Honeywell

Application Manual

evohome

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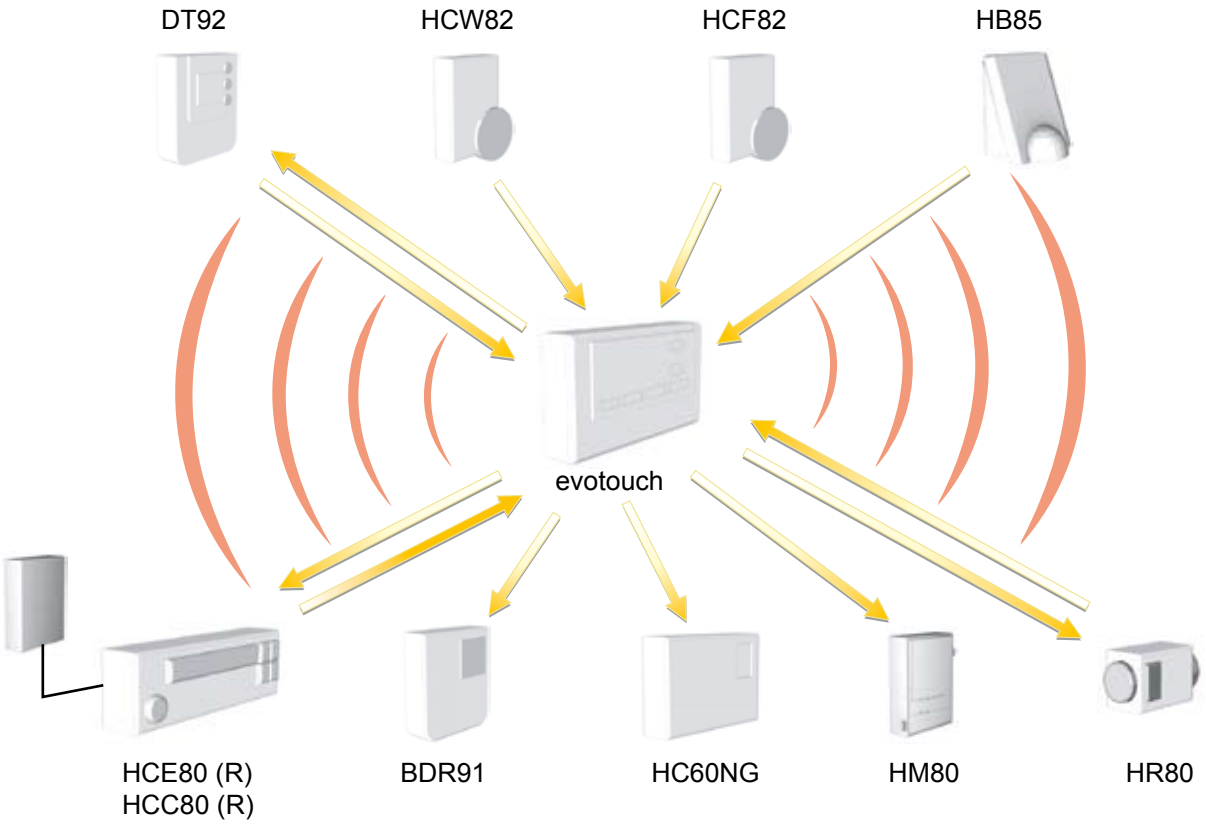
1. Introduction

As part of the wide range of Honeywell´s product portfolio for wireless communication products we provide heating solutions for individual zoning control. This application manual explains examples for heating solutions, particularly for radiator, underfloor and electrical heating control.

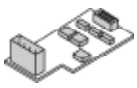
1.1 Wireless communication

The peripherals communicate with the **evotouch** controller based on our proven RF wireless technology 868 MHZ.

The products include a transceiver which allows bi-directional (two-way) communication or uni-directional (one-way) communication with the **evotouch** controller.



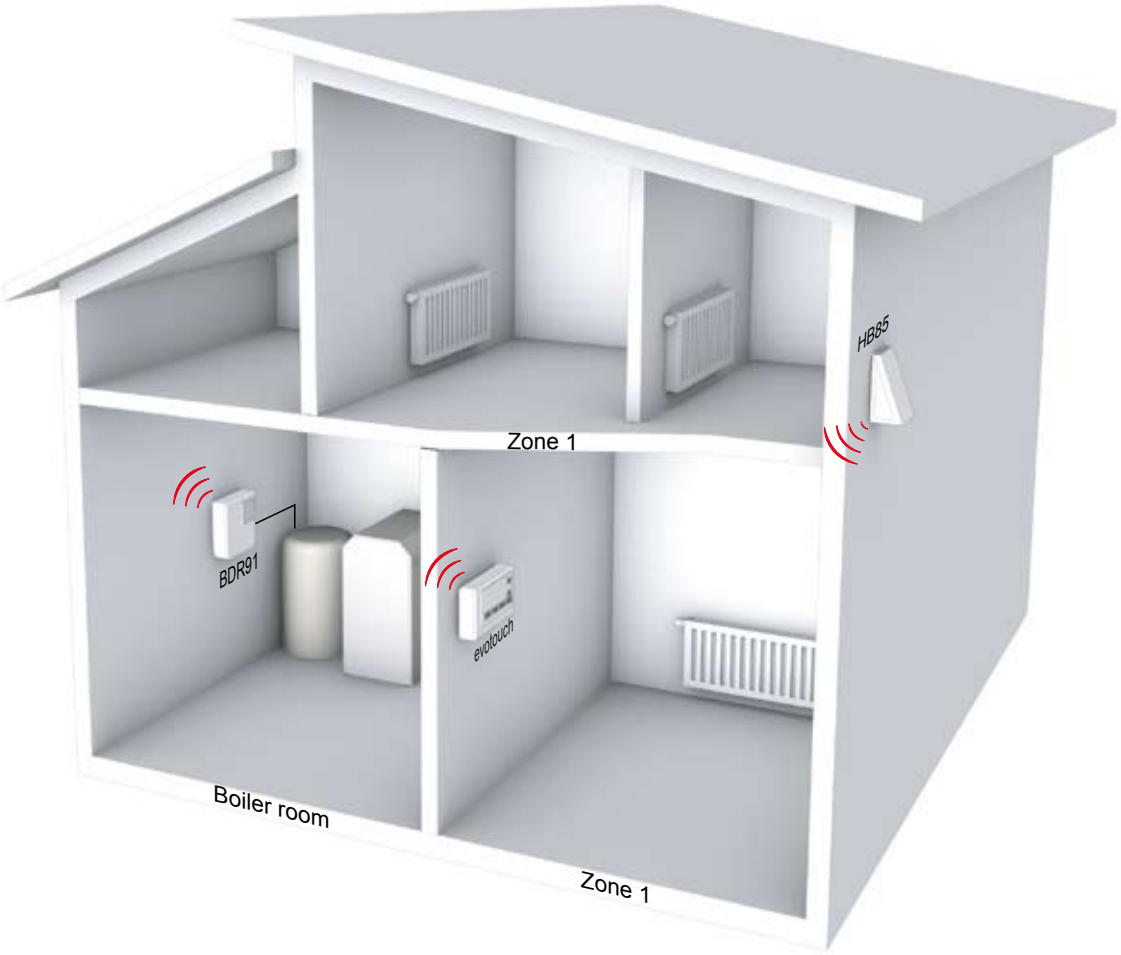
1.2 Product overview

Picture	Product	OS number	Description
	evotouch controller		Modern designed multizoning controller with touch screen display for up to 8 zones. With individual time program for each zone, guided programming, text-based user guide.
	Underfloor heating controller	HCE80(R)	Underfloor heating controller for up to 5 zones. Pump control, analogue output for boiler feedback MCR200, MCR40, EXCEL controllers. External antenna required. Optional wireless boiler feedback via relay BDR91. Each output can drive up to 3 thermal actuators. The HCE80R has the same configuration, but instead of an analogue output it has an integrated boiler relay.
	Underfloor heating controller	HCC80(R)	Underfloor heating controller for up to 5 zones. Pump control, analogue output for boiler feedback MCR200, MCR40, EXCEL controllers. Antenna integrated. Optional wireless boiler feedback via relay BDR91. Each output can drive up to 3 thermal actuators, transceiver 868 MHz. The HCC80R has the same configuration, but instead an analogue output it has an integrated boiler relay.
	External antenna	HRA80	External active antenna for HCE80(R). Up to 3 controllers can be connected to one antenna, transceiver 868 MHz.
	OPENTHERM-Bridge	R8810A1018	OPENTHERM-Bridge interface for boiler control (heat on demand), transceiver 868 MHz.
	Extension module	HCS80	3 zones upgrade for HCE80(R) / HCC80(R) from 5 to 8 zones.
	Room sensor	HCF82	Room unit with integrated temperature sensor, battery-powered (2x1,5V AA LR6), transmitter 868 MHz.
	Room sensor / setpoint adjustment	HCW82	Room unit with integrated temperature sensor / setpoint adjustment +/– 12 °C. Window contact, battery-powered (2x1,5V AA LR6) or external power supply, transmitter 868 MHz.
	Digital room unit	DT92	Digital room unit with integrated temperature sensor and setpoint adjustment 8 to 30 °C, battery-powered (2x1,5 V AA LR6), transceiver 868 MHz.
	Mixing valve controller	HM80	Mixing valve controller for 3-position mixing valve. With pump control and flow temperature sensor connection. Adjustable parameters: valve run time, pump running time, min./max. flow temperature, manual override buttons to open/close valve, receiver 868 MHz.

Picture	Product	OS number	Description
	Radiator controller	HR80	Radiator controller with energy-saving features, e.g. window function, manual setpoint override, display operating status and battery exchange. Fits valves of brands Honeywell Braukmann, MNG, Heimeier, Junkers, Oventrop beginning from 03/1998. Adaptors for Danfoss, Herz, Vaillant, Oventrop available. Battery-powered (2x1,5 V AA LR6), transceiver 868 MHz.
	Relay module 5 A	BDR91	Relay module with change over contact 5 A, transceiver 868 MHz.
	Relay module 8 A	HC60NG/ R6660D	Relay module with change over contact 8 A, receiver 868 MHz.
	Outdoor sensor	HB85	Module with integrated temperature sensor for measuring the outside temperature. Battery-powered (2x1,5 V AA LR6), transmitter 868 MHz.
Accessories			
	Thermal actuator	MT4-230 NG	Thermal actuator normally closed 230 V AC
	Thermal actuator	MT4-230 NO	Thermal actuator normally open 230 V AC

2. Application examples

2.1 Single zone thermostat with boiler control



Notes

- The internal room sensor of the **evotouch** controller must be activated
- BDR91 relay module or OPENTHERM-Bridge can be used

Application description

This application shows 1 zone boiler control where the **evotouch** controller controls the boiler directly depending on heat demand via the BDR91 relay module (switching ON/OFF).

The internal room sensor of the **evotouch** controller is used in order to measure the room temperature.

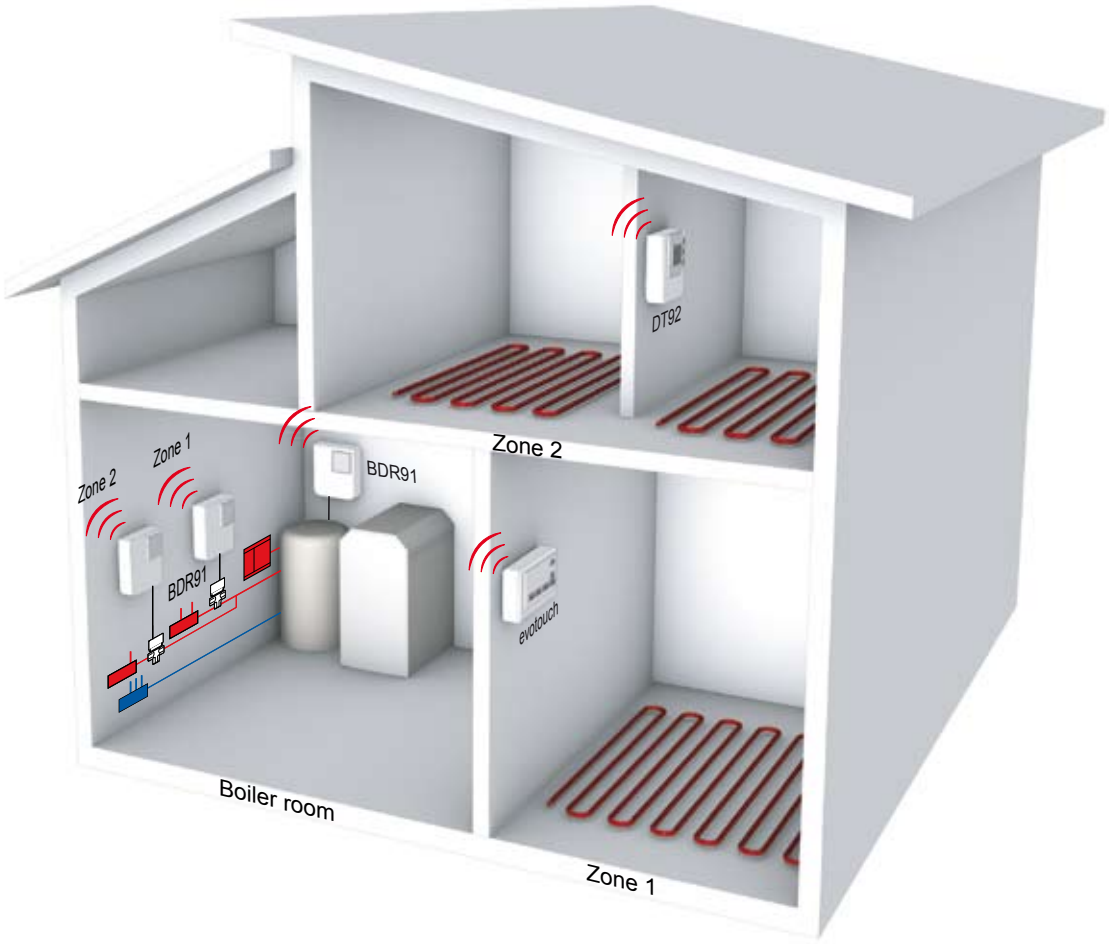
Option

- **Outdoor sensor**
  The HB85 outdoor sensor measures the outside temperature. It must be installed if data is required.

Steps to do

- ▶ Activate the internal room sensor of the **evotouch** controller. **See section 4.2**
- ▶ Bind BDR91 relay module / OPENTHERM-Bridge to the **evotouch** controller. **See section 4.4**
- ▶ Check RF communication.

2.2 Two zone system with zone valves



Notes

- The internal room sensor of the **evotouch** controller must be activated for zone 1
- Instead of DT92 the HCW82 / HCF82 room units can be used

Application description

For zone 1, the internal room sensor of the **evotouch** controller is used.

Zone 2 requires the DT92 room unit for the room temperature measurement and local remote setpoint adjustment.

The setpoints can be altered directly on the **evotouch** controller by manual override, time program, lifestyle actions and DT92 as well. The same actual room temperature setpoint will be displayed on the **evotouch** controller and DT92.

In total, 8 zones can be controlled individually.

Options

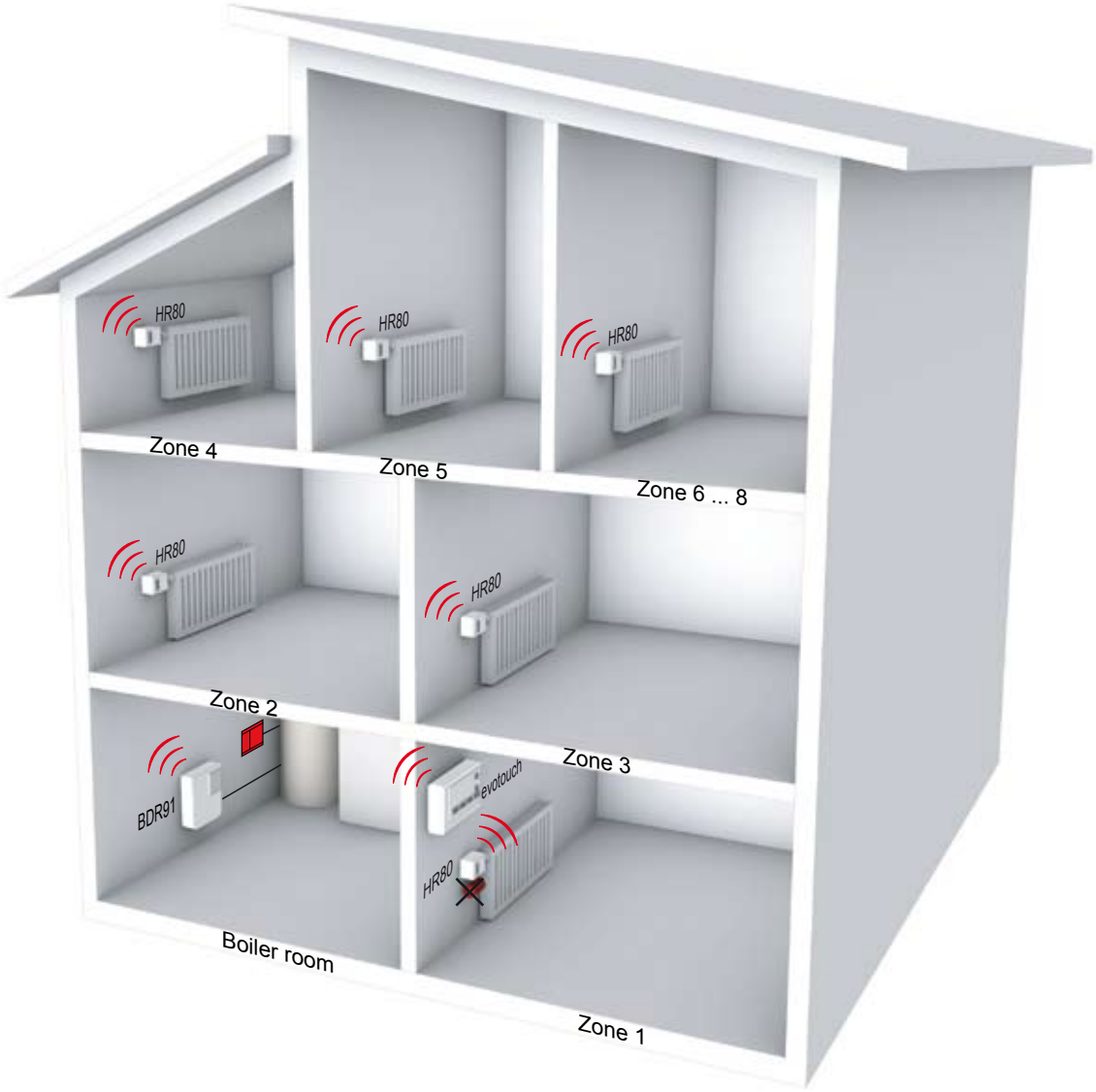
- **Heat demand**
  The **evotouch** controller calculates the heat demand and communicates it to the boiler relay BDR91 / HC60NG or OPENTHERM-Bridge which controls the boiler.
- **Outdoor sensor**
  The HB85 outdoor sensor measures the outside temperature. It must be installed if data is required.

Steps to do

- ▶ Activate the internal room sensor of the **evotouch** controller for zone 1. **See section 4.2**
- ▶ Bind the **evotouch** controller to the DT92 as room/setpoint sensor to zone 2. **See section 4.8**
- ▶ Bind the **evotouch** controller to the BDR91 / HC60NG relay module to zone 1 and zone 2. **See section 4.4**
- ▶ Optional: Bind the **evotouch** controller to the BDR91 relay module / OPENTHERM-Bridge for boiler control. **See section 4.5**
- ▶ Optional: Bind the **evotouch** controller to the HB85 sensor for outdoor temperature. **See section 4.10**
- ▶ Check RF communication for each sensor and actuator individually.

2.3 Multizone system with radiators

Example: 6 zones, up to 8 zones are possible



Notes

- The internal room sensor of the **evotouch** controller must be activated for zone 1
- Zone 1: HR80 internal room sensor not used
- Optional boiler feedback: BDR91 relay module or OPENTHERM-Bridge

Application description

The integrated room sensor of the HR80 is used to measure the room temperature and compare it with the received room setpoint from the **evotouch** controller. Depending on the temperature deviation, the radiator valve is controlled to achieve the target room temperature setpoint. The integrated room sensor of the **evotouch** controller can be activated as well for only one zone.

Several HR80s can be bound to one zone. There are no limitations, only the RF signal's range is limited to the distance of max. 30 m.

In total, 8 zones can be controlled individually.

Options

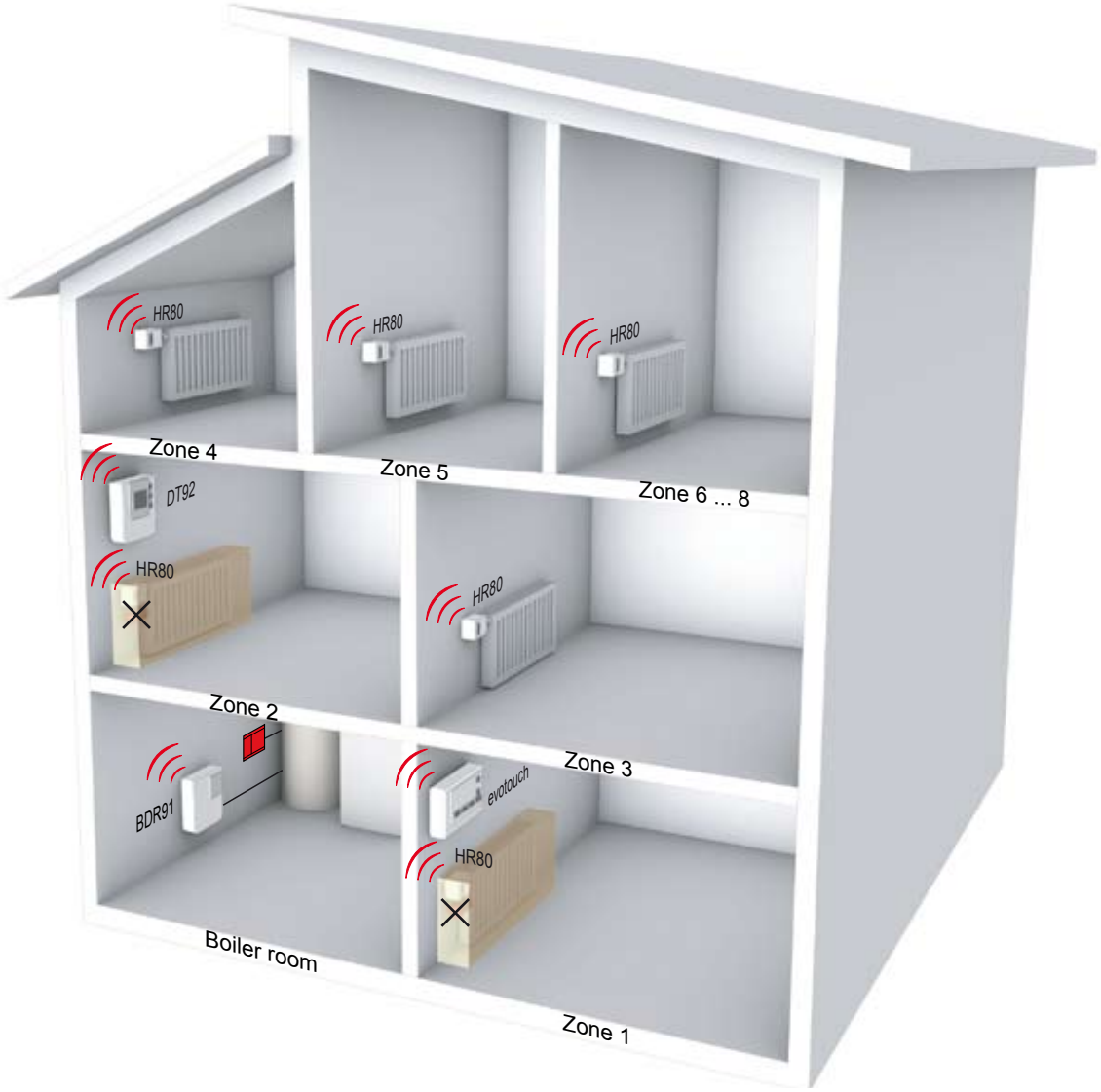
- **Heat demand**
  The **evotouch** controller calculates the heat demand and communicates it to the boiler relay BDR91 / HC60NG or OPENTHERM-Bridge which control the boiler.
- **Outdoor sensor**
  The HB85 outdoor sensor measures the outside temperature. It must be installed if data is required.

Steps to do

- ▶ Activate the internal room sensor of the **evotouch** controller for zone 1. **See section 4.2**
- ▶ Bind the **evotouch** controller to each HR80's integrated room sensor individually for each zone 2 – 6. **See section 4.3.1**
- ▶ Bind the **evotouch** controller to each HR80's actuator individually for each zone 1 – 6. **See section 4.3.2**
- ▶ Optional: Bind the **evotouch** controller to the BDR91 relay module / OPENTHERM-Bridge for boiler feedback. **See section 4.5**
- ▶ Optional: Bind the **evotouch** controller to the HB85 sensor for outdoor temperature. **See section 4.10**
- ▶ Check RF communication for each sensor and actuator individually.

2.4 Multizone system with radiators and remote sensor

Example: 6 zones, up to 8 zones are possible



Notes

- The internal room sensor of the **evotouch** controller must be activated for zone 1
- Instead of DT92 the HCW82 / HCF82 room units can be used
- Zones 1 and 2: HR80 internal room sensor not used
- Optional heat demand: BDR91 relay module or OPENTHERM-Bridge

Application description

This application shows when the HR80 integrated room sensor should be used or, alternatively, the DT92 remote sensor. The precise room temperature measurement requires air flow through the HR80 room sensor which is not always possible, particularly if the radiators are faced with e.g. wood, which causes an imprecise temperature measurement (see examples in zone 1 and zone 2). Therefore, in zone 1 the internal sensor from the **evotouch** controller is used to measure the room temperature. For zone 2 the DT92 room unit is used which also allows to change the room temperature setpoint remotely (manual override).

The room temperature from zones 3 – 6 is measured directly by each HR80.

Up to 8 zones can be controlled individually with the radiator controller HR80 in combination with remote units DT92, HCW82 or HCF82.

Options

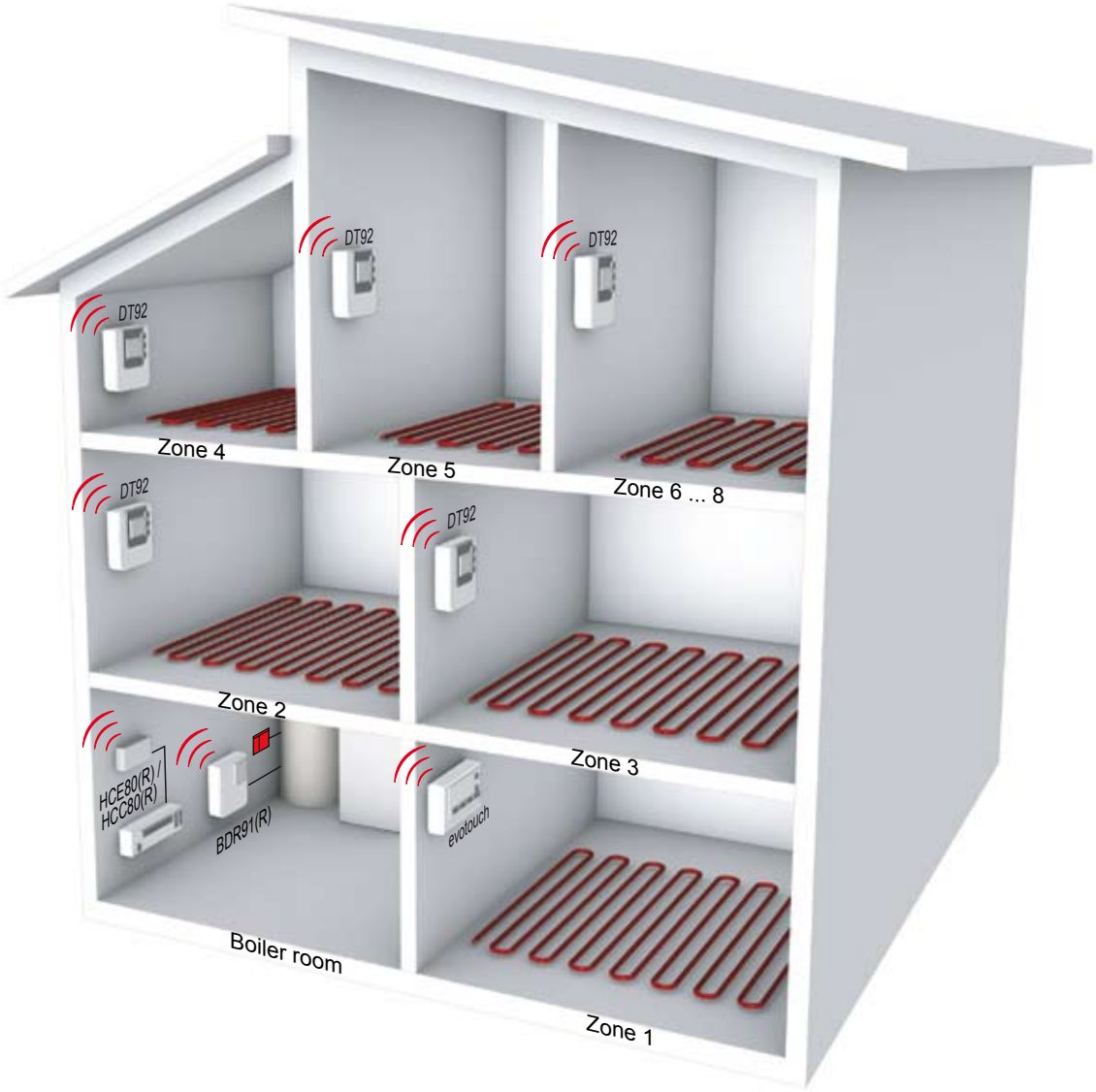
- **Heat demand**
  The **evotouch** controller calculates the heat demand and communicates it to the boiler relay BDR91 / HC60NG or OPENTHERM-Bridge which control the boiler.
- **Outdoor sensor**
  The HB85 outdoor sensor measures the outside temperature. It must be installed if data is required.

Steps to do

- ▶ Activate the internal room sensor of the **evotouch** controller for zone 1. **See section 4.2**
- ▶ Bind the **evotouch** controller to each HR80's integrated room sensor individually for each zone 3 – 6. **See section 4.3.1**
- ▶ Bind the **evotouch** controller to each HR80's actuator individually for each zone 1 – 6. **See section 4.3.2**
- ▶ Bind the **evotouch** controller to the DT92 room unit for zone 2. **See section 4.8**
- ▶ Optional: Bind the **evotouch** controller to the BDR91 relay module / OPENTHERM-Bridge for boiler feedback. **See section 4.5**
- ▶ Optional: Bind the **evotouch** controller to the HB85 sensor for outdoor temperature. **See section 4.10**
- ▶ Check RF communication for each sensor and actuator individually.

2.5 Multizone system with underfloor heating individual room thermostat

Example: 6 zones, up to 8 zones are possible



Notes

- The internal room sensor of the **evotouch** controller must be activated for zone 1
- Instead of DT92 the HCW82 / HCF82 room units can be used
- Optional boiler feedback: BDR91 relay module or OPENTHERM-Bridge

Application description

The underfloor heating controller controls 6 zones individually. For zone 1, the **evotouch** internal room sensor is used. All other zones (2 – 6) require their own room unit DT92 in order to measure the room temperature and adjust the room temperature setpoint remotely.

The DT92 communicates directly with the **evotouch** controller in order to exchange the room temperature setpoints that can be altered by manual override, time program or lifestyle actions at the **evotouch** controller.

The underfloor heating controller communicates only with the **evotouch** controller directly and receives the room temperature and room temperature setpoint for each zone individually.

In total, 8 zones can be controlled individually.

Options

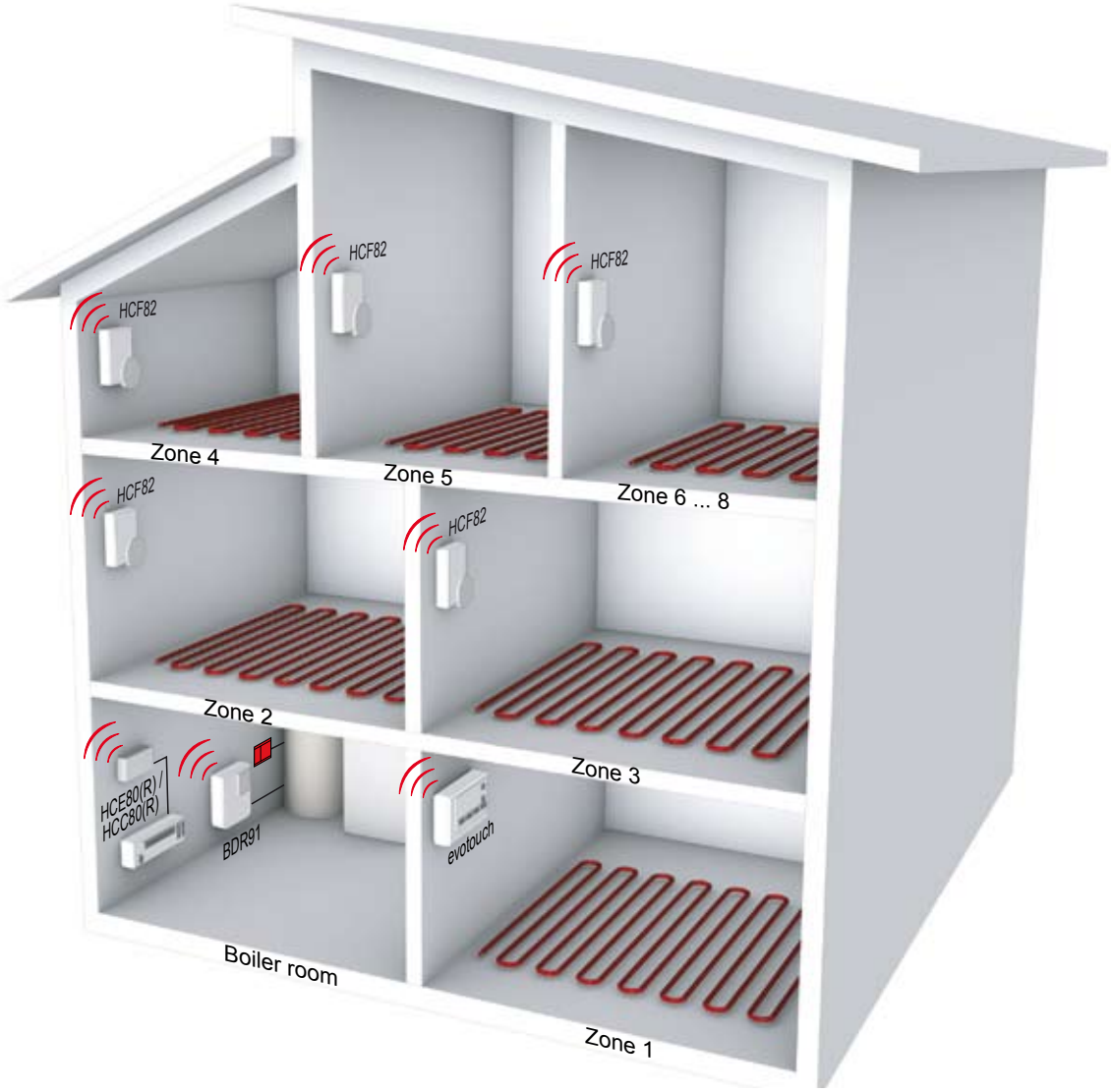
- **Heat demand**
  The **evotouch** controller calculates the heat demand and communicates it to the boiler relay BDR91 / HC60NG or OPENTHERM-Bridge which control the boiler.
- **Outdoor sensor**
  The HB85 outdoor sensor measures the outside temperature. It must be installed if data is required.

Steps to do

- ▶ Activate the internal room sensor of the **evotouch** controller for zone 1. **See section 4.2**
- ▶ Bind the **evotouch** controller to each room unit DT92 individually for zones 2 – 6. **See section 4.8**
- ▶ Bind the sensor information from the **evotouch** controller to the underfloor heating controller individually for each zone 1 – 6. **See section 4.7.1**
- ▶ Bind the setpoint information from the **evotouch** controller to the underfloor heating controller individually for each zone 1 – 6. **See section 4.7.2**
- ▶ Optional: Bind the **evotouch** controller to the BDR91 / OPENTHERM-Bridge relay module for boiler feedback. **See section 4.5**
- ▶ Optional: Bind the **evotouch** controller to the HB85 sensor for outdoor temperature. **See section 4.10**
- ▶ Check RF communication for each sensor and actuator individually.

2.6 Multizone system with underfloor heating individual room sensor

Example: 6 zones, up to 8 zones are possible



Notes

- The internal room sensor of the **evotouch** controller must be activated for zone 1
- Optional heat demand: BDR91 relay module or OPENTHERM-Bridge

Application description

The HCE80(R) / HCC80(R) underfloor heating controllers individually control up to 8 zones. For zone 1, the internal room sensor from the **evotouch** controller is used. All other zones (2 – 6) require their own HCF82 room sensor to measure the room temperature.

The HCF82 directly communicates with the **evotouch** controller in order to send the room temperature. The room temperature setpoints change according to the time program. The manual setpoint override is only possible with the **evotouch** controller.

The underfloor heating controllers HCE80(R) / HCC80(R) communicate directly only with the **evotouch** controller and receive the room temperature and room temperature setpoint for each zone individually.

In total, 8 zones can be controlled individually.

Options

Heat demand
The **evotouch** controller calculates the heat demand and communicates it to the boiler relay BDR91 / HC60NG or OPENTHERM-Bridge which controls the boiler.

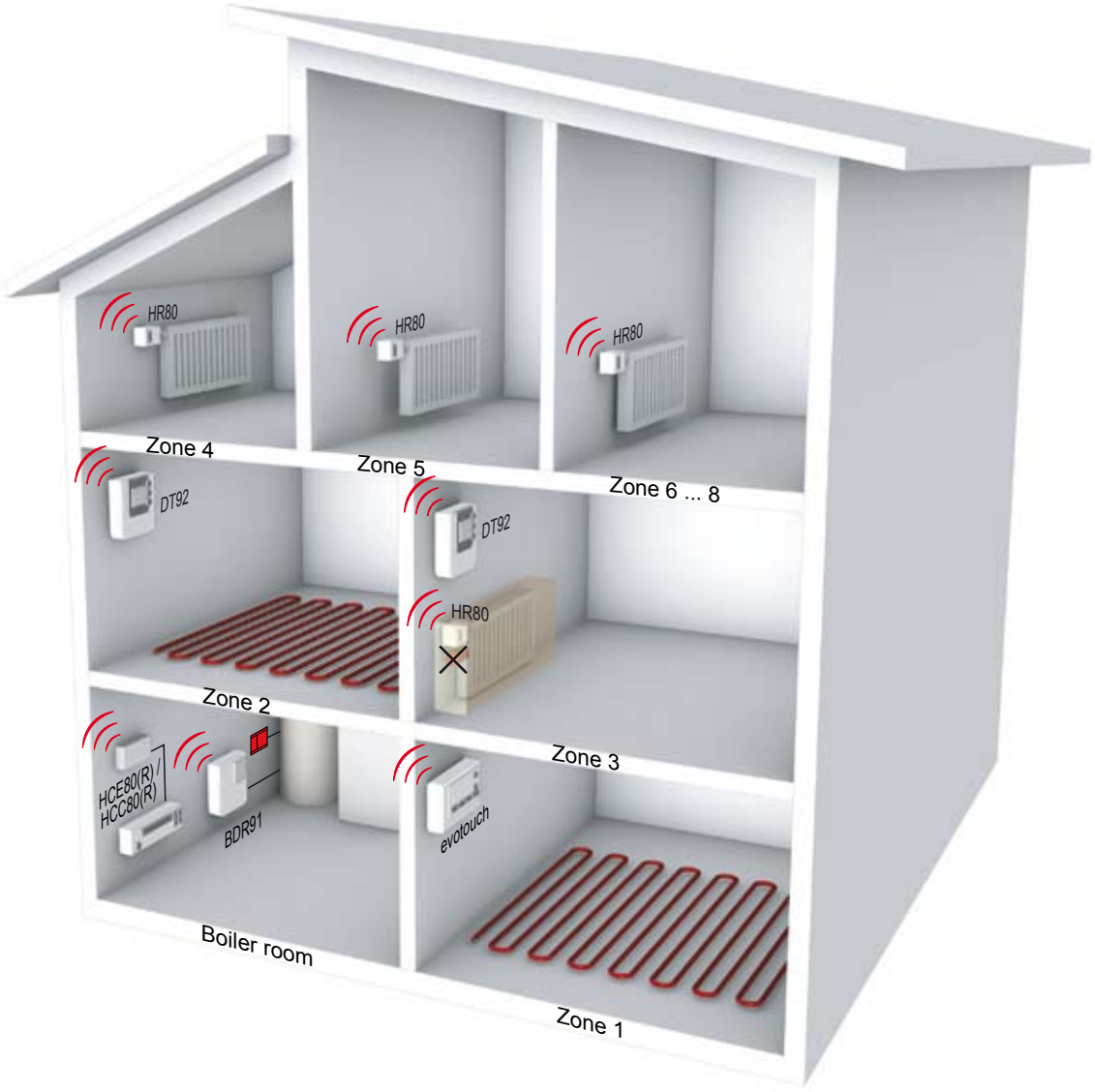
Outdoor sensor
The HB85 outdoor sensor measures the outside temperature. It must be installed if data is required.

Steps to do

- ▶ Activate the internal room sensor of the **evotouch** controller for zone 1. **See section 4.2**
- ▶ Bind the **evotouch** controller to the HCF82 room sensor individually for each zone 2 – 6. **See section 4.9**
- ▶ Bind the sensor information from the **evotouch** controller to the underfloor heating controller individually for each zone 1 – 6. **See section 4.7.1**
- ▶ Bind the setpoint information from the **evotouch** controller to the underfloor heating controller individually for each zone 1 – 6 **See section 4.7.2**
- ▶ Optional: Bind the **evotouch** controller to the BDR91 / HC60NG relay module for boiler feedback. **See section 4.5**
- ▶ Optional: Bind the **evotouch** controller to the HB85 sensor for outdoor temperature. **See section 4.10**
- ▶ Check RF communication for each sensor and actuator individually.

2.7 Multizone system with radiators and underfloor heating

Example: 6 zones, up to 8 zones are possible



Notes

- The internal room sensor of the **evotouch** controller must be activated for zone 1
- Instead of DT92 the HCW82 / HCF82 room units can be used
- Zone 3: HR80 internal room sensor not used
- Optional boiler feedback: BDR91 relay module or OPENTHERM-Bridge

For that mixed application you can setup the configuration as following:

▶ Select menu GUIDED CONFIG and configure the 4 zones for radiator control

▶ Select menu ZONING CONFIG and add the 2 zones for underfloor heating control ADD ZONE

Alternative go to the expert menu:

▶ Select menu ZONING CONFIG and add the 4 zones for Radiator control ADD ZONE

▶ Select menu ZONING CONFIG and add the 2 zones for underfloor heating control ADD ZONE

The Binding process in the EXPERT MENÜ is the same as for GUIDED CONFIGURATION however the RF test must be choosen in the MENU SYSTM CONFIGURATION BINDING AND RF TEST individual for each zone.

Application description

This is a typical application which shows the combination of underfloor heating and radiator control. Zones 1 and 2 are controlled by the underfloor heating controller HCE80 and zones 3 – 6 by radiator controllers HR80.

Zone 1 uses the internal room sensor from the **evotouch** controller, while zones 2 and 3 use the DT92 room unit to measure the room temperature and remote setpoint adjustment.

Zones 4, 5 and 6 individually use their HR80's integrated room sensor.

All peripheral devices communicate directly with the **evotouch** controller. The room temperature setpoints can be altered manually or by e.g. time program or lifestyle actions with the **evotouch** controller.

This mixed application can be used for up to 8 zones.

Options

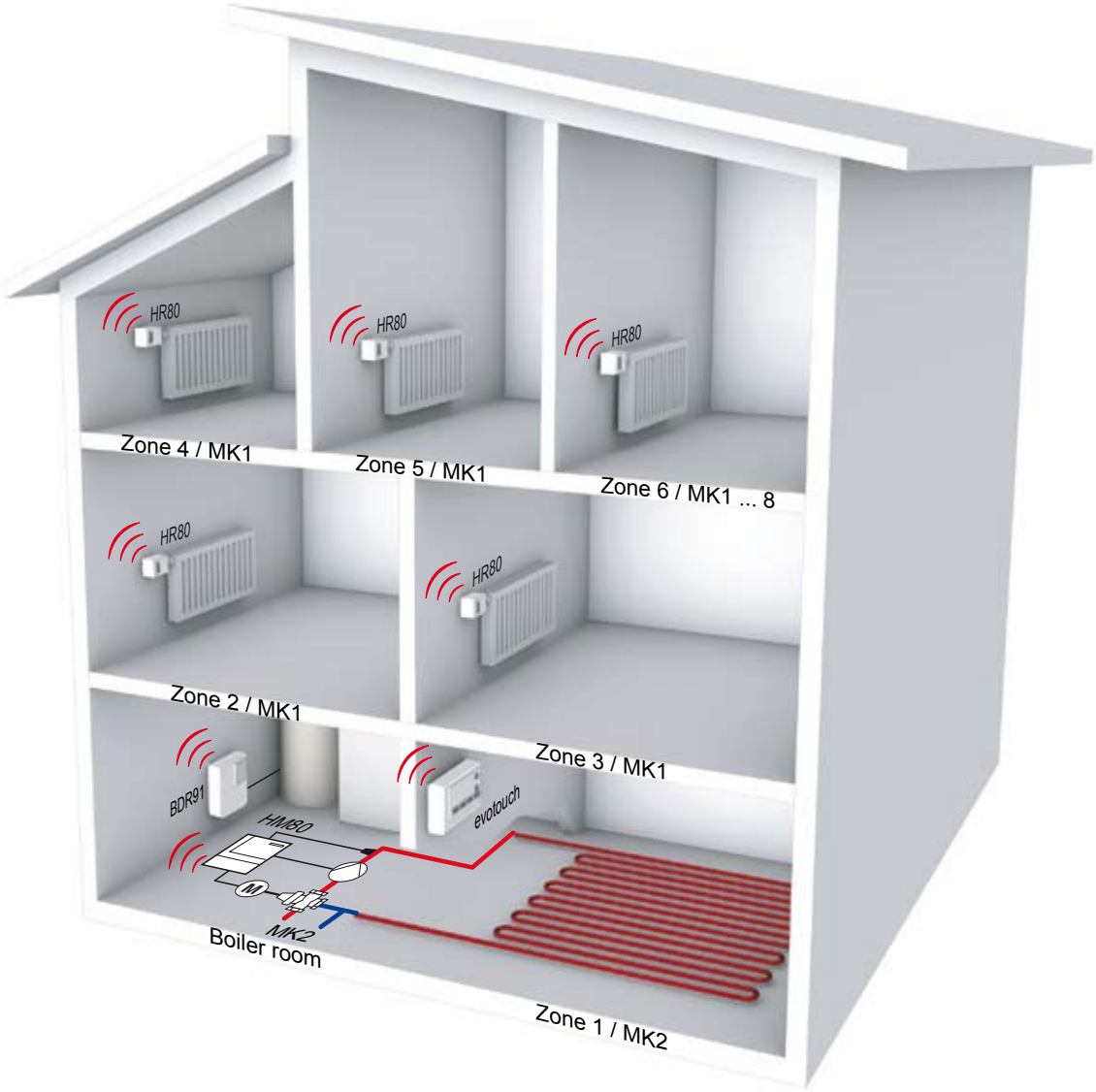
- **Heat demand**
  The **evotouch** controller calculates the heat demand and communicates it to the BDR91 / HC60NG boiler relay or OPENTHERM-Bridge which control the boiler.
- **Outdoor sensor**
  The HB85 outdoor sensor measures the outside temperature. It must be installed if data is required.

Steps to do

- ▶ Activate internal room sensor of the **evotouch** controller for zone 1. **See section 4.2**
- ▶ Bind the **evotouch** controller to the DT92 room unit individually for zones 2 and 3. **See section 4.8**
- ▶ Bind the **evotouch** controller to each HR80's integrated room sensor individually for each zones 4 – 6. **See section 4.3.1**
- ▶ Bind the **evotouch** controller to each HR80's actuator individually for zones 3 – 6. **See section 4.3.2**
- ▶ Bind the sensor information from the **evotouch** controller to the underfloor heating controller individually for each zone 1 – 6. **See section 4.7.1**
- ▶ Bind the setpoint information from the **evotouch** controller to the underfloor heating controller individually for each zone 1 and 2. **See section 4.7.2**
- ▶ Optional: Bind the **evotouch** controller to the BDR91 / HC60NG relay module for boiler feedback. **See section 4.5**
- ▶ Optional: Bind the **evotouch** controller to the HB85 sensor for outdoor temperature. **See section 4.10**
- ▶ Check RF communication for each sensor and actuator individually.

2.8 Multizone system with mixing valve and radiators

Example: 6 zones, up to 8 zones are possible



Notes

- The internal room sensor of the **evotouch** controller must be activated for zone 1
- HM80 mixing valve controller: mixing valve run time / pump after run time / min/max flow temperature
- Optional heat demand: BDR91 relay module or OPENTHERM-Bridge

For that mixed application you can setup the configuration as following:

▶ Select menu GUIDED CONFIG and configure the 5 zones for radiator control

▶ Select menu ZONING CONFIG and add the 1 zone for underfloor heating control ADD ZONE

Alternative go to the expert menu:

▶ Select menu ZONING CONFIG and add the 5 zones for Radiator control ADD ZONE

▶ Select menu ZONING CONFIG and add the 1 zone for underfloor heating control ADD ZONE

The Binding process in the EXPERT MENÜ is the same as for GUIDED CONFIGURATION however the RF test must be choosen in the MENU SYSTM CONFIGURATION BINDING AND RF TEST individual for each zone.

Application description

This application shows two heating circuits: one for radiator MK1 and one for underfloor heating MK2. The HR80 radiator controllers belong to the heating circuit MK1 (zones 2 – 6) which use their own integrated room sensor.

Zone 1 (underfloor heating MK2) is controlled by the mixing valve controller HM80 and the **evotouch** controller's internal room sensor is used to measure the room temperature. The **evotouch** controller also sends the room temperature setpoints and parameters to the HM80.

For optimal operation, the parameters can be set at the mixing valve for each individual zone's HM80.

The **evotouch** controller can control up to 8 zones with HM80. However, each zone requires its own HM80 and sensor device, e.g. HCF82, HCW82 or DT92.

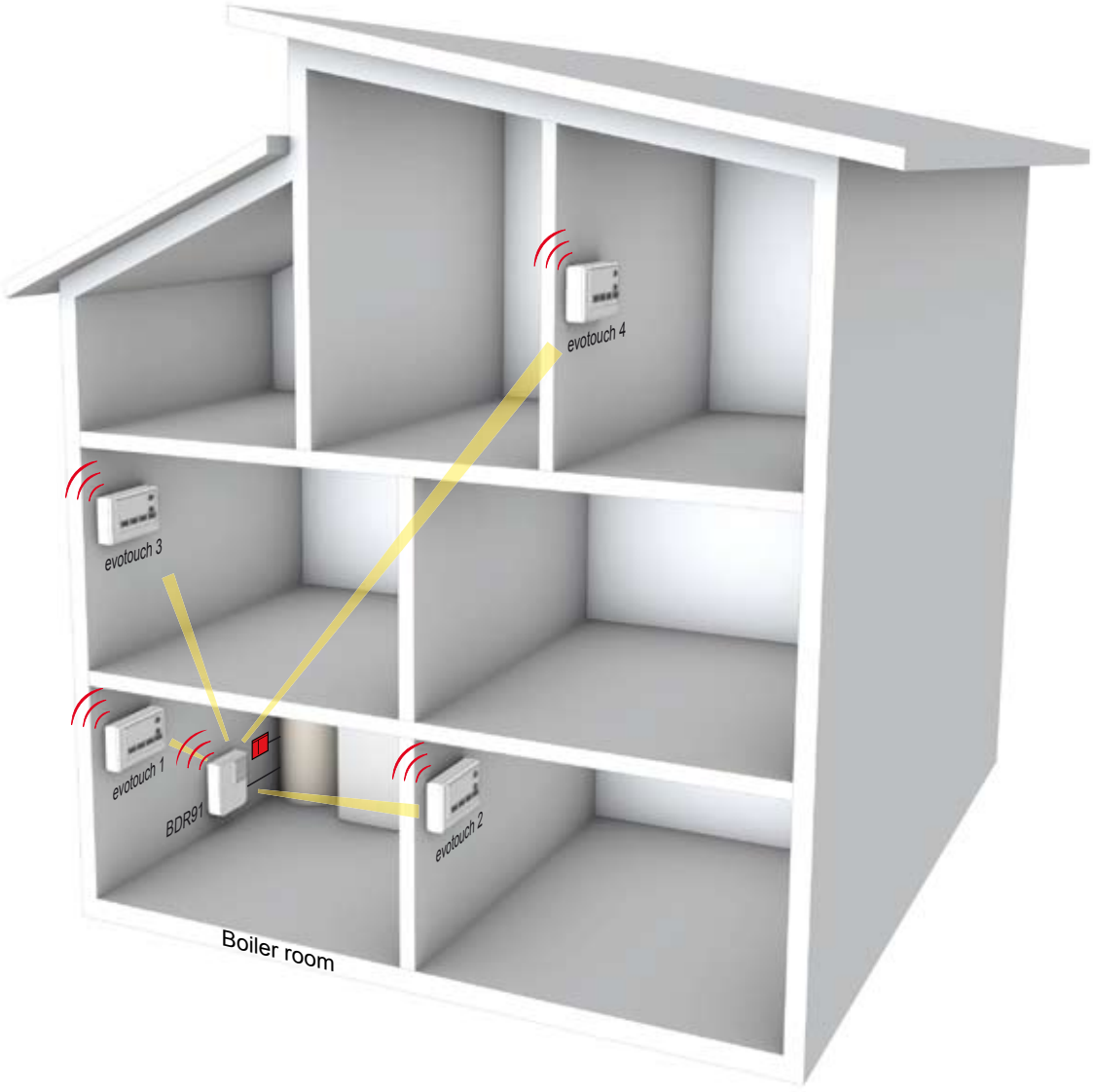
Options

- **Heat demand**
  The **evotouch** controller calculates the heat demand and communicates it to the BDR91 / HC60NG boiler relay or OPENTHERM-Bridge which control the boiler.
- **Outdoor sensor**
  The HB85 outdoor sensor measures the outside temperature. It must be installed if data is required.

Steps to do

- ▶ Activate internal room sensor of the the **evotouch** controller for zone 1. **See section 4.2**
- ▶ Bind the **evotouch** controller to each HR80's integrated room sensor individually for each zone 2 – 6. **See section 4.3.1**
- ▶ Bind the **evotouch** controller to each HR80's actuator individually for each zone 2 – 6. **See section 4.3.2**
- ▶ Bind the **evotouch** controller to the mixing valve controller HM80 for zone 1. **See section 4.6**
- ▶ Optional: Bind the **evotouch** controller to the BDR91 / HC60NG relay module for boiler feedback. **See section 4.7**
- ▶ Optional: Bind the **evotouch** controller to the HB85 sensor for outdoor temperature. **See section 4.10**
- ▶ Check RF communication for each sensor and actuator individually.

2.9 Multizone boiler control with up to 4 controllers



Note

- Instead of the BDR91 relay module the OPENTHERM-Bridge can be used

Application description

The boiler relay or OPENTHERM-Bridge can receive the heat demand signal from up to 4 **evotouch** controllers in order to control the boiler based on the required heat demand.

Each controller calculates the maximum heat demand and will send this information to the boiler relay.

Each controller must be bound to the boiler relay.

3. Application settings

Parameters can be set for optimum operation and control performance of the system in the specific application.

Underfloor heating

Parameter	Settings / range
Min/max temperature setpoint	5 ... 35 °C

Radiator heating

Parameter	Settings / range
Optimisation	Enabled / disabled
Window function	Enabled / disabled
Min/max temperature setpoint	5 ... 35 °C
Local override	Enabled / disabled

Mixing valve

Parameter	Range	Default setting
Mixing valve run time	0 ... 240 s	150 s
Pump run time	0 ... 99 min	15 min
Minimum flow temperature	0 ... 50 °C	15 °C
Maximum flow temperature	0 ... 99 °C	55 °C

Zone valves

Parameter	Settings / range
Fail save	Enabled / disabled
Min/max temperature setpoint	5 ... 35 °C

4. Generic Binding

New components of the zoning system, which have capabilities to communicate wireless based on 868 MHz technology, have to be integrated into the system before they can be taken into operation. This process is called BINDING

The binding procedure in the **evotouch** controller is guided by help screens which lead the installer through the procedure.

Only the peripheral devices like actuators, sensors etc. have to be set into the individual bind mode by pressing e.g. the BIND button.

After BINDING, the peripherals are able to communicate with the **evotouch** controller to receive or transmit data. In addition, the RF communication can be checked and the signal strength is indicated and displayed.

As an example the following procedures are described for a living room.

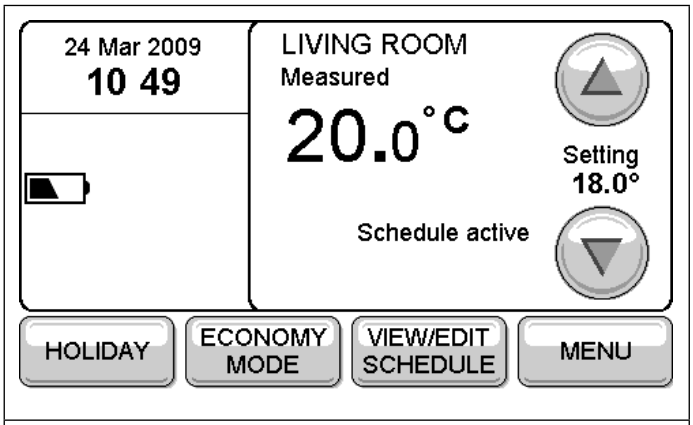
4.1 Configuration modes

The zone configuration of the evotouch controller basicly can be done by the GUIDED Configuration and EXPERT Configuration.

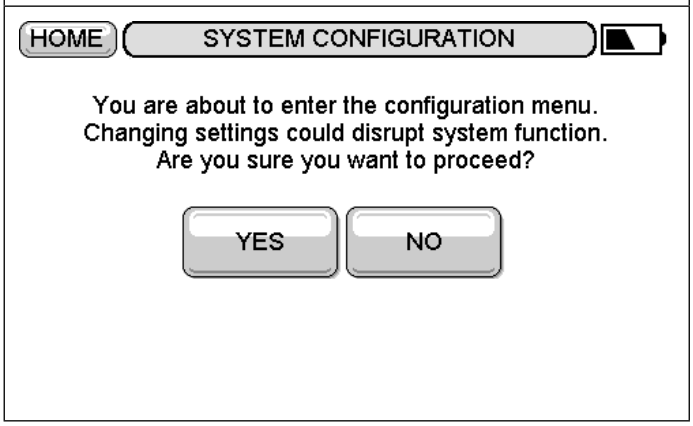
Particularly if you have mixed applications e.g. 4 zones radiator control and 2 zones underfloor heating control the configuration mode which should be applied is described in the specific application **Multizone system with radiators and underfloor heating** and **Multizone system with mixing valve and radiators**.

4.1.1 GUIDED configuration

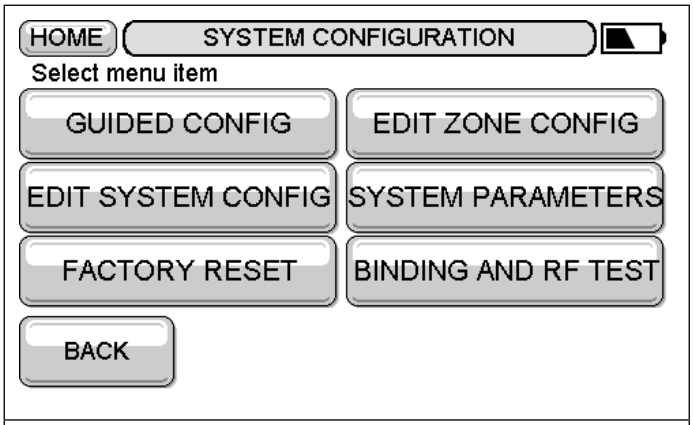
- Press and hold the MENU button until the next screen appears.



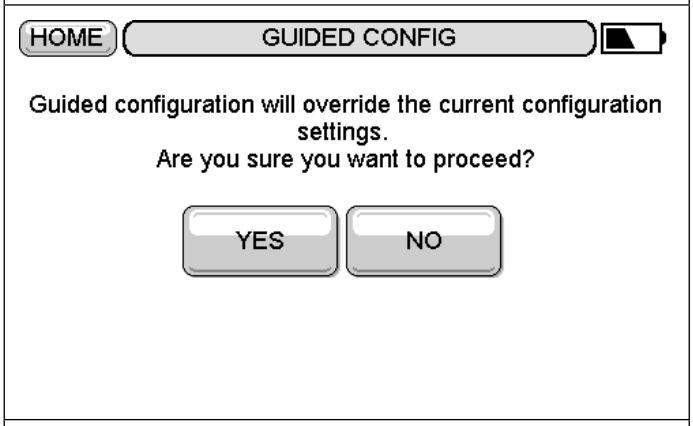
- Press the YES button.



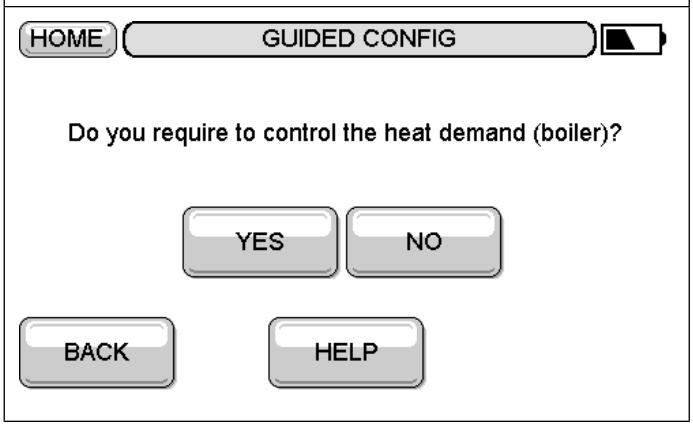
- Press the button GUIDED CONFIG



- Press the YES button.



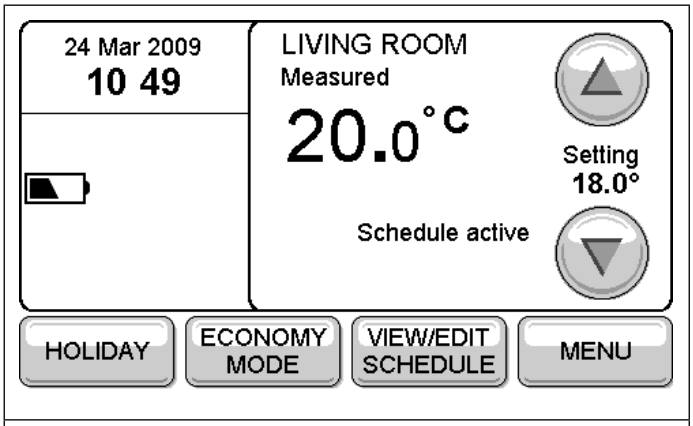
- Depending on your needs, select a button to press.
- Follow the next guided screens



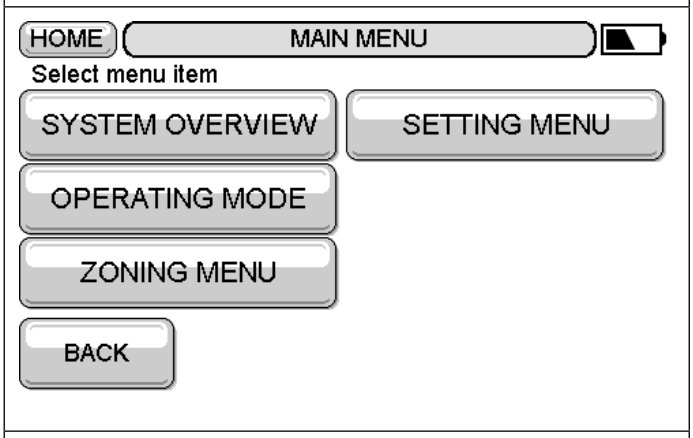
4.1.2 EXPERT configuration

- Press the button MENU.

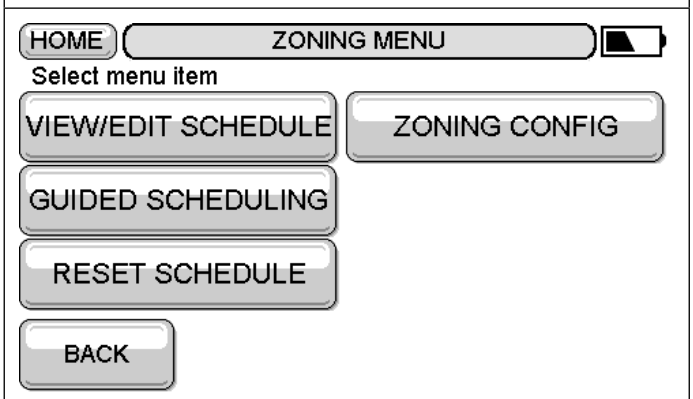
  The next screen appears.



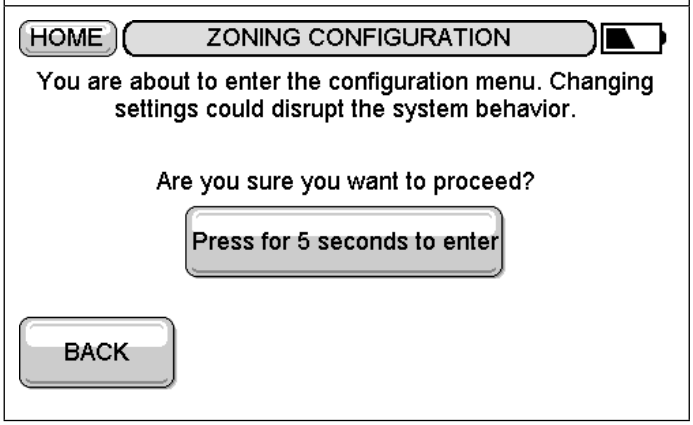
- Press the button ZONING MENU.



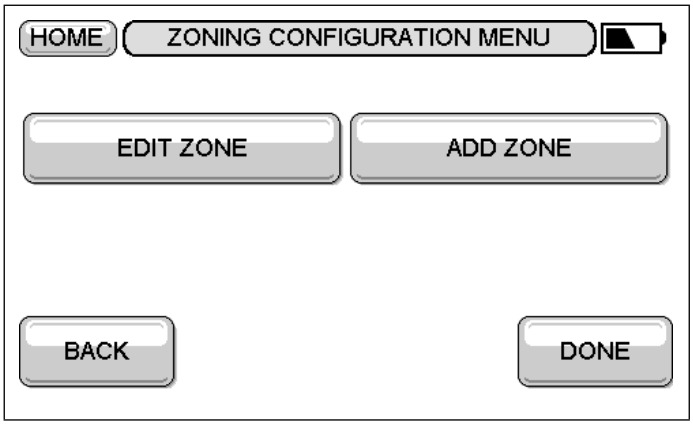
- Press the button ZONING CONFIG



- Press the button "**Press for 5 seconds to enter**" and hold the button for 5 seconds until the next screen appears..



- ► Depending on your needs, select a button to press.
- ► Follow the next screens



Notes

If you have mixed applications example 5 zones radiator control and 3 zones underfloor heating control you can setup the configuration as following:

- ► Select menu GUIDED CONFIG and configure the 5 zones for radiator control
- ► Select menu ZONING CONFIG and add the 3 zones for underfloor heating control ADD ZONE

Alternative go to the expert menu:

- ► Select menu ZONING CONFIG and add the 5 zones for Radiator control ADD ZONE
- ► Select menu ZONING CONFIG and add the 3 zones for underfloor heating control ADD ZONE

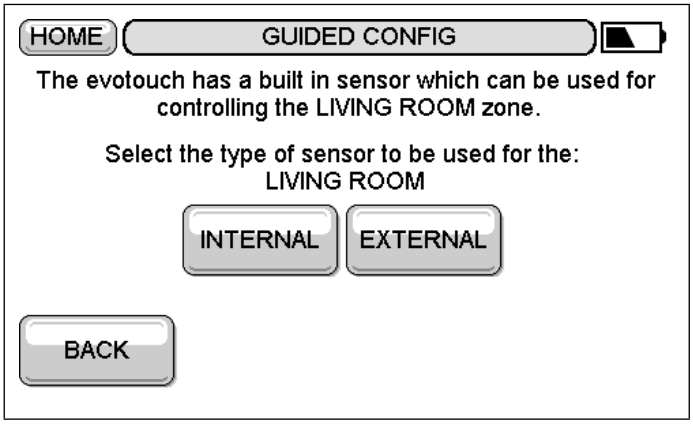
The Binding process in the EXPERT MENÜ is the same as for GUIDED CONFIGURATION however the RF test must be choosen in the MENU SYSTM CONFIGURATION “BINDING AND RF TEST” individual for each zone.

4.2 Sensor binding

To each zone a room sensor must be assigned. This can be an internal sensor or an external remote sensor.

Before entering the binding sequence, the following choice is to be made:

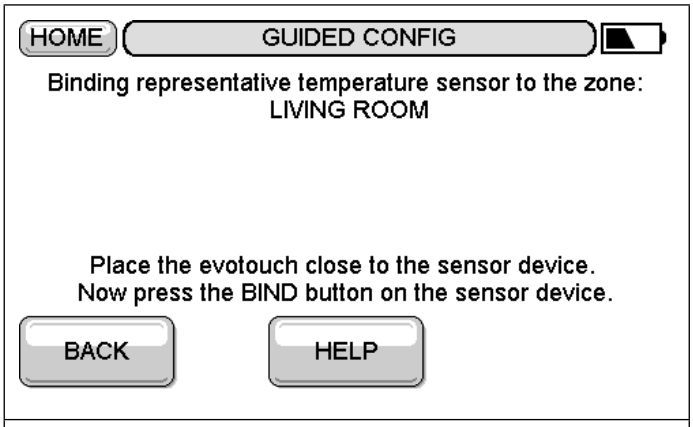
- Selecting INTERNAL, the room sensor of the **evotouch** controller will be used. You don’t need to bind this sensor.
- Selecting EXTERNAL, an external room sensor, e.g. DT92, will be used. This sensor must be bound to the **evotouch** controller.



4.3 Binding the evotouch controller to the HR80 radiator controller

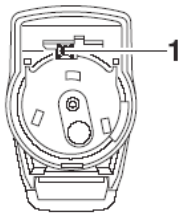
4.3.1 Binding the HR80 integrated room sensor

▶ Follow the guided or expert configuration until the following screen appears.

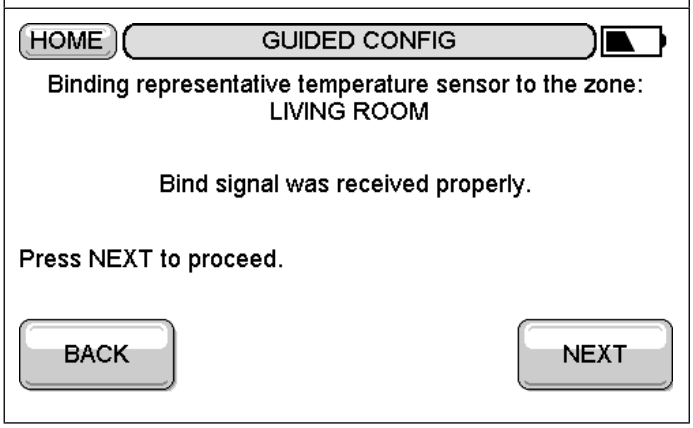


▶ Position the **evotouch** controller close to the HR80 which is connected to the valve.

▶ Press the bind button (1) on the HR80.



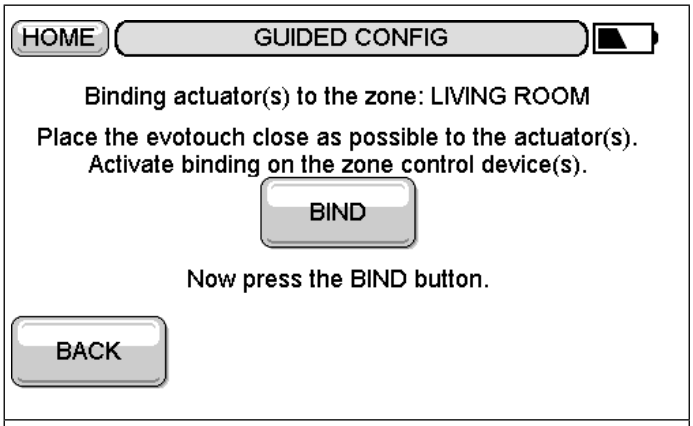
After successful binding the following screen appears.



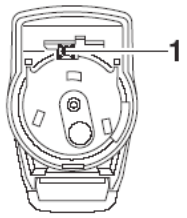
NEXT leads you to the binding of the actuator.

4.3.2 Binding the HR80 actuator(s)

- Follow the guided or expert configuration until the following screen appears.



- Position the **evotouch** controller as close as possible to the HR80 actuator(s).
- Consecutively press the bind buttons (1) on all the HR80 radiator controllers of the zone.

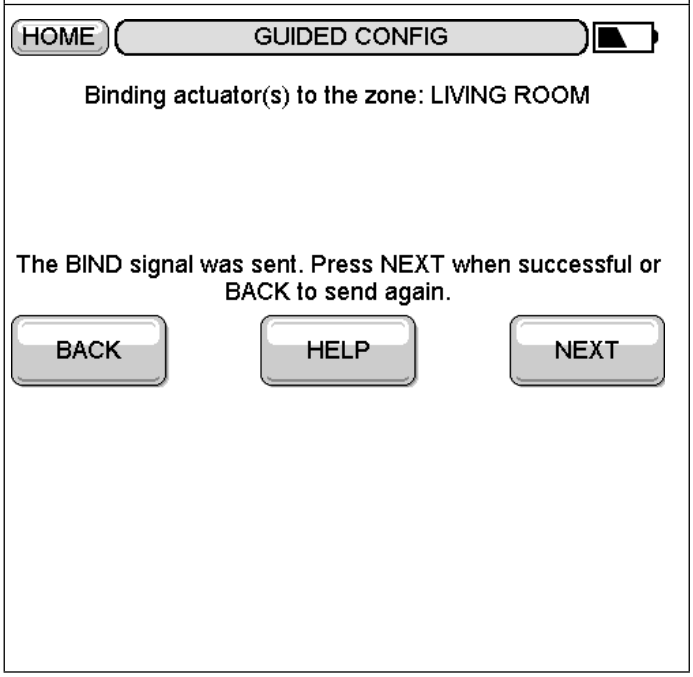


- Press the BIND button on the **evotouch** controller to send the signal.

  The symbol flashes and the software version number is displayed for 30 seconds.

  During the binding procedure, the symbol is shown continuously in the display of the HR80 radiator controller. The display shows: SYNC.

  *The HR80 radiator controller is receiving data from the **evotouch** controller. This process can take up to 4 minutes.*



i The binding procedure mode remains active at the HR80 radiator controller for a maximum of 4 minutes.

i NEXT leads you to the RF communication check.

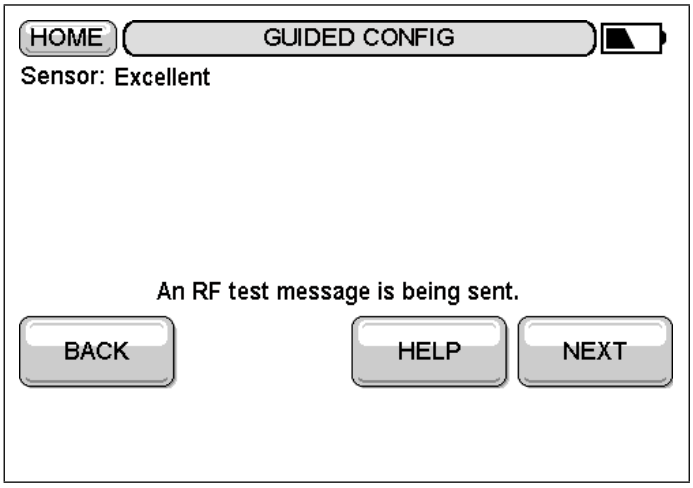
4.3.3 Checking RF communication with the HR80 radiator controller

The **evotouch** controller will send and receive test signals to and from the assigned HR80 to test the signal strength.

evotouch controller receiving test messages from the HR80

- ▶ Separate HR80 operating unit from coupling module (see instructions HR80).
- ▶ Turn the adjustment dial until ON (open) appears on the display.
- ▶ Turn the adjustment dial two full rotations (720°) further.

  tESt *is displayed and the HR80 transmits the test message to the* ***evotouch*** *controller.*



i The signal strength can be EXCELLENT, GOOD, POOR or not received

HR80 receiving test signal from the evotouch controller

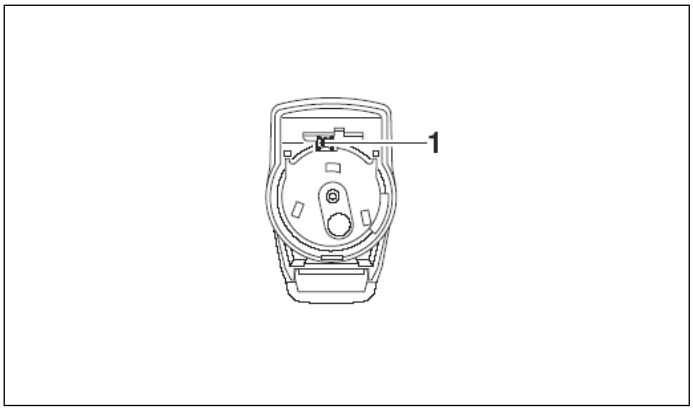
- ▶ While tESt is displayed, press the bind button (1) on the HR80.

  The HR80 radiator controller is ready to receive the test message from the ***evotouch*** *controller.*

  The first two digits in the display indicate the number of received test messages, and the right-hand digit indicates the field strength

  1 = sufficient field strength

  5 = very good field strength



Deactivating the RF communication check

- ▶ Press the bind button (1) on the HR80 for 5 seconds.

or

- ▶ Wait 5 minutes.

or

- ▶ Remove and re-insert the batteries of the HR80.

Completing configuration

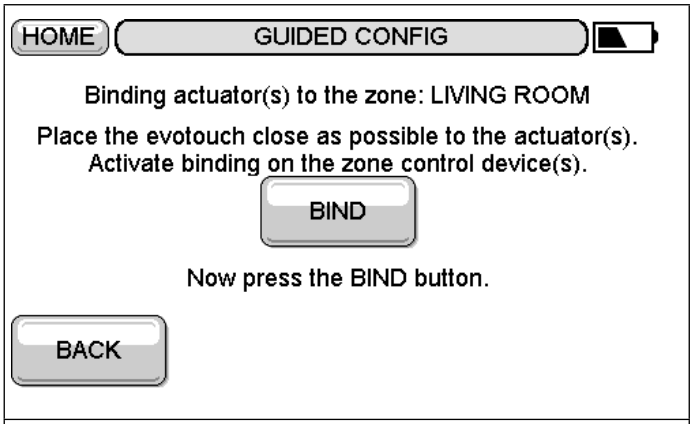
- ▶ Press the NEXT button and in the following screen press the DONE button.

  Configuration of the HR80 radiator controller is completed.

4.4 Binding the evotouch controller to the BDR91 / HC60NG / R6660D relay module

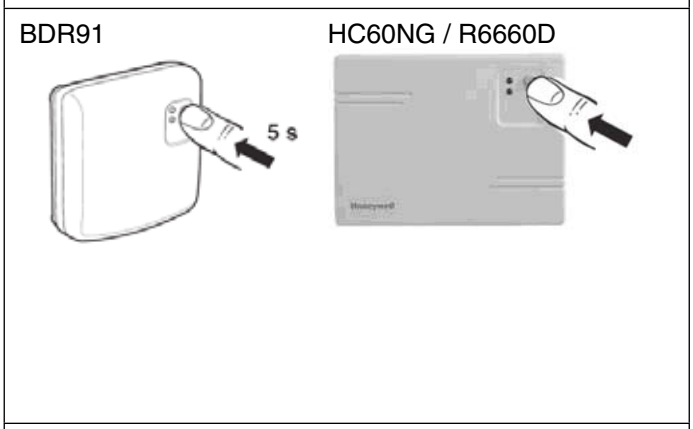
4.4.1 Binding procedure

- Follow the guided or expert configuration until the following screen appears.



- Press and hold the bind button of the BDR91 / HC60NG / R6660D relay module for 5 sec to activate the bind mode.

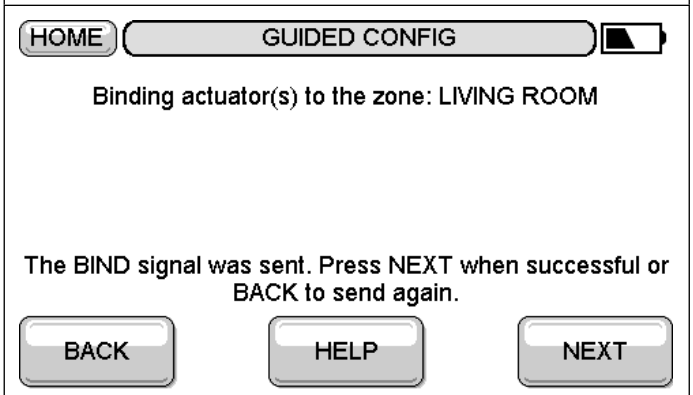
  The red LED flashing at 0.5 s ON / 0.5 s OFF confirms that the bind mode has been activated.



i After the power up of the BDR91 relay module the red LED will start to flash at 0.1 s ON / 0.9 s OFF. If this is not the case, set the BDR91 into the reset mode, see instructions BDR91 / HC60NG.

- Position the **evotouch** controller as close as possible to the BDR91 / HC60NG / R6660D relay module(s).
- Press the BIND button on the **evotouch** controller to send the bind signal to the BDR91 / HC60NG / R6660D relay module(s)

  The red LED of the BDR91 / HC60NG / R6660D is switched OFF to confirm a successful binding.

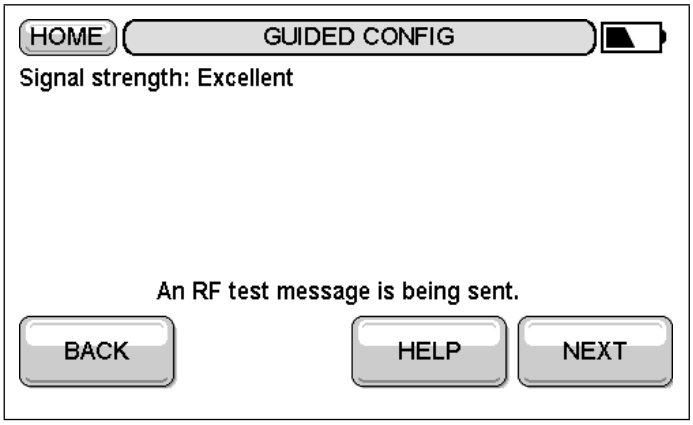


i Binding is terminated automatically after 5 minutes.

4.4.2 Checking RF communication

BDR91

The **evotouch** controller sends test signals to and from the assigned relay module BDR91 in order to test the signal strength.



i The signal strength can be EXCELLENT, GOOD, POOR or not received

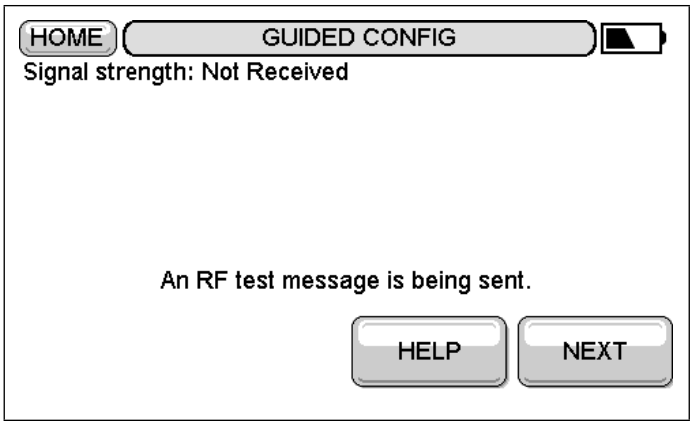
HC60NG / R6660D

The **evotouch** controller sends test signals to the assigned relay module HC60NG / R6660D in order to test the signal strength.

When HC60NG / R6660D receives the test signal, the field strength is indicated by flashing of the red LED.

1 pulse = sufficient

5 pulses = strong



Deactivating the RF communication check

▶ Press the NEXT button.

Completing configuration

▶ In the following screen press the DONE button.

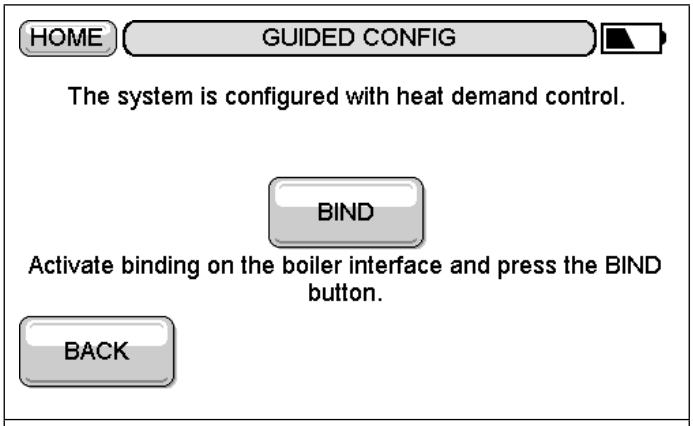
Configuration of the relay module is completed.

4.5 Binding the evotouch controller to the OPENTHERM-Bridge boiler feedback

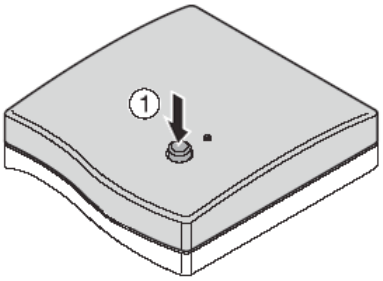
i The following modules can be used for boiler feedback as well: BDR91, HC60NG, R6660D.
For the BIND buttons and checking RF communication of these modules see section 4.4.

4.5.1 Binding procedure

- Follow the guided or expert configuration until the following screen appears.

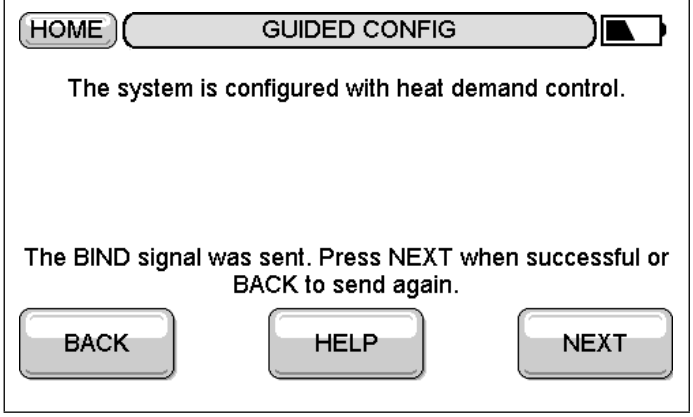


- Press and hold the bind button (1) of the OPENTHERM-Bridge for 5 seconds to activate the bind mode.



- Press the BIND button on the the **evotouch** controller to send the bind signal to the OPENTHERM-Bridge.

  The red LED of the OPENTHERM-Bridge is switched off to confirm a successful binding.



i Binding is terminated automatically after 5 minutes.

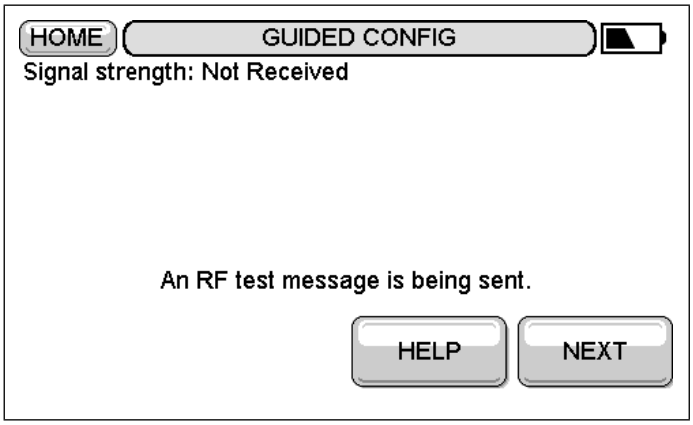
4.5.2 Checking RF communication

The **evotouch** controller sends test signals to the assigned OPENTHERM-Bridge in order to test the signal strength.

When OPENTHERM-Bridge receives the test signal, the field strength is indicated by flashing of the red LED.

1 pulse = sufficient

5 pulses = strong



Deactivating the RF communication check

- Press the NEXT button.

Completing configuration

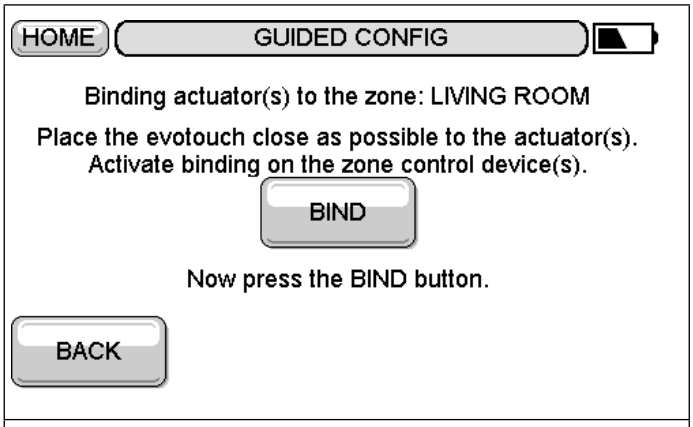
- In the following screen press the DONE button.

  Configuration of the OPENTHERM-Bridge boiler feedback is completed.

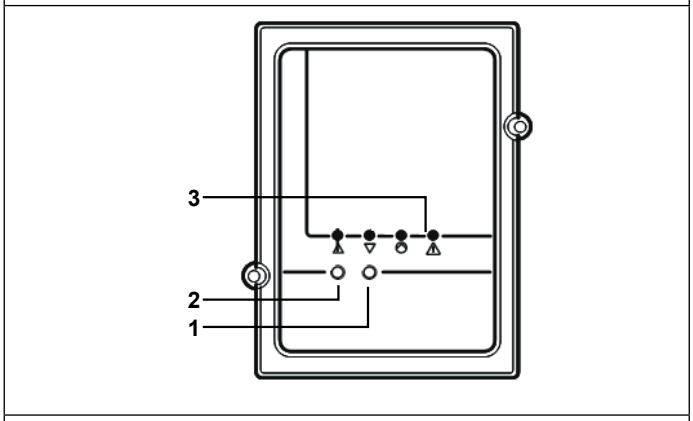
4.6 Binding the evotouch controller to the HM80 mixing valve controller

4.6.1 Binding procedure

- Follow the guided or expert configuration until the following screen appears.

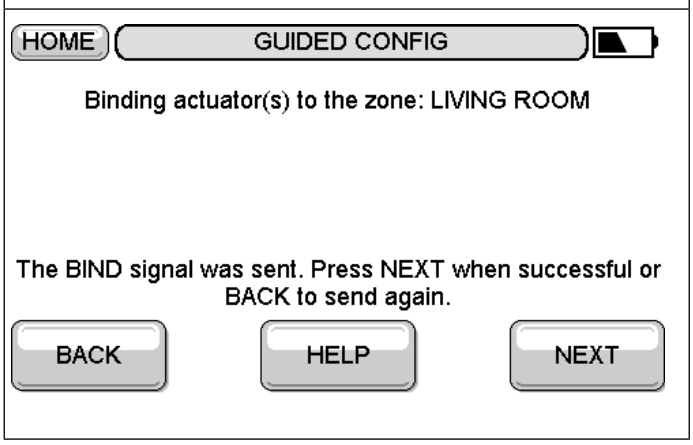


- Press both buttons (1) and (2) at the HM80 for approx. 4 seconds until the LED (3) flashes regularly.



- Position the **evotouch** controller as close as possible to the HM80 mixing valve controller.
- Press the BIND button on the **evotouch** controller to send the bind signal to the HM80 mixing valve controller.

  The LED (3) of the HM80 is switched OFF to confirm a successful binding.



i Binding is terminated automatically after 3 minutes.

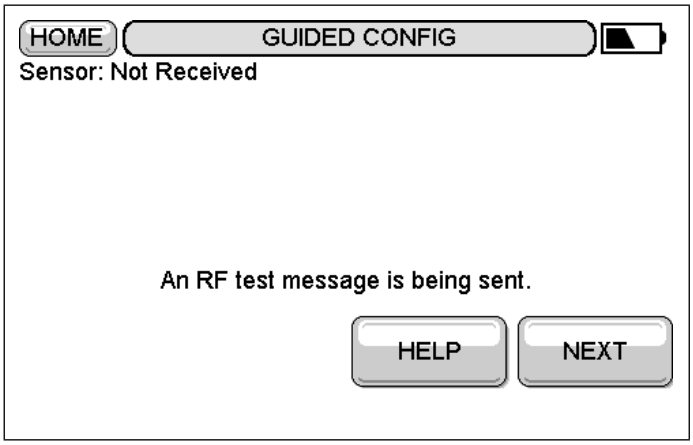
4.6.2 Checking RF communication

The **evotouch** controller sends test signals to the assigned HM80 in order to test the signal strength.

When HM80 receives the test signal, the field strength is indicated by flashing of the red LED (4).

1 pulse = sufficient

5 pulses = strong



Note

Sensor information relates to the sensor in the zone controlled by the HM80.

Deactivating the RF communication check

▶ Press the NEXT button.

Completing configuration

▶ In the following screen press the DONE button.

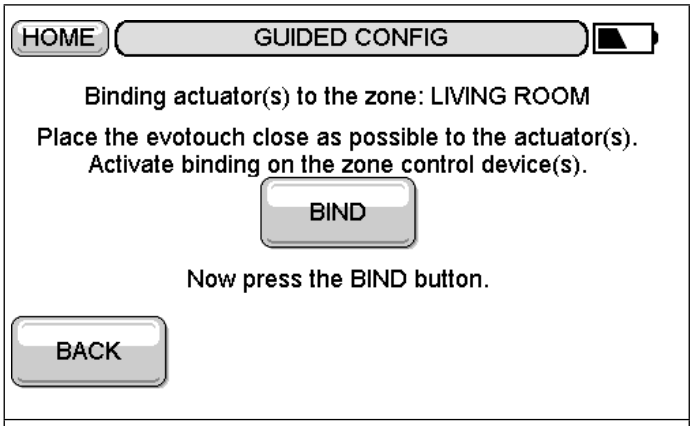
Configuration of the HM80 mixing valve is completed.

4.7 Binding the evotouch controller to the HCE80(R) / HCC80(R) underfloor heating controller

i For zones 2 – 6 an external room sensor (DT92 / HCW82 / HCF82) must be bound to the **evotouch** controller.

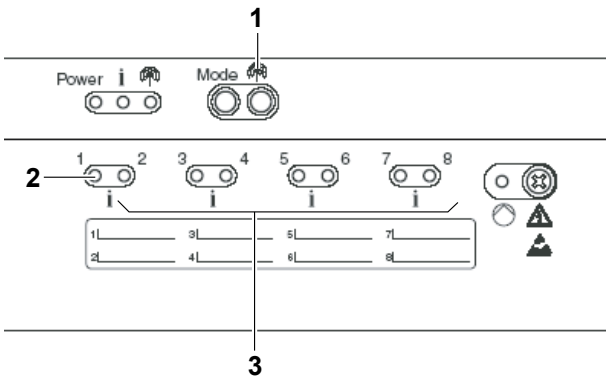
4.7.1 Binding room sensor

- Follow the guided or expert configuration until the following screen appears.



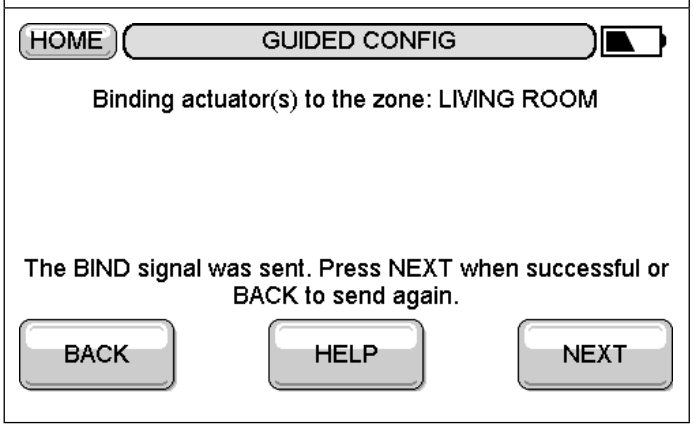
- Press and hold the installation button (1) at the underfloor heating controller for approx. 2 seconds.

  The LED of zone 1 flashes red.



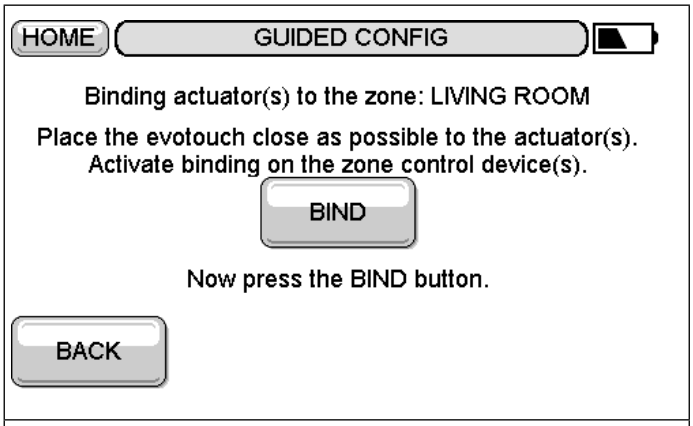
- Position the **evotouch** controller as close as possible to the underfloor heating controller.
- Press the BIND button on the **evotouch** controller to send the bind signal to the underfloor heating controller.

  The LED of the selected one lights continuously red.
- Press the BACK button on the **evotouch** controller to proceed with the binding of the room setpoint.



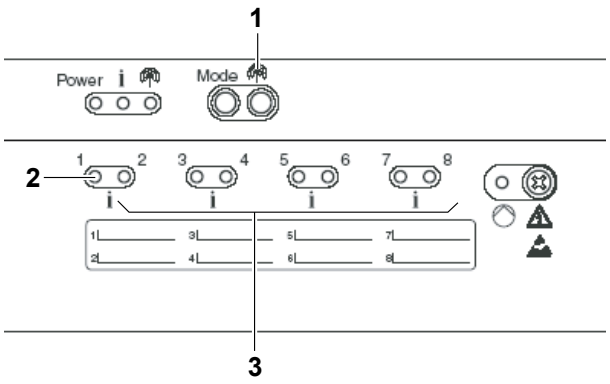
4.7.2 Binding room setpoint

- Follow the guided or expert configuration until the following screen appears.



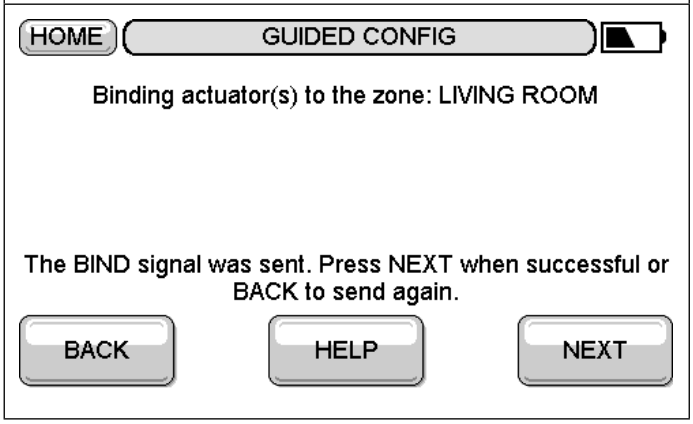
- Press and hold the installation button (1) at the underfloor heating controller again for approx. 2 seconds.

  The LED of zone 1 (2) flashes green.



- Position the **evotouch** controller as close as possible to the underfloor heating controller.
- Press the BIND button on the **evotouch** controller to send the bind signal to the underfloor heating controller.

  The LED of zone 1 (2) lights continuously green.



Binding of further zones

i In order to assign further zones press the installation button again until the LED of the desired zone flashes red and then repeat the binding procedure.

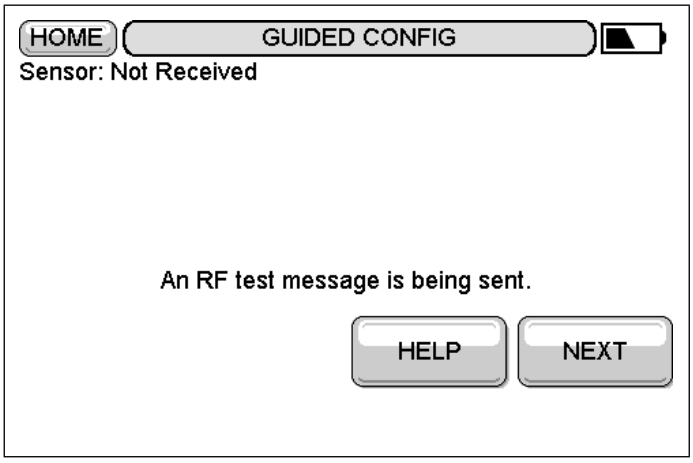
4.7.3 Checking RF communication

The **evotouch** controller sends test signals to the assigned underfloor heating controller in order to test the signal strength.

When the underfloor heating controller receives the test signal, the field strength is indicated by flashing of the green zone LED (2).

1 pulse = sufficient

5 pulses = strong



Note

Sensor information relates to the sensor in the zone controlled by the HCE80.

Deactivating the RF communication check

► Press the NEXT button.

Completing configuration

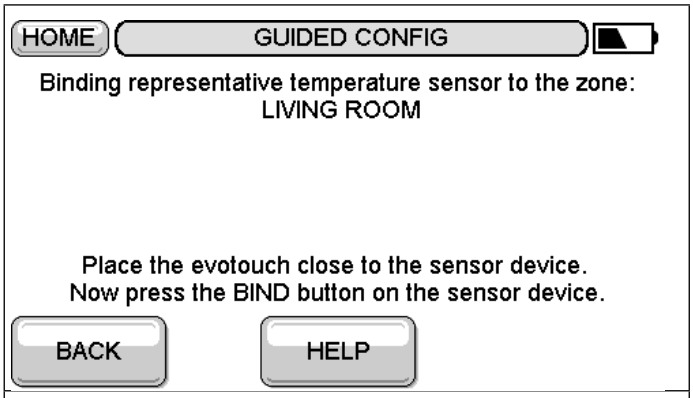
► In the following screen press the DONE button.

Configuration of the HCE80(R) / HCC80(R) underfloor heating controller is completed.

4.8 Binding the evotouch controller to the DT92 room adjuster/sensor

4.8.1 Binding procedure

- ▶ Follow the guided or expert configuration until the following screen appears.
- ▶ Position the **evotouch** controller as close as possible to the DT92.

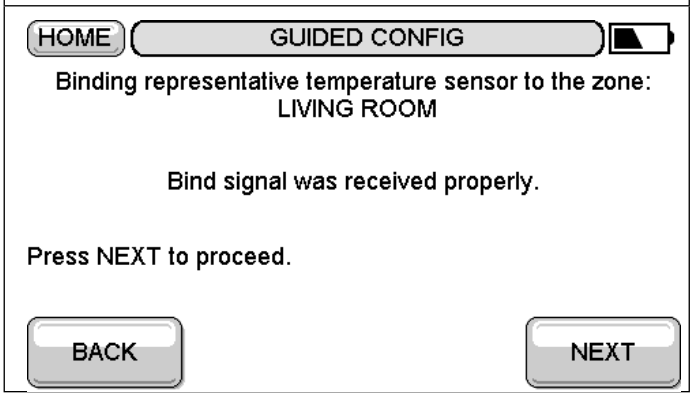


- ▶ Press and hold both arrows up and down until the display changes.
- ▶ Press button (1).

  Binding takes place automatically.

i Press button (1) approx. 5 sec. when the display on DT92 does not appear as pictures shows.

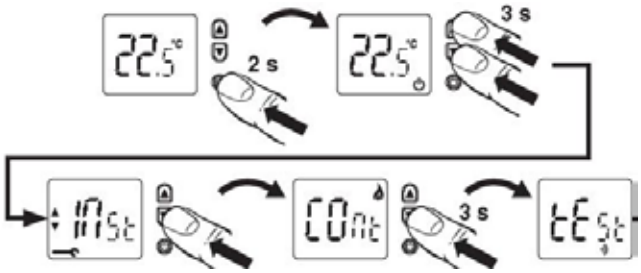
i The binding mode remains active for max. 10 minutes after the last button was pressed.



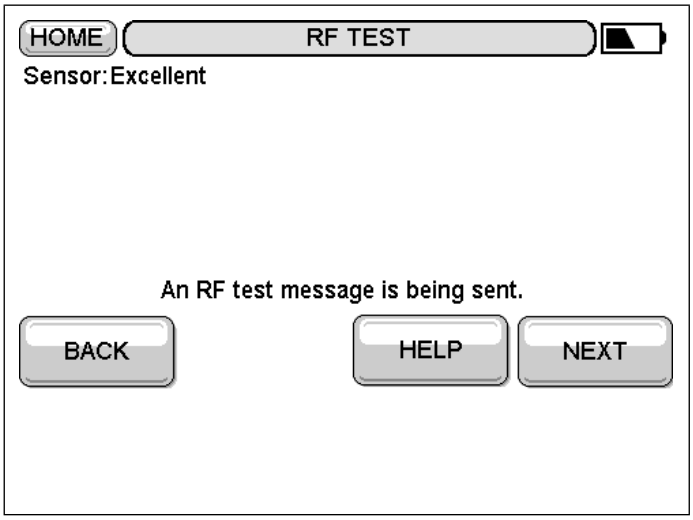
4.8.2 Checking RF communication

► Select Menu BINDING AND RF TEST.

The DT92 controller sends test signals to the **evotouch** controller in order to test the signal strength.



The device is now in the test mode and sends test signals to the **evotouch** controller.



The signal strength can be EXCELLENT, GOOD, POOR or not received.

Deactivating the RF communication check

► Remove and re-insert the batteries of the DT92.

Completing configuration

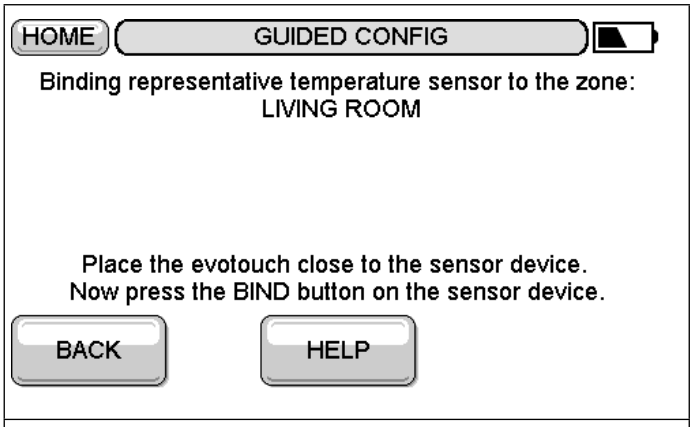
► Press the DONE button.

Configuration of the DT92 room adjuster/sensor is completed.

4.9 Binding the evotouch controller to the HCW82 room adjuster/sensor or to the HCF82 room sensor

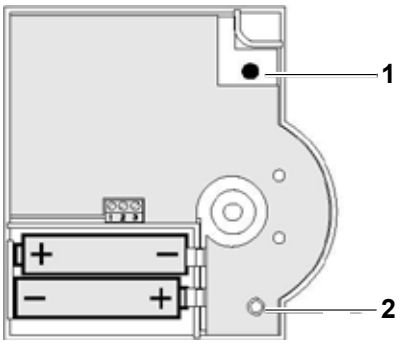
4.9.1 Binding procedure

- ▶ Follow the guided or expert configuration until the following screen appears.
- ▶ Position the **evotouch** controller as close as possible to the HCW82 / HCF82.

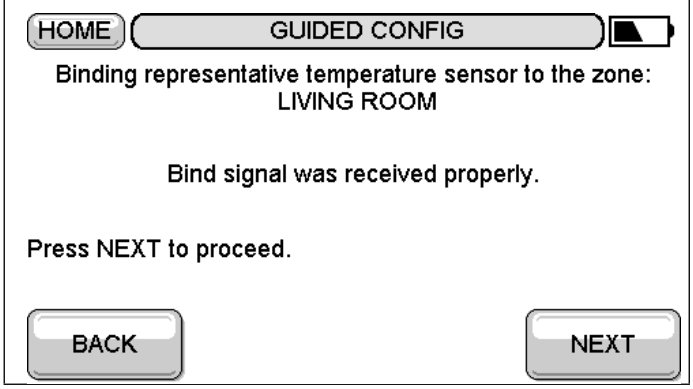


- ▶ Press and hold the bind button (1) on the HCF82 / HCW82 for approx. 1 second.

  Binding takes place automatically.



i Binding is terminated automatically after 5 minutes.



4.9.2 Checking RF communication

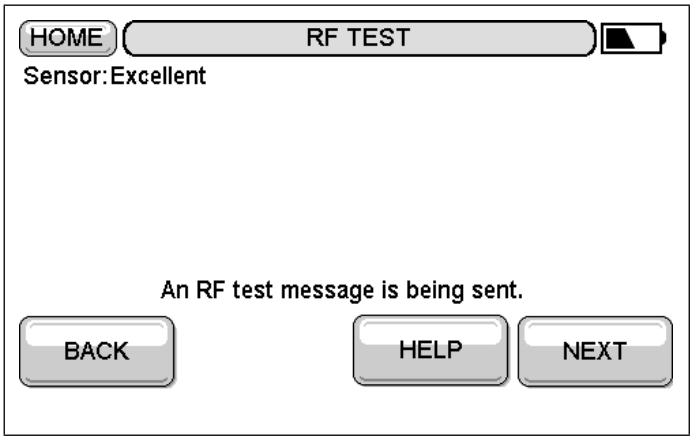
- Select Menu BINDING AND RF TEST.

HCW82 / HCF82 send test signals to the **evotouch** controller in order to test the signal strength.

- Press and hold the bind button of the HCW82 / HCF82 for at least 30 seconds until the red LED extinguishes.

  The device is now in test mode and sends a test signal every 5 seconds. The LED (2) flashes briefly at every test signal.

  *The field strength is indicated on the **evotouch** controller.*



The signal strength can be EXCELLENT, GOOD, POOR or not received

Deactivating the RF communication check

- ▶ Remove and re-insert the batteries of the DT92.

or

- ▶ Disconnect the power supply.

or

- ▶ Press the bind button.

Completing configuration

- ▶ Press the DONE button.

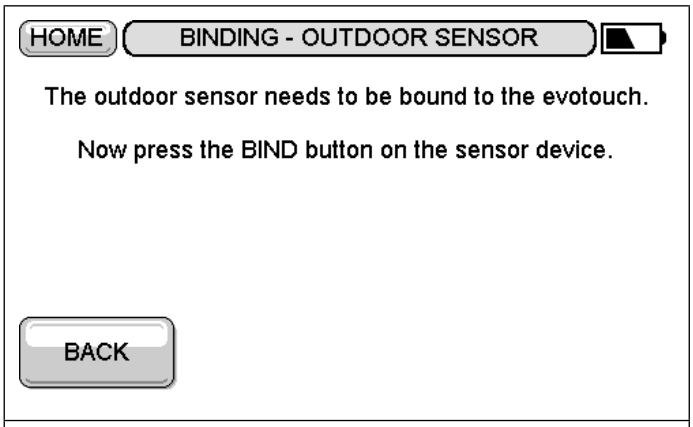
  Configuration of the HCW82 / HCF82 is completed.

4.10 Binding the evotouch controller to the HB85 temperature sensor

4.10.1 Binding procedure

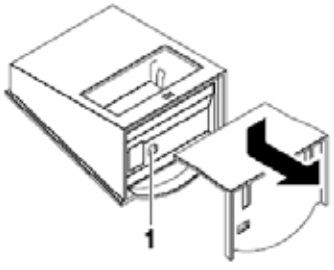
i To check whether the radio connection is ready for later operation, during binding the temperature sensor module should remain as near as possible to the mounting site.

- ▶ Follow the guided or expert configuration until the following screen appears.



- ▶ Press the bind button (1) on the HB85.

  Binding takes place automatically.



i Binding is terminated automatically after 4 minutes.

i After successful binding, the HB85 transmits the measured data to the **evotouch** controller at intervals of approx. 10 minutes.

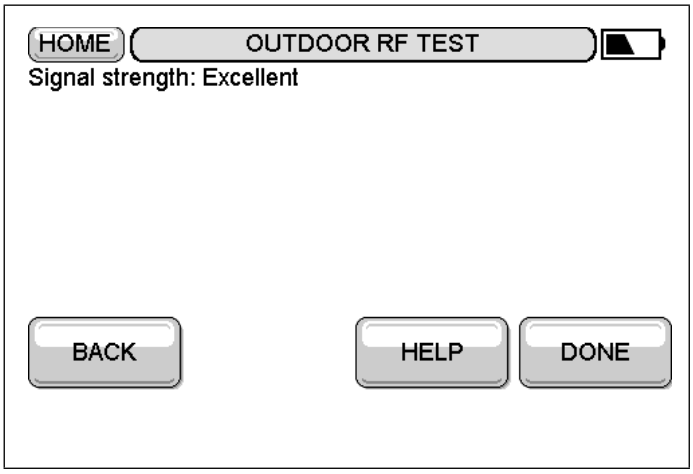
4.10.2 Checking RF communication

HB85 sends test signals to the **evotouch** controller in order to test the signal strength.

- Press the bind button of the HB85 briefly.

  *For approx. 10 minutes, HB85 transmits a test message to the **evotouch** controller every 5 seconds.*

  *The field strength is indicated on the **evotouch** controller.*



The signal strength can be EXCELLENT, GOOD, POOR or not received

Completing configuration

- Press the DONE button.

  Configuration of the HB85 temperature sensor is completed.

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CE

Honeywell

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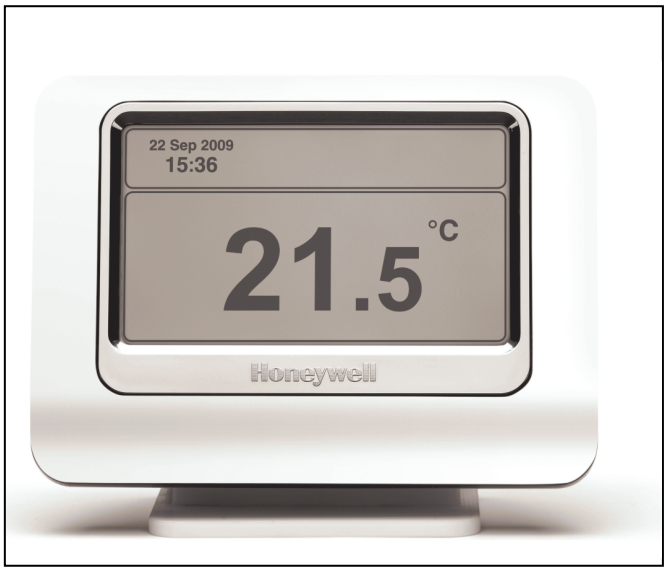
Honeywell

evohome

MULTI-ZONE TOUCH SCREEN CONTROLLER

PRODUCT SPECIFICATION SHEET



FEATURES

- **evotouch controller for individual zoning control up to 8 zones.**
- **Intuitive local language operating menu structure and user guided programming.**
- **Large touch screen display with easy to read zone and temperature information.**
- **Modern design with exchangeable front covers.**
- **Simple binding operation to reduce installation time and costs.**
- **Applicable for radiators, underfloor heating and mixing valve control in home or office environment with optional control for boiler, heat pump.**
- **Proven wireless communication (no disruption of interior decor, ideally suitable for existing homes).**
- **Prepared for new functionalities via PC link.**
- **Optimized heating control, can lower the heating costs.**

GENERAL

The Honeywell evotouch controller is a modern designed programmable multi zone controller.
evotouch is providing a very explanatory touch-screen display allows for intuitive, easy and self explanation operation by finger tip or by touch-pen.
It's available both as a table or wall device in polished black, brushed metal and gloss white
It will control your heating system efficiently by providing maximum comfort and energy saving.
A total of up to eight individual temperature zones and time programs can be set up.
The evotouch controller is part of the individual room control system in the form of evohome.
The evohome system enables control of underfloor heating, radiators, zone valves, boiler feedback and mixer circuits.
evotouch is like the other peripherals of the evohome system equipped with our proven wireless RF (Radio Frequency) technology based on 868MHZ.
Once everything is set up, the end consumer can use the evotouch controller to easily regulate his respective comfort requirements.

CE

SPECIFICATIONS

ELECTRICAL

Electrical voltage supply: 4VDC ± 0,2V, max. 2,6W

Battery: 2x rechargeable battery
AA 1.2V NiMH
Recommended 2000m-2400mAh

RF Communication

Frequency: ISM (868,0 – 870,0) MHz,
1% duty cycle, Transceiver

Receiver class: RC class 2

RF communication range: 30 m in a residential building environment

RF communication: short, high rate transmission to

Technology: minimize air time and avoid collisions

Display

Touch screen: LCD gray scale graphic backlit display , 16 levels
480 x 272 pixel
96 x 56 mm display area

HARDWARE INTERFACE

USB connection: Device

Hardware upgrade: sub module

ENVIRONMENTAL and STANDARDS

Operating temperature: 0 … +40 ºC

Shipping and Storage: -20 … +50 ºC

Temperature:

Humidity: max. 10 … 90 % relative humidity non condensing

CERTIFICATION

Meeting the following Standards: CE approved
RoHS-complaint

TEMPERATURE CONTROL

Internal room temperature Sensor: (NTC) operating range 0℃ to 40℃

MECHANICAL DATA

Dimensions (WxHxD): 139 x 101 x 21mm (WxDxH)

Material: PC141R

IP class: IP 30

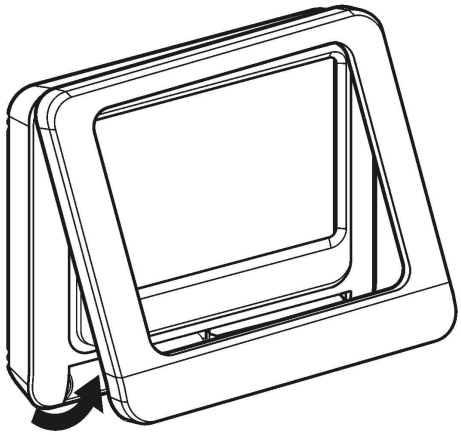
OPTIONS

Mounting: table top stand

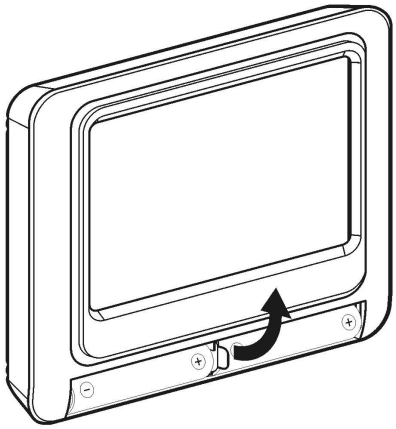
Installation instructions

Batteries and front cover

Remove front cover to exchange cover plate or access batteries.



Remove tab to activate batteries.

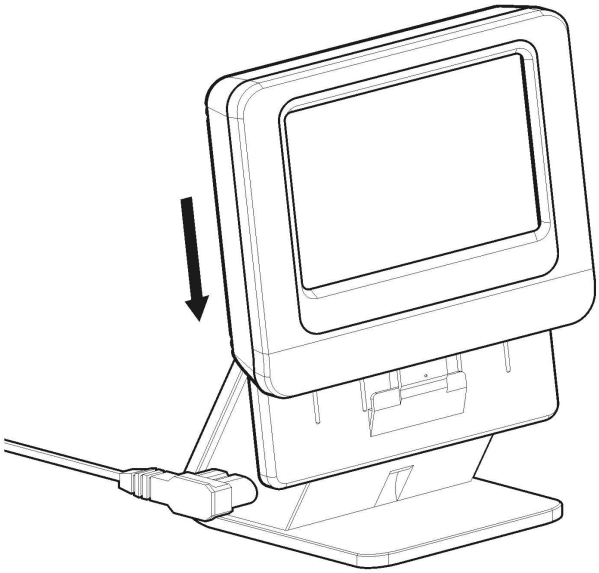


Rechargeable batteries. Replace with AA 1.2V NiMH 2000-2400mAh batteries only.

Table-top stand

The evotouch can be powered from the table-top stand.

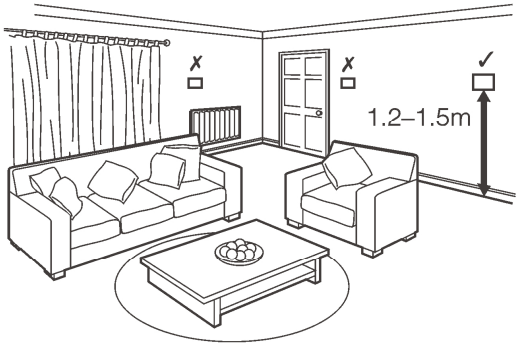
- Attach to the stand as shown.



Installation instructions

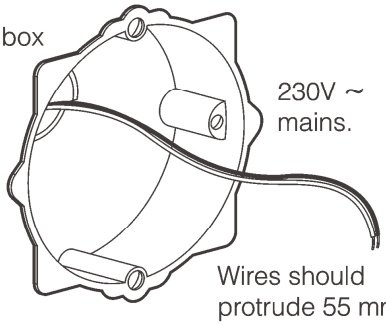
Installation instructions for wall mounting

Position wall box at a height of 1.2m - 1.5m.

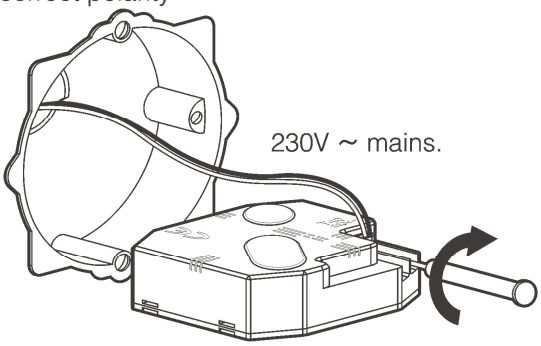


Caution: Isolate power supply and make safe before wiring the unit to prevent electric shock and equipment damage. Installation should be carried out by a competent person.

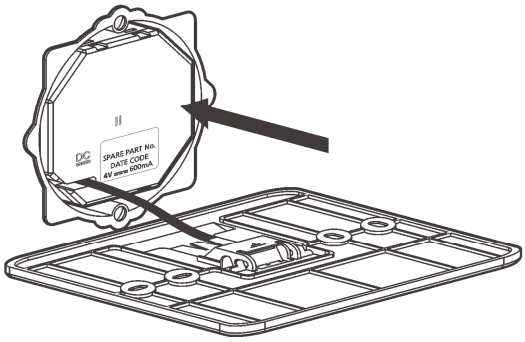
Standard EU Schuko Wall box

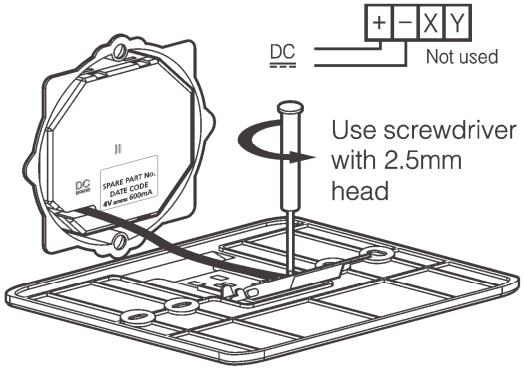


Insert wires into power module, observing correct polarity



Push power module into wallbox with mains wiring to the rear





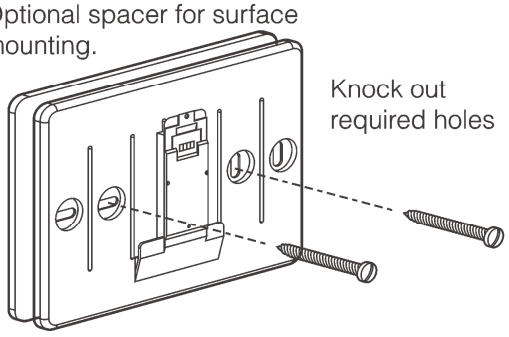
The power module can be installed in a different location from the evotouch unit.

Disconnect low voltage cable from wallplate terminal block and extend the connection by up to 10m using 1.0mm² cable. If smaller size cable is used the maximum distance will reduce (e.g. 5m max with 0.5mm² cable).

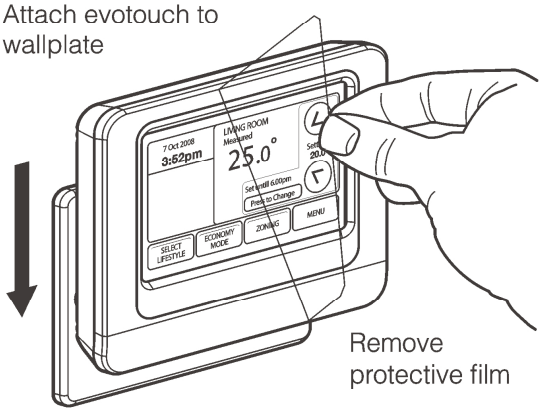
Observe correct polarity when connecting the extension cable. Power Supply Cable wires are Red (+), Black(-).

Attach wallplate to wall box or surface (Power module remote).

Optional spacer for surface mounting.

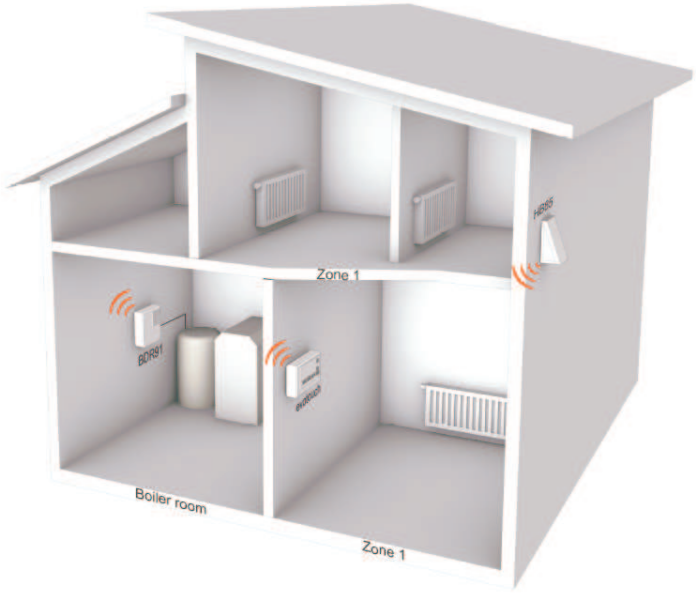


Attach evotouch to wallplate



Application Examples

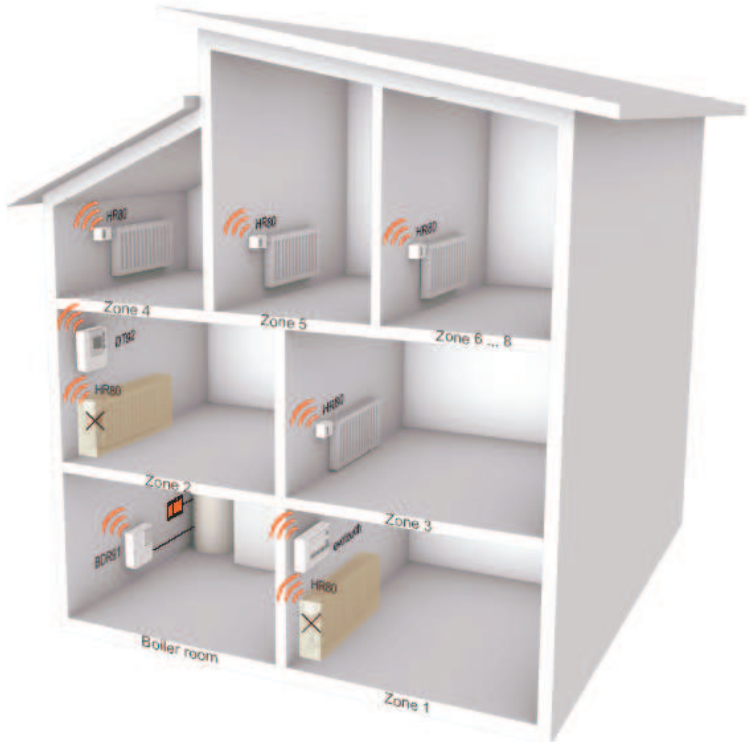
Single zone thermostat with boiler control



Application description

This application shows 1 zone boiler control where the evotouch controller controls the boiler directly depending on the heat demand via the BDR91 relay module (switching ON/OFF).
The internal room sensor of the evotouch controller is used to measure the room temperature.

Multizone system with radiators and remote sensors



Application description

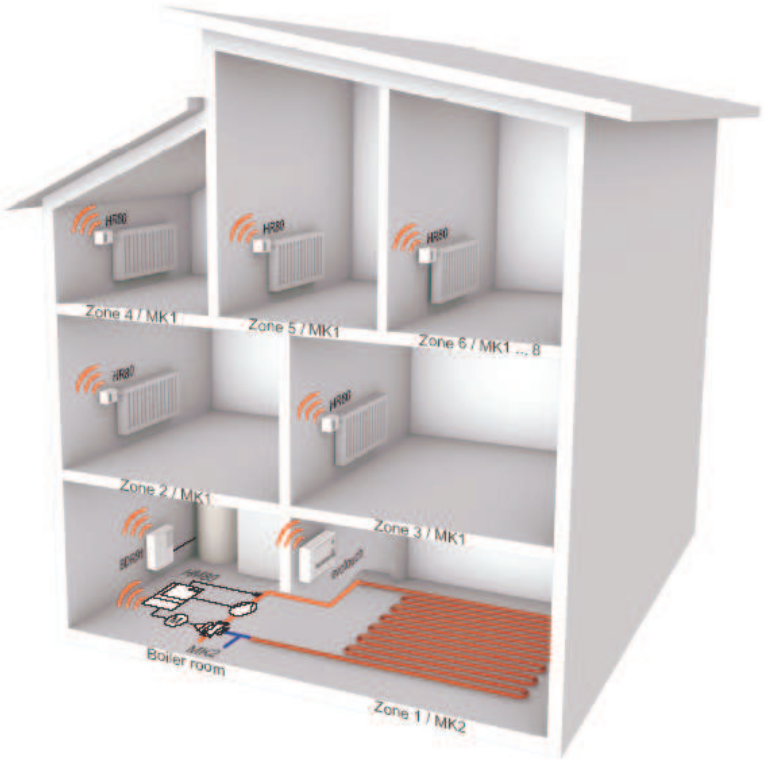
Radiator application with used integrated room sensor of HR80 or external remote sensor DT92. Because in some cases the radiators are faced with e.g. wood which causes an imprecise temperature measurement see example zoe1 and zone2.
In zone1 the internal room sensor of the evotouch controller is used to measure the room temperature. For zone 2 the DT92 room unit is used also for remote adjustment.
The room temperature from zones 3-6 is measured directly by each HR80.
Up to 8 zones can be controlled individually with the radiator controller HR80 in combination with room units DT92, HCW82 or HCF82.

Multizone system with underfloor heating individual room thermostat

Application description

The underfoor heating controller controls 6 zones individually. For zone 1 the internal room sensor for evotouch will be used all other zones 2-6 require it´s own DT92 room unit also to adjust the room setpoint temperature.
In total up to 8 zone can be controlled individually.

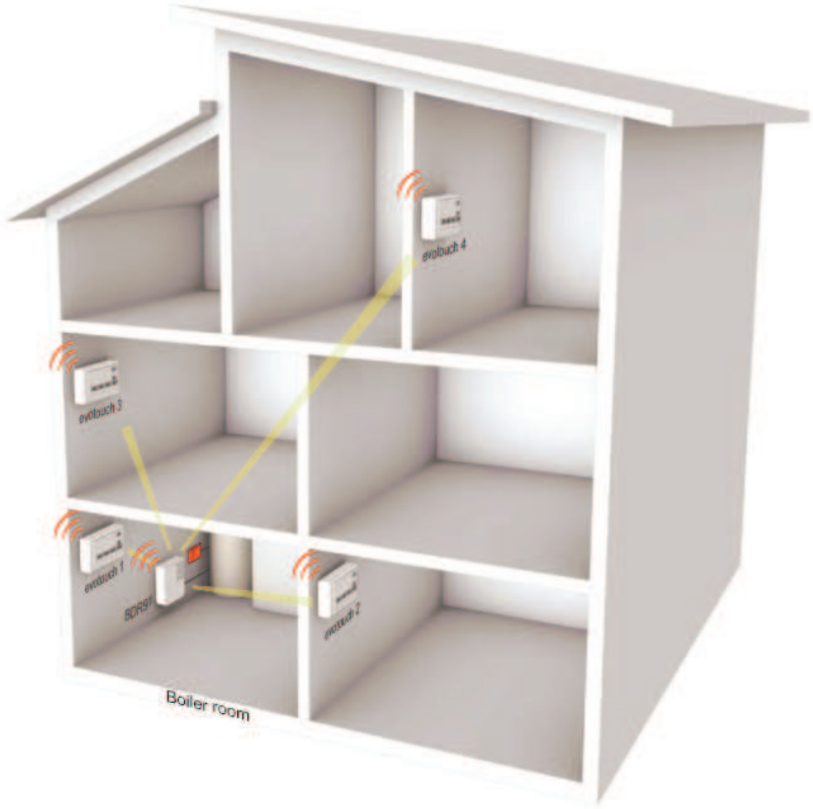
Multizone system with mixing valve and radiators



Application description

This application shows two heating circuits one for radiator MK1 and one for underfloor heating MK2.
The HR80 radiator controllers belong to the MK1 (zones 2-6).
Zone 1 (underfloor heating control) is controlled by the mixing valve controller HM80. For optimal operation of the HM80 the parameter can be set individual for each zone.
evotouch can control up to 8 zone with HM80 however each zone required it´s own room sensor HCF82, HCW82 or DT92.

Multizone boiler control with up to 4 controllers



Application description

The boiler relay or OPENTHERM-Bridge can receive the heat demand from up to 4 evotouch controllers. Each controller calculates the maximum heat demand and must be bound to the boiler relay

Honeywell

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Subject to change without notice.
50042749-001