



Radiator Thermostat  
**User Manual**

## 1 Overview

**Radiator Thermostat**, using dry battery power supply, without wiring, easy installation, for the temperature control of warm water radiator, provide comfortable temperature, reduce energy waste, save the cost of heating users. This product has a built-in zigbee® (Tuya) wireless communication module with low power and LCD display screen. It can be used individually and can be added to the TuyaSmart APP to make it an intelligent thermostat.

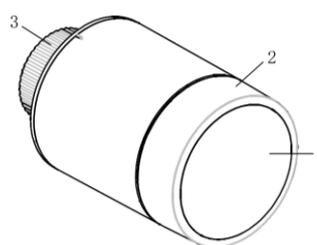
After joining the TuyaSmart system, you can select the mode, set the temperature, set the child lock and set the window detection function in APP. Any operation at the device side will also be synchronized to APP, such as setting temperature manually.

## 2 Features

- 3 mode settings——**Automatic mode** (For future), **Manual mode** and **Anti-freezing mode**.
- Temperature setting range 5~30℃ (For **Automatic mode** and **Manual mode**) or 5~15℃ (For **Anti-freezing mode**).
- With LCD display screen and big characters, easy to see.
- Battery life depends on networking or not. (1~2 years for networking, 2~3 years for using alone)
- zigbee® wireless communication protocol, safe, reliable and convenient.
- Easy to join TuyaSmart intelligent system.

## 3 Illustration

Number	Name	
1	LCD display screen	
2	Knob	Press: Setting mode
		Rotate: Adjusting temperature
3	Interface nut	

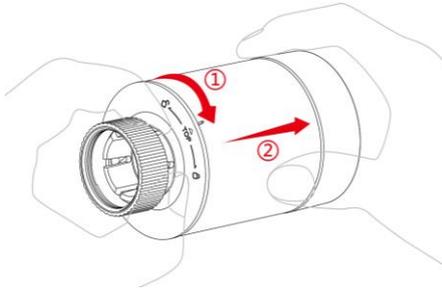


Number	Display content
1	Fault
2	Low battery
3	Temperature you set
4	Window detection
5	Automatic mode
6	Manual mode
7	Installation mode
8	Networking
9	Child lock

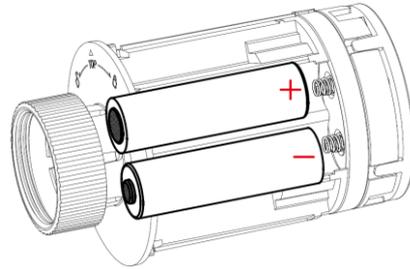


## 4 Installation Instruction

### 4.1 Put in battery



1) Turn the outer case towards the arrow with right hand and pull out.

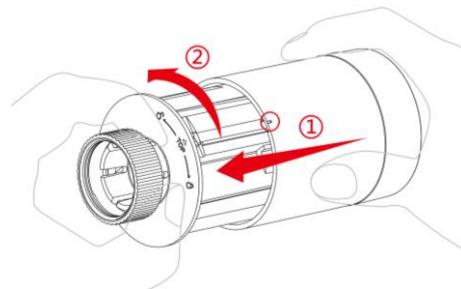


2) Refer to the polarity direction of the battery compartment, put in 2 AA alkaline batteries.

Note that cannot use rechargeable batteries.



3) After putting into the batteries, the current temperature and symbol  will be displayed.



4) Load the outer case and turn it towards the opposite direction with right hand to complete the installation of batteries.

### 4.2 Start to use

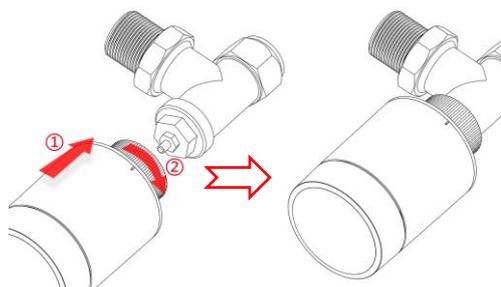
You can use your thermostat in only a few steps.



1) Press the knob and hold on for 3 seconds before the product be installed on the valve.



2) Until the F1 appears and the symbol  flickers, there will be slight vibration at the same time.

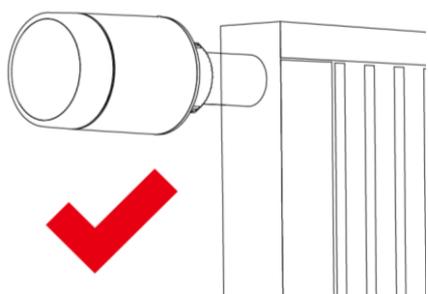


- 3) Align the thermostat interface nuts to the radiator valve. Then push forward slightly and turn the interface nuts clockwise until tightening. The maximum torque is 5N·m.
- 4) Press the knob again and  $F 1_2$  appears.

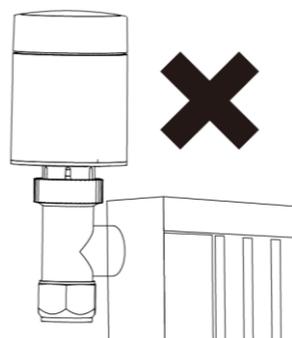


- 5) After about 10 seconds, the symbol  disappears and the current temperature is displayed. The installation is finished.

In order to minimize the influence of the radiator's own heat on the thermostat, it is recommended to install as follows.



Correct

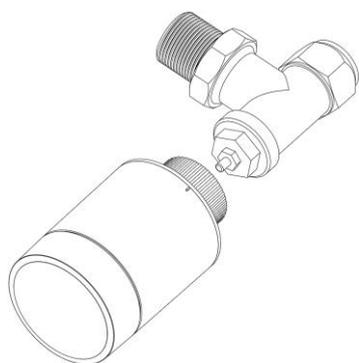


Wrong

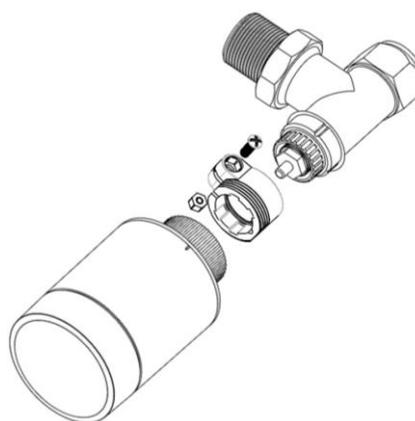
### 4.3 Automatic detection

- When the thermostat is installed, the equipment will be adjusted automatically according to the heating system. During this process, you may find that the thermostat is slow response or self-heating / self-cooling. This is normal and is a necessary part of the adjustment process.
- The thermostat will close the radiator valve at a specific time, and then opens it again to detect the exact opening position of the valve. The automatic detection function can make use of heat as efficiently as possible and control the temperature more accurately.
- If necessary, please reload the battery and activate the installation mode and manually run the automatic detection function.

### 4.4 About valve



Installation diagram of valve A.



Installation diagram of valve B.

## 5 Operation instruction

### 5.1 Select mode locally

In standby status, press the button to switch in three modes: **Automatic**, **Manual** and **Anti-freezing**, as shown in the following figure.



- **Automatic mode** (For future)

Automatic mode, the thermostat automatically switches to the required temperature, such as set at 21°C when being home, set at 17°C when sleeping, and set at 15 °C when being away home. The automatic mode needs to connect to the gateway and needs network.



- **Manual mode**

Manual mode, this temperature you set will not change because of the different situation mode. the temperature can be set manually by adjusting the knob and the temperature range is 5~30°C.



- **Anti-freezing mode**

Anti-freezing mode, while you leave home for a long time, set the thermostat as an anti-freezing mode with a range of 5~15°C . This mode is mainly designed to protect water pipes from freezing at low temperatures.

## 5.2 Set temperature locally

Under the standby status, turn around the knob can adjust the temperature after pressing the knob, as shown in the following figure.



## 5.3 Set child lock locally

Long press the thermostat knob to turn on or close the child lock function, as shown in the following figure. When the child lock function enables, all operations on the thermostat will be invalid to prevent children from playing with the thermostat or misoperation because of curiosity.

Note that setting child lock locally must be done after installation.



- 1) Press the knob and hold on for more than 3 seconds.
- 2) A symbol  appears to indicate that the child lock has been enabled. Repeated operation 1 will un-enable the child lock function.

#### 5.4 Installation of TuyaSmart APP

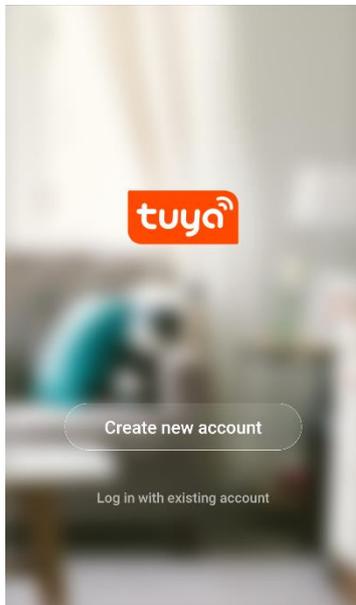
Scan the QR code as below, get and install TuyaSmart APP for IOS and Android system.



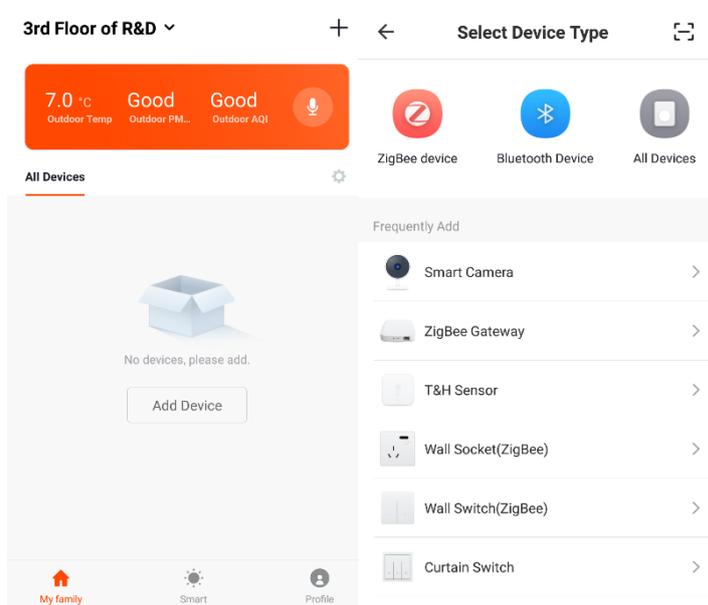
TuyaSmart APP

## 5.5 Set gateway of TuyaSmart

After installing TuyaSmart APP, it is necessary to operate the network-setting of the Tuya Gateway

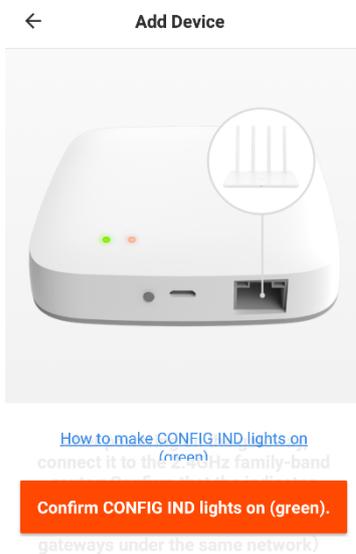


1) Login the APP after registration

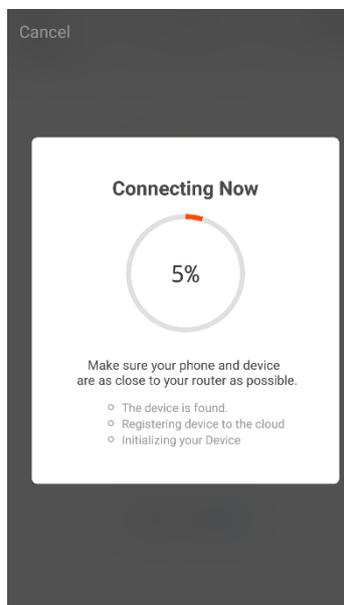


2) Click 'Add Device'

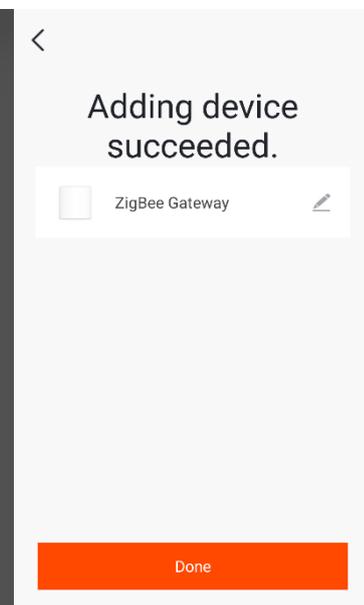
3) Select 'ZigBee Gateway'



4) Make sure the LED is always on and click to next



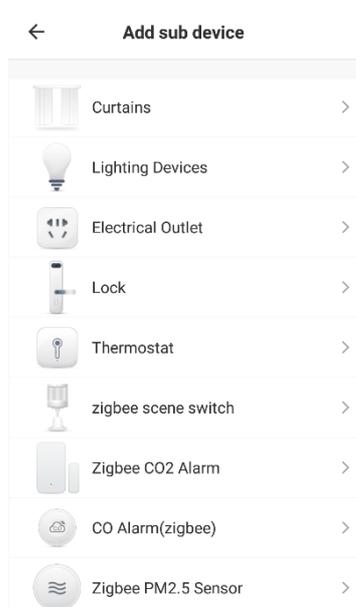
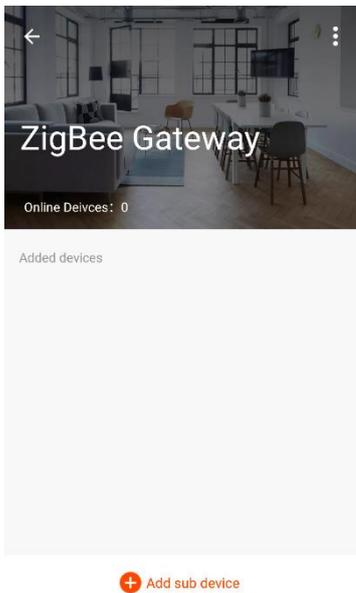
5) Wait and until next Interface appears



6) Finished

## 5.6 Add into TuyaSmart

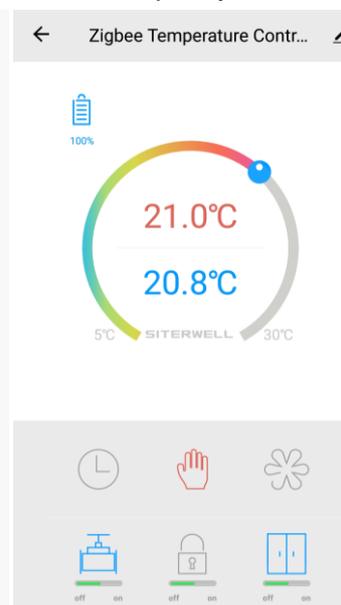
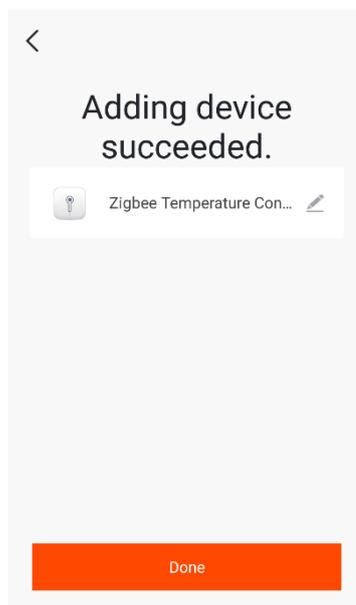
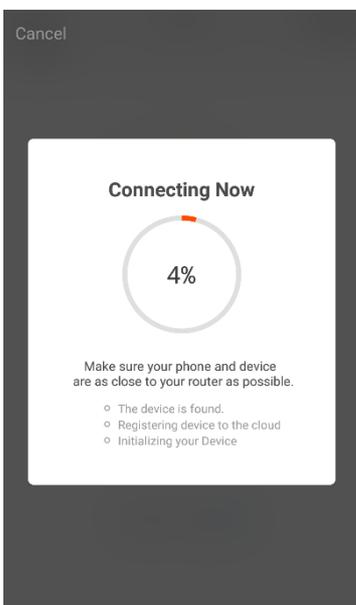
In standby mode, the thermostat will enter the matching mode by pressing the knob three times quickly. Matching process is limited to 2 minutes, cannot be interrupted halfway and then automatically withdraw.



1) Click 'Add sub device'

2) Find out 'Thermostat' and click it to match.

3) Click the knob 3 times quickly.



4) Wait and until next Interface appears

5) Successfully

6) Main page

## 5.7 Mode selection in APP

It supports to switch **Automatic mode**, **Manual mode** and **Anti-freezing mode** in APP. Please refer to the introduction of section 5.1 for the differences between different modes.



Click  ,  or  button to set one mode.

## 5.8 Set temperature in APP

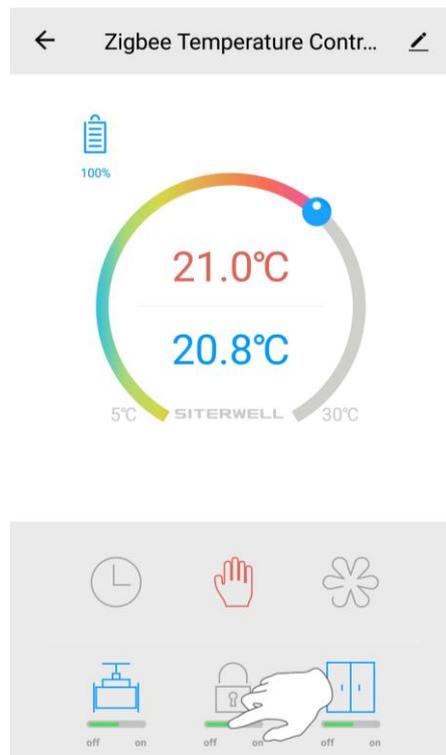
The temperature settings in different modes are supported in APP, and the operation can be accomplished by dragging the adjusting ball simply.



Drag the adjusting ball to set the temperature.

## 5.9 Set child in APP

Child lock can be enabled or canceled by APP, as shown in the following figure. When the child lock function is enabled, all operations on the thermostat will be invalid to prevent children from playing with the thermostat or misoperation because of curiosity.



Click the child lock button to enable or unenable the child lock function.

## 5.10 Set window detection

The window detection function can be enabled or canceled by APP, as shown in the following figure. When the window opening detection function is enabled, if the thermostat detects that the window is opened, the valve will be closed for 30 minutes to reduce heat loss.

The window detection function is opened by default. If it has been shut down, it can be reopened according to the following steps.

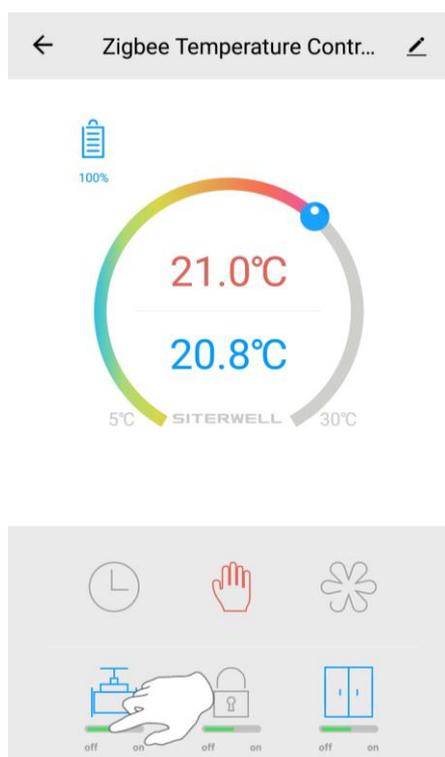


Click on the window button to enable or cancel the window detection function.

## 5.11 Set valve detection

The valve detection function can be turned on or off by APP, as shown in the following figure. When the valve detection function is opened, when necessary, it will run its own valve inspection procedures.

The valve detection function is opened by default. If it has been shut down, it can be reopened according to the following steps.

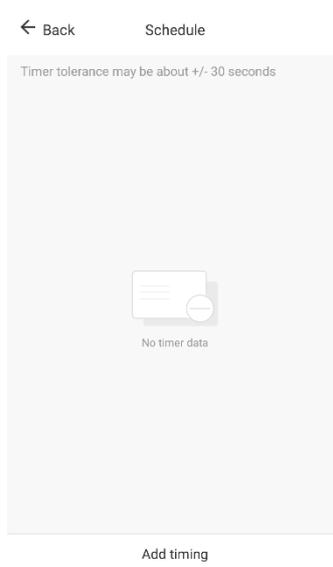


Click on the valve button to enable or cancel the valve detection function.

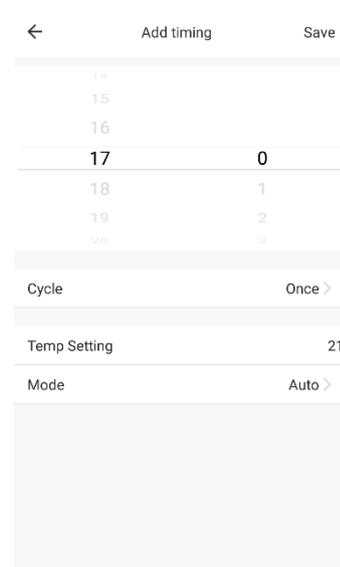
## 5.12 Automatic Mode Settings



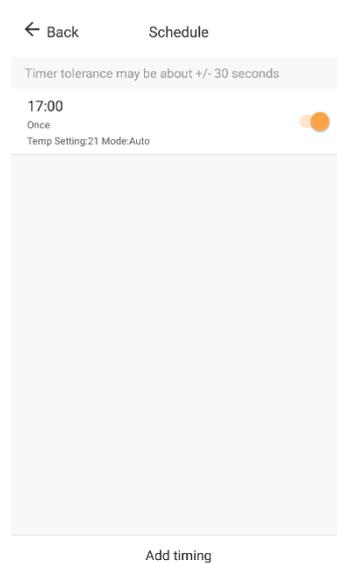
1) Click  button



2) Click 'Add timing'



3) Set the time and temperature and save.



4) Save successfully and click 'Back'



5) Finished

## 6 Technical Specifications

Power input	DC3V(AA×2, Alkalinity)	
Standby current	Without network	≤100μA
	Networking	≤120μA
Maximum current	≤800mA	
Bluetooth version	ZigBee®	
Wireless distance	≥30meters @in an open air	
Setting temperature	Automatic mode	5~30℃
	Manual mode	5~30℃
	Anti-freezing mode	5~15℃
Measurement intervals	Once every 2 minutes.	
Valve stroke	6mm as longest	
Noise level	<30dB(A)	
Environment	-20~65℃, ≤95%RH Non-condensate	
Environmental standards	RoHS	
Size	Φ57×89mm	
Weight	~192g (Include batteries)	

## 7 Troubleshooting

Number	Problems	Reasons	Solutions
1	The thermostat can operate normally, but the room temperature is obviously higher than the set temperature.	The thermostat is not installed correctly.	Remove the thermostat from the valve, then take out the battery and wait 30 seconds to reload it. Then refer to section 4.2 and reinstall the thermostat.
		Valve fault	Replace the valve, then take out the battery and wait 30 seconds to reload it. Then refer to section 4.2 and reinstall the thermostat.
2	The thermostat can operate normally, but the room temperature is obviously lower than the set temperature.	Low inlet temperature of radiator.	Contact the professional person to overhaul the hot water pipe.
3	APP can't operate the thermostat.	The thermostat is not connected to the APP.	Reference section 5.5.
		The thermostat is far away from the APP, or there are multiple obstacles in the middle.	Adjust control distance.
4	The thermostat can operate normally, but the room temperature cannot be kept constant.	Low battery.	Replace the battery.
5	LCD displays 		
6	After the thermostat is installed on the battery, the thermostat has no response.	Battery polarity inversion	
		Product fault.	Contact a seller to repair or replace a product.
7	LCD displays 	The thermostat is not installed correctly.	Remove the thermostat from the valve, then take out the battery and wait 30 seconds to reload it. Then refer to section 4.2 and reinstall the thermostat.
		Too high temperature setting.	Reset temperature.
		Valve fault.	Replace the valve, then take out the battery and wait 30 seconds to reload it. Then refer to section 4.2 and reinstall the thermostat.

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		Room area is too large (radiator does not match)	Replace radiator.
		The inlet water pressure or inlet temperature is too low.	Check inlet water pressure and inlet temperature.

## Statement

The information in the User's Manual is absolutely correct at the time of publication, however we are not responsible for the application of this document. The application mentioned in this document is for illustration purposes only. We do not guarantee or represent that these applications without further modifications are appropriate and that we also have the right to modify the product without any notice.