Instructions

Reduce heating costs easily and conveniently with smart thermostats

All information on operating the thermostat and the app at a glance

Important information – please keep

KALO

An overview of important information

Temperature-setting
In future, you will be able to set the temperature in a range from 6.0 to 28.0 °C, either using the rotary knob on the thermostat or via the app. Further information on temperature-setting can be found from page 16 onwards.

Target temperature
The temperature shown on the display is always a target temperature near the radiator. Depending on the size and structure of the room, a higher setting may be necessary to achieve the desired temperature. Further information can be found on pages 18 to 21.

Open-window detection
The smart thermostats recognise open windows near a radiator. If an open window is detected, the temperature setting is lowered to 6.0 °C for 15 minutes. After these 15 minutes, the previous setting is automatically restored. Further information can be found from page 24 onwards.

Managing the radiator
The smart thermostats optimise the heating system and help you heat your space as efficiently as possible. Consequently, certain radiators may not get as hot as before, or they may take a little longer to reach the target temperature. This is not a defect; it is the ideal way the radiator should be operating. Further information can be found from page 12 onwards.

Frost-protection function
In winter, please always use the frost-protection function (6.0 °C), not “AUS” mode. “AUS” mode switches the heating function off entirely, preventing automatic heating in the event of frost. In certain cases, the water in the radiator may freeze and cause the pipe to burst. If the frost-protection function is enabled, the radiator will only start heating when the temperature near the smart thermostat falls below 6 °C.

Smart thermostats – explained easily.
Discover helpful video tutorials at kalo.de/smart-erklaert or on YouTube.

Sie finden die Übersetzung der kompletten Anleitung in folgenden Sprachen über den unten stehenden Link.

You can find the translation of the complete manual in your language via the link below.

Puede encontrar la traducción de las instrucciones completas en su idioma a través del siguiente enlace.

Vous trouverez la traduction du manuel complet dans votre langue en cliquant sur le lien ci-dessous.

Talimatların tamamının kendi dilinizdeki çevirisine aşağıdaki bağlantıdan ulaşabilirsiniz.

Puteți găsi traducerea instrucțiunilor complete în limba dvs. prin intermediul linkului de mai jos.

Tłumaczenie pełnej instrukcji w języku użytkownika można znaleźć pod poniższym linkiem.

Можете да намерите превод на пълните инструкции на вашия език чрез връзката по-долу.

Перевод полной инструкции на ваш язык вы можете найти по ссылке ниже.

Ви можете знайти переклад повної інструкції вашою мовою за посиланням нижче.

می توانید ترجمه کامل دستورالعمل ها را به زبان خود از طریق لینک زیر بیابید.

يمكنك العثور على ترجمة التعليمات الكاملة بلغتك عبر الرابط أدناه.

Scan the QR code or visit the following webpage for information in other languages: **kalo.de/srt-language**

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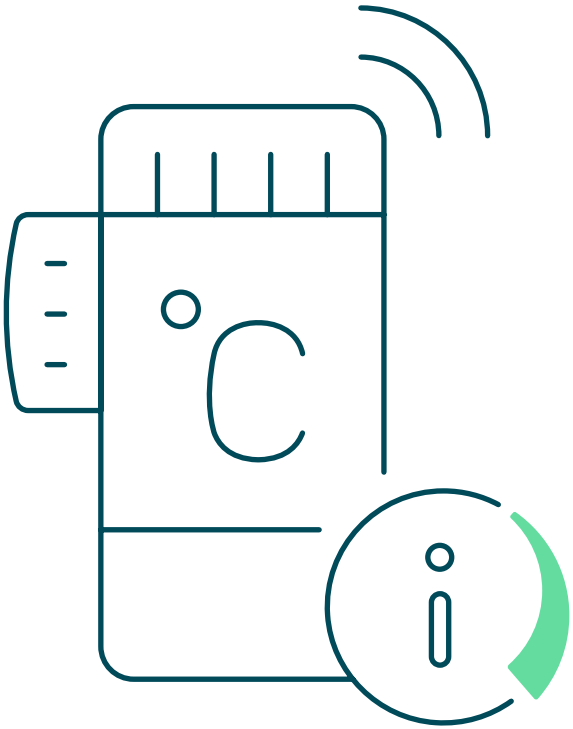
Technical data

Smart thermostats - and now?



Save heating costs thanks to smart thermostats

Why use smart thermostats?

We have installed smart radiator thermostats in your home on behalf of the property owner. The devices help you to use less energy to heat your home and therefore pay lower heating costs. **On average you save around 15% heating energy with our smart thermostats compared to the use of conventional devices**. This not only helps your wallet, but also the climate. Because less energy consumption also means lower CO_2-emissions.

All information on the operation and functionality of the devices, the associated “KALO Smart” app and important information on correct heating and ventilation can be found in these instructions.

The smart thermostats – basic functions at a glance

As before, you can control your radiator manually via the thermostat. Nothing will change in that regard. However, the new devices have smart functions that help you save heating energy:

Setting temperature by degrees

Set the desired temperature using the rotary knob at the top of the thermostat. The temperature can be set directly in degrees Celsius (°C) instead of according to the less meaningful heating levels “1” to “5”, which are shown on conventional thermostats. The setting of the temperature by degrees prevents “overheating” and helps you to save energy and reduce your heating costs (see page 16).

Measurement of the humidity in the room

In addition to the set target temperature, the display of the smart thermostat also shows you the current air humidity in the vicinity of the radiator. A water droplet-symbol and a percentage indication indicate the degree of humidity. This means you know in good time when you should air your rooms to prevent mould.

Window open detection

Thanks to window open detection, the smart thermostat automatically regulates the set temperature down to the lowest active level (6 °C = frost protection), when a window or balcony door is opened. This saves you valuable energy. After 15 minutes, the radiator heats up again to the previously set temperature.
Note: The device does not recognise whether the window has been closed (see page 24).

Hydraulic balancing

With our smart thermostats, landlords can have the legally required hydraulic balancing carried out. Hydraulic balancing was prescribed by law in order to reduce energy consumption in larger residential buildings.

Only heat as much as necessary. Reducing the temperature by 1 °C can reduce heating costs by 6–8%.

Download the app
save even more

Further energy-saving functions with “KALO Smart”

With the “KALO Smart” app, you can conveniently control the temperature setting of your radiators via smartphone and reduce your energy costs even more easily with personalised heating plans. Downloading and using the app is voluntary, but provides you with additional useful functions.

Download now

“KALO Smart” helps you to save on heating costs and increases your living comfort.

The app functions at a glance

Personalised heating plans for every room

With the “KALO Smart” app, you can create individual heating plans for every single room in your home. For example, can be set so that the bathroom is only heated to the appropriate temperatures in the morning and evening at the usual times of use. In the meantime, the temperature can be reduced and unneeded energy saved. This reduces your heating costs and increases living comfort.

Temperature control with the smartphone

Have you just settled down on the sofa or didn't turn down the heating when you left the flat? No problem: The smart thermostats can be conveniently controlled via app from a distance – whether from the sofa or while out and about. New control commands are transmitted from the app to the thermostat every 10 minutes.

Childproof lock can be activated

A childproof lock can be set for each thermostat via the app. Manual changes to the thermostat are then ignored by the device. This ensures that set schedules are maintained and energy can be saved as planned.

All information on registering in the “KALO Smart” app can be found at from page 26 onwards.

The smart thermostat at a glance

Display showing the set target temperature

Precise degree temperature setting
You can precisely set the desired target temperature in the range from 6 to 28 °C and switch the device off using the rotary knob.

Current humidity value
A full, blue drop of water symbolises high humidity. If this is displayed, it is advisable to carry out shock ventilation.

Battery cell
The battery cell has a service life of several years. It is replaced in good time before the end of the term as part of a service placed by KALO during a service appointment. You don't have to worry about anything.

With the smart thermostats, you always control the target temperature of the entire room. A setting is automatically transferred to any other smart thermostats in the same room.

Schedule mode
The temperature is controlled according to the schedule you set yourself. You can set up the schedules for each room separately via the “KALO Smart” app.

Manual mode
The temperature is controlled according to the target temperature set on the smart thermostat. Stored schedules are deactivated.

Window open detection
The thermostat has recognised an open window and reduced the temperature (total duration 15 min).

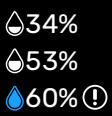
Battery change required
If, contrary to expectations, a battery change is necessary before the regular service appointment by KALO, the symbol appears on the display. Please call the service hotline.

Heat output
The heat output of the radiator is set automatically depending on the heat requirement or to maintain the set temperature.
1 heating wave
low heat output
2 heating waves
medium heat output
3 heating waves
high heat output

Limescale protection
Every 14 days, the smart thermostat performs an automatic test movement of the motor to prevent limescale build-up on the valve.

Childproof lock
The childproof lock blocks operation of the smart thermostat on the radiator.

No radio connection
Control with the app is currently not possible. Please contact the support team.



Dry
0–35%
Balanced
35–60%
Damp
60–70%
Too damp
70–100%

Measured humidity
Display of the current humidity.

Recommendation: Please ventilate for 5 to 10 minutes if the humidity is 60% or more and the fully filled, blue water drop symbol is displayed. There is a risk of mould growth.

Hydraulic balancing with smart thermostats

Energy optimisation of apartment buildings

In order to reduce the energy consumption of apartment blocks and achieve greater climate protection in the building sector, the legislator has made it mandatory to hydraulically harmonise the heating systems in larger residential buildings. This is possible with our smart thermostats.

What is hydraulic balancing?

Hydraulic balancing ensures that the correct amount of water flows to all radiators in the building. If the heating system is not balanced, flats that are further away from the heating system may not receive enough heating water. The result: they remain cold, while radiators in nearer flats literally “glow”.

This is often compensated for by increasing the water temperature and the pressure of the water pump – but this wastes a lot of energy. To avoid this, hydraulic balancing calculates the heat output, water volume and flow temperature required to supply all rooms with heat evenly. The heating system settings are then adjusted accordingly. This significantly reduces the energy consumption of the system – which also lowers the heating costs of the individual tenants in the building.

Consequences of hydraulic balancing

The optimisation of the heating system can lead to the following accompanying effects in the individual flats:

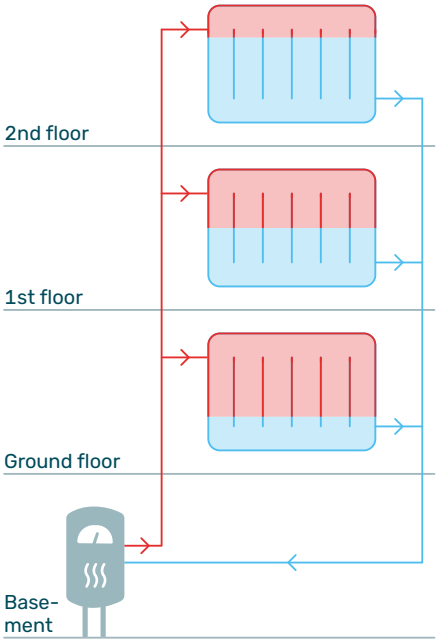
- The radiators don't get quite as hot as they used to
- It takes longer to reach the target temperature

This is not a defect, but the ideal behaviour of a radiator. The entire heating system is optimised at building level and energy consumption is reduced – as required by law.

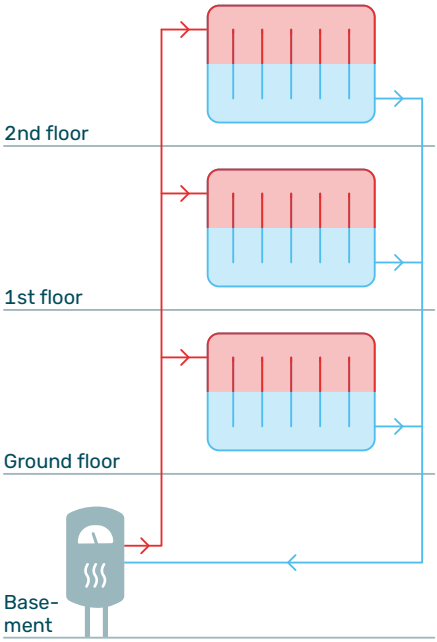
Legal obligation – smart solution

Hydraulic balancing with our smart thermostats is done without much effort, “incidentally” so to speak. The thermostats ensure that all radiators are continuously supplied with the required amount of heating water. An over- or under-supply is therefore ruled out. Balancing is also carried out continuously so that the heating system is optimally adjusted at all times. With conventional methods, the comparison is only carried out once.

Without hydraulic balancing



With hydraulic balancing



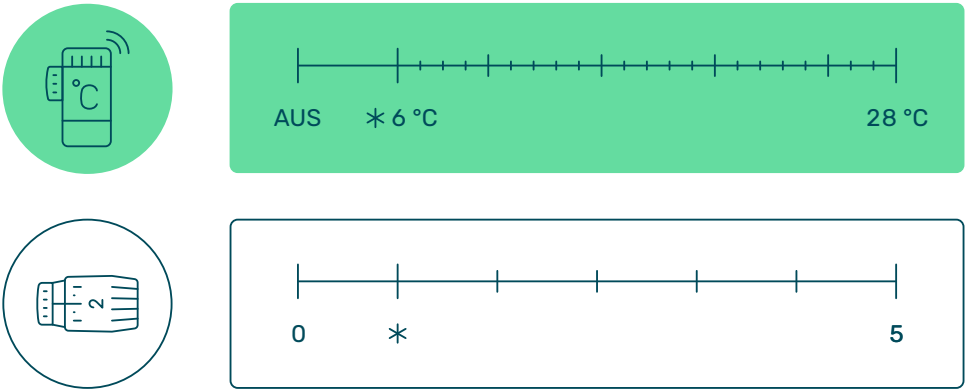
Hot at the top, cold at the bottom? This is usually quite normal.
Find out more about this topic on page 22.

Smart thermostats. Explained easily.

All the important functions for operating your new smart thermostats explained in an understandable way.

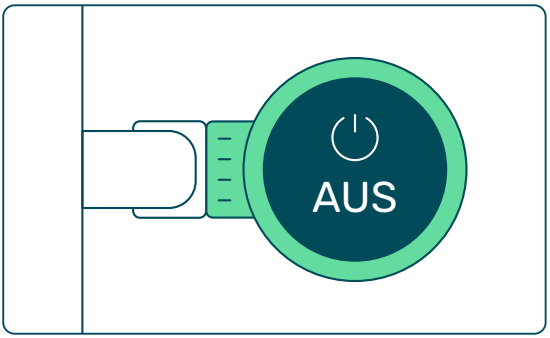
Temperature setting instead of scale setting

Thanks to your smart thermostats, you no longer have a vague scale settings from 0 to 5, but can set the desired temperature directly without any conversion.



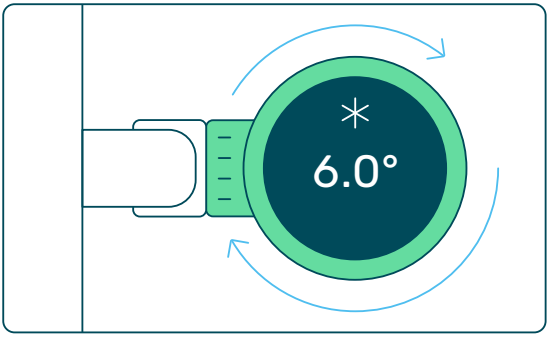
How do I set the temperature on the device?

1



The thermostat is “AUS”, the radiator valveis closed and the radiator is not heated.

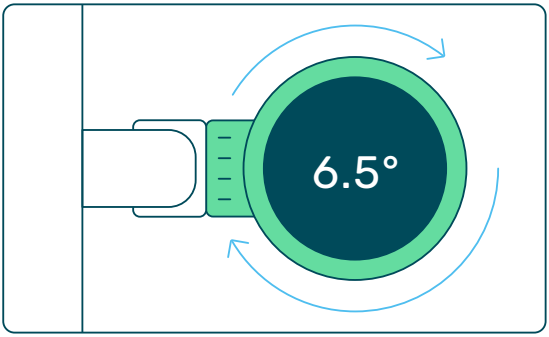
2



Turn the rotary knob clockwise to the right, to switch on the thermostat. The lowest setting is 6.0 °C.

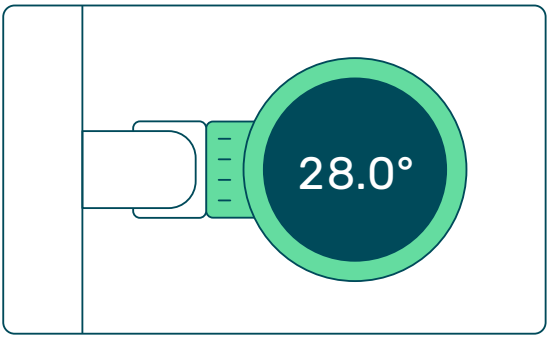
The lowest level is indicated by the frost protection symbol (snowflake).

3



You can set the temperature in increments of 0.5 °C using the rotary knob.

4



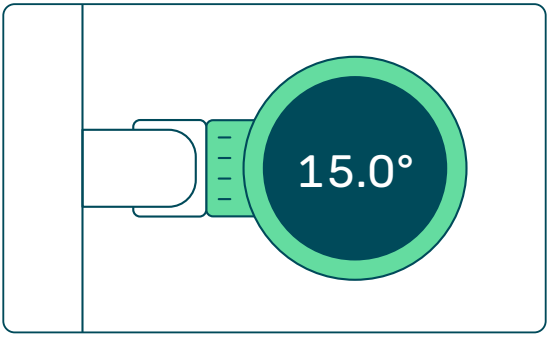
The highest setting is 28.0 °C.

To switch off the device, turn to the left or anti-clockwise until the display shows “AUS”.

In winter, please use the frost-protection setting (6.0 °C) instead of “AUS” mode for unused rooms. “AUS” mode switches the heating function off entirely, preventing automatic heating in the event of frost. In certain cases, the water in the radiator may freeze and cause the pipe to burst.

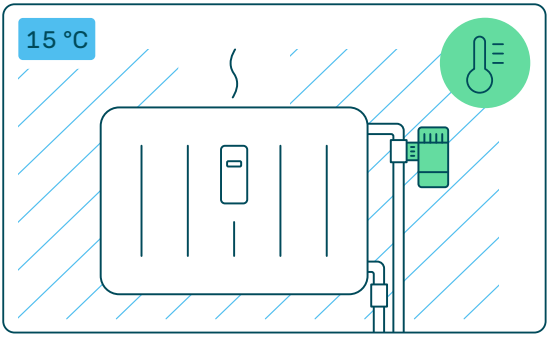
How does a smart thermostat control the temperature?

1



The smart thermostat is switched on and set to 15.0 °C in this example.

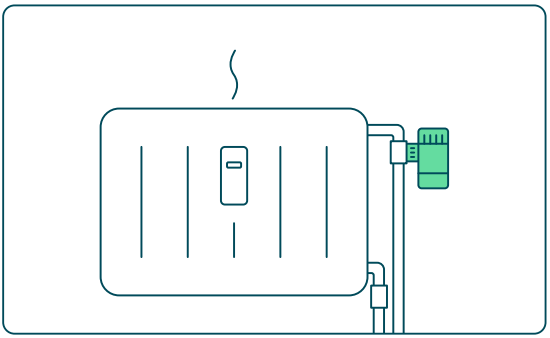
2



The thermostat continuously measures the temperature in the vicinity of the radiator.

In this example, the ambient temperature is 15 °C. Shown here by the light blue lines.

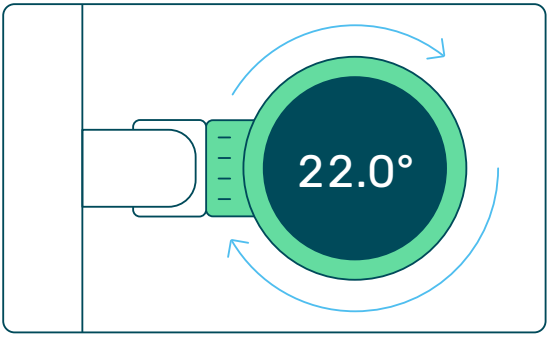
3



The radiator only emits enough heat to maintain the set temperature.

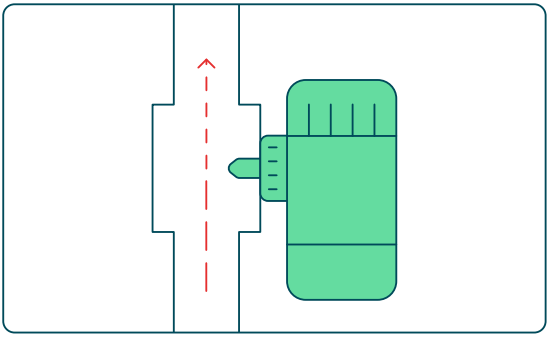
It is normal for the radiator to feel lukewarm or even cold in this state.

4



The desired temperature is increased to 22.0 °C by the occupant.

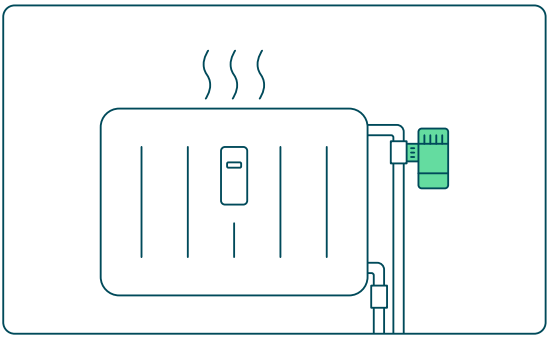
5



The radiator valve opens and more hot water flows into the radiator.

How far the valve opens depends on the temperature currently measured and the temperature that has been set.

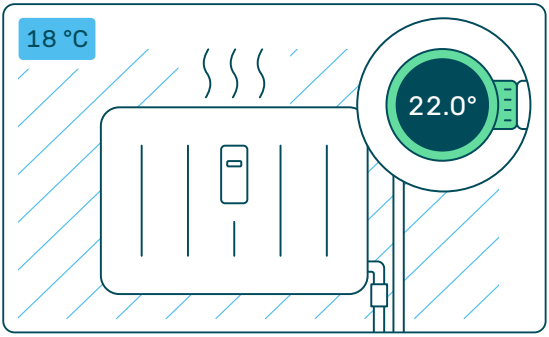
6



The radiator gradually heats up and the room also gets warmer.

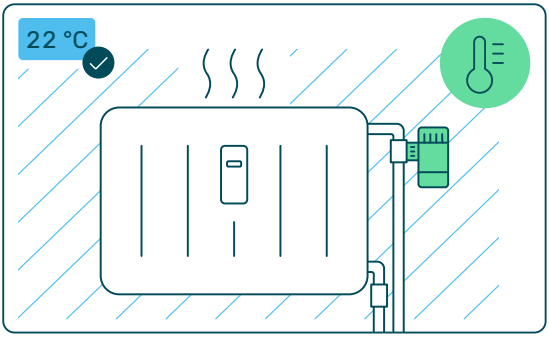
How does a smart thermostat control the temperature?

7



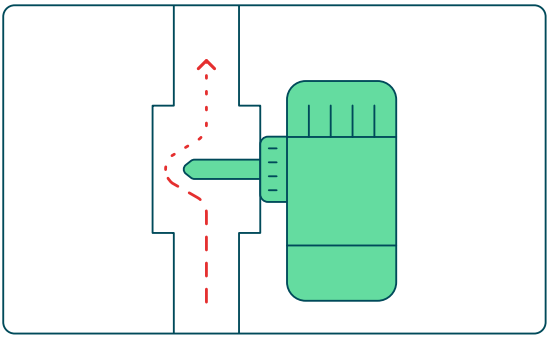
The smart thermostat continues to measure the ambient temperature.

8



It heats at increased power until the ambient temperature and the set temperature are identical.

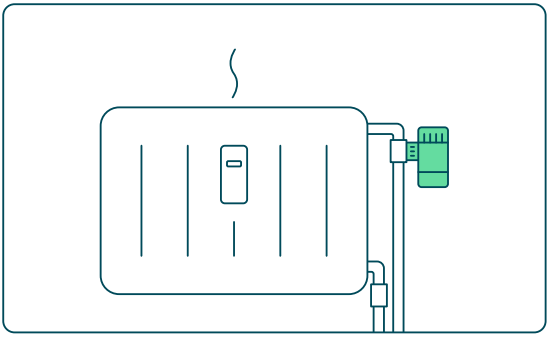
9



The valve on the radiator automatically closes a little and the heating output is reduced. Only as much hot water enters the radiator …

If the set room temperature is permanently not reached or the set temperature is perceived as too low, please increase the target temperature further. If the desired effect is not achieved, please contact resident support: +49 800 0009858.

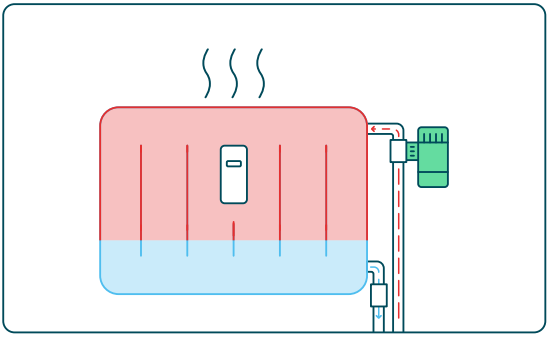
10



... as required to maintain the desired ambient temperature.

Hot at the top, cold at the bottom? This is usually quite normal.

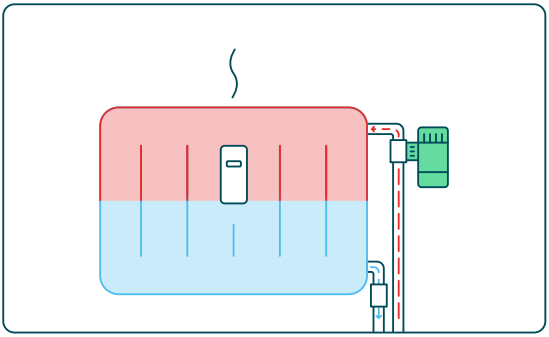
1



With most radiators, hot heating water flows in through a pipe at the top, spreads out and gives off heat to the room.

During this process, the heating water slowly cools down again and flows out of the bottom of the radiator back into the heating circuit.

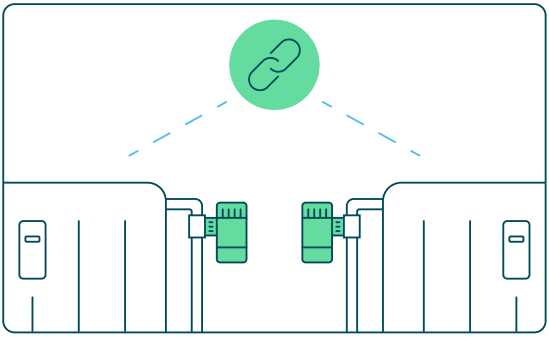
2



It is therefore normal for the bottom part of the radiator to be slightly cooler than the top part – especially if the radiator is operated in an energy-saving manner and not at maximum output.

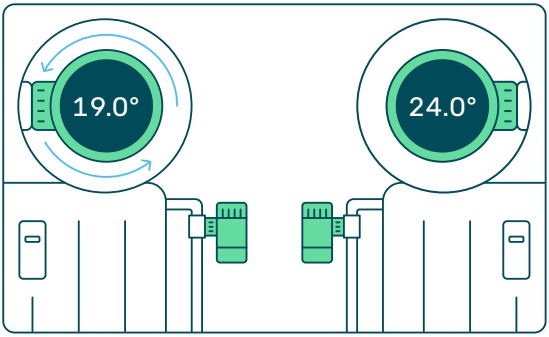
Two radiators in one room – what needs to be considered?

1



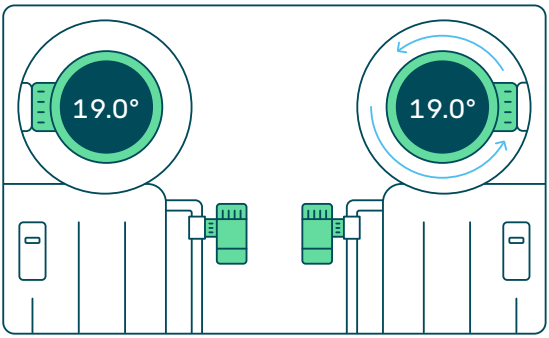
If there are several radiators with smart thermostats in the same room, they are automatically linked together.

2



This means that if the set temperature on one device is reduced from 24.0 to 19.0 °C, for example, …

3

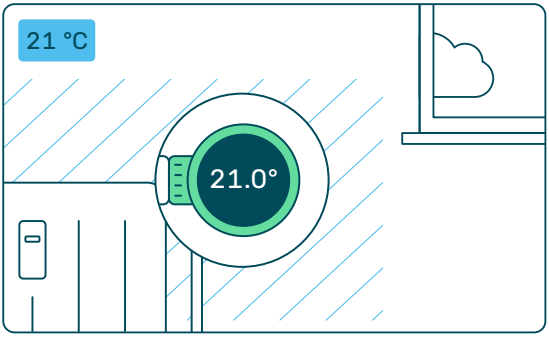


… all other smart thermostats in the room adopt this new setting.

If there are several radiators in the room, all of them should always be used, as this is more economical than using a single radiator with a higher output. If a radiator is not to be used, set the smart thermostat to “AUS” (see page 17).

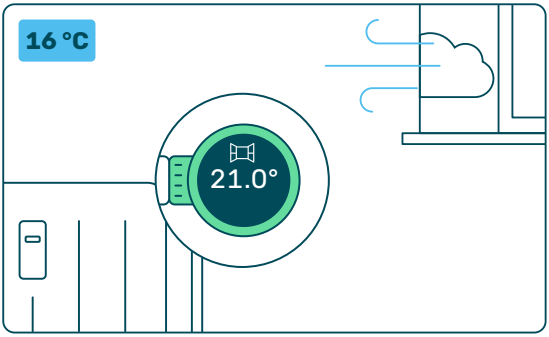
How does window open detection work?

1



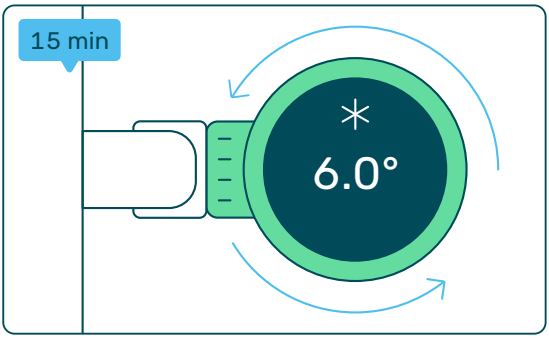
The smart thermostat continuously measures the temperature around the radiator.

2



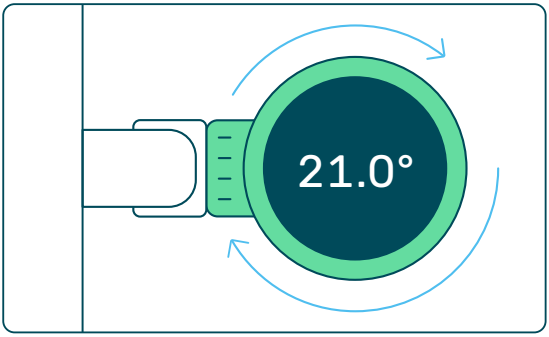
If a sudden drop in temperature or a marked change in air humidity is detected because a window has been opened, the window opened detection is activated automatically.

3



The temperature set on the smart thermostat is reduced to 6.0 °C (frost protection) for 15 minutes. This avoids unnecessary energy consumption.

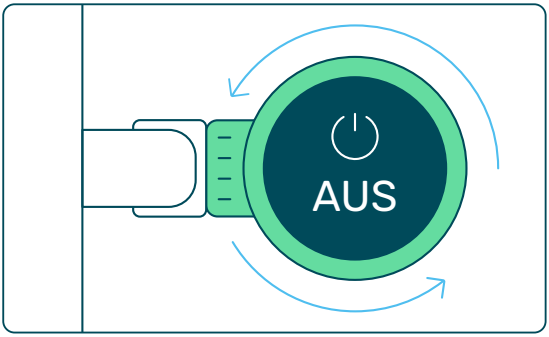
4



After 15 minutes, the smart thermostat automatically returns to the previously set temperature.

The thermostat does not detect whether the window really has been closed again.

5



If you want to ventilate the room for longer than 15 minutes, set the thermostat to the “AUS” setting.

You can deactivate the open window function for each room individually in the “KALO Smart” app under “Settings” and also reactivate it. In the basic setting, the function is activated for each room.

How do I register for the “KALO Smart” app and activate controls via the app?

1 Please download the “KALO Smart” app from the “Apple App Store” (iOS) or “Google Play Store” (Android). Then click on “Register”.

JETZT BEI Google Play

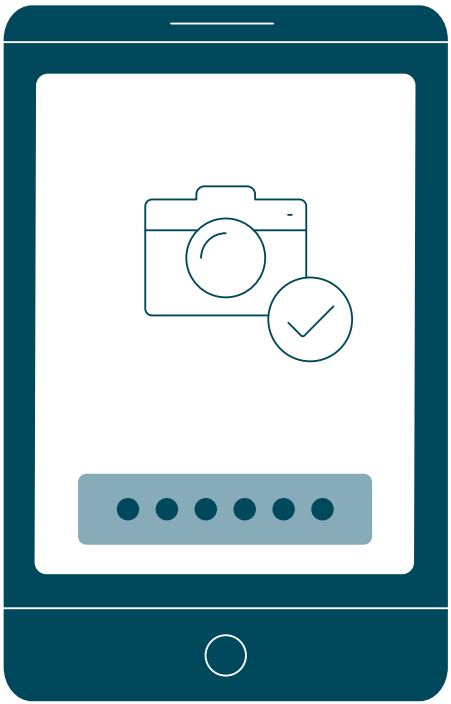
Laden im App Store

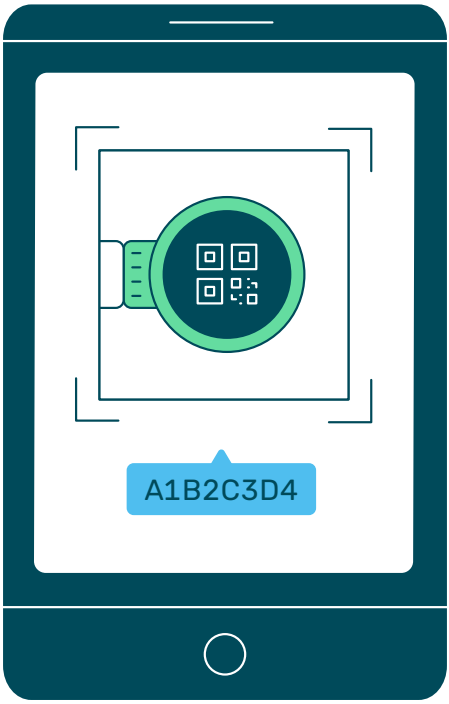
2 Please enter your data and confirm your details by clicking on the “Register” button.

You will receive an e-mail with a registration PIN, which you need to enter in the app for registration.

You will then be redirected to the login page where you can log in with your e-mail address and password.

Sign up for our newsletter when you register and receive power-saving tips and information about the smart thermostats.





3 Please grant the app access to your device's camera after you have logged in for the first time. The camera is only required for scanning the QR code.

Then go to any smart thermostat in your home.

4 Turn the rotary knob of the smart thermostat to "AUS" and then further to the left until a QR code is displayed and scan it with the app.

Once your data has been successfully checked, you will be informed by e-mail. You can then use the app immediately.

Please scan the QR code with the "KALO Smart" app and not with the camera app.

Useful tips and tricks for your heating system

Correct heating and ventilation

Heating and ventilating? OK, we all do it. But is it right?

In everyday life, people often forget how important it is to heat and ventilate properly. It ensures healthy indoor air, prevents mould growth and can even reduce energy consumption.

Tips for correct heating

Observe the recommended room temperatures
Depending on how the rooms are used, experts recommend certain temperatures, such as 20 °C in the living room and 16 °C in the bedroom. You can see the recommendations for the individual rooms in the graphic opposite.

Do not constantly change the temperature setting
A constant setting of the thermostat ensures fewer fluctuations in the heat supply and therefore less energy consumption.

Do not turn the thermostat all the way down
To prevent rooms from cooling down and having to be warmed up again using a lot of energy, heating should continue at a low temperature even when you are absent.

Switch off the thermostat during prolonged ventilation
Heat escapes from the room when the window is open. In this case, an open thermostat attempts to maintain the temperature by increasing the output – without success. A lot of energy would be wasted. The window open detection of the smart thermostats automatically reduces the heating output for 15 minutes if an open window is detected. If you are ventilating for a longer period of time, please set the thermostat to “AUS”.

Keep doors closed
In order for a room to be heated properly, the room doors should remain closed. The desired temperature is reached more quickly and unnecessary energy consumption is avoided.

Do not block radiators with furniture or curtains
A radiator not only emits so-called radiant heat via its outer surfaces, but also generates a heat flow to heat up the room. In order for this heat flow to take place, the radiator must remain uncovered. Curtains and furniture in front of the radiator impair the function.

Do not turn the thermostat all the way up
It does not heat up any faster if the thermostat is turned up fully – i.e. to the highest setting. The result is simply an overheated room and increased energy consumption.

Recommended room temperatures

15 °C	16–18 °C	20–23 °C	22–23 °C
Hall	Bedroom and kitchen	Living room and study	Bathroom and nursery*

*18–20 °C at night

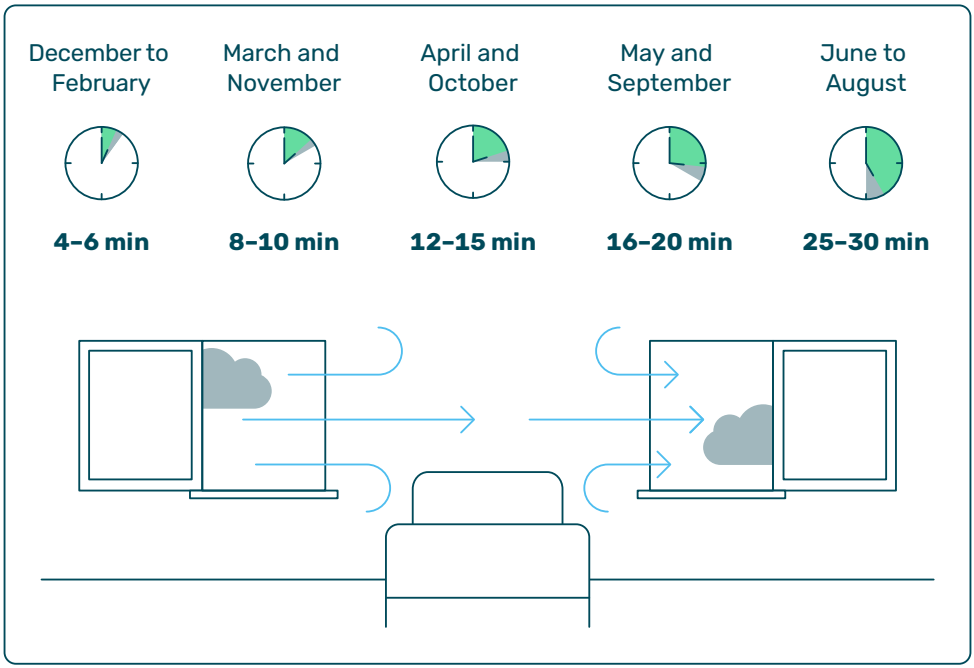
Correct heating and ventilation

Tips for correct ventilation

Recommended ventilation duration
The ventilation time depends on the outside temperature. In winter or at low temperatures, ventilate for 3 to 5 minutes, in summer or at higher temperatures for 20 to 30 minutes.

Correct shock ventilation
Regularly open windows fully and leave them open for a few minutes. Avoid leaving the window permanently tilted. This wastes energy and can encourage mould growth.

Enable a throughput of air
If possible, open several windows at the same time for ventilation. The through put of air allows the air to be exchanged more quickly.



Replace humid air immediately
Cooking, showering and washing dishes, among other things, produce water vapour, which makes the air very humid very quickly. Ventilate properly immediately, i.e. with the windows fully open.

Do not tilt windows
A tilted window does not exchange the air sufficiently. If a window is constantly left ajar, walls can cool down and heat may be lost to the outside.

Ventilate at least once in the morning and evening
Ventilate more frequently if the room is used frequently or there are more people in the room.

Good to know

Less consumption – lower costs
If you heat just one degree Celsius lower, you consume as much as six per cent less heating energy.

Remove dust – increase heating efficiency
Less dust in the radiator means better air flow and therefore less energy consumption for warm air.

The answers to frequently asked questions

How can I operate a thermostat without an app?

You can operate the smart thermostat in the same way as conventional radiator controllers. The temperature can be easily regulated by hand by turning the rotary knob. In contrast to standard thermostats, the desired temperature can be set by °C.

What can I do if the set target temperature is never reached?

In this case, please further increase the target temperature. If necessary, increase this to the maximum, i.e. to 28.0 °C. The room should then become warmer after a few hours. If neither solution delivers the desired outcome, please contact the service hotline.

I have set the desired temperature in the app. Why does the temperature display on the thermostat not change?

The smart thermostats carry out a synchronisation every 10 minutes to check for new control commands. It can therefore take a few moments until the command from the app is executed on the smart thermostat.

Can I replace the thermostat batteries myself?

No, you must not replace the special batteries.

The devices regularly transmit the battery status to KALO so that we can inform you of the battery replacement date in good time. You don't have to worry about anything.

The battery life is several years. If, contrary to expectations, a premature battery change by KALO is necessary, this is indicated by a symbol on the display (see display description on page 11). In this case, please call our service hotline (see page 35).

How can I display the serial number of a radiator thermostat?

The serial number is shown on the thermostat display when you turn the rotary knob to the left until "AUS" appears on the display. If you then turn further to the left, the ten-digit serial number is displayed.

You can also display the serial number in the app: Tap on "Settings" and select the "Devices" option. Then select the room with smart thermostats whose serial numbers you would like to display.

Free service hotline
We are there for you around the clock: +49 800 0009858

How does window open detection work?

Window open detection registers sudden changes in temperature or humidity when a window is opened. The thermostat then regulates the set temperature down to 6 °C for 15 minutes to save energy. The open window detection is active by default and can only be deactivated in the app settings.

Can I control the smart thermostats via a PC or laptop?

No, a smartphone or tablet is required to control and use the app. Minimum requirement for the operating system:

- Android from version 5.1
- iOS or iPadOS from version 13.0

How does the control of the smart thermostats via app work?

When you issue a control command in the app, it is sent in encrypted form from your end device to a server via the internet, where it is processed and forwarded to a gateway located in your basement or stairwell. The gateway then sends the control commands via LoRaWAN in the building to the smart thermostats in your home.

How do I activate the childproof lock?

A childproof lock can be set for each thermostat via the app. This ensures that set schedules are maintained and energy can be saved as planned.

Please follow the steps below in the “KALO Smart” app to activate the function:

- Go to “Settings” and select the “Devices” option.
- Select the room in which you want to secure one or more smart thermostats.
- Select the smart thermostat to be secured.
- Activate the button for the childproof lock.

Repeat this process for all smart thermostats that you want to secure.

More information and answers to frequently asked questions can be found at: **kalo.de/thermostate**

The components of a smart thermostat

Technical device data

Smart radiator thermostat RE

Technical data
Model: VA04HL
Length: 56 mm
Diameter: 49 mm
Standard valve: M30x1.5
Weight: 120 g (without battery)
Input voltage: 6 V DC
Batteries: Lithium manganese dioxide battery
Radio: LoRaWAN, max. +14 dBm
Radio frequency band: 863–870 MHz
Display: 240 x 240 LCD
Input: Rotary wheel
Material: PC, ABS, PMMA, nickel-plated brass (metal nut)
Colour: matt white
Noise level: < 30 dBA
Protection class: IP20

Restrictions on use
Ambient temperature: 5–40 °C
Max. Surface temperature: +90 °C
Degree of soiling: 2

Additional properties
Mode of action: Type 1

EU Declaration of Conformity
This device complies with the essential requirements and other relevant provisions of the following EU directives:

- RED Directive 2014/53/EU
- RoHS Directive 2015/863/EU

A copy of the EU Declaration of Conformity is available at: tado.com/conformity

Manufacturer
tado GmbH
Sapporobogen 6–8
80637 Munich
Germany

The WEEE symbol means that an device must be disposed of separately from household waste. When the device has reached the end of its service life, it must be taken to a designated collection point for safe disposal or recycling. This saves resources and helps to protect human health and the environment.

Safety instructions
The product is intended for indoor use only. Protect the device from dirt and moisture. Do not use the device in a damp environment and avoid splash water. Make sure that the radiator is switched off and has cooled down before you start installing the device. Do not use the device if it is damaged. Do not attempt to service or repair the device yourself.
Do not allow children to play with the device. Keep equipment (mobile phones, tablets, PCs) that can be used to control the device remotely away from children.

Other notes
To prevent the valve from seizing, the motor regularly performs a test movement. When mounting the metal nut on the heating valve, a maximum torque of 15 Nm must be observed. The thermostats should not be covered by furniture or curtains.

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Battery pack and battery pack XL

Technical data
Model: MB04 / MB04XL
Length: 66 mm / 71.5 mm
Diameter: 49 mm
Weight: 105 g / 145 g
Output voltage: 6.5 V DC max.
Cell technology: 3V Lithium manganese dioxide (LiMnO2)

Restrictions on use
Ambient temperature: 0–50 °C

EU Declaration of Conformity
This device complies with the essential requirements and other relevant provisions of the following EU directives:

- EMC Directive 2014/30/EU
- RoHS Directive 2015/863/EU
- Battery Directive 2006/66/EC

A copy of the EU Declaration of Conformity is available at: tado.com/conformity

Manufacturer
tado GmbH
Sapporobogen 6–8
80637 Munich
Germany

The WEEE symbol means that an device must be disposed of separately from household waste. When the device has reached the end of its service life, it must be taken to a designated collection point for safe disposal or recycling. This saves resources and helps to protect human health and the environment.

Safety instructions
Warning: Risk of explosion and burns Do not use any other type of battery. Do not immerse the battery in water. Do not throw the battery in fire. Do not expose the battery to high temperatures. Do not destroy, cut or crush the battery; it may explode or release toxic substances. If the battery is damaged, it must not be dismantled. Dispose of the battery in accordance with the applicable local regulations. If electrolyte leaks from the battery, avoid any contact with this corrosive and dangerous liquid; consult a doctor in the event of contact. Do not allow children to play with the device. Do not attempt to open the battery. Keep the battery away from children. If the battery is swallowed, consult a doctor immediately. Store the battery in a dry place. The ideal storage temperature is between 20 and 25 °C.

Other notes
A special tool is required to replace the battery. This can and may only be carried out by authorised and trained persons.

105792

Free service hotline
We are there for you around the clock: +49 800 0009858

KALO

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www.kalo.de

KALORIMETA GmbH
Heidenkampsweg 40
20097 Hamburg

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