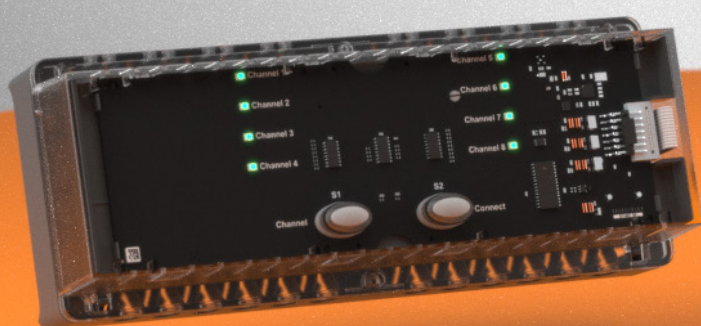


BUILDING AUTOMATION  
CONTROL TECHNOLOGY  
SENSORS

**alre**



**WIRELESS SYSTEMS**  
perfect for a home upgrade

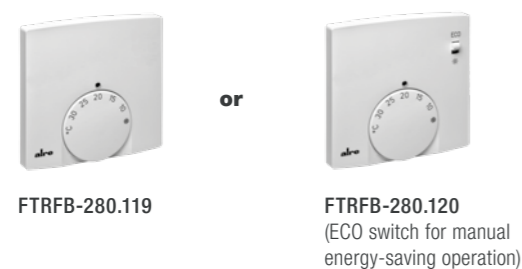
# SYSTEM CONFIGURATION FOR A WIRELESS CONTROL SYSTEM

## 1 SELECTION OF SENSORS

A minimal system consists of at least one sensor and one actuator. These are directly connected to each other without a central component. Different control functions can be implemented by combining the different sensor types. It is possible to teach any number of actuators to work with the sensors.

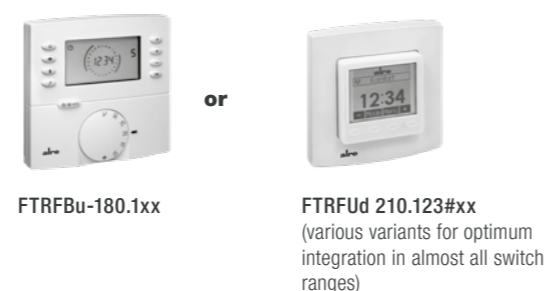
### INDIVIDUAL ROOM CONTROL

In each room, there is a sensor to detect and set the room temperature. Depending on the selected sensor, further functions may be available.



### INDIVIDUAL ROOM CONTROL WITH INDIVIDUAL CLOCK PROGRAM

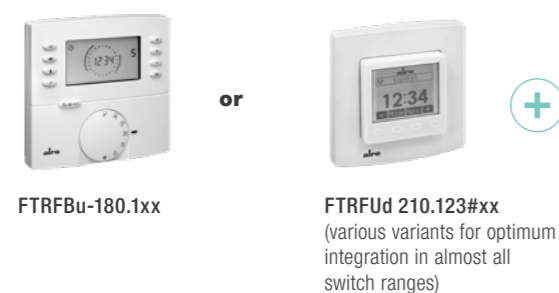
In each room, there is a sensor with a clock to detect and set the room temperature. An individual clock programme can therefore be set up for each room.



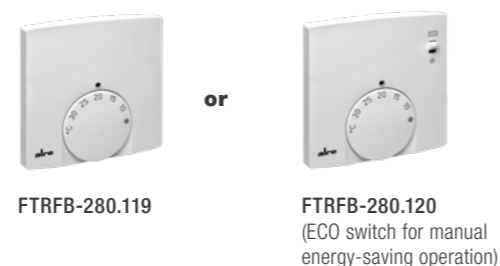
### INDIVIDUAL ROOM CONTROL WITH CENTRAL CLOCK PROGRAM (MASTER-SLAVE)

In one room, there is a sensor with a clock to detect and set the room temperature, as well as to set up the central clock program. In the other rooms (any number), there is a sensor to detect and set the room temperature. The clock program set centrally affects all rooms (any number, depending on the wireless range).

#### Sensor with clock to detect and set the room temperature and set up the central clock programme



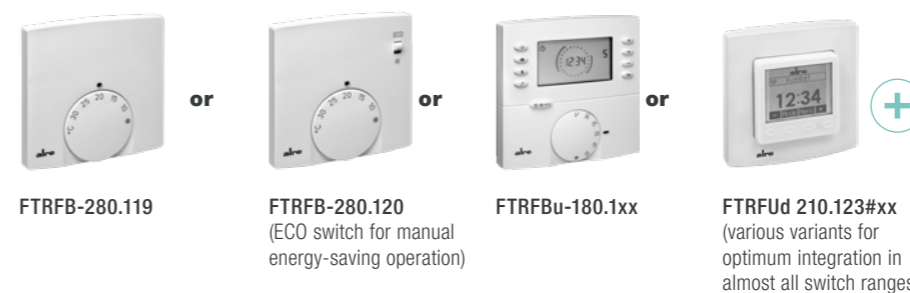
#### Sensor to detect and set room temperature



## CENTRAL CONTROL INDIVIDUAL ROOM CONTROL WITH CENTRAL TEMPERATURE SETTING

One FTRFB-280.101 sensor is required per room (any number) to detect the room temperature. Furthermore, a sensor is required to set the room temperature centrally. The room temperature set centrally applies to all rooms.

### Sensor for centrally setting room temperature



### Sensor to detect room temperature



### FINDING AVERAGES

Up to 7 additional FTRFB-280.101 sensors can be used per room for finding averages (for example in large rooms). This is possible with all listed control functions.

## 2 SELECTION OF ACTUATORS

Depending on the type of heating used, a corresponding actuator is required for each room or heating/cooling zone. Any number of actuators/channels can be assigned to a room.

### Hot water under-floor heating



For example:  
HTFRL-214.140 (4-channel)  
HTFRL-316.125 (8-channel)

### Hot water radiators



For example:  
HTFMA-180.161

### Electric under-floor heating



For example:  
HTFRU-110.124 (optional external floor sensor available)

### Infrared heaters



For example:  
HTFRB 010.101

### Cooling ceiling



For example:  
KTRFL-214.140 (4-channel)  
KTRFL-316.125 (8-channel)

## OPTIONAL

If required, an external antenna (JZ-25) can be connected to the multi-channel actuators intended for installation in heating manifolds via a 1m antenna cable (JZ-26).

## WIRELESS SYSTEMS COMPONENTS OVERVIEW

	FTRFB-	FTRFBu-	FTRFUd	HTFMA-	HTFRB-	HTFRU-	HTFRL-	CTFRB-	KTFRL-					
TYPE														
PAGE	280,101 16	280,119 16	280,120 17	180,117 / V2 17	180,121 / V2 17	210,123#xx 17	180,161 22	010,101 22	110,124 23	214,140 23	316,125 23	010,101 26	213,140 28	315,125 28
<b>CONTROL FUNCTION</b>														
Heating	x	x	x	x	x	x	x	x	x	x	x		x	x
Cooling	x	x	x	x	x	x						x	x	x
<b>APPLICATION</b>														
Radiator	x	x	x	x	x	x	x							
Hot water floor heating	x	x	x	x	x	x		x	x	x	x		x	x
Electric underfloor heating	x	x	x	x	x	x		x	x					
Infrared heaters	x	x	x	x	x	x		x						
Cooling ceiling	x	x	x	x	x	x						x	x	x
<b>SENSOR</b>														
NTC, internal	x	x	x	x	x	x								
External NTC (optional)						x								
External NTC for floor control and / or floor monitoring (optional)									x					
Dew point sensor (optional)													x	x
<b>FEATURES</b>														
'ECO' input													x	x
'Changeover – heating / cooling' input													x	x
'Off with frost protection monitoring' input													x	x
Central control	x	x	x	x	x	x		x	x			x	x	x
External antenna can be connected										x	x		x	x
<b>MOUNTING / ATTACHMENT</b>														
Surface / wall-mounted	x	x	x	x	x			x		x	x	x	x	x
Flush-mounted						x			x					
M30x1.5 (adapter for Danfoss RA, RAV, RAVL included)							x							
<b>CONNECTIVITY OF INDIVIDUAL COMPONENTS</b>														
FTRFB-280.101								x	x	x	x	x	x	x
FTRFB-280.119							x	x	x	x	x	x	x	x
FTRFB-280.120							x	x	x	x	x	x	x	x
FTRFBu-180.117 / V2							x	x	x	x	x	x	x	x
FTRFBu-180.121 / V2							x	x	x	x	x	x	x	x
FTRFUd 210.123#xx							x	x	x	x	x	x	x	x

# INTELLIGENT CONTROL FOR HEATING AND COOLING SYSTEMS





**WHEN IT NEEDS  
TO WORK**  
WIRE-AND EFFORTLESSLY.



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