

Data Sheet

Premounted Midi Shunt

Application



*Midi Shunt 088U0851
- with one circuit*

The Danfoss Midi shunts are used for control of flow and supply temperature in hydronic floor heating systems. The compact, midi shunt comes pre-mounted for 1-circuit ready to mount on the wall and fittings for pipe connection (20 x 2 mm). The shunts self-acting proportional thermostatic control valve is used to control the supply temperature.

The thermostatic sensor ensures that the desired supply temperature to the underfloor heating system always remains constant.

Other components in the Danfoss Midi shunt:

- Built-in check valve ensures correct flow direction.
- An air-vent on top and a thermometer for trouble shooting and service.
- RA-N valve with pre-setting to ensure the optimal hydronic balance in the system.
- UPM3 Auto pump ensures that the energy consumption for the system is kept at a minimum.
- Danfoss Icon™ Dial 230V thermostat for accurate room control.

Features:

- Compact design — fits in even the smallest places.
- Pre-mounted — minimal risk of installation faults.
- Easy ordering — only one number necessary.
- Short installation time.
- Grundfos UPM3 Auto pump ensures the lowest possible operating costs.

Should water treatment be used it is essential that dosing instructions of the manufacturer are strictly observed. It is recommended that formulations containing mineral oil are avoided.

Ordering

Midi Shunt version	For room size	Code no.
1 circuit mixing shunt with UPM3 AUTO 15-70 circulation pump and built in Danfoss Icon™ Dial room thermostat.	up to 20 m ²	088U0851

Accessories

	Description	Code number
	Grundfos UPM3 Auto pump	088U0860
	TWA-A 230V, NC	088H3112
	RA-N DN15 Valve	013G0013
	Danfoss Icon™, Dial thermostat	088U1005
	FTC self-acting sensor	013G5081
	Insulation capsule for UPM3 pump	088U0075

Technical specifications

Supply voltage	230 V AC, 50 Hz
Enclosure, Midi shunt	IP 21
Thermostat	ON/OFF with thermal accelerator
Temperature limitation, Thermostat	5 °C to 30 °C
Enclosure, Thermostat	IP 21
Frost protection Setting	5 °C
Running power consumption, TWA	2 W
Cable length, TWA	950 mm
Ambient temperature	0 °C to 60 °C
FTC sensor temperature range	15 °C to 50 °C

**TWA
Thermal Actuator**

TWA is a small actuator for electrical on/off-control to activate valves.

TWA is equipped with a visual position indicator to show the open or closed position of the valve.

For Midi Shunts is used the TWA-A 230 V NC (Normally Closed) version.



Code no.	088H3112
Supply voltage	230 V
Max. inrush current	350 mA
Frequency	50-60 Hz
Running power consumption	2 W
Spindle travel time	~3 min.
Ambient temperature	0 °C to 60 °C
Enclosure	IP 41
Cable length	950 mm

For further technical information, see specific TWA actuator data sheet.

RA-N Valve

Midi Shunt 088U0851 has one heating circuit and is equipped with a Danfoss RA-N pre-setting valve securing optimal hydronic balance in the system.



The valve is controlled electronically by TWA thermal actuator.

Product	Code no.
RA-N 15 valve	013G0013

**RA-N DN15 Valve –
Pre-setting table**

Type	Connections		Pre-setting								
	Inlet	Outlet	k _v -max. ¹⁾ (m ³ /h at Δp = 1 bar)								k _{vs}
			R _p	R	1	2	3	4	5	6	
RA-N 15	1/2	1/2	0,04	0,09	0,16	0,25	0,36	0,43	0,52	0,73	0,90

¹⁾ The k_v -value indicates the water flow (Q) in m³/h at a pressure drop (Δp) across the valve of 1 bar; $K_v = Q: \sqrt{\Delta p}$. At setting N the k_v -value is stated according to EN 215, at $X_p = 2K$ i.e. the valve is closed at 2 °C higher room temperature. At lower settings the X_p -value is reduced to 0,5K of the setting value. The k_{vs} -value states the flow Q at a maximum lift, i.e. at fully open valve at setting N.

See specific data sheets RA-N pre-setting valves for further technical information.

Danfoss Icon™ Dial, 230 V on-wall version

Danfoss Icon™ is a range of flush and surface mounted room thermostats for hydronic floor heating applications.

Danfoss Icon™ Dial is mains powered and can be used as a stand-alone thermostat or in combination with wiring center 088H0016.

The thermostat uses a relay output and can control up to 5 thermal actuators.

The user can set the desired room temperature with the dial, in a range from 5 °C to 30 °C.

The dial can be removed, allowing limitation pins to be used to limit the setpoint range.

Features

- ON/OFF control
- Inwall version compatible with a wide range of 3rd party wall frames
- Range limitation via pins
- Neutral design and simple user interface
- Frost protection setting
- Can be used with 230 V NC or NO actuators
- Includes thermal accelerator
- Very high UV-resistance

Technical specifications

Type	Dial
Temperature setting range	5 °C to 30 °C (frost protection setting = 5 °C)
Ambient temperature, storage	-20 °C to +60 °C
Ambient temperature, used in application	0 to 40 °C
Controller, type	On/Off with thermal accelerator
Max. continuous load (output)	< 50 mA / 10 W (= 5 pcs. Danfoss TWA actuators)
Max. inrush current (actuator)	3 A ≤ 100 ms
Power consumption	0,4 W
Power supply (excl. actuators)	220–240 V, 50/60 Hz
Sensor, room	47 kΩ, NTC
Shell material	White parts: PC ASA Grey parts: PC, 10% glass
IP and Protection class	IP: 21 Protection class: II
ErP class	 (1%)
Colour	White RAL9010 / Dark Grey RAL7024
Dimensions, on-wall version	86 x 86 x 25 mm

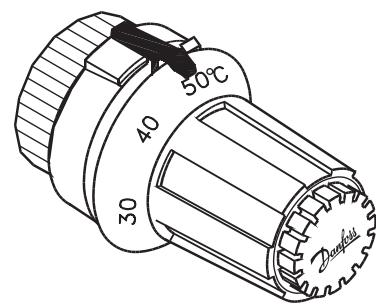
**FTC
Temperature controller**

FTC is a self-acting thermostatic sensor used for flow temperature control of floor heating.

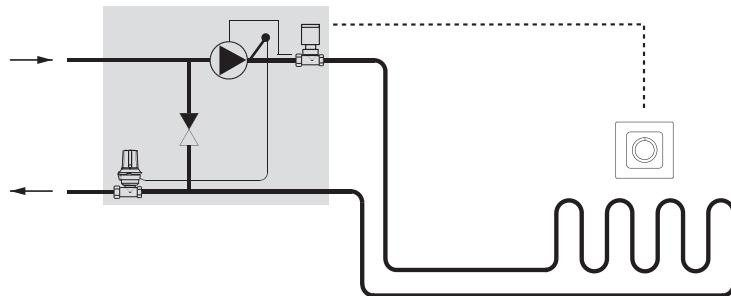
The water temperature is measured by a surface sensor. The snap-lock connector of the sensor element secures a firm connection to the valve.

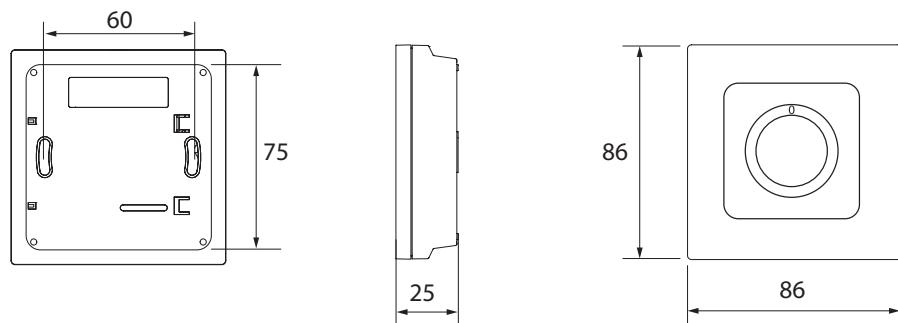
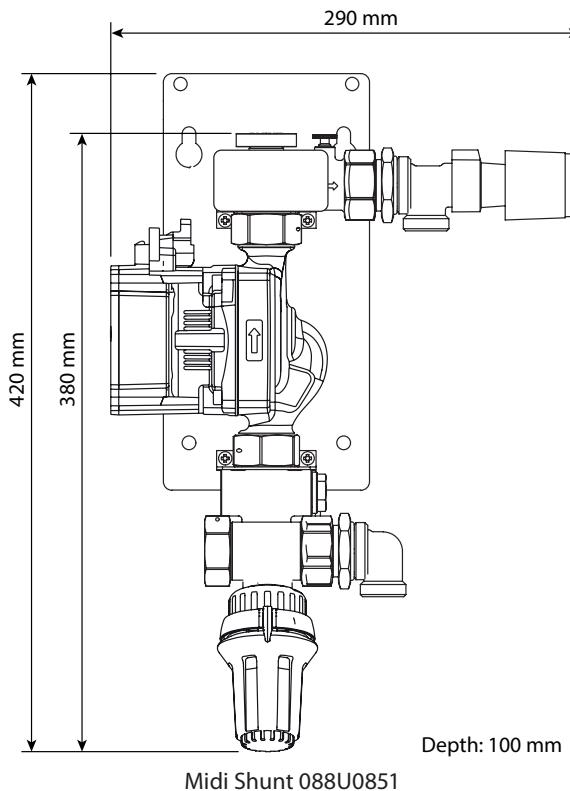
Features:

- Closes on rising sensor temperature
- Temperature range: 15 °C to 50 °C



Product	Type	Code no.
Thermometer controller (15 °C to 50 °C)	FTC	013G5081

System

Dimensions

Danfoss Icon™ Dial 088U1005

Danfoss A/SHeating Segment • danfoss.com • +45 7488 2222 • E-Mail: heating@danfoss.com

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