

# User manual

Get support at

[www.ThermoThink.com](http://www.ThermoThink.com)

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# 1 Important safety instructions

## Heating Safety



### Danger

- To avoid skin damage, limit the time you use the heated seat and set the dial to a safe level. The hotter the seat, the shorter the safe exposure time is.

Be sure to observe the following guidelines when using your seat.

- Use at reasonable heat settings for reasonable periods of time.
- Be careful not to adjust the heat setting continuously upwards as your tolerance to adapts.
- Do not turn up the heat so high that its not comfortable.
- You should use caution or temporarily discontinue use in potentially hazardous situations.
- Excessive heat exposure can cause skin damage or burning.
- Do not allow children or pets to sit on the seat unattended or monitored.
- Always turn off the seat when not in use.

## General information

To avoid damage or malfunction:

### Caution

- Do not expose the seat or ThermoThink Bluetooth device to excessive heat
- Do not drop your ThermoThink Bluetooth device.
- The device shall not be exposed to water.
- Do not allow your device to be submerged in water.
- Do not use any cleaning agents containing alcohol, ammonia, benzene, or abrasives.
- If cleaning is required use a soft doth, if necessary dampened with a minimum amount of water or diluted mild soap, to clean the product.
- Read all warning and labels and instructions for the USB-C PD battery selected for use.

### About operating and storage temperatures and humidity

- Operate or store in a place where temperature is between -15°C (5°F) and 55°C (131 °F) (up to 90% relative humidity).
- Battery life may be shorter in high or low temperature conditions.

# 2 Your Bluetooth Wireless Heated Seat

Congratulations on your purchase, and welcome to the ThermoThink community!

With this wireless heated seat, you can:

- enjoy convenient portable heat;
- seamlessly adjust heat with the free mobile app
- set pre-defined heat settings that fit your lifestyle and heat comfort.

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## What's in the box

### ThermoThink Bluetooth Controller

This is the device that controls the Bluetooth connection and power to your seat.

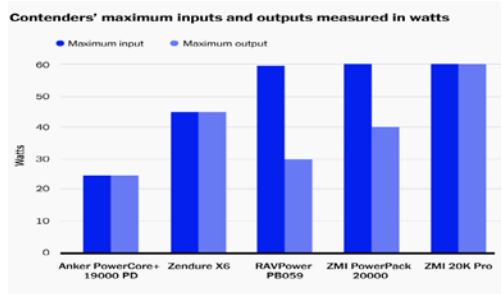
### Wireless Heated Seat

The rugged seat comes with a zipper pouch to safely protect your ThermoThink Bluetooth controller and USB-C PD battery pack.

Equipment you need to purchase that is not included:

- 30W+ USB-C PD (Power Delivery) Battery and Charging Cable

### Recommended Battery Comparison



### Note:

Your ThermoThink device does not charge. It is a Bluetooth controller powered by a USB-C PD battery. The battery is not included which allows you to purchase a battery or multiple batteries that meet your needs for capacity (duration), weight, cost and other considerations.

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## Mobile App

Download the ThermoThink iOS or Android app to connect and control the Bluetooth controller.

The seat requires the mobile app. The Minimum iOS version is XXX.

The Minimum Android version is SDK 23 (version 6.0).

# Battery Requirements

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You will need to purchase a compatible 30W+ USB-C Power Delivery (PD) battery pack.

**USB-C Power Delivery** is a new protocol specification that allows for faster and more flexible charging. It was developed concurrently with USB Type-C (USB-C) which is the physical connection, and it is a subset of the new USB 3.1 standards.

Keep in mind the higher the mAh rating of the battery, the longer its duration. We recommend a 20mah or higher capacity. A 30-watts or higher battery power output is highly recommended to provide full power for the seat.

Below are high capacity / high output USB Power Delivery (PD) batteries we recommend:

- ① RavPower 30W 26800maH
- ② Anker PowerCore 30W 26800maH
- ③ ZMI PowerPack 20000maH 40W
- ④ Zedure X6 20100mah 40W



## Tip

- Most USB-C Power Delivery (PD) battery packs come with 1 or more standard USB ports that allow you to use multiple devices such as charging a phone or a laptop. However, keep in mind the more devices consuming power the less duration the seat and battery will last.
- The battery is not included which allows you to get a battery or multiple batteries that meet your needs for capacity (duration), weight, cost, and other considerations.

# 3 Get started

## Buy a compatible USB-C Power Delivery battery and Charge it Fully

### Note

- Before you use your seat you will need to select and buy a compatible USB-C Power Delivery (PD) battery. See the Battery Requirements page above for recommendations. Charge it fully before first use.
- Most battery packs will come with the required cables. You will need a USB-C to USB-C cable to connect the device to the battery.

### Tip

- Make sure both the seat and battery connectors are securely fastened. Then secure the device and battery in the seat zipper pocket.

### 1. Connect the Seat to the Bluetooth Controller (one-side)

Connect the 5-pin seat cable into the ThermoThink Bluetooth controller, and another end into the power source.

### 2. Connect the Battery to the Bluetooth Controller (other side)

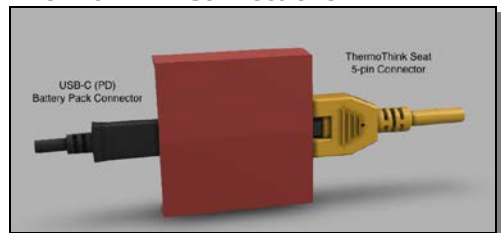
Connection is verified by the blue LED light on the front panel.

## 3. Download the App

For iOS devices download the ThermoThink app from the AppStore.

For Android devices download the ThermoThink app from the Google PlayStore.

### ThermoThink Connections



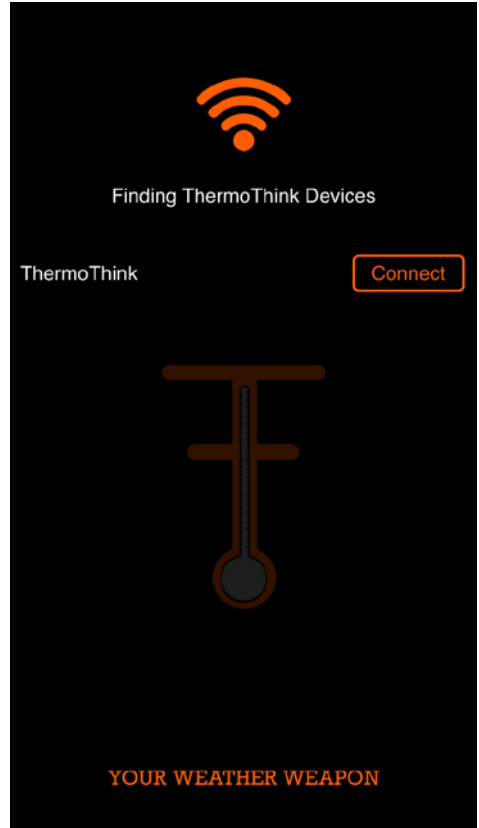
# Pair the seat Bluetooth controller with your app

- 1 Make sure that the Bluetooth controller is connected to a fully charged USB-C PD battery.
- 2 Make sure Bluetooth is enabled on your mobile device.
- 3 Open the ThermoThink app and it will find your device.
- 4 Click “Connect” to pair the device.

## Note

- After connecting, go to the app settings and set custom preferences for temperature unit (C or F) or a unique device name.

## ThermoThink App Connection Screen



# 4 Control the seat

## Connect the seat to your Bluetooth controller USB-C PD Battery

- 1 Turn on the Bluetooth function of your mobile device.
- 2 Open the ThermoThink app to search. If no device is in range it will not detect and will be unable to connect.
  - ↳ If multiple devices are in range that have not already been paired they will both appear with the "ThermoThink" id. You can customize the name in settings after connection.
  - ↳ If a device has already been paired it will not display until it has been unpaired.


### Tip

- The seat cannot connect to more than 1 device at the same time. If you have two paired Bluetooth devices, only turn on the Bluetooth function of the device that you want to connect.

## Temp and Humidity Display

The temperature and humidity display are for informational use only.

## App Main Functions

Task	Operation
Connect	Click "Connect" when device is detected
Power On/Off	Click Power Button 
Create a Mode	Click Mode button and then + symbol
Remove a Mode	Click Mode button, select mode, then delete button
Adjust Seat Heat	Move radial dial to Increase or decrease

## Settings

Task	Operation
Connection Status	Toggle Power On/Off
Device Name	Click the name to enter a custom device id
Temperature Unit	Toggle F to C
Update Firmware	Updates current firmware version. If current it will indicate that.
Device Reset	Resets original device settings



# 5 Notice

## Declaration of conformity

### FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by Silicon Labs could void the user's authority to operate the equipment.

### FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter meets both portable and mobile limits as demonstrated in the RF Exposure Analysis and SAR test report. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

### OEM Responsibilities to comply with FCC Regulations

The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

Each new host will require reassessment of radiated spurious

emissions and a permissive change to the certification.

For BGM121N/BGM123N the minimum separation distance to human body is 6mm. If the separation distance from the antenna to human body is 6mm or more, SAR testing is not needed. In case the separation distance to human body is less than 6mm, then OEM integrator is responsible to test the SAR with the end product assembly.

OEM integrator is responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

**IMPORTANT NOTE:** In the event that the above conditions cannot be met (for certain configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

### End Product Labeling

The BGM121 module is not labeled with its own FCC ID because of its small physical size. The final end product must be labeled in a visible area with the following:

**“Contains Transmitter Module FCC ID: QOQBGM12LMA”**or

**“Contains FCC ID: QOQBGM12LMA**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module or change RF related parameters in the user manual of the end product.

## ISED

This radio transmitter (IC: 5123A-BGM12LMA) has been approved by Industry Canada to operate with the embedded chip antenna. Other antenna types are strictly prohibited for use with this device.

This device complies with Industry Canada's license-exempt RSS standards. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device

### RF Exposure Statement

Exception from routine SAR evaluation limits are given in RSS-102 Issue5. BGM121 and BGM123 meets the given requirements when the minimum separation distance to human body is less than equal to 15 mm. RF exposure or SAR evaluation is not required when the separation distance is 15 mm or more.

BGM121A/BGM123A modules has been tested for worst case RF exposure. As demonstrated in the SAR test report, BGM121A/BGM123A can be mounted in touch with human body without further SAR evaluation.

If the separation distance of BGM121N or BGM123N is less than 15 mm the OEM integrator is responsible for evaluating the SAR.

### OEM Responsibilities to comply with IC Regulations

The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter. Radiated emission must be tested with each new host product and ISED must be notified with a Class 4 Permissive Change.

OEM integrator is responsible for testing their end-product for any additional

compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

**IMPORTANT NOTE:** In the event that these conditions cannot be met (for certain configurations or co-location with another transmitter), then the IC authorization is no longer considered valid and the IC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate IC authorization

### End Product Labeling

The BGM121/BGM123 module is not labeled with IC ID because of its small physical size. The final end product must be labeled in a visible area with the following:

**"Contains Transmitter Module IC: 5123A-BGM12LMA"**

or

**"Contains IC: 5123A-BGM12LMA"**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module or change RF related parameters in the user manual of the end product

CE

The Declaration of Conformity may be consulted at [www.silabs.com](http://www.silabs.com).

Please note that every application using the BGM121 or BGM123 will need to perform the radio EMC tests on the end product according to EN 301 489-17.

The conducted test results can be inherited from the modules test report to the test report of the end product using BGM123 or BGM121. EN300328 radiated spurious emission test must be repeated with the end product assembly. Test documentation and software for the EN 300 328 radiated spurious emissions testing can be requested from the Silicon Labs support.

## 6 Frequently asked questions

### **My Bluetooth seat does not turn on.**

The battery may be level is low.  
Charge the battery pack.

### **I cannot pair my Bluetooth seat with my ThermoThink app.**

The Bluetooth is disabled. Enable the Bluetooth feature on your Bluetooth device and power the Bluetooth device before you pair with the app.

### **I am getting an error message.**

Contact us at [sales@ThermoThink.com](mailto:sales@ThermoThink.com) and a representative will assist in how to resolve the issue.

### **My ThermoThink Bluetooth Controller was lost, damaged or stolen.**

Contact us at [sales@ThermoThink.com](mailto:sales@ThermoThink.com). We can ship you a replacement controller after payment.

### **The temperature sensor is not accurate.**

The sensor is for display purposes only and will not impact heat performance. If it is not reading an accurate temperature try disconnecting and re-connecting the power cable. The sensor wire may also have been compromising resulting in permanent damage.

### **I do not know how to connect the ThermoThink**

Refer to the user manual above on page 6. There are also instructional videos on [ThermoThink.com](http://ThermoThink.com).

### **Why does the seat not come with a battery**

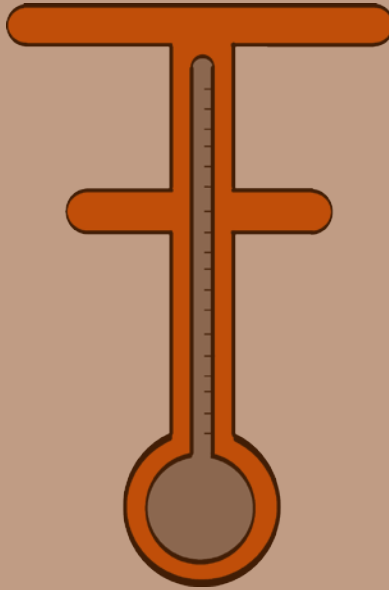
This allows you to select a battery or multiple batteries that fit your custom budget, weight, size, and performance. Battery technology also continues to evolve so this allows your ThermoThink device to continue using the latest battery technology.

### **I do not know what battery to buy**

Recommendations for batteries are in the user manual above on page 6. You can also consult with any electronics store to find a suitable USB-C Power Delivery (PD) battery that supplies at least 30W of output power.

### **Does the ThermoThink device only work with the seat.**

Yes, that is currently the only heated product available at this time. We have developed a heated jacket that will be available in the future.



For further support, visit  
[www.ThermoThink.com](http://www.ThermoThink.com).

**QUALIFIED ANTENNA TYPES FOR BGM121N/BGM123N BGM121N/BGM123N** modules are approved with a standard 2.14 dBi dipole antenna. Any antenna of the same type, similar in-band out of band characteristics and with the same or less gain can be used without reassessment. In case using antenna of a different type and/or higher gain reassessments and notification to the certification authority is required.

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