

# Fact Sheet 13

## Wirsbo CoSy Radio – wireless room control

### Description

Wirsbo CoSy Radio is a wireless room control system for underfloor heating systems. The main components of the system are wireless room thermostats and a base unit. As the thermostats are wireless, installation is simple and quick, both in new and existing buildings. For systems being installed in several phases, thermostats can easily be installed as the construction work progresses as a second fix operation.

### Operation

The battery-operated room thermostat is installed in the room where temperature regulation is required. Radio signals transmit information about the room temperature at 2 – 30 minute intervals to the base unit. If the room temperature is too low, the base unit will energise the actuator and the valve will open. If the room thermostat fails to transmit a signal, e.g. due to a flat battery, an alarm will be set off.

The room thermostat can easily be re-positioned within the room to suit any change in room use. One thermostat can control several heating loops in a large room served by one manifold, or can be installed to transmit signals to several base units and control heating loops connected to several manifolds.

### Base unit

A control panel on the base unit is used for installing room thermostats and monitoring functions. The base unit is located near the underfloor heating manifold and connected to 230V.

The 8 channel base unit can connect up to 8 room thermostats and up to 12 actuators (24V). One thermostat can control several channels. Alternatively, one of the 8 channels/terminals can be used for UFH pump control. When heating is not required, the pump will stop after a short over-run period. Changing a link at the terminal inside the box activates this function. The base unit can also be supplied with a timer for programmable (time-controlled) temperature set-back. A built-in current limiter ensures that the unit is not overloaded. If several channels demand heat simultaneously, actuator terminals will be energised one-by-one, as current consumption for the actuators decreases. A 4-channel base unit is also available for smaller projects. For a more detailed description, see Installation and User Instructions, enclosed with the Wirsbo CoSy Radio base unit. Wirsbo CoSy Radio Base Unit with 8 output, 230V/24V Art no. 080442

### Room Thermostat

The room thermostat is available in 2 designs. With the basic room thermostat, the temperature is adjusted using the dial with raised markings. The temperature range on delivery is pre-set 6 – 30°C, but may be limited mechanically by moving the pins behind the dial. There is a temperature set-back switch on the side of the thermostat.

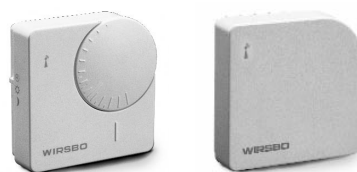


Wirsbo CoSy Radio, 8 channel base unit, room thermostats and external antenna.

### Switch functions:

- Sun position = temperature according to setting on dial
- Moon position = room temperature is reduced by approximately 4°C at 20°C
- Clock position = programmed temperature set-back according to settings on the timer (accessory).

The public thermostat has a plain cover and the controls are hidden. Temperature adjustments are made inside the thermostat. All other features are the same as the basic model. The thermostats first transmit data only after they have been installed and activated. Prior to this, no signals are transmitted, which means that the battery is not in use. During normal operation, the life of the battery is approximately 5 years. The battery is easy to change without the use of tools.



Room Thermostats

Wirsbo CoSy Radio Wireless Thermostat with temperature set-back. Art no. 080440

Wirsbo CoSy Radio Wireless Thermostat, Public Art no. 080441

### Wirsbo CoSy Radio External Antenna

If the underfloor heating manifold and the base unit are mounted in a metal cabinet, an external antenna should be used to ensure that signals are received. The antenna must always be fitted in a vertical position. Art no. 80445

### Wirsbo CoSy Radio Timer Module for Base Unit

For programmed temperature set-back, a timer module can be used with the 8-channel base unit. Art no. 080444

### Technical Data

#### Base unit general

Dimensions	313.5 x 110 x 59.5 mm
Colour	RAL 9010
Primary voltage	230V
Secondary voltage	24V
Valve motion	once every 24 hours (optional on - off)

Ambient temperature	0 – 50°C
Humidity	<85% RH
Degree of protection	IP 20
Fuse	T200mA
Adjustments maintained during power failure.	

#### – Base unit with 8 output terminals

Max. no. of thermostats	8 (7 and pump control)
Max. no. of actuators	12
Max. no. of actuators/terminal	2
Recommended no. of actuators/thermostat	max. 8
Output terminals 7 or 8, as pump control max.	2A

#### – Base unit with 4 output terminals

Max. no. of thermostats	4
Max. no. of actuators	8

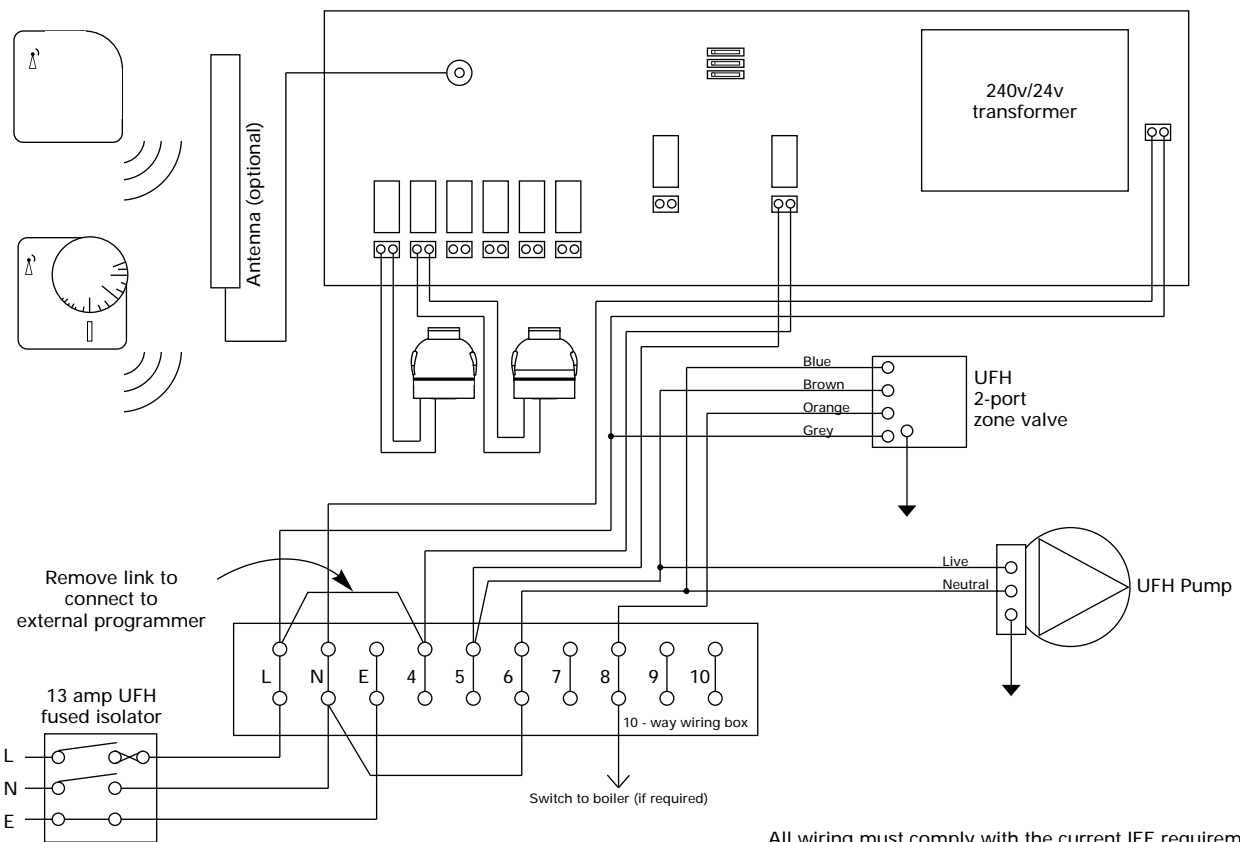
Max. no. of actuators/terminal	2
Recommended no. of actuators/thermostat	max. 4
Sep. output terminal for pump contr.	Max. 2A

#### Wireless Thermostat

Dimensions	70 x 70 x 22.5 mm
Colour	RAL 9010
Temperature range	6 – 30°C, +/-2K
Hysteresis	+/-0.5°C
Range accuracy	+/-2°C
Temperature reduction	4°C at 20°C
Battery life	Approx. 5 years
Battery type	3.6V lithium battery, 2000 mAh, AA
Signal range	~30 m (spherical)
Frequency	433.70 MHz
Transmission interval	2-30 min
Maximum no. of actuators	Limited by range. Can transmit to several base units

Ambient temperature	0 – 50°C
Humidity	<90% RH
Degree of protection	IP 20

Wiring Schematic: Wirsbo CoSy Radio with Area Pack



All wiring must comply with the current IEE requirements.