

# Easy and immediate savings on electric heating costs

Purchase a Themo Smart Thermostat that optimizes your underfloor and ceiling heating taking into account your electricity contract pricing and your heating requirements.

# Contents

- Electric Underfloor and Ceiling Heating Challenges.....**3**
- Why choose Themo Smart Thermostat?.....**4**
- How Does Themo Smart Thermostat Work?.....**5**
- Themo Smart Thermostat Features.....**6**
- Usage Examples.....**7**
- Purchase, Installation, and Implementation.....**8**
- Contents of the Themo Smart Thermostat Package.....**9**
- Compatibility with Underfloor Heating Systems.....**10**
- Technical Specifications.....**11**
- Additional information.....**12**



## Electric Underfloor and Ceiling Heating Challenges

Electric underfloor heating provides living comfort in numerous detached houses and vacation homes. Underfloor heating is most commonly used in bathrooms. Electric ceiling heating is a less commonly used heating method.

Regular underfloor and ceiling heating systems equipped with manually adjusted thermostats consume substantial amounts of electricity, because

- Heating is always on
- Temperature is kept unnecessarily high

Regular thermostats require constant adjustment that is tiresome and imprecise. You may be able to save electricity with a manual thermostat, but it requires constant effort.

## Why choose Themo Smart Thermostat?

Themo offers an easy way to save electricity and reduce the carbon footprint of your household – without compromising on comfort.

Themo Smart Thermostat optimizes and controls your underfloor and ceiling heating room-specifically taking into account your requirements, the outdoor temperature, and the price of electricity. Themo Smart Thermostat is especially beneficial to those with exchange electricity contracts, who can save 32% on average on their electricity bills.



- Smaller electricity bills right away
- Even temperature based on your requirements
- Easy remote control of heating with the Themo app
- Real-time information on the price level of electricity
- Environmentally friendly – you will consume less energy and ensure that a larger share of the energy you consume is produced from renewable sources
- Quick and easy implementation
- One-off cost: you only pay for the smart thermostats and their installation
- Themo Smart Thermostat comes with a limited two-year warranty and a support service that is always available to you.



## How Does Themo Smart Thermostat Work?

Themo makes smart electricity consumption decisions on your behalf.

The algorithm that controls Themo learns to optimize the temperature individually in each room using dozens of parameters. Machine learning will take the heat reservation capacity of the floor, the price of electricity, and the weather forecast into account in heating your floors.

In addition to automatic optimization, you can also monitor and control the heating yourself by specifying times when the house is empty, thus allowing the optimization to reduce the temperature when appropriate.

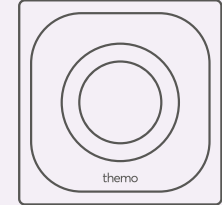
Themo is best suited for optimizing the use and expenses of exchange electricity where the price varies based on the market price of the power exchange. Themo optimizes the electricity consumption for the underfloor heating based on the market price and schedules the supply of power according to the most affordable and environmentally friendly times.

Themo can also create an optimal heating schedule that saves electricity for those on fixed-rate electricity contracts, as it monitors and optimizes heating needs room-specifically.

### Three Different Operating Modes

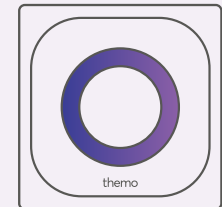
#### Off mode:

Themo Smart Thermostat only heats the room when the temperature falls below the temperature specified by you – this could also be the minimum temperature required to prevent freezing (typically +5 °C, which is also the default setting for Themo Smart Thermostat). The LEDs are turned off.



#### Smart Program mode:

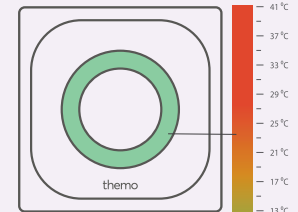
Themo Smart Thermostat heats the room according to the heating schedule, and the LEDs indicate variations in the price of electricity (customizable colors).



Low price    High price

#### Manual mode:

Themo Smart Thermostat functions as a regular thermostat, which allows you to adjust the temperature through the app or directly on the device. The LEDs are used to indicate the selected temperature.



# Themo Smart Thermostat Features

Themo Smart Thermostat is a flush-mounted room thermostat designed to **fit a standard wall outlet frame.**

The stylishly designed Themo Smart Thermostat is equipped with an LED indicator that **changes color to show you the price level of electricity in real time.**

**You can control the temperature and heating schedules and monitor the energy consumption easily**

with the mobile app installed on your smartphone or tablet, or a web app accessed with a computer.



Option to specify different temperature schedules based on one-week (7 days) periods.



Electricity consumption history for the previous 2 weeks (we can also provide the history for the whole operating time on request).

**Themo utilizes the Wi-Fi network in your home.**

If the device cannot connect to the Wi-Fi, optimization continues for 24 hours using the offline memory.

If Wi-Fi is not available, Themo functions as a regular thermostat without optimization.

**All data is protected.**

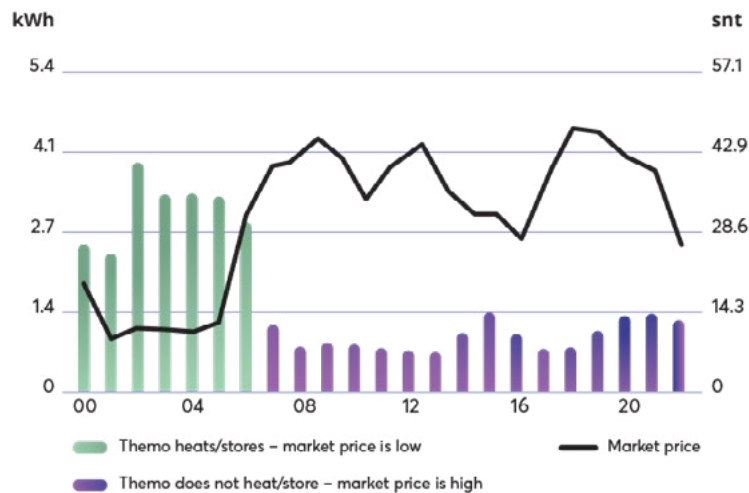
Themo uses latest industry standards to ensure that all your data is stored securely.

The device features **a childproof lock.**

# Usage Examples

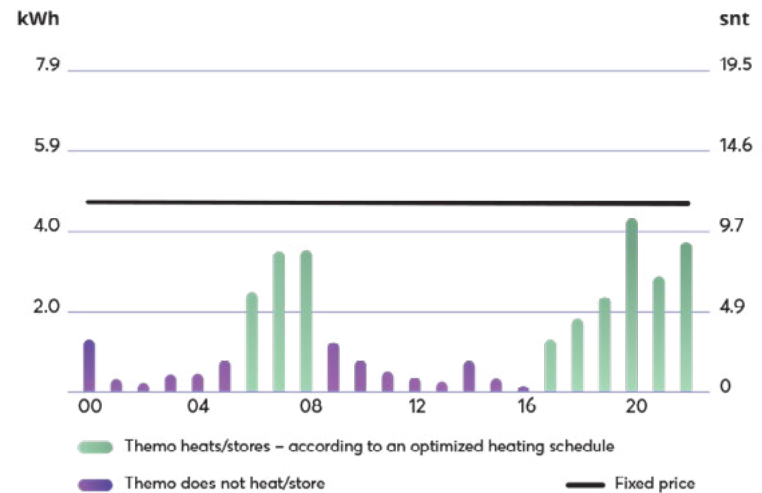
## Electricity Consumption in a Detached House with an Exchange Electricity Contract

Themo Smart Thermostat offers exchange electricity customers a significant added benefit by optimizing heating and heating costs. The thermostat optimizes electricity consumption for the underfloor heating based on the market price and schedules the supply of power according to the most affordable and environmentally friendly times.



## Scheduling Underfloor Heating in a Bathroom Based on Requirements

Themo Smart Thermostat creates an optimal heating schedule that saves electricity for customers on fixed-price contracts as well. It monitors and optimizes the heating needs according to a room-specific heating schedule.



Calculate how much you could save on heating costs

## Purchase, Installation, and Implementation

1

Check compatibility with your underfloor heating system and **purchase the required number of Themo Smart Thermostats** from [our online store](#) or [one of our retailers](#) (1 Themo per heated room).

2

**Download the Themo mobile app** to your smartphone and create a free Themo account.

3

**Call a qualified electrician**, who can install the thermostats in approximately 15 minutes following our instructions.

4

**Follow the instructions in the Themo app to set up the Wi-Fi connection, electricity rate profile, and room profiles** (the times when people are at home and the desired temperatures – you can create several heating schedules)

5

**Themo Smart Thermostat will begin optimizing your heating immediately** – nothing more is required from you.

6

**If you want, you can monitor and control** the consumption of electricity for the underfloor heating in the app.

7

**If you require more support** during the implementation or later, see our [Support page](#) for instructions and submit a support request if necessary, and we will contact you.



## Contents of the Themo Smart Thermostat Package

### Included in the box:

- Flush-mounted Themo Smart Thermostat
- Installation instructions and user manual
- Wall frame (Merten System M)
- Two wall-mounting screws
- Wire cap

### Warranty

The product has a limited two-year warranty under the Finnish Consumer Protection Act.

### EU Declaration of Conformity

The CE marking signifies that the device meets the requirements of EU regulations. The product conforms to the following EU directives amendments included and the requirements provided by national legislation:

- EU Low Voltage Directive 2014/35/EU

## Compatibility with Underfloor Heating Systems

Themo can be used to replace all 230 V electric underfloor thermostats that are on the market. The product is compatible with the most commonly used floor sensors from most underfloor heating system manufacturers. You do not have to replace the existing floor sensor, as Themo Smart Thermostat utilizes machine learning to detect the resistance of the temperature sensor.

### The most common sensor types and their manufacturers are:

- Teplolux / NTC 6,8 kOhm
- Aube / NTC 10 kOhm
- FENIX / NTC 10 kOhm
- Raychem / NTC 10 kOhm
- Themo / NTC 10 kOhm
- OJ Electronics / NTC 12 kOhm
- Warmup / NTC 12 kOhm
- Devi / NTC 15 kOhm
- Mark Aire / NTC 22 kOhm
- Nobo / NTC 22 kOhm
- Eberle / NTC 33 kOhm
- Ensto / NTC 47 kOhm

## Technical Specifications

**Installed sensors:**

Floor sensor, room sensor

**Voltage:** 220–240 V, 50 Hz

**Standby current:**

Max 1,8 W

**Capacity:**

Max 12A/3000 W @ 230 V

**Maximum floor temperature:**

45 °C

**Offline temperature setting:**

Default 5 °C

**Dimensions:** W70 x L70 x H48 mm

**Weight:** 120 g

**Material:**

ABS and PC plastic, white, glossy

**display device:** 16x RGB LED

**Languages:**

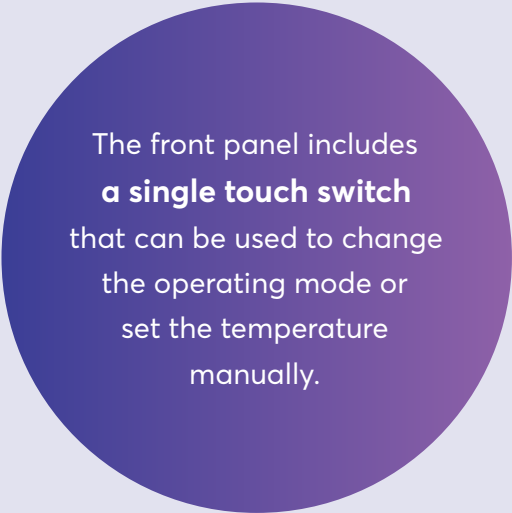
English, Finnish, Estonian, Russian

**Remote control requires:**

- Wireless Wi-Fi network connection
- Free Themo user account
- Themo mobile app and/or access through the web application

**Cable:**

Use cable with a diameter of 1.5 mm<sup>2</sup> or 2.5 mm<sup>2</sup> depending on the power consumption.



The front panel includes **a single touch switch** that can be used to change the operating mode or set the temperature manually.

## Rethinking electric heating

It is Themo's objective to enable cleaner and more affordable electric heating for everyone. We achieve this by using smart technology that reduces the consumption of electricity.

### Achieve Savings Through Smart Consumption of Electricity

On our website and in our online store you can find answers to

- Questions regarding the features and use of the product
- Frequently Asked Questions

You can also contact Themo's user support with any questions related to implementation or in case of a malfunction.

themo

**Themo Nordic Oy**

Lapinlahdenkatu 16,  
FI-00180 Helsinki, Finland

[info@themo.io](mailto:info@themo.io)

[themo.io](https://themo.io)

# Product information



## Themo Smart Thermostat

Intelligent floor heating thermostat that checks the electricity price when heating your floor.

Themo is an digital thermostat for flush mounting in a standard wall box. The thermostat has a built-in Wi-Fi chip that can be connected with your home network. When connected to the internet Themo gets live pricing from the open electricity market, optimizes your heating cycles and allows you to save average 32,5% from your electricity bill.\*

## How does it work?



### Smart schedule

Create a detailed 7-day schedule for your comfort needs. Themo will automatically optimize heating cycles to the lowest electricity tariffs and follow the schedule.



### Weather adaption

Themo is always monitoring thousands of details inside and outside your home to decide when to switch the heating on or off.



### App controlled

Connect Themo to Wi-Fi to change temperatures and schedules from your phone, tablet or laptop.



### Easy installation

Quickly set up with the online step-by-step installation guide.



### Energy History

See when heating were on and how the heating has affected your electricity bill.



### Works without internet

Switching off Wi-Fi during the night? Themo is designed to operate offline for a short time and optimize your heating even during temporary loss of internet connection.



### Multiple schedules

Your everyday schedule changes with you. Create different heating scenarios and make quick switch between them.

## Inside the box

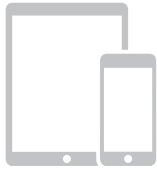
- Themo Smart Thermostat (for in-wall mounting)
- 10 kOhm NTC temperature sensor
- Installation and operating manual
- Wall frame Merten System M
- 2 wall mounting screws
- Wire cap



EAN: 4748001006251

## Functions

### Designed for mobile use



Themo has been developed for mobile phone and tablet use. The settings are most easily controlled using the Themo mobile app. It is available for iOS (> Version 12.4) and Android (> Version 7.0). The app is free.

Besides the control of settings and management of data, the Themo app also provides a detailed report of the heating history and a feature to compute a savings estimate.

## Heating modes

There are three different heating modes.



**Off:** When set to Off, Themo only heats when the room temperature drops below frost protection temperature (default is 5°C) to avoid frost damage.



**Schedule:** When set to schedule, Themo controls the heating based on the schedule. It can be adjusted to the preferred home, away and sleep temperatures. The optimal heating cycles are set by Themo depending on the real time electricity prices and network tariffs set by the user.

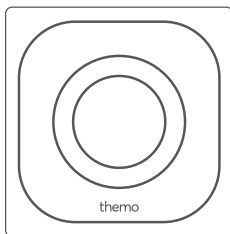


**Manual:** When set to Manual, Themo keeps the floor or room temperature at the selected set point temperature indicated from the mobile app.

## Light indications

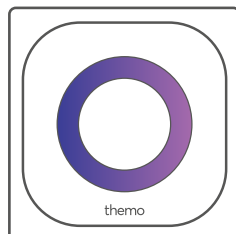
### Off

When in off mode, all lights are switched off



### Schedule

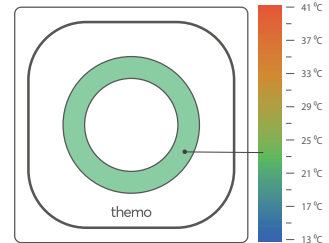
When set to schedule, Themo indicates low or high electricity price for up-coming hours using colors set by the user.



Low price      High price

### Manual

When set to Manual, Themo indicates low or high temperature setpoint set by the user.

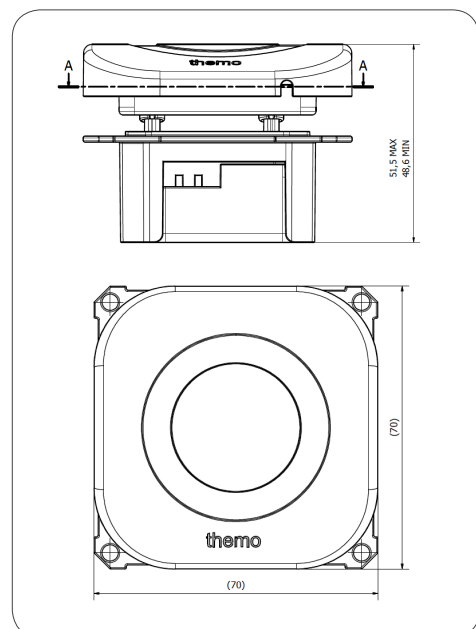
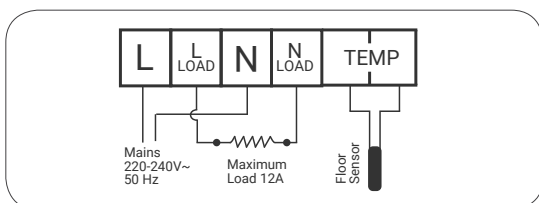


## Mechanical design

### Wiring interface

Themo Smart Thermostat supports only 230V interfaces and is intended for in-wall mounting. The wiring diagram on the back of the device shows the wiring for the relay operation. Proper connection of the floor sensor is mandatory for the thermostat to operate correctly.

Detailed installation instructions are provided in the installation manual included with thermostat.



## Features

- Smart schedule
- Weather adaption
- Energy history
- Themo app
- Button/child lock
- Display on/off switch
- Offline heating
- Multiple schedules
- Software updates over Wi-Fi
- Electricity price view
- Temperature limiter
- Frost protection

## Specifications

### Sensors

- floor temperature sensor
- room temperature sensor

### Operation Voltage

220-240 V, 50 Hz

### Standby power consumption

Max 1,8 W

### Relay

Max 12 A / 2760 W @ 230 V

### Supported floor sensors

- NTC 6,8 kOhm @ 25°C
- NTC 10 kOhm @ 25°C
- NTC 12 kOhm @ 25°C
- NTC 15 kOhm @ 25°C
- NTC 33 kOhm @ 25°C
- NTC 47 kOhm @ 25°C

### Floor temperature limit

Maksimum allowed temperature 45°C

### Frost protection

5 to 12 °C (default 5 °C)

### Connection Clamps

Use 1,5 mm<sup>2</sup> or 2,5mm<sup>2</sup> cables according to power need.

### Dimensions

W70 x L70 x H48 mm

### Weight

120 g

### Internet connection

WiFi 802.11 b/g/n 2.4GHZ-2.5GHZ

### Buttons

1x Q-Touch capacity touch

### Remote control requirements

- Wi-fi connection with internet access
- Themo app on phone or tablet with iOS or Android
- Free Themo account

### Display

Configurable 16x RGB LEDs

### Material and IP rating

ABS + PC plastic/ white, glossy

IP21

### Languages

- English
- Estonia
- Finnish
- Russian

## Regulatory Conformity

### EU declaration of Conformity

The product is in conformity with the provisions of the following EC Directives, including all amendments, and with national legislation implementing these directives:

Low Voltage Directive 2014/35/EC

EMC Directive 2014/35/EC



### Warranty

According to Consumer Protection Act all products purchased from www.themo.ee or from respective reseller will have 2-year limited warranty.