ENGINEERING
TOMORROW

Data Sheet

Danfoss Aero® Tamperproof thermostatic sensors series

Application

The Danfoss Aero® series is a comprehensive portfolio of premium quality thermostatic sensors, produced in Denmark.

The tamperproof version of Danfoss Aero® thermostat is used for room temperature control in public buildings, e.g. government o˜c es, hospitals, schools, etc.

Danfoss Aero® thermostats use a unique gas ÿlled technology, that gives the fastest reacting self-acting thermostat in the world.

The Danfoss Aero® thermostat is installed onto a radiator valve. The combination of the thermostat and radiator valve, controls the individual room temperature at a given setpoint by adjusting the ¸o w of hot water through the radiator.

The tamperproof version of Danfoss Aero® thermostat is applicable to all types of water-based heating systems.

The use of Danfoss Aero® gas-ÿlled thermostats is highly recommended for applications with small P-band (1K).

Danfoss Aero® series includes:

- Tamperproof thermostats with built-in or remote sensor for radiator valves and radiators with integrated valves, type Danfoss RA.

Features:

- Gas technology - fastest and most precise temperature control
- Highest-class Control Accuracy (CA 0.2 K) per amended EN215
- Robust design, dedicated for industrial, commercial and public buildings
- Facilities for limiting and locking temperature set-point
- Frost protection setting
- Theft protected

Quality

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Danfoss Aero® thermostatic sensors are certiÿed according to the European standard EN 215.

All Danfoss radiator thermostats are manufactured in factories, assessed and certiÿed by by BVC (Bureau Veritas Certiÿcation) against ISO 9001 and ISO 14001.

Technical data

Type	Sensor	Response time	Hysteresis (C)	Water temperature inuence (W)	Control Accuracy (CA)
Aveo RA	Built-in	12 mins	0.40 K	0.45 K	0.2 K
Aveo RA	Remote	12 mins	0.40 K	0.20 K	0.2 K

Ordering and Speciÿcation

Type	Model	Sensor	Cap. tube	Set point range	Connection	Zero blocking	Limiter pins	EN215 Certiÿed	Code no.
Aero RA	Tamperproof	Built-in		7-28˝C	RA		✓	✓	**015G4540**
Aero RA	Tamperproof	Remote	0-2m	7-26˝C	RA		✓	✓	**015G4542**
Aero RA	Tamperproof / Limited	Built-in		7-21˝C	RA		✓	✓	**015G4544**

Accessories

Accessories		Code no.
	Limiting pins for tamperproof sensors (30 pcs).	**013G1237**
	Anti-theft plugs (50 pcs.)	**013G1232**
	Toolkit comprising Allen key & locking pin tool	**013G1236**
	Coverplate for scale, white (20 pcs.)	**015G4952**

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Construction

1 Actuator
2 Gas filled bellow
3 Setting handle
4 Setting spring
5 Pressure spindle
6 Capillary tube
7 Remote sensor

Operating Principle

Thermostatic sensors are proportional controls, regulating the heat supply in relation to the difference between the temperature set on the sensor and the temperature of ambient air, detected by the thermostat.

The thermal expansion element (bellow) responds to room temperature by expanding or contracting proportionally. The movement is transmitted onto the control element of the thermostatic valve.

The thermostatic sensor controls the amount of water which flows into radiator to the suitable flow level that is required to maintain the room temperature on the set level.

Danfoss Aero® series of thermostatic sensors are fitted with gas-filled bellows, ensuring fast response time to changing ambient temperature.

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Setting the temperature

The required room temperature is set by turning the setting dial. The temperature scales below shows the correlation between scale values and the room temperature. The temperature values stated are for guidance only as the obtained room temperature will often be in¸uenc ed by installation conditions.

Locking and limitation of the temperature set-point of the Danfoss Aero® thermostats are carried out using the limiter pins placed at the back of the sensor.

The procedure is described in the instruction.

Danfoss Aero®

Setting position

❄	1	2	3	4	5	
7	14	17	20	23	26	°C

Room temperature

❄ = Frost protection setting

Danfoss Aero® 015G4544

Setting position

❄	1	2	3	
7	14	17	20	°C

Room temperature

❄ = Frost protection setting

Choose the right sensor

The thermostatic sensor should be selected on the basis of the following criteria:

The thermostat must always be able to register the temperature of the ambient air.

Radiator thermostats with built-in sensors
These should always be ÿtted horizontally so that the ambient air can pass freely over the sensor. Danfoss does not recommend the ÿtting of a built-in sensor in vertical position because heat e˙ ect from the valve body and possibly surface pipes will cause incorrect operation of the thermostat.

Radiator thermostats with remote sensor
These should be used when:
- Curtains cover the thermostat
- Thermostat is a˙ ected by surface pipes
- Thermostat is a˙ ected by draught
- It is necessary to mount the thermostat in vertical position if there are adjacent obstructions.

The remote sensor must be mounted on the wall, away from curtains, or on the skirting board beneath the radiator if free of surface pipes.

All remote sensors are now supplied with ultra-thin capillary tube. Simply pull out the length required (2 m maximum) and ÿx using clips provided or a special tacker gun.

Dimensions

Danfoss Aero® RA
Tamperproof

Danfoss Aero® RA
Tamperproof with remote sensor

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