

Data Sheet

# Danfoss Icon2™ Main Controller

## Description



Danfoss Icon2™ Main Controller is used for floor heating and cooling systems for individual room control.

It can be configured as a wired or wireless system or as a combination, if required.

The center of the system is the Danfoss Icon2™ Main Controller, which configures and ties the system together.

Installation and set-up of the Danfoss Icon2™ Main Controller is made easy by using the pre-defined application and intuitive commissioning App.

**The system offer following features (some require Advanced version.):**

- Automatic balancing (PWM+), which ensure that the hydraulic balancing of the system is done by the master controller based on the actual room demand.
- Requires no pre-setting on the manifold.
- On/Off control possibility.
- NC/NO actuator functionality.
- Cooling change over (Basic version only support 2 pipe systems).

- Supports 2, 3 or 4 pipe applications in various configurations (3 and 4 pipes systems require Advanced version).
- Flow temperature control (require Advanced version), can be set to either a fixed temperature or demand based flow temperature control.
- 230 V power output with protected earth for circulation pump.
- 230 V power output (for e.g. always on).
- Heat demand signal output (for e.g. potential free relay).
- Wireless 2,4 GHz.
- Powerline communication (for 24V wired thermostats).
- Possibility to combine wired and wireless thermostats in same installation.
- APP functionality, for iOS and Android devices (require Ally™ GW or compatible Zigbee gateway).

## Ordering

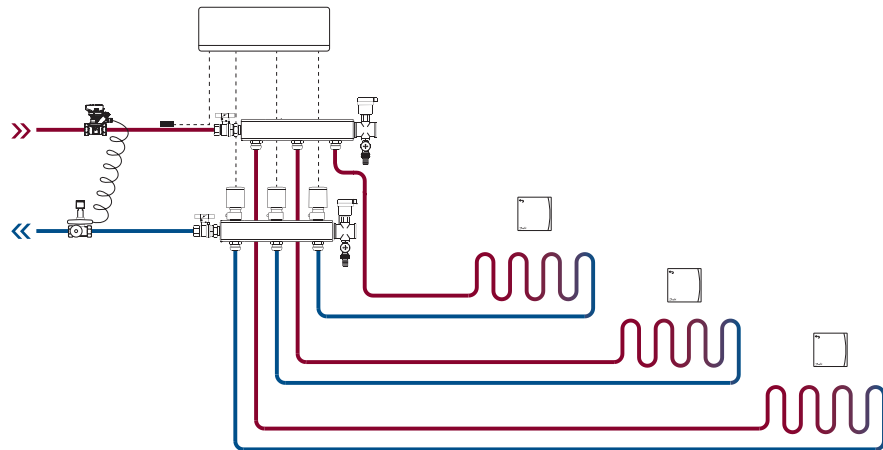
Product	Code number
Danfoss Icon2™ Main Controller, Basic , EU	<b>088U2100</b>
Danfoss Icon2™ Main Controller, Basic , CH	<b>088U2101</b>
Danfoss Icon2™ Main Controller, Basic , NP	<b>088U2102</b>
Danfoss Icon2™ Main Controller, Advanced , EU	<b>088U2110</b>
Danfoss Icon2™ Main Controller, Advanced , CH	<b>088U2111</b>
Danfoss Icon2™ Main Controller, Advanced , NP	<b>088U2112</b>

## Accessories

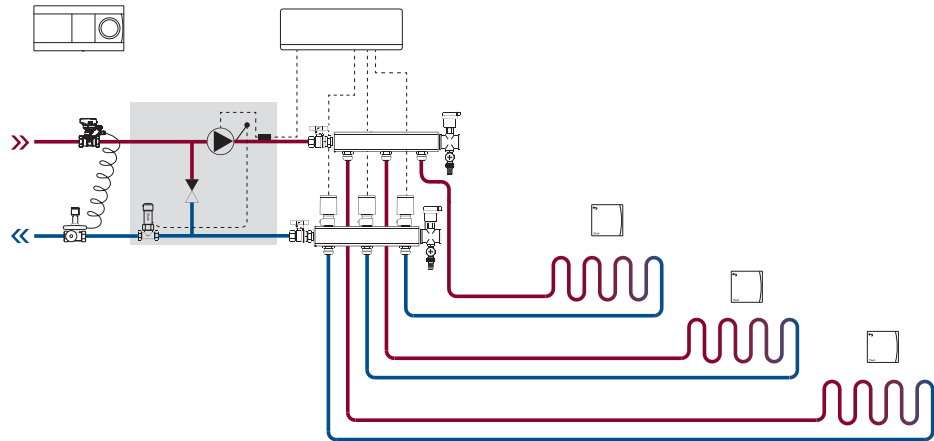
Product	Code number
Danfoss Zigbee Repeater	<b>088U1131</b>
Icon2™ 24V conversion module	<b>088U2140</b>
External antenna	<b>088U2141</b>

Application drawings

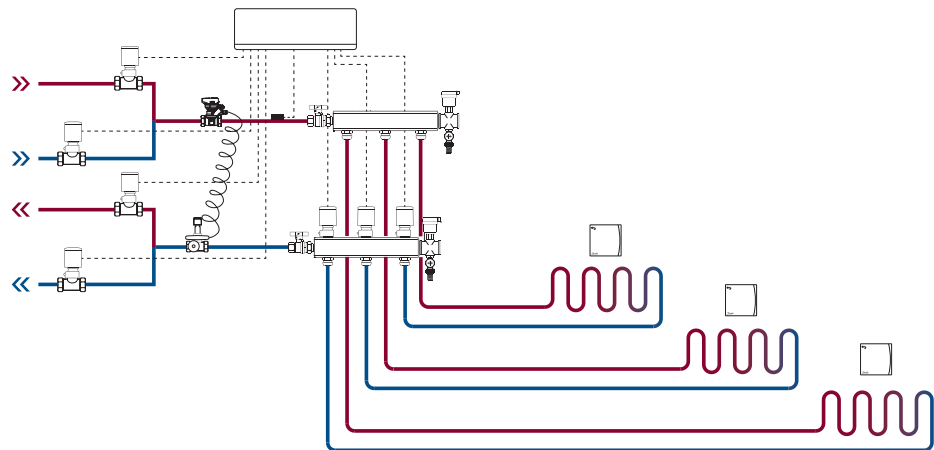
Example 1: 2-pipe system (optional cooling)



Example 2: 2-pipe system with mixing shunt (optional supply temperature control)



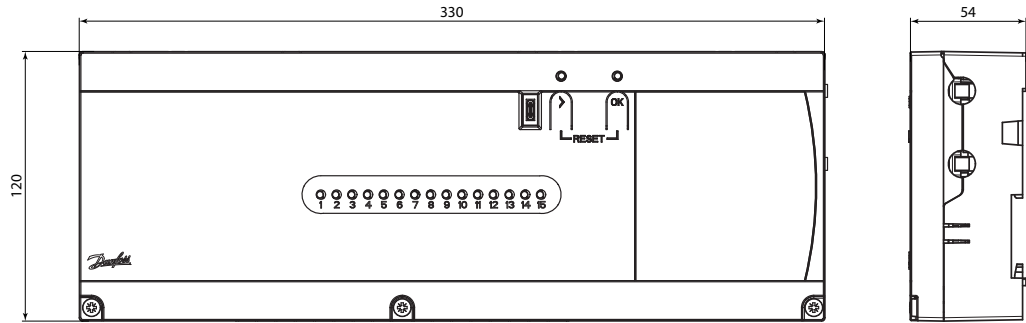
Example 3: 4-pipe cooling



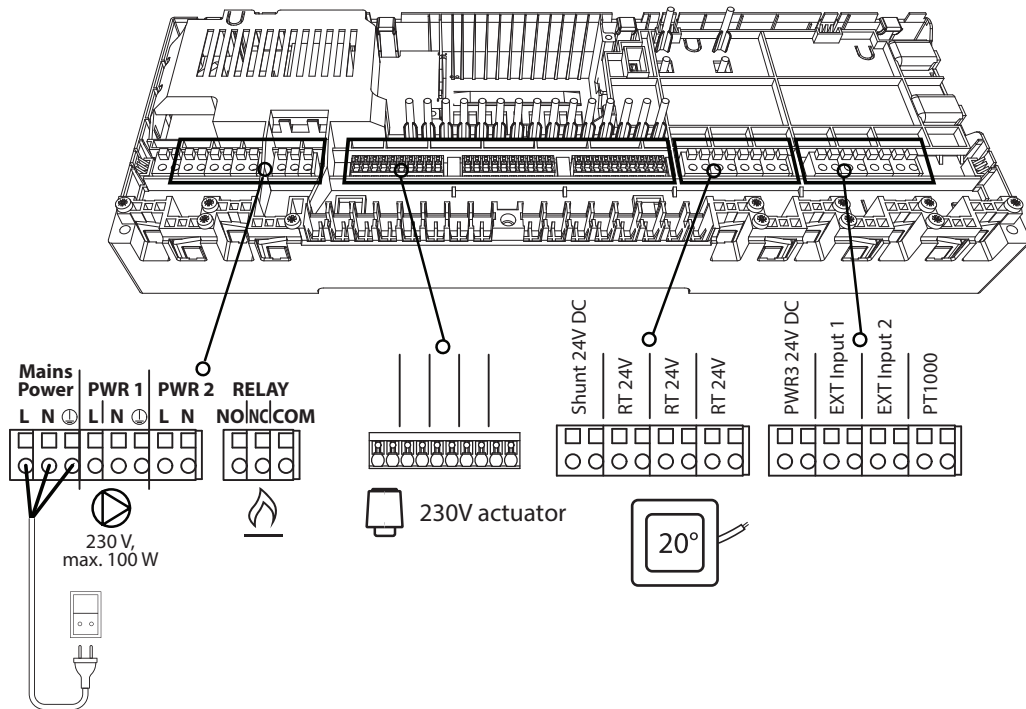
Technical data

Temperature for the ball pressure test	75 °C
Control pollution degree	Degree 2, normal household environment
Software class	Class A
Rated impulse voltage	4 kV
Operating time	Permanently connected
Temperature range, storage and transportation	-20 °C to +65 °C
Disposal instructions	The product must be disposed as electronic waste
Supply voltage	220-240 V AC
Supply frequency	50/60 Hz
Output voltage, actuators	230 V (24 V with conversion module installed)
Max. power consumption per actuator output	2 W
Number of actuator outputs (1 actuator per output terminal)	15
Output voltage, thermostats	24 V DC
Stand-by consumption per thermostat	0,2 W
Max. number of thermostats	15
Max. length of wire from master controller to a 24 V thermostat (depends on cable type used)	If 2 × 2 × 0,6 mm <sup>2</sup> STP/UTP: 100 m If 2 × 0,5 mm <sup>2</sup> : 150 m If > 2 × 0,75 mm <sup>2</sup> : 200 m
Stand-by consumption, Master Controller	230 V actuators: < 2 W 24 V actuators: < 5 W
Max. power consumption, excluding use of PWR 1 and PWR 2 outputs	< 50 W
Internal protection (fuse, replacable)	2 A
Output "Relay"	Voltage free relay, Max. 2 A load
Actuator outputs, type	Type 1C (Micro interruption)
Output "PWR1", type and rated max. output	Type 1B (Micro disconnection), max. 100 W
Output "PWR2", type and rated max. output	Type: Permanent output, 230 V, max. 50 W
Output 24 V out	24 V DC, max. 1 W
Output "PWR3" 24 V out	24 V DC max. 2 W
Input "IN1"	Ext. switch input (internal 24 V pull-up)
Input "IN2"	Ext. switch input (internal 24 V pull-up)
Input "IN3", sensor input	External sensor, PT 1000 (Danfoss ESM 11)
Dimensions	W: 330 mm, H: 120 mm, D: 54 mm
Conformity declared acc. to following directives	LVD, RED, RoHS and WEEE
Purpose of control	Individual electronic room temperature control
Method of providing earthing	Factory fitted power cord, incl. PE-conductor
Encapsulation (IP Class)	IP 20
Protection class	Class II Construction with earthing terminal
Ambient temperature range, continuous use	0 °C to 50 °C
Frequency	2,4 GHz
Transmission power	< 2,5 mW

Drawings



Danfoss Icon2™ Main Controller



Danfoss A/S

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