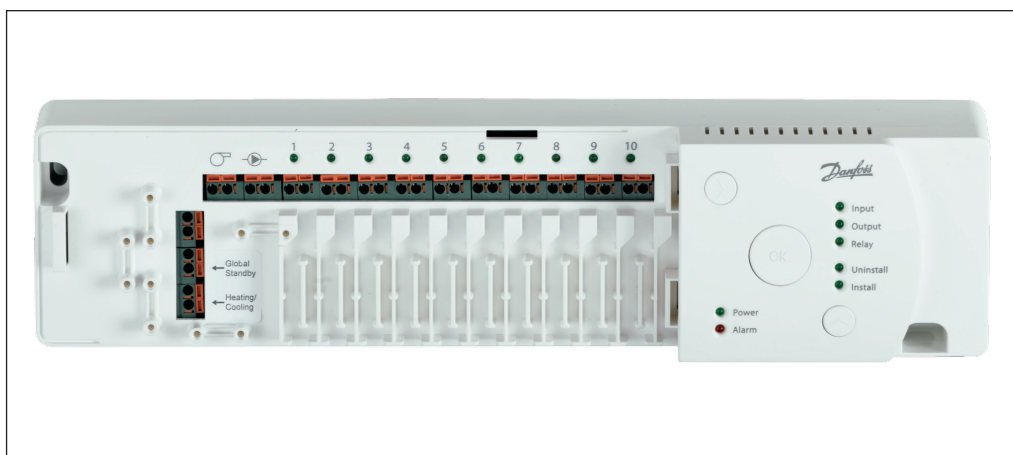




CF2 Wireless Floor Heating Control System

**Master Controller
CF-MC**

Features

The CF-MC Master Controller for the new wireless floor heating control system from Danfoss includes features such as: 2-way wireless transmission, up to 10 short-circuit protected outputs for 24V NC or NO actuators, relays for both pump and boiler control, self diagnosing programme, global standby, heating/cooling function and regulation by ON/OFF or pulse width modulation principles (PWM).

The floor heating control system can consist of up to 3 Master Controllers offering a possibility of up to 30 outputs for larger systems. The Master Controller has easy connection directly to the 230V power supply without the need for further transforming, supplying all actuator outputs with 24V.

Systems of up to 3 Master Controllers can be accessed by just one wireless Remote Controller, CF-RC. The Remote Controller gives access to even more functions and features such as individual settings for each Master Controller output, override and locking of local room temperature settings, setback and period programming, and system status.

2-way wireless communication between the Master Controller and all the wireless system components ensures a high level of transmission security. Furthermore it makes it possible to test the wireless signal to and from the Master Controller (Link test) and give a quick and direct indication of "signal ok" on the Room Thermostats or Repeater Unit.

- 2-way wireless transmission at 868.42MHz, for higher transmission certainty and direct link test option on each system component
- Wireless assignment of room thermostats and other system components.
- 5 or 10 short-circuit protected outputs with LED indication.
- Outputs for 24V NC or NO actuators.
- Valve motion for all outputs for approx. 12 min. every 14th day with no heat demand.
- Regulation by ON/OFF or PWM (Pulse Width Modulation) principle.
- Input (On/Off) for heating / cooling.
- Input (On/Off) for global standby. When On, each room thermostat is set for 8°C.
- Relay for pump control with automatic pump motion every 3rd day for 1 min. to avoid damage during stand by periods.
- Relay for boiler control, activated only at heat demand.
- Automatic self diagnosis providing indication of several error possibilities such as missing wireless connection or missing/non-functional actuator on output.

Ordering

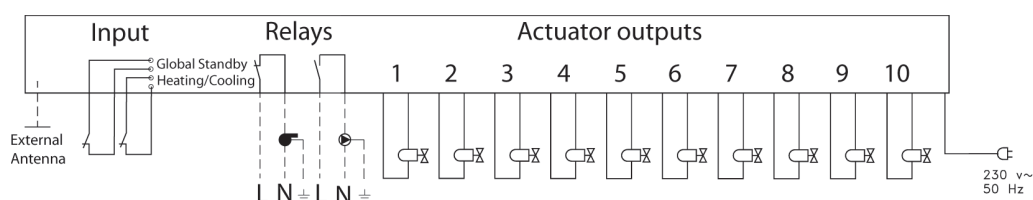
Product	Type	Supply Voltage	Output Voltage	Order No.
Master Controller with 5 outputs	CF-MC	230V a.c.	24V d.c.	088U020501
Master Controller with 10 outputs	CF-MC	230V a.c.	24V d.c.	088U020001

Datasheet **CF2 Wireless Floor Heating Control System**

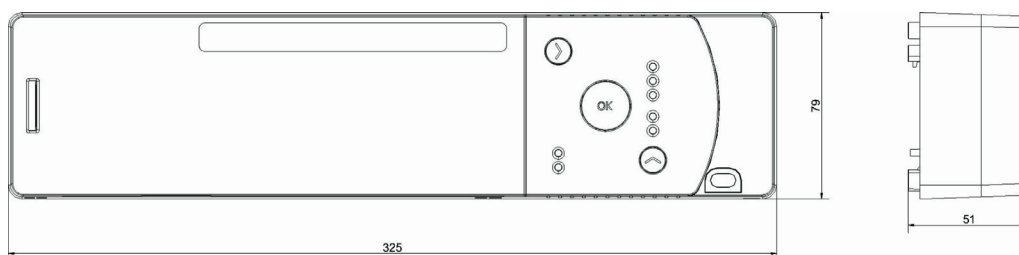
Data

Supply Voltage	230V a.c.
Number of outputs and voltage	5-10 / 24V d.c.
Transmission Frequency	868.42MHz
Transmission Range	Up to 30 metres
Transmission Power	< 1mW
Max. running load of actuator output	35VA in total for all outputs
Max load for pump relay	230V and 8A/2A (inductive)
Max. load for boiler relay	230V and 8A/2A (inductive)
Approvals	CE
Standard	EN60730
Directives	R&TTE, LVD and EMC
Protection Class	IP30
Mains Cable	1.5 metres
Weight	700g

Wiring



Dimensions



Accessories

Product	Type	Order No.
TWA-A 24V NC	24V-NC actuator (NC=normally closed)	088H311000
TWA-A 24V NO	24V-NO actuator (NO=normally open)	088H311100
TWA-A 230V NO	230V-NO actuator (NO=normally open)	088H311300

External Antenna CF-EA



Application

If the Master Controller CF-MC is mounted in a metal cabinet or other place which prevents any radio contact with other system components an External Antenna will be required.

This is connected directly to the Master Controller by cable and placed on the outside of the metal cabinet or other obstacle so as to pick up the wireless signals coming from the other components.

Ordering

Product	Type	Order No.
External Antenna with 2m cable	CF-EA	088U025000
External Cable for Antenna, 5m	CF-EC	088U025500

**Room
Thermostats
CF-RS, CF-RP,
CF-RD, CF-RF**

Features

The range room thermostats for the CF2 wireless floor heating control system offers a solution suitable for a wide range of applications.

Common to all the room thermostats in the range is the simple but very effective "Link test" function which is a result of the new 2-way wireless transmission technology implemented in this wireless system. The 2-way wireless technology enables a "Link test" on each type of room thermostat, indicating the status of the wireless communication between each room thermostat and the Master Controller CF-MC. This offers a valid and simple indication of the wireless signal status of the room thermostat before mounting it on the wall in a room. Also the LED indicating low battery is a common feature.

The room thermostats are available in 4 new versions: standard, public (tamperproof), display and display with InfraRed floor sensor covering most application and functionality demands.

- 2-way wireless transmission at 868.42MHz.
- Easy wireless connection to Master Controller CF-MC.
- Min. and max. limitation of temperature settings.
- Powered by 2 x AA Alkaline 1.5V batteries.
- LED indication for low battery.
- Public (tamperproof) version with hidden set point adjustment for use in childrens rooms, schools and office buildings etc.
- Digital display version showing actual or set room temperature, having easy menu and icons for system status.
- Digital display version with wireless InfraRed floor sensor for minimum and maximum floor surface temperature limitation.

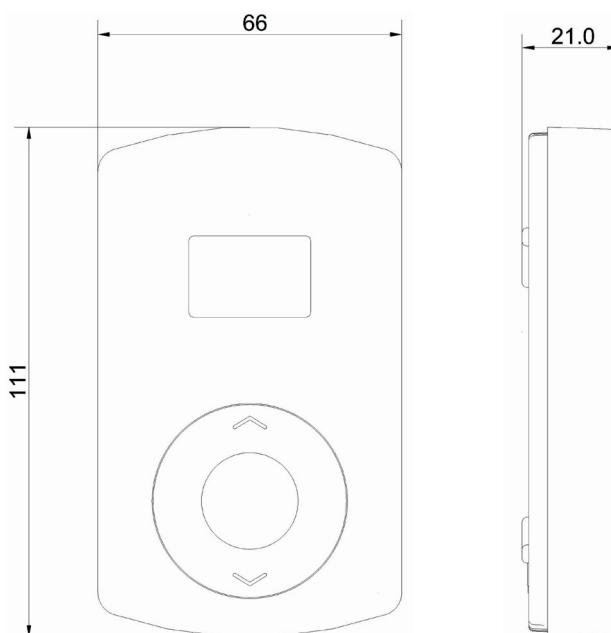
Ordering

Product	Type	Order No.
Wireless Room Thermostat, Standard	CF-RS	088U021000
Wireless Room Thermostat, Public (Tamperproof)	CF-RP	088U021100
Wireless Room Thermostat, Display	CF-RD	088U021200
Wireless Room Thermostat, Display and InfraRed Floor Sensor	CF-RF	088U021300

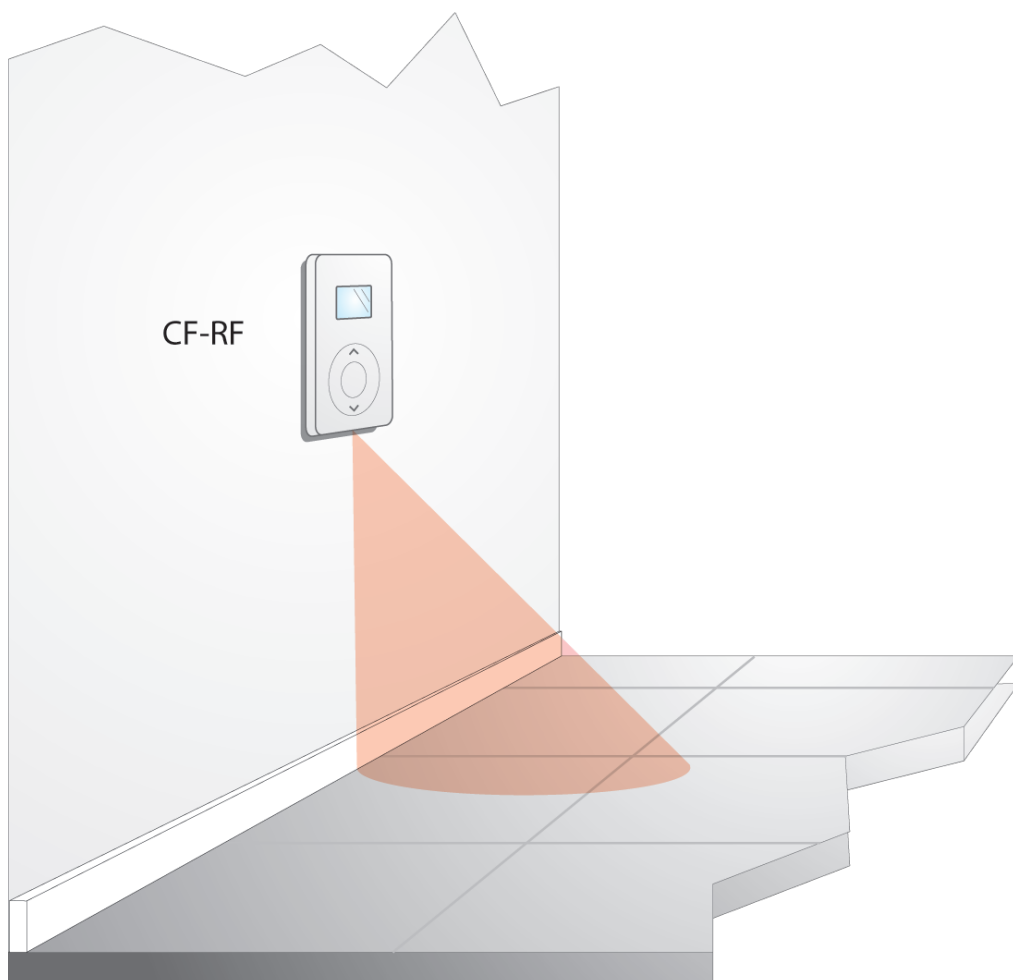
Data

Supply Voltage	2 x 1.5V Alkaline Batteries AA
Battery Life	CF-RS/P 3-4 years. CF-RD/F 1-2 years
Transmission Frequency	868.42MHz
Transmission Range	Up to 30 metres
Transmission Power	< 1mW
Temperature Setting Range	5-35°C
Approvals	CE
Standard	EN60730
Directives	R&TTE, LVD and EMC
Protection Class	IP21
Weight	120g

Dimensions



Application



**Remote Controller:
CF-RC**

Features

The optional wireless Remote Controller, CF-RC, offers a range of extended functions and application features. These include access to: individual settings for each Master Controller output for floor heating or radiator heating, temperature setback programme for zone control, period programme for holiday temperature setback, "lock" and override of temperature settings on local Room Thermostats, system surveillance for error identification and alarm logging.

One system consisting of up to 3 Master Controllers (CF-MC) can be accessed using one Remote Controller. This enable larger applications for floor heating to be covered or even combined systems with e.g. radiators as the other heating supply system.

All Remote Controller options and functions are available through the large display and centrally placed push buttons. The menu structure is self-guiding with clear identifications. The display also has a backlight that initiates as soon as a push button is activated.

- Powered by 2 x 1.5V Alkaline AA batteries.
- Low battery indication via icon in display.
- 2-way wireless transmission at 868.42MHz, for higher transmission certainty and link test possibility.
- Easy wireless assignment to Master Controller CF-MC.
- Remote control of up to 3 Master Controllers CF-MC and associated Room Thermostats.
- Access to individual setting of each Master Controller
- output for regulation of either floor heating or e.g. radiators by ON/OFF or PWM regulation principles.
- Optional central adjustment, locking and override of local Room Thermostat temperature settings.
- Error identification and alarm logging.
- Period program with calender function for room temperature setback during holidays.
- Setback program for room temperature reduction in zones with different time schedules.

Ordering

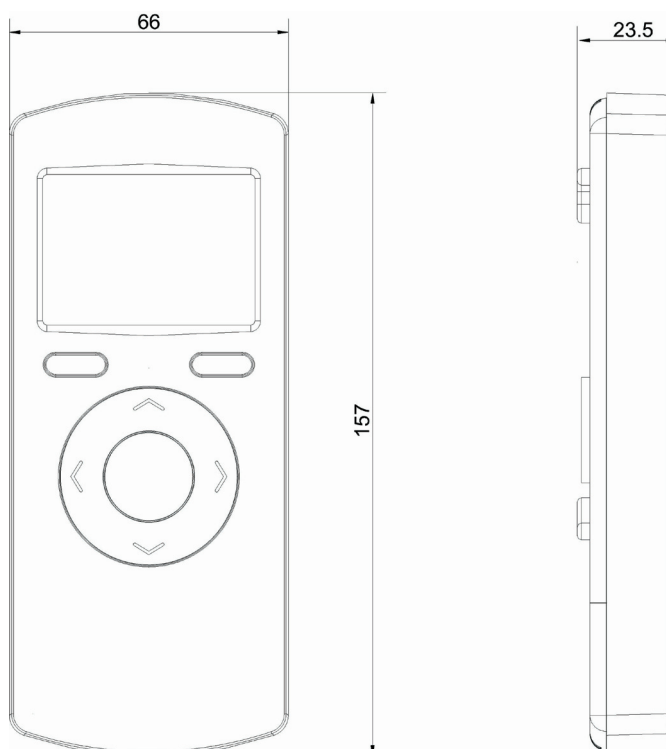
Product	Type	Order No.
Wireless Remote Controller	CF-RC	088U022001

Datasheet **CF2 Wireless Floor Heating Control System**

Data

Supply Voltage	230V a.c. and 2 x 1.5V Alkaline AA batteries
Transmission Frequency	868.42MHz
Transmission Range	Up to 30 metres
Transmission Power	< 1mW
Approvals	CE
Standard	EN60730
Directives	R&TTE, LVD and EMC
Protection Class	IP21
Mains Cable	1.8m
Weight	120g

Dimensions



**Repeater Unit:
CF-RU**

Features

The Repeater Unit CF-RU extends the transmission range between the Master Controller, room thermostats, and other connected components by 2-way wireless communication. The Repeater Unit is particularly useful where distance or physical objects may impede any wireless connection.

If the link test reveals a missing wireless connection to the Master Controller, simply install the Repeater Unit and reactivate the link test.

The Repeater Unit forwards the signals between Room Thermostats and Remote Controller (optional) to the Master Controller.

This is particularly useful in larger installations where physical distance between components may prevent proper wireless connection. The Repeater Unit may also be used in places where radio transmission barriers occur; i.e. where radio signals may be obstructed by heavy walls or metal objects.

The Master Controller supports up to 3 Repeater Units installed in a chain between the relevant Room Thermostat and the Master Controller. More parallel chains of Repeater Units from a Master Controller are possible.

- 2-way wireless transmission at 868.42MHz for higher transmission certainty and link test.
- Easy wireless assignment to Master Controller CF-MC.
- Supplied by 230V.
- Up to 3 Repeater Units installed in a chain between the relevant Room Thermostat and the Master Controller.
- More parallel chains of Repeater Units from a Master Controller are possible.

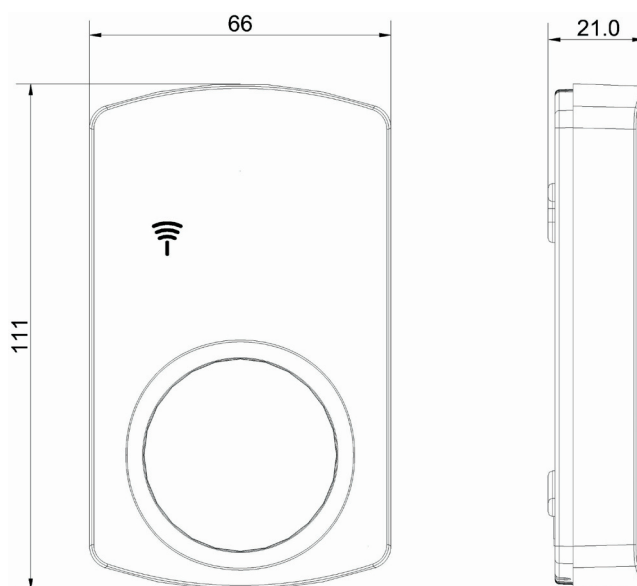
Ordering

Product	Type	Order No.
Repeater Unit	CF-RU	088U023001

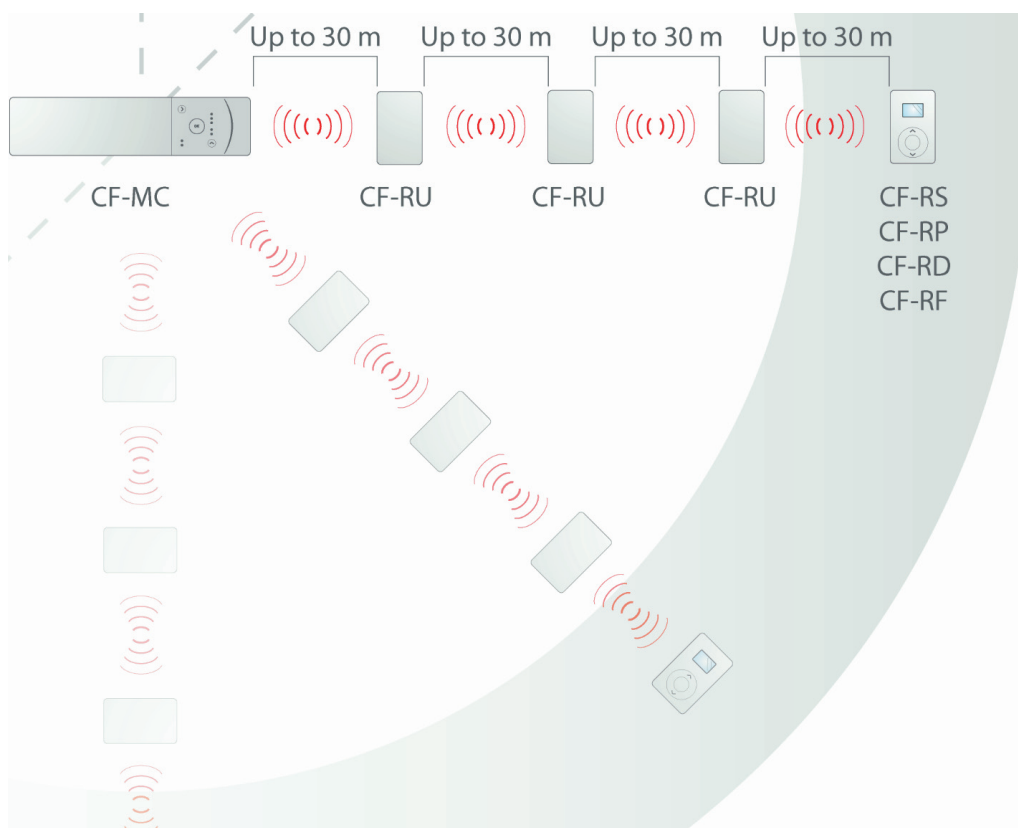
Data

Supply Voltage	230V a.c.
Transmission Frequency	868.42MHz
Transmission Range	Up to 30 metres
Transmission Power	< 1mW
Approvals	CE
Standard	EN60730
Directives	R&TTE, LVD and EMC
Protection Class	IP21
Mains Cable	3.0m
Weight	100g

Dimensions



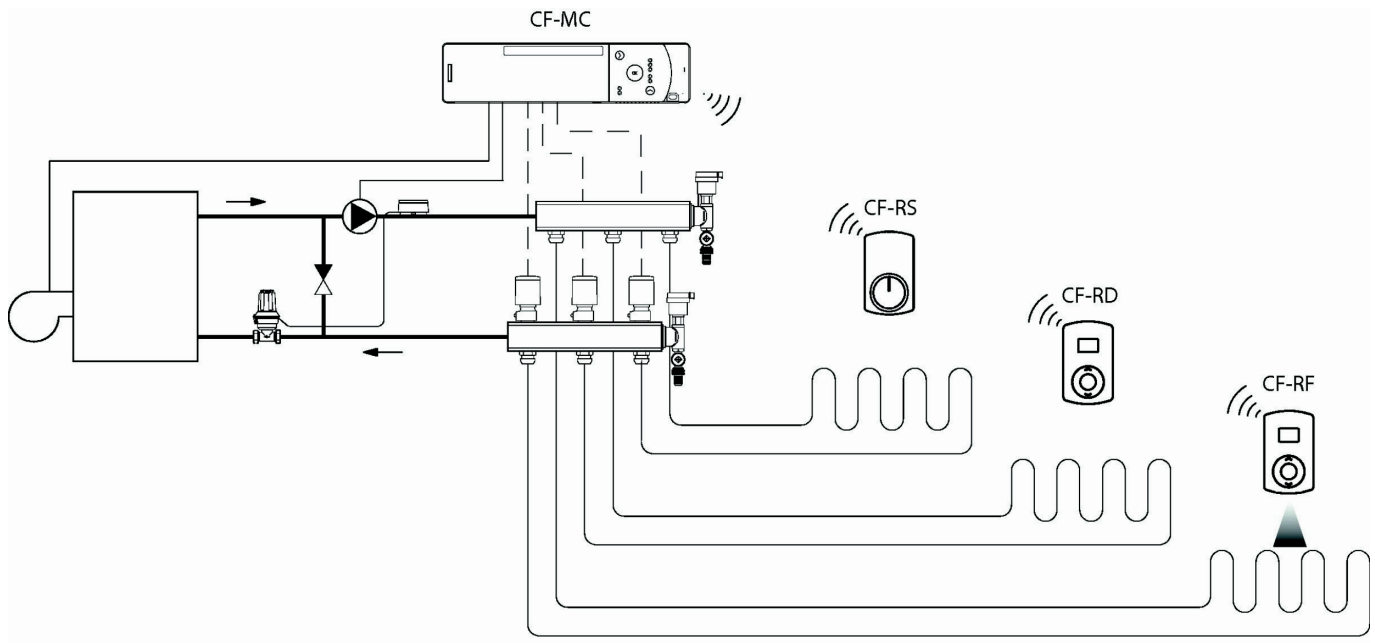
Application



Datasheet **CF2 Wireless Floor Heating Control System**

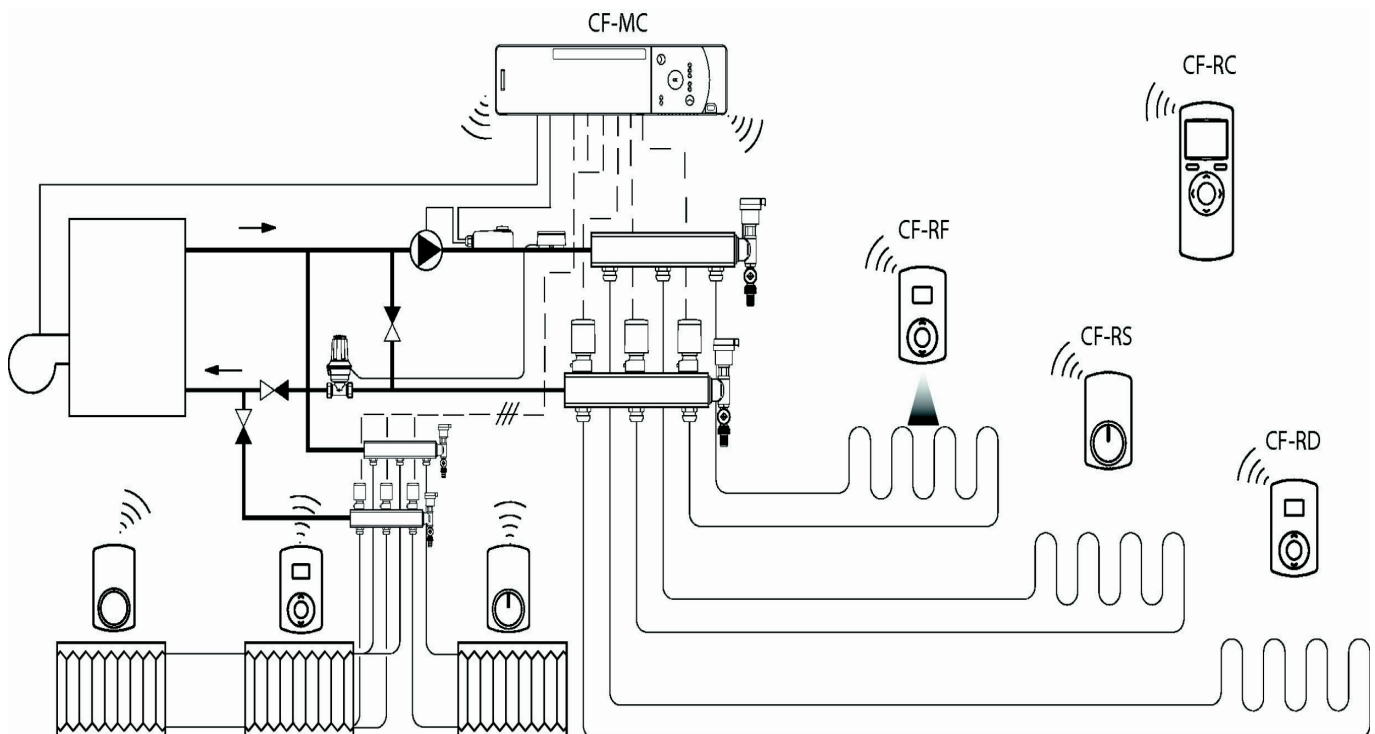
Applications Examples

Single Floor Heating Systems



Applications Examples

Combined Floor and Radiator Heating System



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