



Installation instructions

Smart TRV / Smart TRV Adapt / Smart TRV Starter Pack

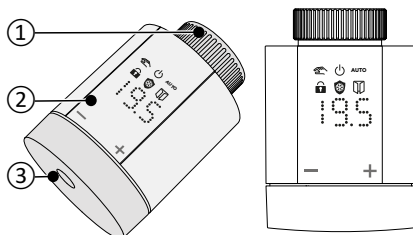
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1. Description

- ① Fixing ring (M30 x 1.5)
- ② Screen
- ③ Dial / Button



19.5	Measured temperature or temperature setting	⏻	Off mode
	Manual mode		Child lock
	Frost protection mode	AUTO	Smart mode
	Open window detection		

During normal use (excluding settings menus), the Smart TRV enters standby mode after 10 seconds of inactivity (this can be changed to 15 seconds via the Delta Dore app). To perform any operation, press the button (dial) to "wake up" the display. Once the screen is awake, you can navigate the various menus.

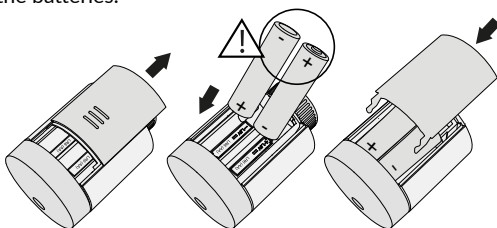
The Smart TRV can receive remote software updates without any action being required on the device itself. The update is automatic and is carried out by the Delta Dore smart home hub.

2. Installation of your Smart TRV

It is possible to:

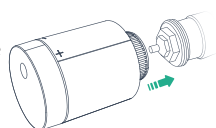
- install the Smart TRV then the smart home hub, or vice versa.
- install the Smart TRV in the property, even if it is not yet equipped with a smart home hub (stand-alone mode).

- ① Install the batteries.



- ② Mount the Smart TRV on the radiator.

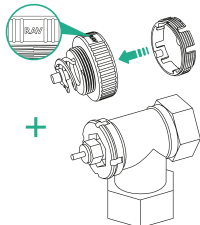
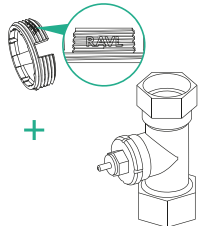
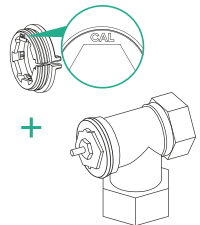
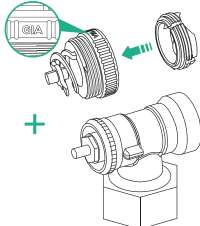
It can be mounted on all M30 x 1.5 threaded valve bodies.



Other valve bodies will require the use of an adapter.

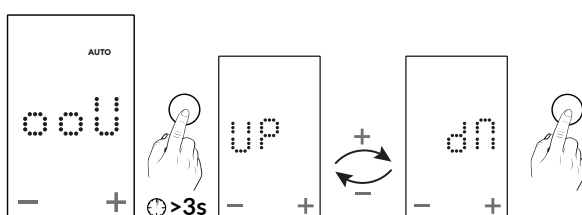
The following adaptors are supplied with the Smart TRV Adapt and the Smart TRV Starter Pack.

The diagram shows an M28 x 1.5 adapter screw being inserted into a valve body. A green plus sign indicates this is a required component.	M28 x 1.5 The adapter screws onto the valve body.
The diagram shows a Danfoss RA adapter being clipped onto a valve body. A green plus sign indicates this is a required component.	Danfoss RA The adapter clips onto the valve body. If necessary, please use a clamp to ensure the valve is securely fastened to the adapter.

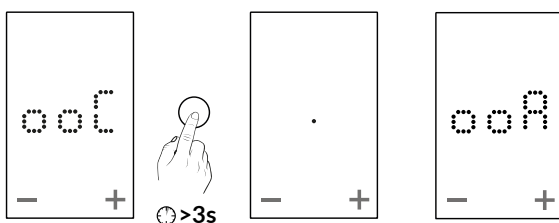
	Danfoss RAV The two parts are supplied pre-assembled; they need to be separated and clipped onto the valve body.
	Danfoss RAVL The adapter clips onto the valve body.
	Caleffi The adapter clips onto the valve body.
	Giacomini The adapter clips onto the valve body.

Starting up for the first time

- 1 You can set the display orientation of the smart TRV.
Press and hold the button (dial) for 3 seconds, then turn the dial to + or - to select the desired orientation.
Press the button (dial) to confirm.



- 2 Adapt your smart TRV to the valve body with the calibration step (ooC).



Press the button (dial) for 3 seconds to start the calibration.
Once complete, the display shows ooA.
Your smart TRV is ready to be paired (see chapter 4).

Autonomous mode

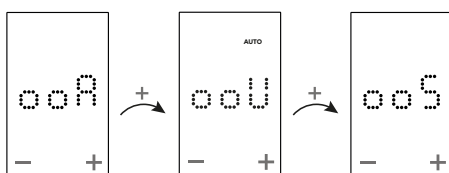
You may need to install the Smart TRVs without the smart home hub.

To do this:

Insert the batteries into the Smart TRV and install the Smart TRV.

Follow steps 1 and 2 above, then, from the 'ooA' display, turn the dial to + to display 'ooU'.

Press the button (dial) to confirm.



To exit ooS standalone mode, you must access the Settings menu (see §6.2, menu c07).

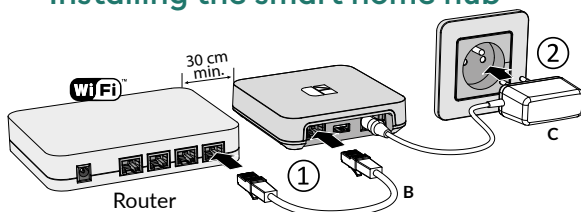
3. Installing your Tydom Home smart home hub

Connecting the Smart TRV to the Delta Dore app requires a smart home hub.

This smart home hub can be a Tydom Home or Pro model, or a Tywell Home or Pro model.

The Smart TRV Starter Pack includes a Tydom Home hub.

Installing the smart home hub



- 1 Connect your smart home hub (e.g. Tydom Home):

- 1 connect the Ethernet cable (B).
- 2 Then, connect the mains power (C).

- 2 Download the Delta Dore app.

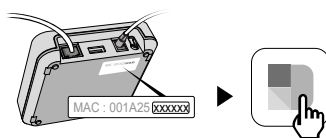
- Go to Google Play or the App Store.



- 3 Activate the Wi-Fi connection on your smartphone or tablet, and connect to the same local network as your Tydom Home.

- 4 Configure the Delta Dore app.

- Note the last 6 characters of the MAC address of your smart home hub.
- Log into the application and follow the instructions.



For further details on the smart home hub (Tydom or Tywell), please refer to their respective user manuals.

If certain Smart TRVs do not pair with the smart home hub, you may need to add a repeater to extend the radio signal (see section 7.3).

4. Pairing the Smart TRV from the application

To pair the Smart TRV with the Delta Dore app, launch the application, then: **Settings -> My devices -> Add a device -> Heating -> Hydraulic -> Smart TRV.**

Follow the various steps suggested by the application.

5. Creating rooms

Creating rooms makes it possible to assign a zone for heating and to improve the temperature calibration with deported control. Smart TRVs in the same room synchronise automatically. Any change to the temperature or settings is applied to all the Smart TRVs in the room. The temperature displayed in the app, as well as on the Smart TRVs, is the average of the temperatures measured by the Smart TRVs.

Devices can only be added to a room via the app.

6. Installation settings

Installation settings can be configured via the Delta Dore app (individually or by room) or directly on the Smart TRV.

6.1 Settings via the Delta Dore app

You can adjust various settings via the Delta Dore app. We recommend using the app for these settings. Launch the app, then follow the instructions. For further details, please refer to the summary table at the end of Chapter 6.

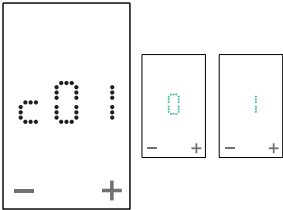
6.2 Installation settings via the Smart TRV

 The default setting is shown in green.

c01: Child lock

If you activate the child lock, the button will not function and changes to the temperature setting will not be possible without intentionally unlocking (see Troubleshooting chapter).

0	No locking
1	Locking active



- 1 Press the button (dial) until c01 is displayed.
- 2 Press the button (dial); the screen will display 0 or 1.
- 3 Turn the dial to - or + to make your selection.
- 4 Press the button (dial) to confirm.
- 5 Press and hold the button (dial) for 10 seconds to exit settings mode.

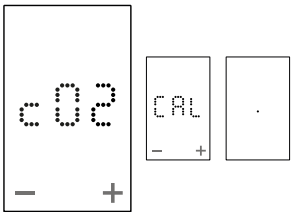
The child lock feature is only activated once the Smart TRV has entered standby mode.

c02: Calibration

Calibration allows you to adjust your Smart TRV to the radiator valve on which it is fitted (for precise control).

If you need to remove the Smart TRV, it is recommended that you recalibrate it.

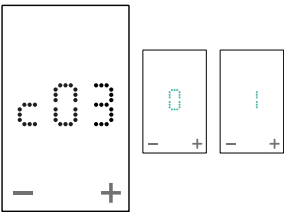
- 1 Press and hold the button (dial) for 10 seconds, then turn the dial to + until c02 is displayed.
- 2 Press the button (dial); the screen displays CAL.
- 3 Turn the dial to + to start the calibration.
- 4 Press and hold the button (dial) for 10 seconds to exit Settings mode.



c03: Anti-seizing

The anti-seizing function allows the Smart TRV to be operated cyclically (once a month) outside the heating season to prevent it from seizing up.

0	Anti-seizing disabled
1	Anti-seizing active

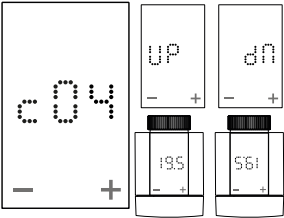


- 1 Press and hold the button (dial) for 10 seconds, then turn the dial to + until c03 is displayed.
- 2 Press the button (dial); the screen will display 0 or 1.
- 3 Turn the dial to + to make your selection.
- 4 Press the button (dial) to confirm.
- 5 Press and hold the button (dial) for 10 seconds to exit Settings mode.

c04: Screen orientation

Depending on how your Smart TRV is fitted to the radiator, you can adjust the direction in which the display is read.

- 1 Press and hold the button (dial) for 10 seconds, then turn the dial to + until c04 is displayed.
- 2 Press the button (dial); the screen will display 'UP' in one direction or the other.
- 3 Turn the dial to + to reverse the orientation.
- 4 Press the button (dial) to confirm.
- 5 Press and hold the button (dial) for 10 seconds to exit Settings mode.

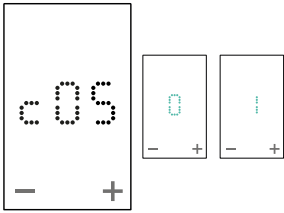


c05: Automatic open-window detection

Your Smart TRV is fitted with an automatic open-window detection feature (which detects a drop in temperature). If a temperature drop is detected, the heating switches to frost protection mode for 15 minutes (by default) or 30 minutes (adjustable via the app).

To enable or disable this function.

0	Detection inactive
1	Detection active



- 1 Press and hold the button (dial) for 10 seconds, then turn the dial to + until c05 is displayed.
- 2 Press the button (dial); the screen will display 0 or 1.
- 3 Turn the dial to + to make your selection.
- 4 Press the button (dial) to confirm.
- 5 Press and hold the button (dial) for 10 seconds to exit Settings mode.

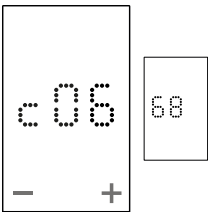
c06: Wireless transmission quality

This menu allows you to measure the wireless signal quality between the Smart TRV and your smart home hub (e.g. Tydom Home). If the value shown is too low, add an Easy Plug F16EM wireless repeater to your system.

- 1 Press and hold the button (dial) for 10 seconds, then turn the dial to + until c06 is displayed.

- 2 Press the button (dial); the measured value will be displayed.

< 15 %	Too low
From 15 to 39%	Acceptable
From 40 to 82%	Correct
> 83 %	Excellent
---	Disconnected or not paired



- 3 Press and hold the button (dial) for 10 seconds to exit Settings mode.

c07: Wireless configuration

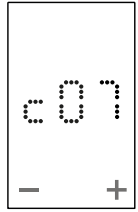
This menu is used in two situations:

a) My Smart TRV is already paired

This allows you to remove the wireless pairing between the Smart TRV and the Delta Dore smart home hub so that you can re-pair them or switch to standalone mode.

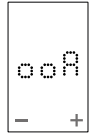
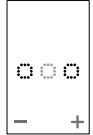
b) My Smart TRV is in standalone mode

This allows you to exit standalone mode so that you can pair the Smart TRV with the Delta Dore smart home hub.



a. My Smart TRV is already paired

- 1 Press and hold the button (dial) for 10 seconds, then turn the dial to + until c07 is displayed.
- 2 Press the button (dial); the screen displays 0.
- 3 Turn the dial to + to display 1.
- 4 Turn the dial to the right to the '+' position to confirm. The Smart TRV is no longer paired to the Delta Dore smart home hub.
- 5 The screen displays ooA.
You have two options:
 - Re-pairing: your Smart TRV is ready to be paired. Launch the Delta Dore app and follow the instructions.
 - Switch to standalone mode: turn the dial to + to display the ooS screen. Confirm by pressing the button (dial). Press and hold the button (dial) for 10 seconds to exit Settings mode.



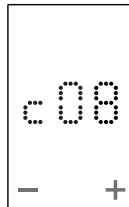
b. My Smart TRV is in standalone mode

- 1 Press and hold the button (dial) for 10 seconds, then turn the dial to + until c07 is displayed.
- 2 Press the button (dial); the screen displays ooA.
- 3 To pair your Smart TRV with the Delta Dore app, launch the application, then: **Settings -> My devices -> Add a device -> Heating -> Hydraulic -> Smart TRV.** Follow the various steps suggested by the application.

c08: Resetting the settings

This menu allows you to reset the settings to their default values, including those that can only be accessed via the app (except for wireless pairing).

- 1 Press and hold the button (dial) for 10 seconds, then turn the dial to + until c08 is displayed.
- 2 Press the button (dial); the screen displays 0.
- 3 Turn the dial to + to display 1.
- 4 Turn the dial towards + again to confirm.
- 5 Press and hold the button (dial) for 10 seconds to exit settings mode.



If you wish to perform a full reset, please refer to the Help section.

6.3 Settings overview table

	In the Delta Dore app		On the Smart TRV
	Room	Smart TRV	
Child lock (active / inactive)	X		c01
Calibration		X	c02
Anti-seizing (active / inactive)	X		c03
Screen orientation		X	c04
Automatic opening detection (on/ off)	X		c05
Duration of shutdown (frost protection) upon detection of an open door/window (15 minutes / 30 minutes)	X		
Quality of wireless transmission		X	c06
Wireless configuration menu			c07
Resetting the settings			c08
Temperature adjustment (-2.5 to +2.5°C)		X	
Screen display duration (10 seconds / 15 seconds)		X	
'Locate' function		X	
'Remove from room' function	X	X	
Minimum and maximum temperature (5 to 30°C)	X		
Absence temperature (5 to 16°C / 7°C)	X		
Frost protection option in off mode (without / with)	X		
If equipped with frost protection, temperature control (5°C to 16°C / 7°C)	X		
Display: room temperature / required temperature (set-point)	X		
Head locking (none – partial – intermediate – total)	X		
Optimised start (active – inactive)	X		
Boost duration (1 to 30 minutes/ 15 mins)	X		
Room deletion	X		

The default setting is shown in green.

Any settings adjusted via the app at room level are automatically applied to all Smart TRVs in that room. Similarly, any adjustment made directly on a Smart TRV is replicated on all the other Smart TRVs in the room.

7. Additional installation options

7.1 RF6430 receiver

This is used to control the generator (boiler/heat pump) or the circulation pump in a hydraulic system⁽¹⁾ in order to optimise its operation. It is installed alongside the Smart TRVs, by pairing it to the smart home hub via the Tydom app.

(1): Hydraulic installation fitted with a bypass or a radiator in "open" position. For installation, consult its instruction manual.

7.2 STI 2000

In certain installations, it may be desirable to deport the measured temperature to a sensor in the room (from an STI 2000) to better suit the environment.

This sensor must be connected to a smart home hub as a 'sensor'.

Next, you need to install this sensor in the desired room.

The temperature measured by the STI 2000 will be visible on the Delta Dore app and will be the same as that displayed on the Smart TRV(s) in the room.

For installation, consult its instruction manual.

7.3 Easy Plug F16EM Repeater

If the wireless range between the smart home hub and the Smart TRV(s) is insufficient, a Zigbee 3.0 device (mains-powered), must be installed, which will also act as a repeater within the Zigbee network.

If you do not have any Zigbee 3.0 devices in your system, Delta Dore offers the Easy Plug F16EM smart plug, which acts as a Zigbee signal repeater in addition to its main function (switching devices on and off and monitoring energy consumption).

Once the Easy Plug F16EM has been paired with the smart home hub (see the user guide), it will automatically act as a repeater for the Smart TRVs without the need for any further configuration.

If you have a Zigbee 3.0 smart bulb, please ensure that it is not switched off via a wired switch.

8. Troubleshooting

8.1 Child lock

A padlock appears on the screen when you wake up the display. This means that the child lock is activated.

To temporarily disable this safety feature (until the Smart TRV next enters standby mode), turn the dial to - and hold it there for 5 seconds.



8.2 Possible errors

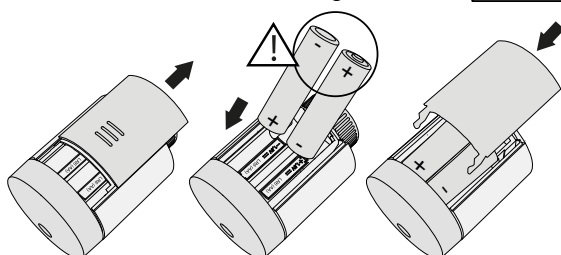
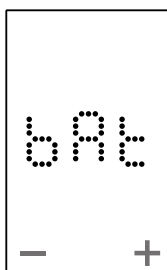
The screen displays	Diagnostics / Solution
dEF	Display flashes alternately with the temperature. Wireless fault Check that the smart home hub is properly powered.
d47	Calibration fault Repeat the Smart TRV calibration procedure, ensuring that you have followed the installation instructions (via the Delta Dore app or via menu C02 on the Smart TRV).

8.3 Low battery warning / Changing the batteries

If the display shows 'bAt' and this alternates with the temperature, you need to change the batteries soon.

To change the batteries:

- 1 Slide open the battery access panel.
- 2 Replace the batteries, making sure that they are facing the right direction and are the correct type (2x 1.5V LR6/AA alkaline batteries, or 2 rechargeable Ni-MH



batteries).

- 3 The screen displays 'ooC'; press and hold the button (dial) for 3 seconds to start calibration.

8.4 Removing wireless pairing

Removing the Smart TRV's pairing with a smart home hub must be performed via the app.

Select your home, then, from the Settings menu:

My homes -> My devices -> Select the device to be deleted -> Advanced options -> Delete

8.5 General reset via the Smart TRV

This allows you to restore the settings to their defaults and remove the wireless pairing between the Smart TRV and the Delta Dore smart home hub.

From the main screen, turn the dial to the left (-) for 30 seconds. The screen displays 0; turn the dial to + to display 1. Confirm by turning the dial towards + again.

Your Smart TRV resets.

9. Technical specifications

Smart TRV

- Powered by 2 batteries:
 - 2 x 1.5V alkaline - Type LR6/AA alkaline (supplied) or option to use rechargeable NiMH batteries, 2-year battery life ^(*)
- Class III insulation
- Zigbee frequency range: 2.4 GHz – 2.4835 GHz
- Maximum wireless power 10 mW
- Dimensions: 78.7 x Ø 53 mm
- Action Type 1
- Protection Class: IP 20
- Rated impulse voltage: 330V
- Installation in an environment with normal pollution levels
- Storage temperature: -20°C /+70°C
- Operating temperature: 0°C /+40°C

(*) 2-year battery life depending on the following scenario:

- Generally speaking: A (remote) software update

- Use:

Summer period: TRV switched off and one anti-seize treatment per month.

Winter period: 2 motor calibrations, 2 screen displays per day, 4 changes to the temperature set-point per day.