECO temperature (this parameter is only available on the DT92E model)	ES	5 to 35°C	18°C
Selection of heat/cool changeover	HC	0 = disable 1 = enable	0
* Off/standby setpoint	OS	-- = off, 5 to 16°C	5°C
** Room temperature sensor use	Su	0 = DT92 alone 1 = DT92 with HR80, using HR80 sensors 2 = DT92 with HR80, using DT92 sensor	0
Failsafe mode (loss of RF communications)	LC	0 = switch OFF 1 = operate at 20% ON	0
** Enable HR80 window-open function	H0	0 = disable 1 = enable	0
** Enable HR80 local override	HL	0 = disable 1 = enable	1
Reset parameters	FS	0, 1	1 (factory settings)

\* In cooling mode the off/standby setpoint defaults to OFF

\*\* Only required if system contains HR80 programmable radiator valves

**To enter Installer Mode:**

- Put DT92 into off/standby mode by pressing and holding the **off/standby** button for 2 seconds.
- Now press and hold both ▲ and ▼ temperature adjustment buttons for 3 seconds, until the display shows the word "Inst".
- Press the ▲ button to get to the first parameter Ot. The parameter code is shown on the display separated by a colon from the parameter value.



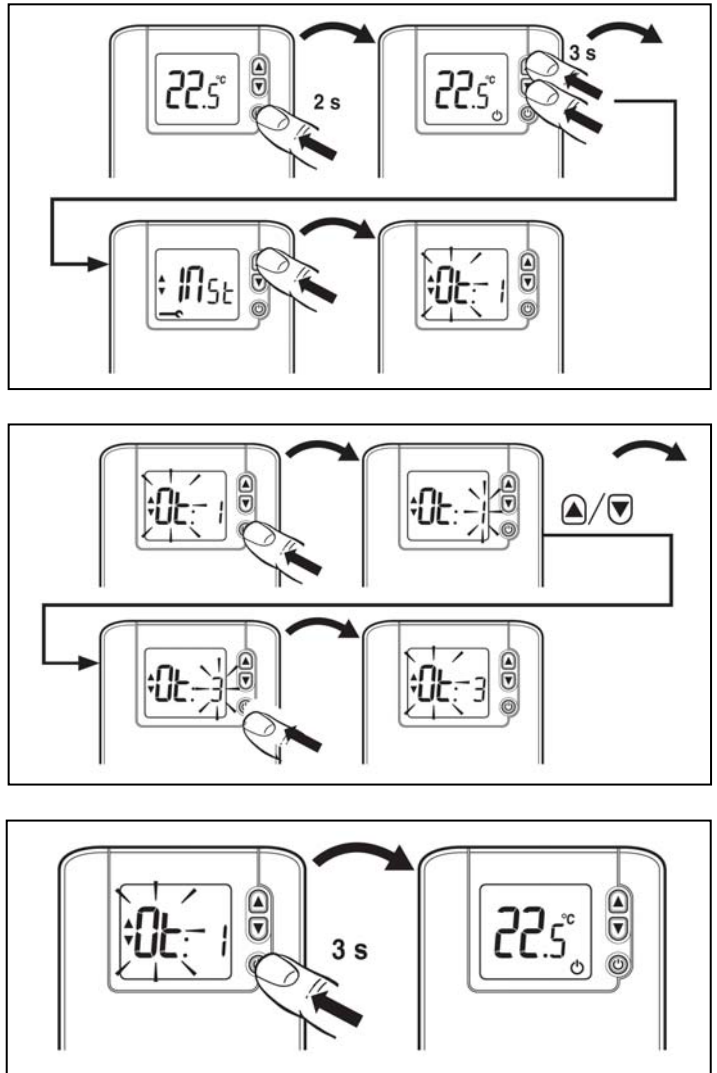
**To select and change a parameter:**

- Use the ▲ and ▼ buttons to move from one parameter to another.
- Press the **off/standby** button to select the parameter value, ready to change
- Use the ▲ and ▼ buttons to adjust the parameter value. When the correct value is flashing, confirm the selection by pressing the **off/standby** button again, returning to the parameter menu.

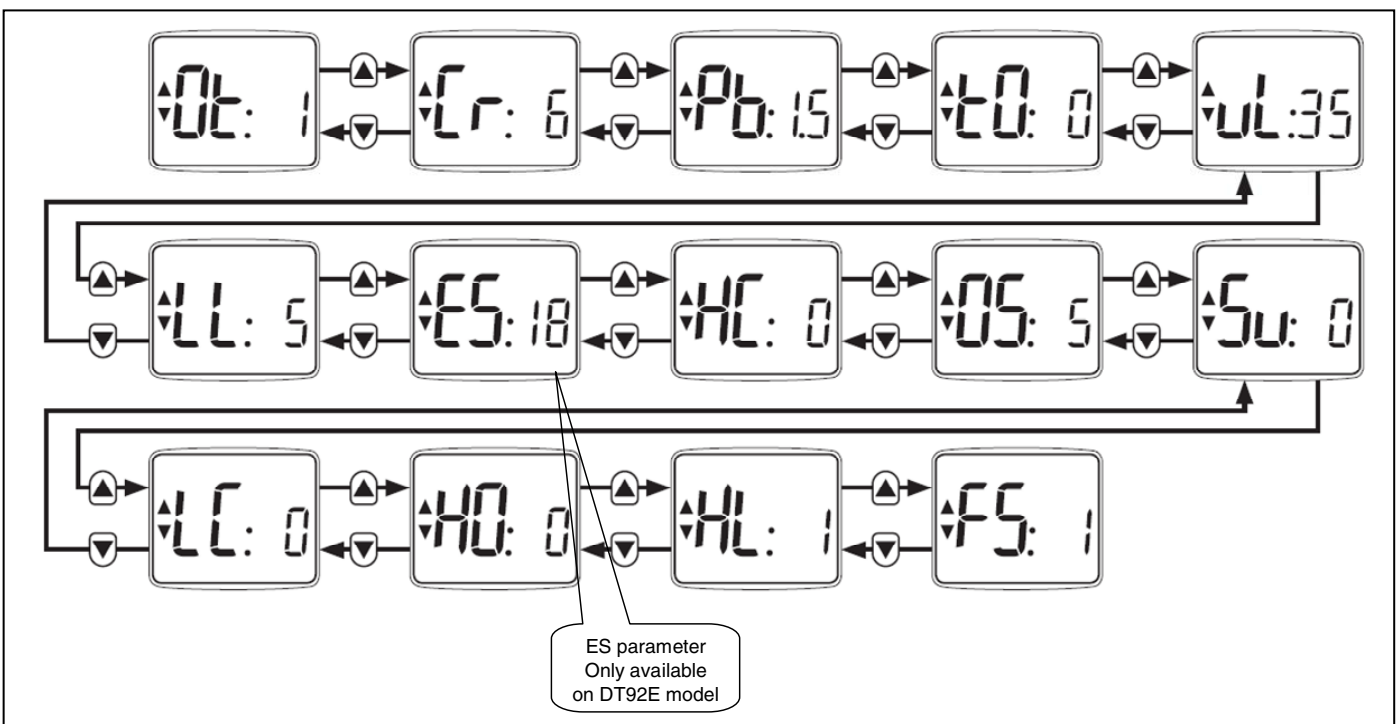
**To exit Installer Mode:**

- Press and hold the **off/standby** button for 3 seconds

**Note:** Installer Mode will exit automatically after 10 minutes if no buttons are pressed.



**INSTALLER MODE - FLOWCHART**





## ENERGY EFFICIENCY AND THE ENVIRONMENT

Home energy use is currently responsible for more than ¼ of the total carbon emissions which contribute to climate change. Heating and hot water systems based on boilers account for 2/3 of this figure, so it is important to understand how controls can help to maximize energy efficiency while maintaining comfort.

DT92 temperature controls should be used in conjunction with appropriate time controls.

In order to save energy the following general points should be observed:

1. Ensure the system contains a room temperature thermostat and a hot water temperature thermostat (except for Combi boiler systems), and that both are set to appropriate temperature levels.
2. Programme the heating and hot water to be off when the house is not occupied. If possible frost damage to any exposed pipework is a concern, it is advisable to fit a frost protection thermostat or system. Honeywell can advise on this.
3. It is normal to have the heating system switched off, or set-back at night when heating is not required.
4. Think about how domestic hot water is used. In a storage system, it is not necessary to have this switched on all the time, even when the house is occupied.
5. Do not programme excessive heatup times for the central heating. If the occupier is out of the house, or still in bed, much of this heating would be unnecessary.
6. In the evening, when the house is up to temperature, it is often possible to switch the heating off up to an hour before going to bed, without any noticeable reduction in comfort.



Institut  
**Automatització, S.L.**

c\ Gomis, 29-33, 08023 BARCELONA

Tel.: 93 454 20 06  
Fax: 93 323 70 59

iac@instauto.com  
www.instauto.com

www  
**TODO-CONTROL**.com  
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