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UK

DK

For further information, please see www.danfoss.com/living

1.1 Preparation

UK

DK

living eco[®] is supplied with adapters for Danfoss RA valves and valves with M30x1.5 (K) connections, two alkaline AA batteries and a 2 mm Allen key.

Inserting the batteries

Remove the battery cover and insert the two batteries. Make sure the batteries are correctly oriented.






Setting the time and date when you start using *living eco*[®]

Once the batteries are installed The time will flash on the display - 23:59.



Set the time

Set hours using   and press 
Set min. using   and press 

Set date


Set date using   and press 
Format: day/month/year (DD/MM/YYYY).

Confirm setting

When  flashes, press  to confirm.





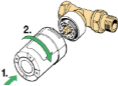


1. Installation

1.2 Installing *living eco*®

 **⏏** must be flashing on the display prior to installing.
If **no**, see installation mode on page 19.

UK

DK

1. Start by mounting the adapter.	RA 	K 
2. Tighten RA adapter using the Allen key. Hand-tighten K adapter (max. 5 Nm).	 2 mm Key	
3. Screw the thermostat onto the adapter and tighten by hand (max. 5 Nm).		
4. Press  for approx. 3 seconds to enter the function menu.		
5. A small ⏏ flashes, press  to fix the thermostat.		

2. Getting started...

2.1 Thermostat display

UK

DK

The black dashed circle on the display shows a 24-hour dial. The black segments represent periods of comfort temperature, 21°C (default setting), and the 'empty' segments represent setback periods, where the temperature is 17°C (default setting). The display also shows the set temperature and current program.

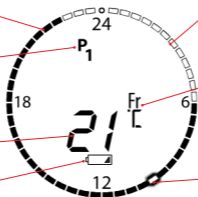
24-hour dial

Half hour segments

Shows the **program** the thermostat is running (e.g. P1).

Programmed temperature

Battery symbol





Setback period

22:30 - 06:00 hrs
17°C

Weekday

Flashes at the **current time**

2.2 Thermostat buttons

The thermostat has two arrow buttons   which allow you to navigate the display, menus and set the temperature.

Use  to select and confirm.



2. Getting started...

2.3 Display symbols




Symbols flash when they can be activated.

UK

DK

PROGRAMME MENU

- P₀** Programme with **no** automatic temperature reduction – maintains a constant temperature all day and night. You select the temperature.
- P₁** Saving programme which **lowers** the temperature to 17°C at night (22:30 - 06:00 hrs). Saving programme is configurable.
- P₂** Extended saving programme which **lowers** the temperature to 17°C at night (22:30 - 06:00 hrs), and during the day on weekdays (08:00 - 16:00 hrs). Saving programme is configurable.
-  Travel programme which **lowers** the temperature when you are away. You select the period and the temperature.

FUNCTION MENU



Installation mode (see page 19)



Child lock



Set the max and min temperature range



Set time and date

OTHER SYMBOLS



Back



Confirm selection



Battery symbol (indicates low battery)





Period setting for the travel programme

UK


DK

3.1 Adjusting the temperature

Set the desired temperature by pressing  . Default setting is 21°C.

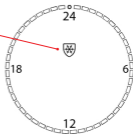
This also allows the temperature to be changed temporarily during a setback period, without having to change the program or period.



 If the comfort temperature is changed, e.g. from 21°C to 22°C, *living eco*® will remember this change, and the comfort temperature will remain 22°C after the next setback period.

3.2 Frost protection, 6°C

This symbol is displayed if you set the thermostat to its lowest setting. This means that the thermostat will maintain a constant temperature of 6°C in the room, ensuring frost protection.

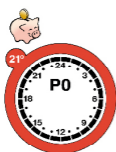


3.3 Programmes

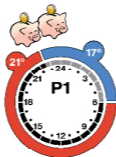
When you start using the thermostat it is set to use program **P1**. You can select the programme which best matches your family's requirements.

UK

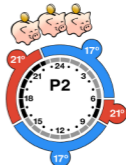
DK



P0 - constant temperature of 21°C all day and night.



P1 - one setback period at 17°C every night from 22:30 - 06:00 hrs



P2 - two setback periods at 17°C every night from 22:30 - 06:00 hrs and all weekdays from 08:00 - 16:00 hrs

3.4 Selecting the programme

Select programme menu

If the display is off, press . Then press briefly to open the programme menu.

Selecting the programme (P0, P1 or P2)

Switch between programmes using . Select using .

Confirm setting


When flashes, press to confirm.

3.5 Adjusting the setback period in programme P1 or P2



UK

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The thermostat default setting is one setback period for P1 and two setback periods for P2. You can adjust the setback periods so they match your family's requirements.

 **NB** - when *living eco*[®] is set to change from 17°C to 21°C, e.g. at 06.00 hrs, the thermostat will learn when to start heating in order for the temperature to reach 21°C at 06.00 hrs.

Select
programme
menu



If the display is off, press  to activate. Then press  briefly to open the programme menu.


Select
programme
(P1 or P2)

Press   to highlight the desired programme. When the programme flashes, press  to select it.

Weekdays for
setback period

Mo	Tu	We	Th	Fr	Sa	Su
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday



You can select to adjust the setback period for the weekend, all weekdays, or a single day. Use   to select the desired period.

When the desired period flashes, press  to select it.

(continues on next page)




3. More features

Setback period interval




You are using   to move around the 24-hour dial. For example when moving from one setback period to the next setback period.

start stop




00:00_06:00




Use   to move between the start and stop times. The time flashes **slowly** when it can be selected. Select time using 


Once the time has been selected it flashes **faster** to indicate it can now be adjusted.

Set the start and stop time using  
Once the time is chosen, confirm using 

Change temp. if required

The temperature now flashes. Set the temperature using  . Once the desired temperature is chosen, confirm using 
✓ now flashes.

(If you do not wish to change the setback period, press  so that the  symbol flashes, and then select using . You will be returned to the weekdays for setback period selection menu.)

Press  to approve the entire setback period.

Confirm setback period

✓ flashes. Press  to run the selected programme.

UK

DK

3.6 Deleting a setback period

You can delete a setback period by minimising it to half an hour. All segments on the timer dial will then become black.

UK

DK

Example

In this **example** the setback period is Monday, 08.30-16.00 hrs. To cancel the setback period, set the start time to 15.30 hrs.



Select programme menu

If the display is off, press to activate. Then briefly press to open the programme menu.

Select programme (P1 or P2)

Press to highlight the desired programme. When the programme flashes, press to select it.

Select setback period

Cycle through the weekdays using . When the day(s) you wish to change flashes, press . Cycle through the 24-hour dial using . When the start of the setback period you wish to delete flashes slowly, press to select it.

Clear setback period interval

Use to set the start time so the setback period is half an hour. Once you have changed the start time, press



Confirm deletion

✓ now flashes. Press to approve. You have now deleted the setback period.




3.7 Creating a new setback period in P1 or P2

living eco® also allows you to create your own setback periods in P1 or P2. You can create up to three setback periods each day.

Select programme menu


If the display is off, press  to activate. Then briefly press  to open the programme menu.


Select programme (P1 or P2)

Press   to highlight the desired programme. When the programme flashes, press  to select it.



Weekdays for setback period



Mo	Tu	We	Th	Fr	Sa	Su
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

You can select to adjust the setback period for the weekend, all weekdays, or a single day. Use   to find the desired period.

When the desired period flashes, press  to select it.

Setback period interval

To add another setback period, use   to move around the 24-hour dial to find and select the new start time.

Disregard existing setback periods, just move ahead with   to choose your new setback period.

Confirm the start time by pressing 




3. More features

UK

The stop time now flashes. Set the stop time using  . Once the time is chosen, confirm using .




DK


*Change temp.
if required*

The temperature now flashes. Set the temperature using  , and confirm using .

*Confirm
setback period*

✓ continues flashing.



(If you do not wish to create a new setback period, press  so that the  symbol flashes, and then select using . You will be returned to the weekdays for setback period selection menu.)

Press  to approve the entire setback period.

3.8 Travel programme

The travel programme helps you save energy by reducing the temperature when you are away from home. Simply enter the period of time you will be away, and *living eco*[®] will ensure your normal operating programme is resumed when you return, so you arrive into a warm house.

*Select
programme
menu*

If the display is off, press  to activate. Then briefly press  to open the programme menu.




3. More features

Select
programme

Select  by pressing   until the suitcase flashes. Select using 




UK

Set departure
date




Set departure date using  
Confirm using 

DK




Set return date


Set return date using  
Confirm using 

Change temp.
if required

Press   to change the temperature (default setting is 17°C).
Confirm using 



Confirm setting

When  flashes, press  to confirm.
 is now displayed.



When the departure date arrives, the following is displayed: , set period and temperature.

Early return:

Select
programme
menu

If the display is off, press  to activate.
Then briefly press  to open the programme menu.

Select
programme



Select programme (P0/P1/P2) using  
Confirm using 

3. More features

Changing an existing travel period:

UK

Select programme menu








If the display is off, press  to activate. Press  briefly to open programme menu.

DK




Select programme

Select  by pressing   until the suitcase flashes. Select using 


Change travel period

Select  by pressing   until the clock flashes. Select using . Change the period by pressing  . Select using 

Change temp. if required



Press   to change the temperature. Confirm using 

Confirm setting

Confirm using 

Cancelling set travel period:

Select programme menu

If the display is off, press  to activate. Then briefly press  to open the programme menu.

Select programme

Select  by pressing   until the suitcase flashes. Select using 

Select "OFF"

Select "OFF" using  , confirm using 

3.9 Function menu

FUNCTION MENU



Installation mode. **Always activate** installation mode when installing/removing the thermostat. The thermostat may be irreparably damaged if not in the correct position during installation.



Child lock - allows the buttons to be locked so your settings cannot be changed.

MAX
MIN

Temperature limit - allows you to change the thermostat's temperature range, so you decide what the max and min temperature should be. This is useful, for example, in rooms with public access.



Set time and date - allows the time and date to be changed after the thermostat is in use.

UK

DK


3.10 Installation mode

Select function menu

Press and hold  for 3 sec.

Activate installation mode

Select  using  
 flashes, select using 

Now a large  is flashing in the display. The mode is activated and *living eco*[®] can be mounted.


Deactivate installation mode

Press and hold  for 3 sec.  flashes, press  to deactivate.

3. More features

3.11 Temperature limit


UK

Select function menu Press and hold  for 3 sec.








DK

Select max/min Select **max/min** using  . Press .
Set the max and min temperature using  . Press  to approve.

3.12 Setting the time

Select function menu Press and hold  for 3 sec.


Select clock

Select  using  . Press .
Set time and date using  .
Select and confirm using .



The thermostat automatically changes to/from daylight saving time.

3.13 Child lock




Select function menu Press and hold  for 3 sec.

Activate child lock

Select  using  .
Press .

The child lock is now activated.

Deactivate child lock

Deactivate the child lock by pressing all three buttons (  ) **simultaneously** for at least 5 sec.

3.14 Replacing the batteries

Remove the battery cover and insert two alkaline AA batteries.


Make sure the batteries are correctly oriented.

Rechargeable batteries may **not** be used.



UK


DK

 Programme settings are preserved. Time and date settings are reset after 2 minutes and must then be re-entered.

3.15 Open window function

If the thermostat detects a dramatic drop in temperature, for example due to an open window, it reacts by shutting off the heat. The thermostat returns to its original setting after half an hour, or when the window is closed.

3.16 Reset to factory settings

Remove the battery cover and take out one battery. Press and hold  for approx. 5 seconds, **while** reinserting the battery.

4. Technical settings

UK



ADVANCED MENU



DK

- | | |
|-------|---|
| $d5$ | Deactivate/activate automatic daylight saving time |
| P_b | Adjust to radiator/room |
| F_0 | Deactivate/activate intelligent control (forecast) |
| Q_r | Information about horizontal or vertical orientation
(0 = horizontal, 90 = vertical) |


4.1 Deactivating automatic daylight saving time

Deactivate automatic change to/from daylight saving time as follows:

Select function menu Press and hold  for 3 sec.
 flashes.

Select advanced menu Press **both** buttons   for approx. 3 sec.

Select $d5$ Select $d5$ by pressing 
Confirm using 
1 flashes

Deactivate feature Press ,  flashes.
Confirm using 

1 = automatic daylight saving time (default setting)

0 = no automatic change



4. Technical settings



4.2 Adjusting to radiator/room

2 is the factory setting.

1 is used if the radiator appears oversized for the room.

3 is used if the radiator appears undersized for the room.

Select function menu Press and hold  for 3 sec.
 flashes.

Select advanced menu Press **both** buttons   for approx. 3 sec.



Select Pb Select *Pb* by pressing 
Confirm using 



Select adjustment Select 1, 2 or 3 using  
Confirm using 



The frequency of heat adjustment varies for 1, 2 and 3.




4.3 Deactivating intelligent control


The thermostat's intelligent control (forecast) ensures that the desired temperature is reached by a given time.

Select function menu Press and hold  for 3 sec.
 flashes.

Select advanced menu Press **both** buttons   for approx. 3 sec.

Select Fo Select *Fo* by pressing 
Confirm using 
1 flashes.

Deactivate forecast Select  using , confirm using 

1 = forecast is activated (default setting).  = forecast is deactivated

4.4 Technical specifications

UK

DK

Actuator type	Electromechanical
Software classification	A
Automatic action	Type 1
Recommended use	Residential (pollution degree 2)
Open window function	Yes
Mechanical strength	70 N (max. force from valve)
Maximum water temperature	90°C
Movement type	Linear
Battery life	2 years
Spindle movement	2-3 mm on the valve
Maximum extension	4.5 mm
Frequency	Measures temp. every minute
Speed of adjustment	1 mm/s
Power supply	2x1.5V AA alkaline, class III (SELV)
Power consumption	3 mW in standby, 1.2W in active state
Operating temperature	0 to 40°C
Transportation temp. range	-20 to 65°C
Temperature setting range	6 to 28°C
Time keeping accuracy	+/- 10 min/year
Clock setting accuracy	+/- 1 min
Size (mm)	L: 91 Ø: 51 (RA)
Ball pressure test	75°C
Weight	177 g (RA)
IP class*	20

*The thermostat should not be used in hazardous installations or in places where it may be exposed to water.