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

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

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

### Accessories

<table>
<thead>
<tr>
<th>Product</th>
<th>Code no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti theft protection clips, 20 pcs.</td>
<td>013G5245</td>
</tr>
<tr>
<td>Special tool to stop the anti-theft protection</td>
<td>013G1231</td>
</tr>
</tbody>
</table>
Technical data of the electronics box

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

Temperature setting

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 $X_p = 2° C$.

$X_p = 0° C$ is the room temperature at which the valve shuts off, while $X_p = 2° C$ 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
**Data sheet**  
Programmable radiator thermostat RA PLUS

## 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  
dismounting are carried out again, the mecha-  
nism 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  
averted 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.

<table>
<thead>
<tr>
<th>Product</th>
<th>Code no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burglar protection unit</td>
<td>013G5245</td>
</tr>
<tr>
<td>Special tool</td>
<td>013G1231</td>
</tr>
</tbody>
</table>

Dimensions

RA PLUS

RA-K PLUS