

## Data Sheet

# Danfoss Eco™

## Programmable radiator thermostat for smartphone

## Application



Danfoss Eco™ is a stand-alone radiator thermostat for residential use.

Danfoss Eco™ is battery powered, compact and easy to operate with a manual hand wheel and single button. Danfoss Eco™ is programmed with a smartphone App using Bluetooth connectivity.

Danfoss Eco™ is easy to install, in just 30 seconds! Adapters are available for all thermostatic valves manufactured by Danfoss and most other radiator valve manufacturers.

## Features:

- Easy App programming via Bluetooth on smart phone or tablet
- Energy savings
- Easy to install
- Easy to operate
- Manual mode
- Open-window function
- PID Accurate temperature control
- Adaptive learning
- Night & day set-back, Weekly scheduling, Holiday and Pause
- Easy to read LCD display
- Display rotation -180 degrees
- Min./max. temp. range
- Child lock
- Frost protection

## Ordering

	Language	Adapters (included)	Code no.
Danfoss Eco™ Installer Pack	DK	RA (pre-mounted)	014G1000
	FR, ES, IT, SE, PT, BG, NL, FI, LT, LV, EE, SK, NO, SI, HR, RO, HU, CZ, PL, TR, UA, UK	RA, M30	014G1001
	CH	RA, M30	014G1002
	RU	RA, M30	014G1003
	UK (Combi, Bi-Di valve)	RA (pre-mounted)	014G1020
	UK (Combi, Bi-Di valve, RLV-D)	RA (pre-mounted)	014G1021
Danfoss Eco™ Retail Pack	DK	RA, M30, RAV, RAVL	014G1100
	DE	RA, M30, RAV, RAVL	014G1101
	FR	RA, M30, M28 Comap	014G1102
	HU, HR, RO, SK, UA	RA, M30, RTD	014G1103
	IT	RA, M30, Caleffi, Giacomini	014G1104
	PL, CZ, LT, EE, LV, SI	RA, M30, RTD	014G1105
	NL, BE, NO, FI, IS, TR	RA, M30	014G1106
	ES, PT	RA, M30, M28 Orkli	014G1107
	UK	RA, M30	014G1108
	AT	RA, M30, RTD, M28 Herz	014G1109
	SE	RA, M30, M28 MMA	014G1110
	RU	RA, M30, M28 Herz, Giacomini	014G1111
	UK, DE, CH, AT, DK, FR, IT, PL, CZ	RA, M30, RAVL, RAV	014G1115





## Data Sheet

## Danfoss Eco™ Programmable Radiator Thermostat

## Accessories

Type	Code no.
Adapters for RAV and RAVL valves	<b>014G0250</b>
Adapter for RA valves	<b>014G0251</b>
Adapter for K (M30 x1.5) valves	<b>014G0252</b>
Adapter for RTD valves	<b>014G0253</b>
Adapter for M28 MMA valves	<b>014G0264</b>
Adapter for M28 Herz valves	
Adapter for M28 COMAP valves	
Adapter for M28 Orkli valves	<b>014G0257</b>
Adapter for Caleffi valves	<b>014G0263</b>
Adapter for Giacomini valves	






## Specifications

Thermostat type	Programmable electronic radiator valve controller
Recommended use	Residential (pollution degree 2)
Actuator	Electromechanical
Display	LCD with white backlight
Software classification	A
Control	PID
Power supply	2 x 1.5 V alkaline AA batteries
Power consumption	3 mW in standby, 1.2 W when active
Transmission Frequency / Power	2,4 GHz / <2,1mW
Battery life	Up to 2 years
Low battery signal	Battery icon will flash in display. If battery level is critical the red ring 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
Weight (incl. batteries)	198 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.	   

## Data Sheet

## Danfoss Eco™ Programmable Radiator Thermostat

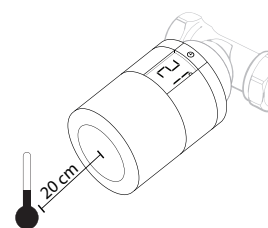
### App Advanced Settings

  	<p>The App allows free selection of temperatures for 'At Home', 'Away/Asleep' and Vacation. Schedules allow for up to 3 setback periods per day and unique schedules as needed throughout the week.</p> <p>If Danfoss Eco™ is not paired to a smartphone then the default schedule will be used until the manual wheel is turned.</p>
	<p>When selected on the App, the Danfoss Eco™ will control temperature according to the programmed Vacation temperature. It is possible to select a Vacation temperature between 5 and 28 °C.</p>
	<p>Pause setting - Danfoss Eco™ has been turned down to minimum temperature manually or on App home screen, a center icon switches to Pause.</p>

### Measuring the room temperature

Danfoss Eco™ is measuring the temperature with multiple built-in sensors to ensure accurate control. Based on these readings the room temperature is calculated for an area approx. 20cm in front of the display. This allows Danfoss Eco™ to control the actual room temperature very accurately.

Be aware that sources of cold or heat, e.g. fireplace, direct sun or draft, might affect the function of Danfoss Eco™.



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

### Main features

#### App Scheduling

Easy App programming via Bluetooth on smart phone or tablet. Up to 3 setback periods per day and the option to copy the schedule across to other days.

#### Software Updates

Software updates are automatic, prompted via the App. The data security of the Danfoss Eco™ thermostat and App that is paired to your smartphone is guaranteed. The system is tested by independent specialists.

#### Open-window function

Danfoss Eco™ features an Open-window function, which closes the valve if the room temperature is falling dramatically, thus reducing the heat loss. The radiator heat is shut off for up to 30 minutes, before Danfoss Eco™ returns to its original settings. When Open-window has been activated, the function is quarantined for 45 minutes.

#### Adjusting to the valve

During the first night of operation Danfoss Eco™ will shut off the radiator heat and then open again to detect the exact opening point of the valve. This will allow Danfoss Eco™ to control the heat as efficiently as possible. If necessary, the procedure is repeated once a night for up to a week.

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

#### Child lock

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

#### Adaptive learning

During the first week of operation Danfoss Eco™ 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.

#### Automatic valve exercising

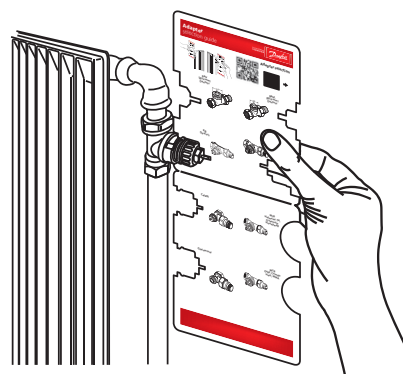
To keep the radiator valve functional and at its best, Danfoss Eco™ automatically exercises the valve every Thursday at approx. 11:00 hrs by fully opening and then returning to its normal setting.

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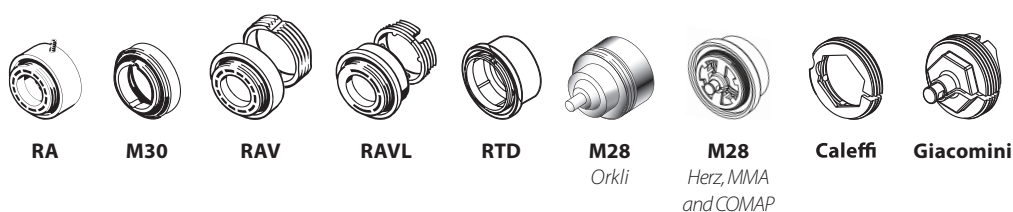
## Danfoss Eco™ Programmable Radiator Thermostat

### Installation

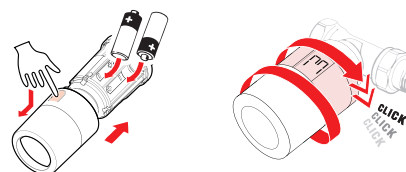
1. Start by mounting the appropriate adapter. Identify the needed adapter with the adapter guide.



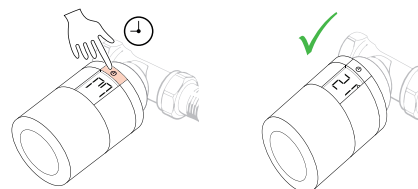
#### Adapters



2. Insert the batteries, then mount the thermostat onto the adapter by turning it until you hear a click.



3. Press and hold the button for 3 seconds. The Danfoss Eco™ is now mounted and will display the current temperature.



4. Download the Danfoss Eco™ App from Apple App Store or Google Play Store.



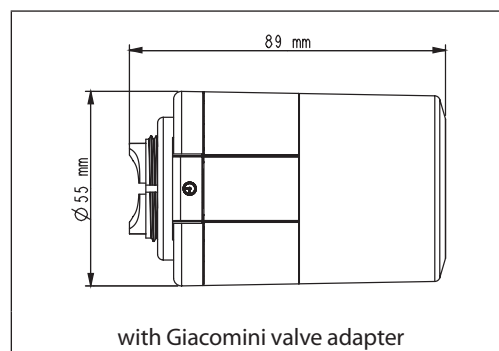
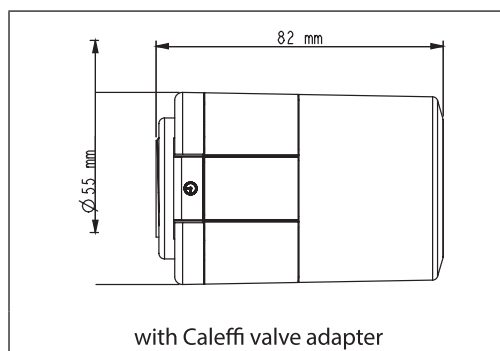
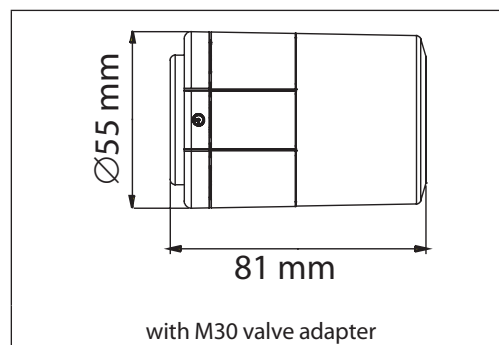
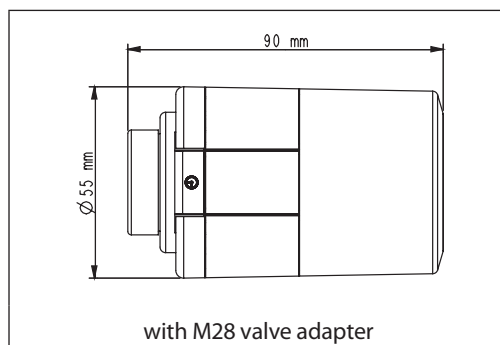
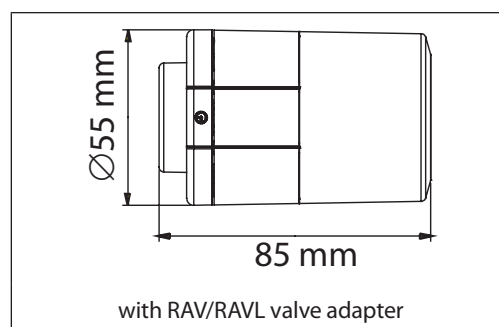
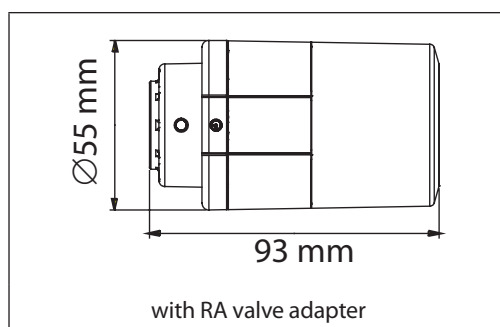
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## Data Sheet

## Danfoss Eco™ Programmable Radiator Thermostat

### Dimensions



### Danfoss A/S

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