

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 24 V, which configures and ties the system together.

Installation and set-up of the Danfoss Icon™ Master Controller 24 V 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.
- 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).
- Can be made wireless by adding a Radio Module (required for wireless installations).
- Powerline communication (for 24 V wired thermostats).
- Possibility to combine wired and wireless thermostats in same installation.
- APP functionality, for iOS and Android devices (require APP Module).

Ordering

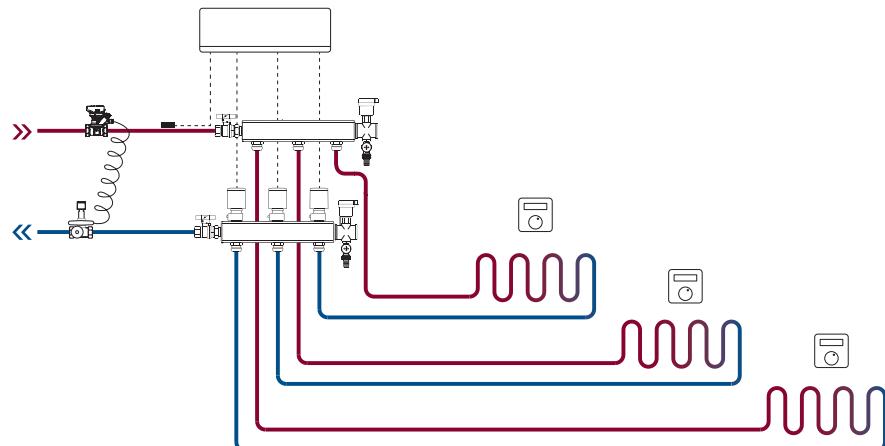
| Product | Code number |
|--|-------------|
| Danfoss Icon™ Master, 24 V, 10 ch. | 088U1071 |
| Danfoss Icon™ Master, 24 V, 15 ch. | 088U1072 |
| Danfoss Icon™ Master, 24 V, 10 ch., CH | 088U1074 |
| Danfoss Icon™ Master, 24 V, 15 ch., CH | 088U1075 |
| Danfoss Icon™ Master, 24 V, 10 ch., NP | 088U1077 |
| Danfoss Icon™ Master, 24 V, 15 ch., NP | 088U1078 |

Accessories

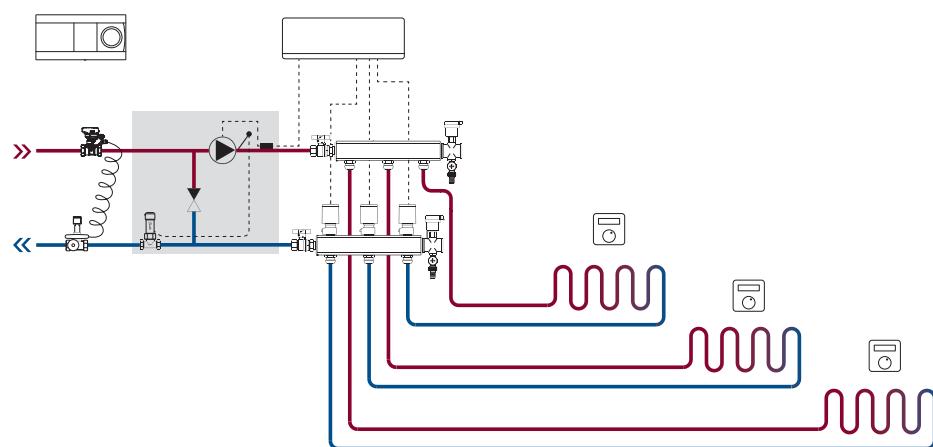
| Product | Code number |
|--|-------------|
| Danfoss Icon™ Expansion Module | 088U1100 |
| Danfoss Icon™ App Module | 088U1101 |
| Danfoss Icon™ and Danfoss Link™ Repeater | 088U1102 |
| Danfoss Icon™ Radio Module | 088U1103 |

Application drawings

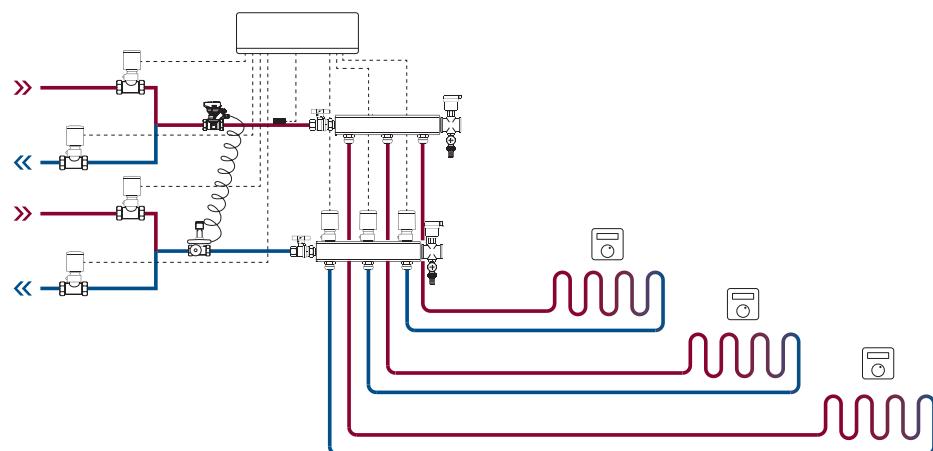
Example 1: 2-pipe system (optional cooling)



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



Example 3: 4-pipe cooling



Technical data

Common characteristics,
all Danfoss Icon™ products

For all applications please see Installation guide for Expansion Module.

| | |
|---|--|
| 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 V AC |
| Supply frequency | 50/60 Hz |
| Output voltage, actuators | 24 V DC |
| 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 $2 \times 2 \times 0,6 \text{ mm}^2$ STP/UTP: 100 m If $2 \times 0,5 \text{ mm}^2$: 150 m If $> 2 \times 0,75 \text{ mm}^2$: 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-replaceable) | 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

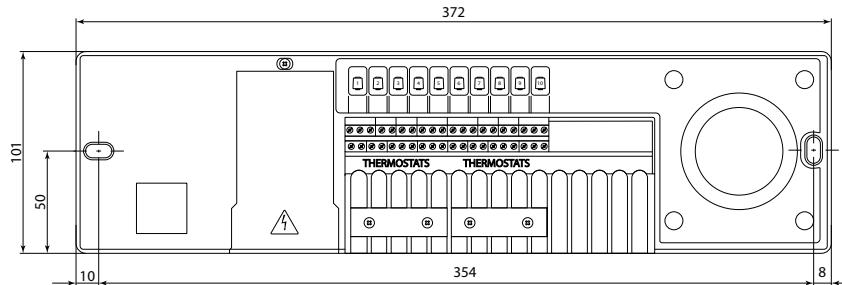
Radio Module & Repeater

| | |
|--|---|
| Purpose of control | Transmitting and receiving device |
| Ambient temperature range, continuous use | 0 °C to 40 °C |
| Frequency | 868,4–869,85 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 |

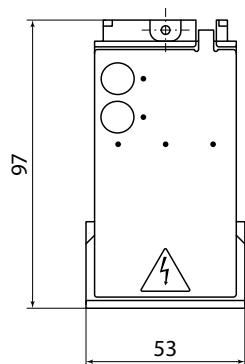
App Module

| | |
|--|---|
| 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

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