

## Data Sheet

# living eco<sup>®</sup>, Electronic Radiator Thermostat

### Application



*living eco*<sup>®</sup> is a stand-alone intelligent electronic and programmable radiator thermostat for residential use.

*living eco*<sup>®</sup> is easy to install and is supplied with adapters for all thermostatic valves manufactured by Danfoss and most other radiator valve manufacturers.

*living eco*<sup>®</sup> is battery powered, compact and very easy to operate with only three buttons.

### Features:

- Energy savings
- Easy to install
- Easy to operate - only three buttons
- Provides high comfort
- Open window function
- Valve exercise function
- PID control (precise control)
- Adaptive learning
- Weekly programs with adjustable temperature set-backs
- Battery lifetime 2 years
- Min./max. temp. limitation
- Child lock
- Holiday/away function
- Frost protection
- Backlit display
- Variable set points and up to 3 set-back periods per day




### Ordering

Adapters (included)	Instruction - languages	Code no.
Danfoss RA	UK/DE/DK/NL/FR/PL/SE/FI	<b>014G0050</b>
Danfoss RA / K	UK/DE/DK/NL/FR/PL/SE/FI	<b>014G0051</b>
Danfoss RA / K	UK/CZ/RU/TR/HU/HR/SI/IT	<b>014G0052</b>
Danfoss RA / K	UK/DE/DK/NL/FR/PL/SE/FI	<b>014G0064</b>
Danfoss RAV and RAV/RAVL/K	UK/DK/DE/FR	<b>014G0070</b>






### Accessories

Type	Code no.
Adapters for RAV & RAVL valves	<b>014G0250</b>
Adapter for RA valves	<b>014G0251</b>
Adapter for K valves	<b>014G0252</b>
Adapter for RTD valves	<b>014G0253</b>
Adapter for M28 MMA valves	<b>014G0255</b>
Adapter for M28 Herz valves	<b>014G0256</b>
Adapter for M28 Orkli valves	<b>014G0257</b>
Adapter for M28 COMAP valves	<b>014G0258</b>

**Specifications**

Thermostat type	Programmable electronic radiator valve controller
Recommended use	Residential (pollution degree 2)
Actuator	Electromechanical
Display	Grey digital with backlight
Software classification	A
Control	PID
Power supply	2 x 1.5 V alkaline AA batteries
Power consumption	3 $\mu$ W in standby 1.2 W when active
Battery life	2 years
Low battery signal	Battery icon will flash in display. If battery level is critical, the whole display will flash.
Ambient temperature range	0 to 40 °C
Transportation temperature range	-20 to 65 °C
Maximum water temperature	90 °C
Temperature setting range	4 to 28 °C
Measurement interval	Measures temperature every minute
Clock accuracy	+/- 10 min/year
Spindle movement	Linear, up to 4.5 mm, max. 2 mm on valve (1 mm/s)
Noise level	<30 dBA
Safety classification	Type 1
Open-window function	Activated at temperature decrease of approx. 0.5 °C over 3 minutes
Weight (incl. batteries)	177 g (with RA adapter)
IP class	20 (not to be used in hazardous installations or in places where it will be exposed to water)
Approvals, markings etc.	  

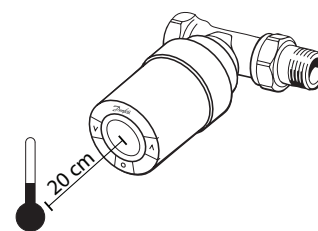
**Pre-installed Programmes**

	Programme without automatic temperature reduction. This programme maintains the temperature constant all day and night.
	Saving programme which as default lowers the temperature to 17 °C at night (22:30 - 06:00 hrs). Time and temperature are configurable.
	Extended saving programme which as default lowers the temperature to 17 °C at night (22:30 - 06:00 hrs), and during the day on weekdays (08:00 - 16:00 hrs). Time and temperature are configurable.
	Travel programme which lowers the temperature when you are away. Time and temperature are configurable.
	Frost protection programme. The thermostat will maintain a constant temperature of 4-10 °C in the room, ensuring frost protection.

**Measuring the room temperature**

living eco<sup>®</sup> is measuring the temperature with two built-in sensors - one behind the display and one near the valve.

Based on both readings the room temperature is calculated for an area approx. 20 cm in front of the display. This allows living eco<sup>®</sup> to control the actual room temperature very accurately.



Be aware that sources of cold or heat, e.g. fire-place, direct sun or draft, might affect the function of living eco<sup>®</sup>.

*Note! The displayed temperature is always the set temperature, not the actual room temperature.*

**Main features**

**Open-window function**

living eco<sup>®</sup> features an Open-window function, which closes the valve if the room temperature is falling dramatically, thus reducing the heat loss. The heat is turned off for up to 30 minutes, before living eco<sup>®</sup> returns to its original settings. When Open-window has been activated, the function is quarantined for 45 minutes.

**Intelligent Control (Forecast)**

During the first week of operation living eco<sup>®</sup> learns when it is necessary to start heating the room in order to reach the correct temperature at the correct time.

The intelligent control will continuously adjust the heating time compared to seasonal temperature changes.

**Adjusting to the valve**

During the first night of operation living eco<sup>®</sup> will shut off the radiator heat and then open again to detect the exact opening point of the valve. This will allow living eco<sup>®</sup> to control the heat as efficiently as possible. If necessary, the procedure is repeated once a night for up to a week.

**Automatic valve exercising**

To keep the radiator valve functional and at its best, living eco<sup>®</sup> automatically exercises the valve every Thursday at approx. 11:00 hrs by opening it fully and then return to normal setting.

You might experience the valve being warm during the adjustment procedure, regardless of the room temperature.

**Daylight saving time**

As default living eco<sup>®</sup> will automatically shift between daylight saving time and normal time. If necessary, the daylight saving time function can be disabled.

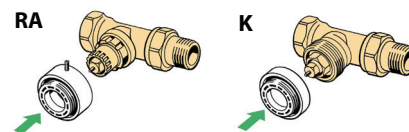
**Child lock**

Activating the child lock feature will protect the settings from tampering.

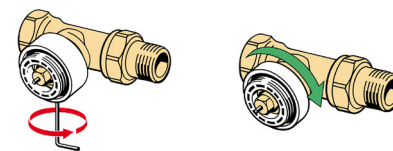
**Installation**

⏏ must be flashing on the display before installation.

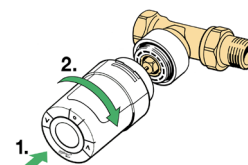
1. Start by mounting the appropriate adapter.



2. Tighten RA adapter using the 2 mm Allen key. Hand-tighten K adapter (max. 5 Nm).

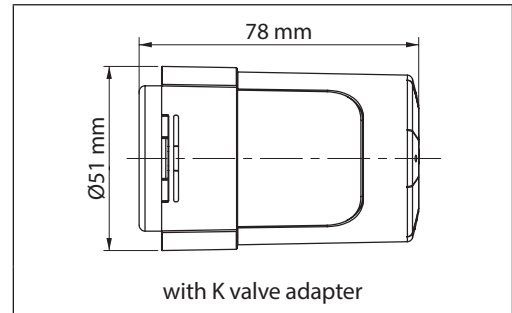
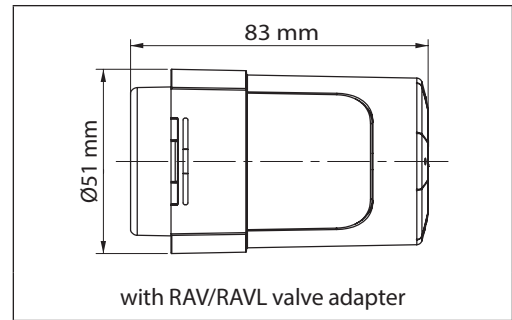
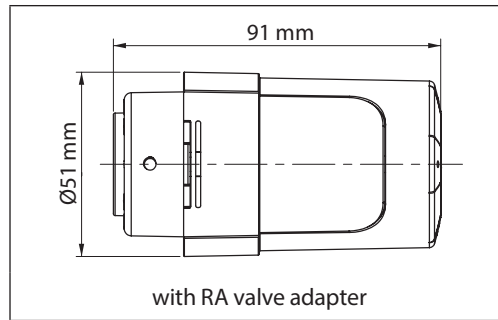


3. Screw the thermostat onto the adapter and tighten by hand (max. 5 Nm).



4. Activate Installation Mode to fix living eco<sup>®</sup> correctly onto the valve:  
 Press for 3 seconds to select the Function Menu, then use to select ⏏.  
 When ⏏ flashes, press .

Dimensions



**Danfoss A/S**

Heating Solutions

Haarupvaenget 11

8600 Silkeborg

Denmark

Phone: +45 7488 8000

Fax: +45 7488 8100

Email: [heating.solutions@danfoss.com](mailto:heating.solutions@danfoss.com)

[www.heating.danfoss.com](http://www.heating.danfoss.com)