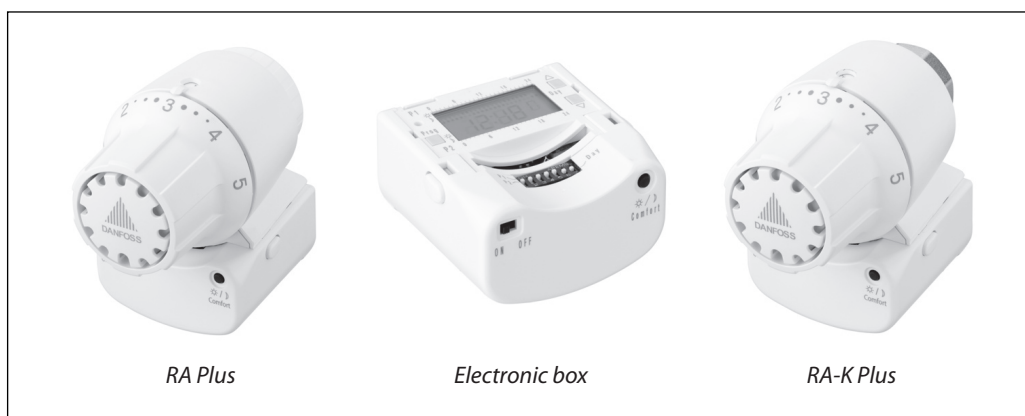


Data Sheet

Programmable radiator thermostat RA PLUS

Application



RA-PLUS is a programmable radiator thermostat that enables users to lower the individual room temperature by approx. 3° C during selected periods of the 24 hours of a day, thereby reducing heat consumption without any detrimental effects on comfort.

The thermostat features two timer programs – one of them could be used for workdays and the other one for weekends. Up to three heating periods can be preset per day.

The electronics box of the thermostat is easy to remove, thereby allowing access to function buttons and LCD display for clear and convenient checks or modifications to programs and heating periods. The integral batteries have a four-year service life.

If the electronics box is turned off or has been removed, the thermostat functions as a normal proportional regulator with a narrow P-band. The thermostat has integral frost protection.

This thermostat is available in versions for new and older Danfoss valves and for valves with M30 x 1.5 connection.

The colour is RAL 9010 (white)

Ordering and technical data

Programmable radiator thermostats

Type	Fits valve body	Temperature range*	Code no.
RA-PLUS	Danfoss RA 2000	8-28 °C	013G2750
RA/V-PLUS	Danfoss RAV	8-28 °C	013G2780
RA/VL PLUS	Danfoss RAVL	8-28 °C	013G2790
RA-K PLUS	M30 x 1.5 connection	8-28 °C	013G2730

* At $X_p = 2$ K. (Temperature at which the valve shuts off)

Accessories

Product	Code no.
Anti theft protection clips, 20 pcs.	013G5245
Special tool to stop the anti-theft protection	013G1231

Technical data of the electronics box

Programmes	2, each with 3 daily heat periods
Factory setting	P1: Heat 6-8 and 16-22 P2: Heat 7-22
Battery voltage	3 Volt
Batteries*	2 x type MN1500/LR6/AA
Battery life time	Approx. 4 years. Acoustic warning 14 days before batteries are exhausted.
Surrounding temperature	0 to 45° C
Transport temperature	-20 to 60° C
Protection class	IP40
Weight, thermostat and box	325 g
Approvals	EMC,

Temperature setting

The diagram shows the thermostat unit with a dial and a temperature scale. The scale has two rows of numbers: 10, 14, 18, 22, 26, 30 °C on top and 8, 12, 16, 20, 24, 28 °C on the bottom. A star symbol is placed above the number 1. Below the scale, there are two diagrams of a valve with labels $X_p = 0\text{ K}$ and $X_p = 2\text{ K}$.

The required room temperature can be obtained by turning the handle of the thermostat unit.

The room temperatures that correspond to the setting figures on the units can be seen from the temperature scales. Indications are for guidance only, since the room temperatures obtained are often affected by such factors as the conditions of unit integration.

The temperature scales are stated according to European standards at $X_p = 0$ and $X_p = 2^\circ\text{C}$.

$X_p = 0^\circ\text{C}$ is the room temperature at which the valve shuts off, while $X_p = 2^\circ\text{C}$ shows the room temperature in the case of a proportional band of 2°C .

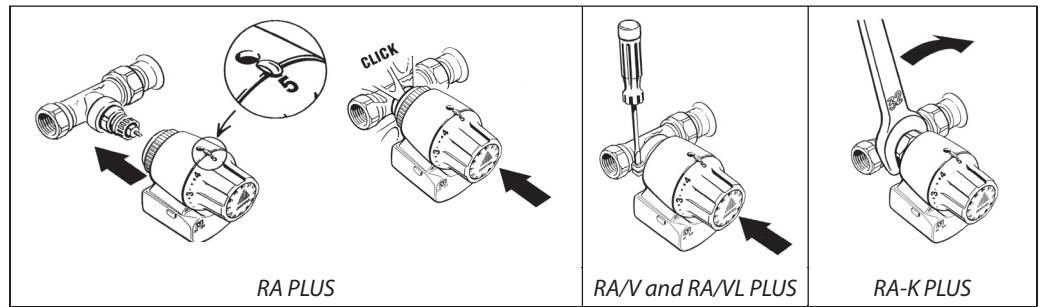
The effective, obtainable room temperature and lowering temperature depend on such factors as the heat installation, the room and the duration of the temperature lowering period.

The electronics box in RA-PLUS can reduce the temperature settings by approx. 3°C if required.

Construction

1. Sensor medium
2. Bellows
3. Protective spring
4. Setting mark
5. Spindle
6. Base
7. Setting lever
8. Limiter
9. Cogwheel
10. Electronics box
11. Motor

Mounting



RA PLUS with snap-on coupling is easy to mount and requires no use of tools, once the valve cover has been removed. The unit is fitted to the valve by applying a gentle pressure. When the unit is in place, the snap-on mechanism is activated and the unit has been correctly mounted. The snap-on mechanism has been tightened at the works, ready for mounting. If mounting and dismantling are carried out again, the mechanism must be tightened manually by turning the tightening ring.

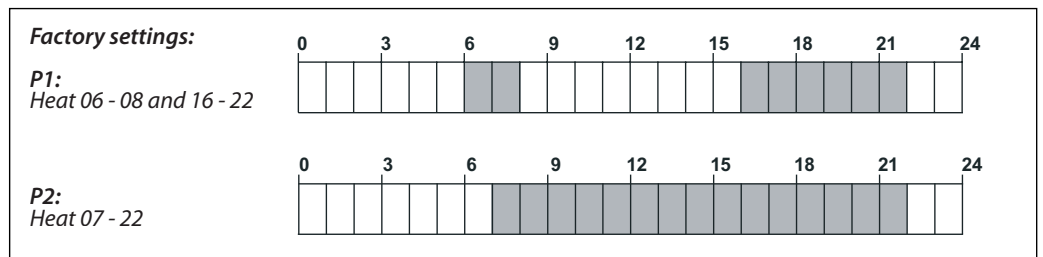
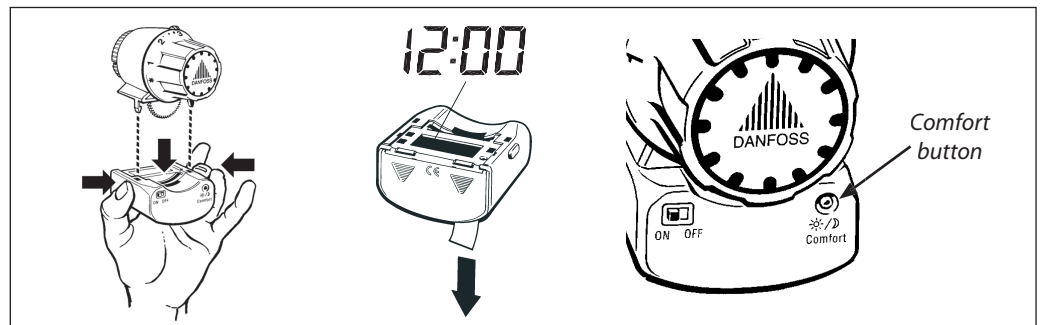
RA/V and RA/VL PLUS have a tightening clamp that is fitted round the valve neck.

RA-K PLUS is mounted with an open-end spanner.

Instructions for installation are enclosed with each product.

The sensor should always be placed where the air can circulate freely around it.

Start-up



As standard, the electronics box batteries are protected by an insulating strip. Once this strip has been removed, the factory-set program is activated and the clock says 12.00.

The factory setting for program 1 (P1) is heat from 06-08 and again from 16-22. Program 2 (P2) has been set to provide heat from 07-22.

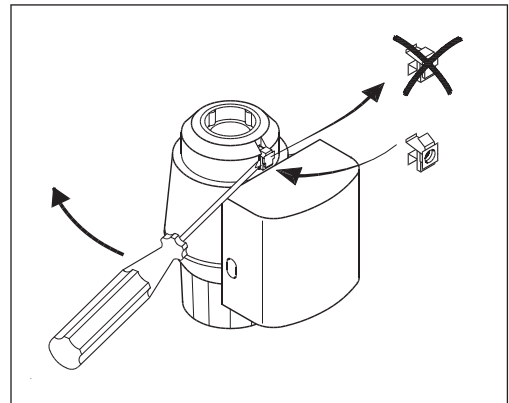
When the ON/OFF button has been set to ON, the program associated with the given day of the week is run. The display shows the current status.

Each time the comfort button is activated, the mode changes immediately, e.g. from heat to temperature-lowering period or the other way round. This override function is maintained until the next change of mode.

Setting of clock and programming: See the user instructions.

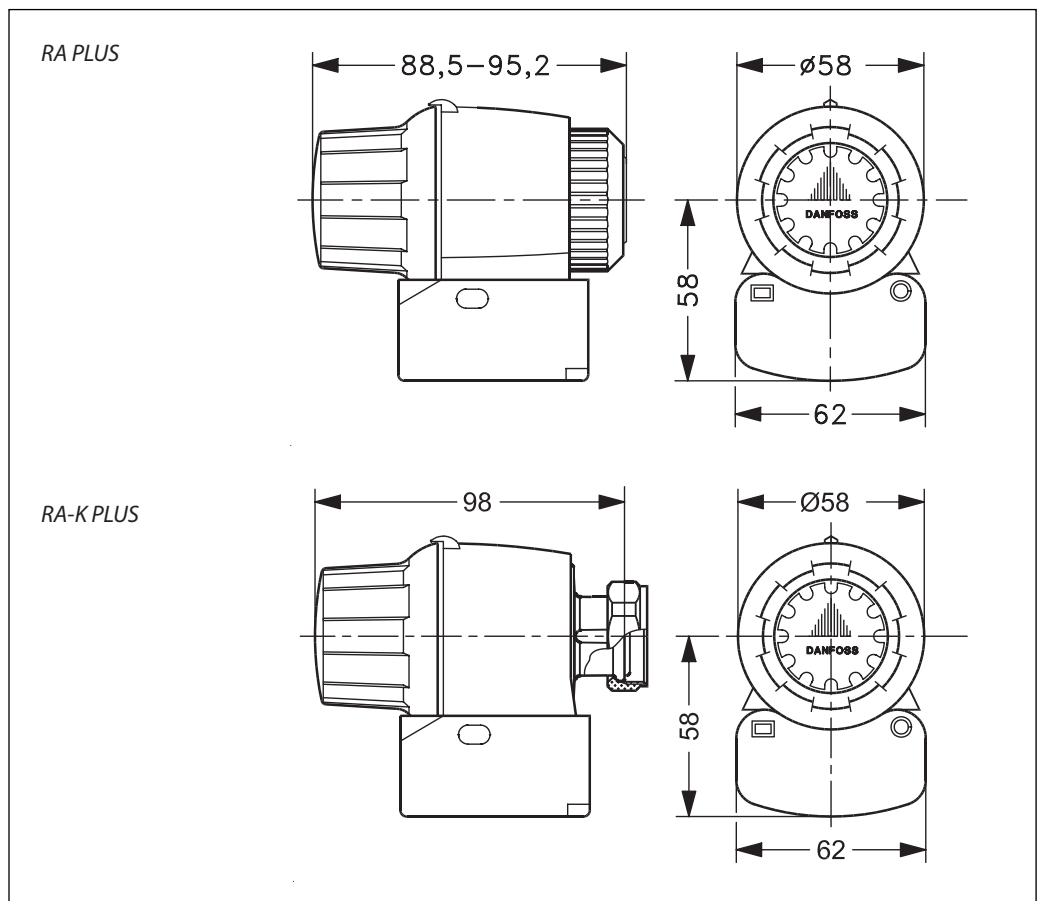
Anti-theft protection

RA-PLUS with snap-on coupling can be protected against unintended dismounting. An anti-theft protection unit is placed in the lock ring instead of the cover plate. The anti-theft protection is activated when the unit has been mounted. The protection can only be stopped using Danfoss' special tools.



Product	Code no.
Burglar protection unit	013G5245
Special tool	013G1231

Dimensions



Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.