

Data Sheet

# Danfoss Icon™ 24V Master Controller

## Description



Danfoss Icon™ is a modular heating system 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 Icon™ Master Controller 24V, which configures and ties the system together.

Installation and set-up of the Danfoss Icon™ Master Controller 24V is made easy by using the pre-defined application and intuitive touch user interface.

**The system offer following features (some require Expansion Module):**

- 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 (require an Expansion Module).

- Supports 2, 3 or 4 pipe applications in various configurations (please see Expansion Module application guide for all configurations).
- Supply temperature control (require an Expansion Module), can be set to either a fixed temperature or demand based supply temperature control.
- 230V power output with protected earth for circulation pump.
- 230V power output (for e.g. always on).
- Heat demand signal output (for e.g. potential free relay).
- Can be made wireless by adding a Radio Module (required for wireless installations).
- Powerline communication (for 24V wired thermostats).
- Possibility to combine wired and wireless thermostats in same installation.
- APP functionality, for iOS and Android devices (require APP Module).
- Software updatable through App or Zigbee module.
- 3rd party integration with compatible Zigbee solutions through Icon™ Zigbee module.

## Ordering

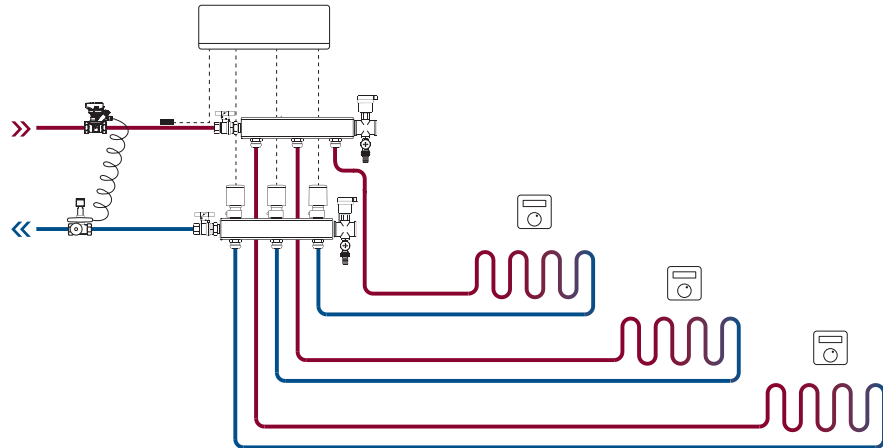
Product	Code number
Danfoss Icon™ Master, 24V, 10 ch., OTA	088U1141
Danfoss Icon™ Master, 24V, 15 ch., OTA	088U1142
Danfoss Icon™ Master, 24V, 10 ch., CH, OTA	088U1144
Danfoss Icon™ Master, 24V, 15 ch., CH, OTA	088U1145
Danfoss Icon™ Master, 24V, 10 ch., NP, OTA	088U1147
Danfoss Icon™ Master, 24V, 15 ch., NP, OTA	088U1148

## Accessories

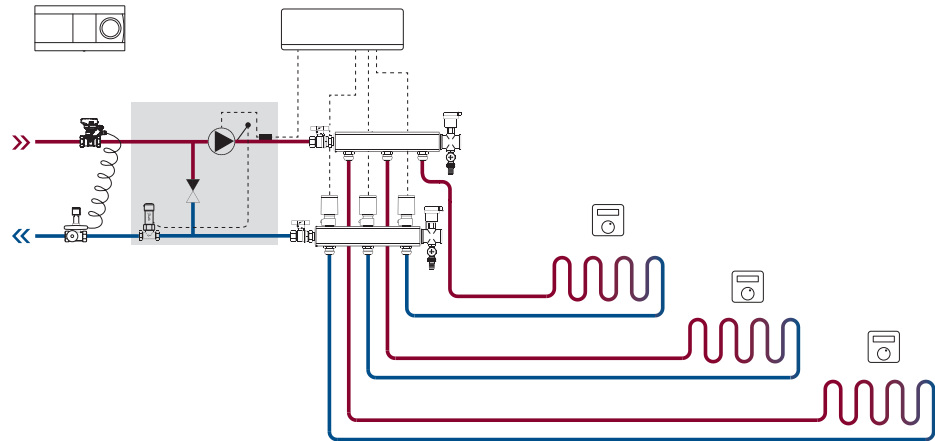
Product	Code number
Danfoss Icon™ Expansion Module	088U1100
Danfoss Icon™ App Module	088U1101
Danfoss Icon™ Repeater	088U1102
Danfoss Icon™ Radio Module	088U1103
Danfoss Icon™ Zigbee module	088U1130
Danfoss Zigbee repeater	088U1131

Application drawings

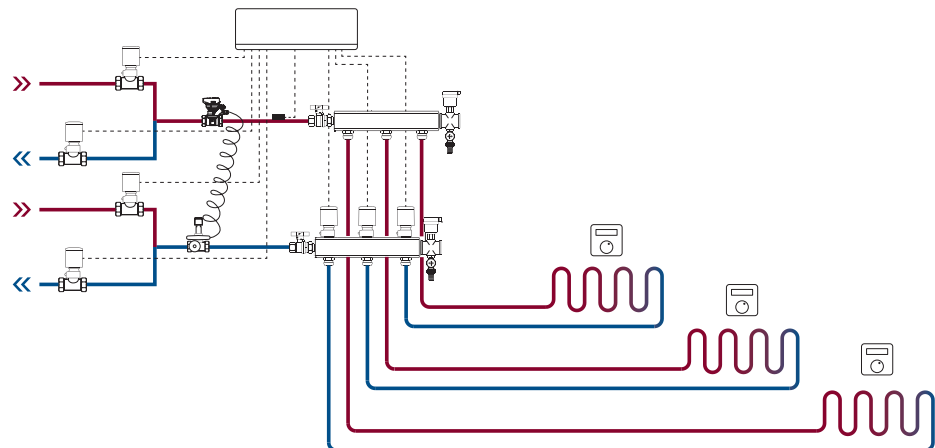
Example 1: 2-pipe system (optional cooling)



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



Example 3: 4-pipe cooling



**Technical data**

For all applications please see Installation guide for Expansion Module.

 Common characteristics,  
all Danfoss Icon™ products

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

 Master Controller 24V and  
Expansion Module (optional)

Supply voltage	220-240 VAC
Supply frequency	50/60 Hz
Output voltage, actuators	24 VDC
Max. power consumption per actuator output	2 W
Number of actuator outputs (1 actuator per output terminal)	10 or 15 depending on type of Master Controller
Output voltage, thermostats	24 V DC
Stand-by consumption per thermostat	0,2 W
Max. number of thermostats	10 or 15 depending on type of Master Controller
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	< 2 W
Max. power consumption, excluding use of PWR 1 and PWR 2 outputs	< 50 W
Internal protection (fuse, non-replacable)	2,5 A
Output "Relay"	Potential free relay, Max. 2 A load
Actuator outputs, type	Type 1C (Micro interruption)
Output "PWR 1", type and rated max. output	Type 1B (Micro disconnection)
Output "PWR 2", type and rated max. output	Type: Permanent output, 230 V, max. 50 W
Output "PWR 3" (optional, on Expansion Module - used for dew point sensor)	24 V DC, max. 1 W
Input "1" (optional, on Expansion Module - use varies acc. to application chosen)	Ext. switch input (internal 24 V pull-up)
Input "2" (optional, on Expansion Module - use varies acc. to application chosen)	Ext. switch input (internal 24 V pull-up)
Input "3", sensor input (optional, on Expansion Module)	External sensor, PT 1000 (Danfoss ESM 11)
Dimensions	W: 370 mm, H: 100 mm, D: 53 mm
Conformity declared acc. to following directives	LVD, EMC, 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

## Technical data

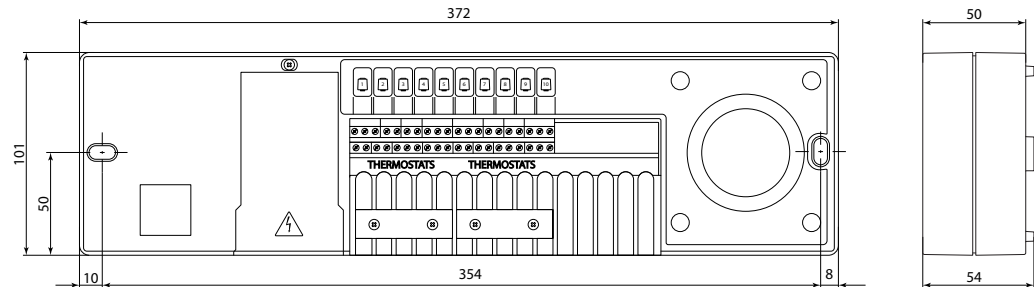
### Radio Module & Repeater

Purpose of control	Transmitting and receiving device
Ambient temperature range, continuous use	0 °C to 40 °C
Frequency	869 MHz
Transmission power	< 2,5 mW
Encapsulation (IP Class)	IP 20
Conformity declared acc. to following directives	RED, RoHS, WEEE
Protection class	Radio: Class III Construction Repeater: Class II Construction
Supply voltage	Radio: 5 V DC Repeater: 230 V AC 50/60 Hz

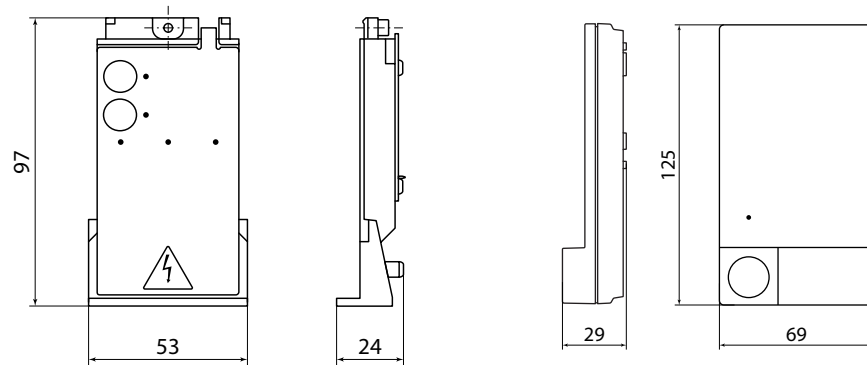
### App Module

Purpose of control	Wi-Fi transmitting and receiving device, incl. Bluetooth
Ambient temperature range, continuous use	0 °C to 40 °C
Frequency	2,4 GHz
Encapsulation (IP Class)	IP 20
Conformity declared acc. to following directives	RED, RoHS, WEEE
Protection class	Radio: Class III
Supply voltage	5 V DC

## Drawings



Danfoss Icon™ 24V Master Controller



Danfoss Icon™ Expansion Module

Danfoss Icon™ Radio Module

## Danfoss A/S

Heating Segment • danfoss.com • +45 7488 2222 • E-Mail: heating@danfoss.com

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