

# HELTUN™

IMPOSSIBLY SMART

## HEATING THERMOSTAT

HE-HT01

WITH Z-WAVE 700 PLATFORM







# YOUR COMFORT MATTERS

- When considering your comfort at home, what is most important?
- Is it general room temperature?
- Floor temperature?
- Climate control?
- Or maybe something else?

Whatever the need,  
HELTUN has got you covered.



## TAKE CONTROL

Electric Water Heaters/Boilers



Electric Snow Melt System for Decks & Driveways



Electric Underfloor Heating Systems



Electric Roof and Gutter De-icing Systems



Radiators and Panel Heaters



HELTUN Advanced Zero-Cross Technology delivers greatly increased longevity & system reliability  
Maximum 16 Amp load

Electric Fireplaces



## IMPOSSIBLY THIN





## ELEGANT DESIGN

The HELTUN Heating Thermostat is available in 30 combinations to integrate seamlessly with your interior design. Five frames (silver, chrome, gloss black, matte black, & white), and six glass colours (white, black, yellow, green, red and blue) let you match any environment, style, or taste.

Designed to be powerful, efficient and stylish, at 9mm thick the Heating Thermostat is 'impossibly thin' and good-looking on your wall.



# HELTUN



FRAME: SILVER  
GLASS: WHITE  
MODEL: HE-HT01-SW



FRAME: SILVER  
GLASS: BLACK  
MODEL: HE-HT01-SK



FRAME: SILVER  
GLASS: YELLOW  
MODEL: HE-HT01-SY



FRAME: SILVER  
GLASS: GREEN  
MODEL: HE-HT01-SG



FRAME: SILVER  
GLASS: RED  
MODEL: HE-HT01-SR



FRAME: SILVER  
GLASS: BLUE  
MODEL: HE-HT01-SB



FRAME: CHROME  
GLASS: WHITE  
MODEL: HE-HT01-CW



FRAME: CHROME  
GLASS: BLACK  
MODEL: HE-HT01-CK



FRAME: CHROME  
GLASS: YELLOW  
MODEL: HE-HT01-CY



FRAME: CHROME  
GLASS: GREEN  
MODEL: HE-HT01-CG



FRAME: CHROME  
GLASS: RED  
MODEL: HE-HT01-CR



FRAME: CHROME  
GLASS: BLUE  
MODEL: HE-HT01-CB



# HELTUN



FRAME: BLACK GLOSS / MATTE  
GLASS: WHITE  
MODEL: HE-HT01-GKW / MKW



FRAME: BLACK GLOSS / MATTE  
GLASS: BLACK  
MODEL: HE-HT01-GKK / MKK



FRAME: BLACK GLOSS / MATTE  
GLASS: YELLOW  
MODEL: HE-HT01-GKY / MKY



FRAME: BLACK GLOSS / MATTE  
GLASS: GREEN  
MODEL: HE-HT01-GKG / MKG



FRAME: BLACK GLOSS / MATTE  
GLASS: RED  
MODEL: HE-HT01-GKR / MKR



FRAME: BLACK GLOSS / MATTE  
GLASS: BLUE  
MODEL: HE-HT01-GKB / MKB



FRAME: WHITE  
GLASS: WHITE  
MODEL: HE-HT01-WW



FRAME: WHITE  
GLASS: BLACK  
MODEL: HE-HT01-WK



FRAME: WHITE  
GLASS: YELLOW  
MODEL: HE-HT01-WY



FRAME: WHITE  
GLASS: GREEN  
MODEL: HE-HT01-WG



FRAME: WHITE  
GLASS: RED  
MODEL: HE-HT01-WR



FRAME: WHITE  
GLASS: BLUE  
MODEL: HE-HT01-WB



## INTERNAL SENSORS

In addition to the temperature control sensor, the HELTUN Heating Thermostat also features built-in humidity and ambient light sensors which can be monitored by a Z-Wave controller and used to trigger home automation scenes.

The frequency (reporting time) of data updates from sensors can be individually adjusted to meet the needs of your smart home system.

TEMPERATURE SENSOR

HUMIDITY SENSOR

AMBIENT LIGHT SENSOR





TEMPERATURE SENSOR 1

TEMPERATURE SENSOR 2

TEMPERATURE SENSOR 3

TEMPERATURE SENSOR 4

## MULTIPLE SENSORS HELP SAVE ENERGY

When electronics are operating they generate heat. As a result, some thermostats measure ambient temperature with only 1.5-2.0° Celsius precision. The HELTUN Heating Thermostat design incorporates four additional internal sensors and compensating software to calculate ambient temperature with ten times better precision: 0.2-0.3° C. This helps make you more comfortable while saving energy.

FLOOR  
TEMPERATURE  
SENSOR, NTC



EXTERNAL CONNECTION



## EXTERNAL SENSOR

You can connect the included NTC temperature sensor or use your existing sensor to control radiant floor/roof system temperatures. This sensor can be installed under floorboards, on the roof, or under decking, allowing you to accurately measure surface temperatures.

This Heating Thermostat is fully compatible with NTC sensors from other manufacturers, so there is no need to replace existing sensors from your old thermostat when switching to HELTUN.

You can also control the HELTUN Heating Thermostat by connecting it to an external system - like an alarm system - using a pilot wire which can automatically reduce the temperature when the house is empty.





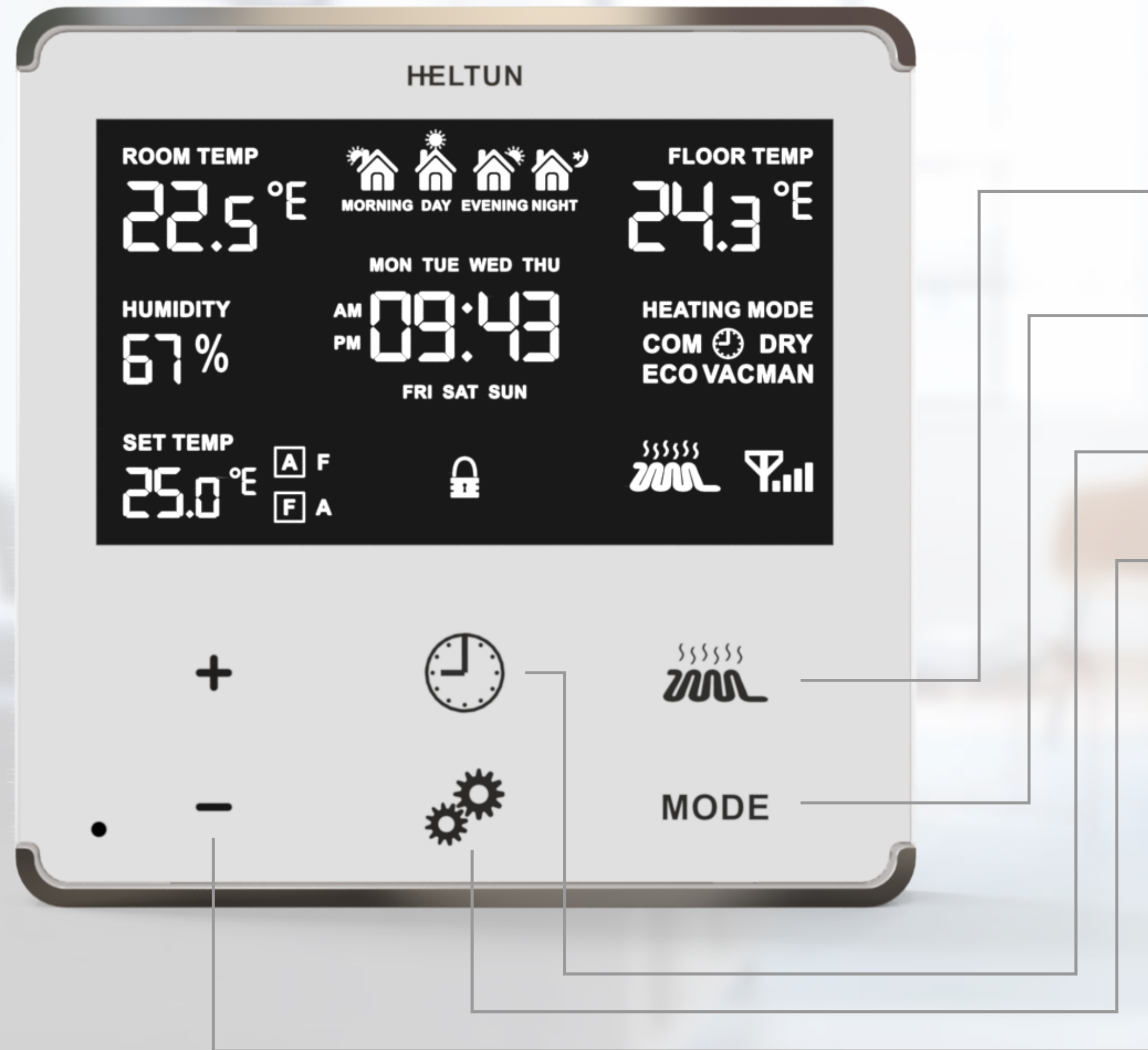
## KNOW HOW MUCH ENERGY YOU USE

The HELTUN built-in Power Consumption System precisely monitors how much energy you used during any particular day, week, or month. Does your current thermostat do that?

We have also designed the circuitry so it draws almost zero watts to power itself when in standby mode. This saves you energy and money even if your home is equipped with many HELTUN products.

## CONTROLS

The HELTUN Heating Thermostat has six capacitive-touch buttons which react to even the lightest touch to access the following functions:



"Manual" switches heat ON or OFF

"Mode" switches between modes (e.g. Comfort, Economy, Vacation, etc.)

"Time" adjusts temperatures for different times of day

"Settings" lets you modify more than 30 thermostat parameters

"+" and "-" adjust the temperature set point

Touch-button sensitivity can be adjusted in the thermostat parameters settings to make it even easier to use.





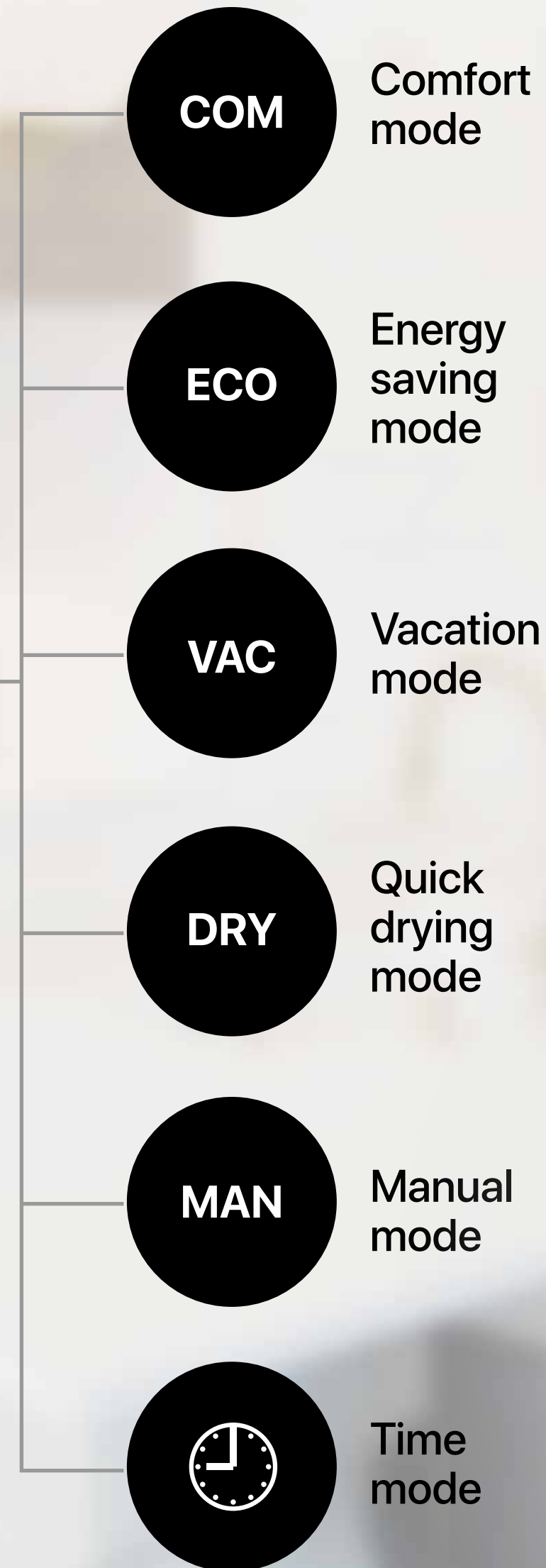
# LCD SCREEN

The large LCD display shows all necessary information at-a-glance without forcing you to activate or manipulate any controls.

You have instant access to all sensor and setting information: air and floor temperature, humidity, set point and heating mode, plus date and time.

Display brightness can be adjusted manually to 15 different brightness levels, or automatically using the ambient light sensor. This allows you to read the display easily even on bright sunny days, and will not overpower your eyes at night.

## HEATING MODES



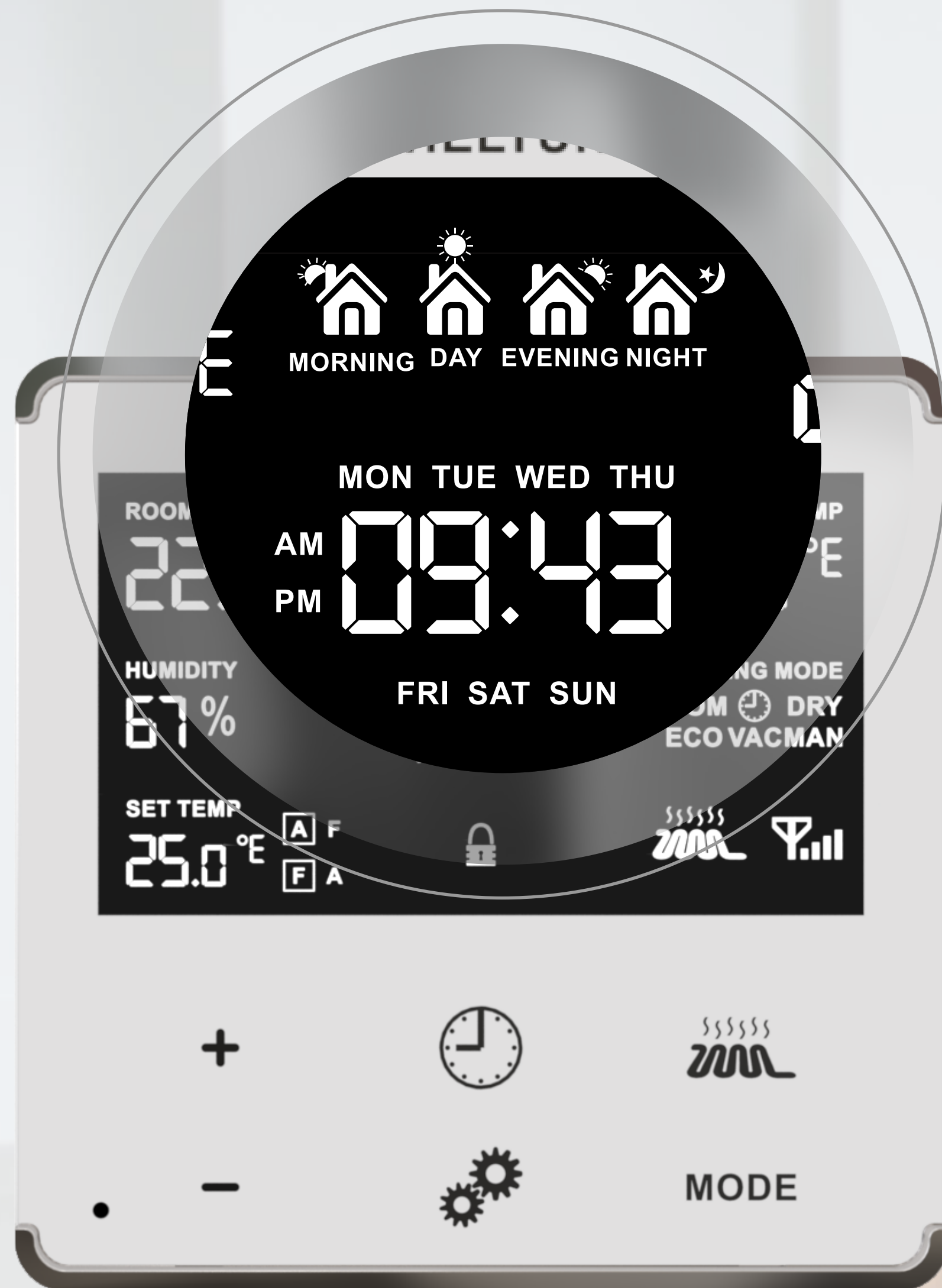
COM, ECO, and VAC modes maintain the temperature you set which can be easily adjusted by selecting the mode desired and pressing the "+" or "-" control. Most thermostats require their users to make mode changes within a complicated settings menu, or these settings are set by the manufacturer and cannot be changed at all. HELTUN always makes it easy to adjust mode setpoints so you can spend less time fussing with your thermostat and more time enjoying your home.

And to make housework easier, HELTUN includes a DRY mode that switches to a rapid heating mode at a higher temperature to dry floors after washing. DRY mode reverts back to the previous mode after 20 minutes.

MAN mode allows you to override any current schedule or mode and turn the heat ON or OFF manually.

TIME mode allows you to set a different temperature for Morning, Day, Evening, and Night periods for each day of the week.





## TIME MODE

You could reduce your power bill by up to 50% and help the environment by activating TIME mode. Adjust your home comfort level according to your family's habits by reducing the temperature while everyone is away, and boosting it for evenings and early mornings.

People spend about 12-14 hours a day at home on average. The rest of the time an empty house needs minimal heating. And considering that much of the time at home your family is sleeping, it can make a huge difference setting your home's comfort level to 18° Celsius overnight which is considered to be the optimal sleeping temperature.

Using TIME mode, you can set different temperatures for Morning, Day, Evening, or Night. For example: 'Morning' mode might start at 7:00 @ 23°C and then shift to 'Day' at 8:30 @ 17°C when everyone is off to work and school. 'Evening' mode might start at 16:00 @ 22°C and then shift to 'Night' at 23:00 @ 18°C. Setting temperatures for these four periods can save a lot on your power bill plus you can adjust for weekdays versus weekend days.



# AUTOMATIC COMFORT CONTROL

HELTUN lets you choose home comfort based on room temperature, or floor temperature, or a combination of the two. The system can be fine-tuned to provide maximum comfort at all times. For example, if room temperature is within your set limits but the floor temperature drops, the underfloor heating system will be switched on automatically. System safeguards will not allow the temperature to rise above or drop below the preset comfort level.

## Four Automatic Comfort Control Modes:

- 1) **Control based only on ambient air sensor:**  
Thermostat will regulate room temperature regardless of floor temperature.
- 2) **Control based only on floor sensor:**  
Thermostat will regulate floor temperature regardless of room temperature.
- 3) **Control based on ambient sensor with floor temperature limits:**  
Thermostat will maintain the specified room temperature but will not allow floor temperature to deviate from specified limits.
- 4) **Control based on floor sensor with ambient limits:**  
Thermostat will maintain specified floor temperature but will not allow room temperature to deviate from specified limits.





# HYSTERESIS

Hysteresis is a technical term which defines when a heating or cooling system should turn on or off when the temperature changes. For example, if the desired temperature is 25°C and the internal hysteresis value is set to 0.5°C, the system will switch OFF the heater when the temperature reaches 25°C and switch it back ON when room temperature drops to 24.5°C.

The higher your hysteresis value is set, the more energy you can save but the variations in room temperature will be greater. The factory default hysteresis value is 0.5°C.





And I hope you see things that  
le you. I hope you feel things you have  
er felt before. I hope you meet  
ple with a different point of view. I  
e you live a life you're proud of.  
ou find you are not. I hope you have  
ourage to start all over again.

F. Scott Fitzgerald

**HELTUN**

# SAFE & SAVE

HELTUN thermostats have a special feature that protects the floor from overheating. The system will not allow the floor temperature to exceed 40°C regardless of mode since any higher could be harmful to the soles of your family's feet.

In case of a power outage, the Heating Thermostat's internal memory is saved and will not be erased. Once the thermostat comes back online all your settings will be fully functional.

To prevent your kids from changing any thermostat settings, you can activate the 'child-safe' mode which locks the control buttons and prevents any accidental changes.



## EASY TO INSTALL

HELTUN thermostats can be easily installed into any standard electrical junction box (square or round) in just minutes. Installation must only be performed by someone trained in handling high voltage electrical systems.



1



2



3



Zipato



Athom Homey



HomeSeer



Vera



Fibaro Home Center Lite



Fibaro Home Center 2



Z-Wave.me RaZberry



Eedomus



## Z-WAVE PLUS V2 CERTIFIED

You can connect HELTUN devices to a Smart Home gateway/controller using the latest Z-Wave Plus V2 700 platform. HELTUN features advanced Smart Start technology for easy system integration, and the Security 2 (S2) framework with AES 256 encryption for safe data transfer.

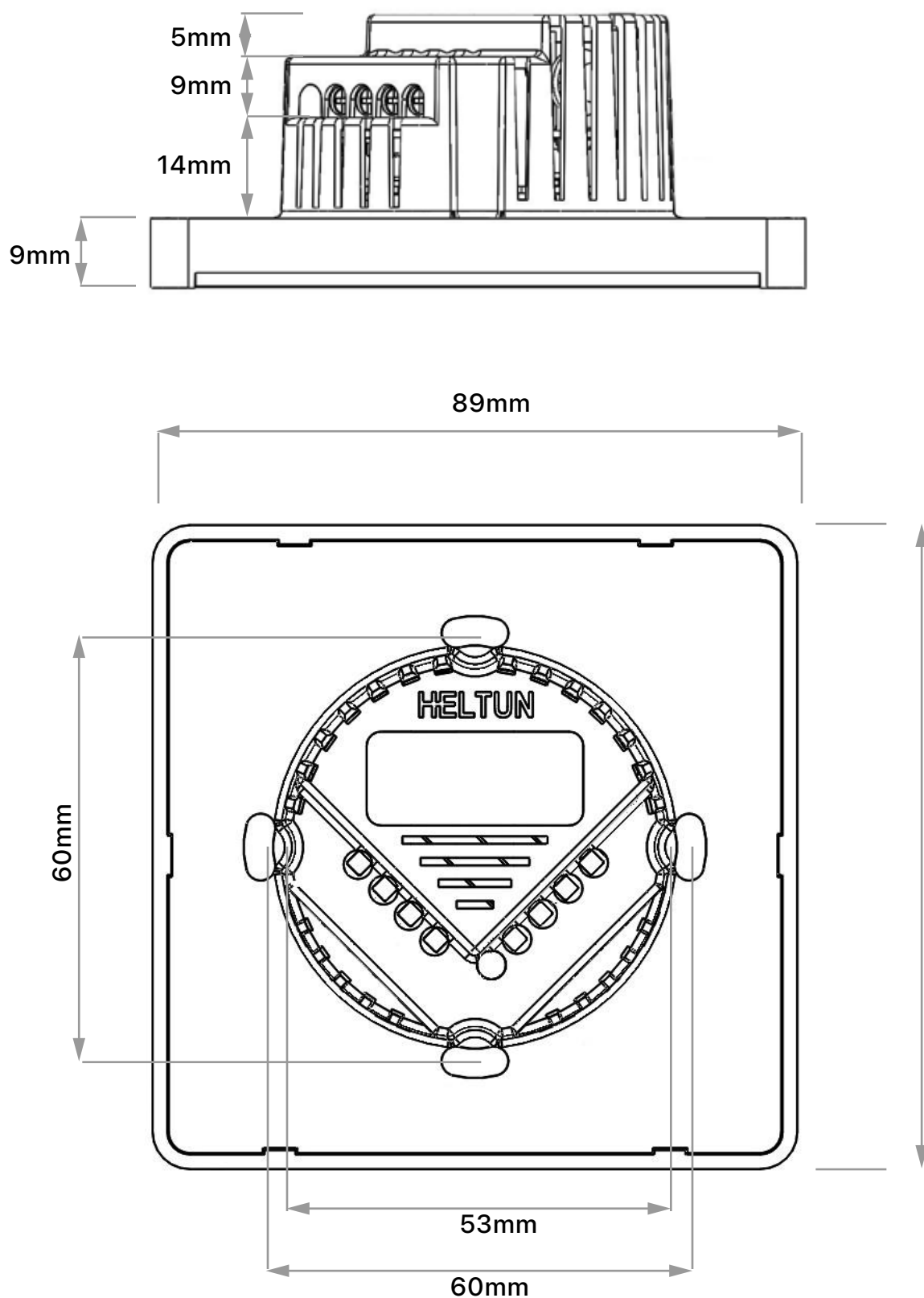
This thermostat is compatible with all Z-Wave certified controllers and devices that properly implement Z-Wave thermostat classes. Using a Z-Wave controller, you can manage all thermostat functions via a mobile application including temperature and mode changes, viewing accurate energy consumption charts, and much more.

Up to 10 separate devices can be connected to your HELTUN thermostat. You can associate it with any Z-Wave compatible ON/OFF switch, or other thermostat, to control different climate systems in a room. You can even connect motion sensors and change thermostat modes when people are detected in the house.

HELTUN devices are compatible with all Z-Wave frequencies for different countries (Europe, Russia, Israel, Australia, USA, India, Hong Kong, China, Japan, and Korea). The correct frequency can be selected in the device menu.

HELTUN periodically releases new firmware with additional features and functionality which can be sent to devices via an encrypted OTA (Over-The-Air) update process.





## TECHNICAL SPECIFICATIONS:

- Front frame (on wall) dimensions: 89x89x9mm
- Rear package dimensions: 53x53x28mm
- Materials: Tempered glass, Flame retardant plastic
- 5 frame colors: White, Gloss Black, Matt Black, Silver, Chrome
- 6 glass colors: White, Black, Yellow, Green, Red, Blue
- LCD: 73x42mm, black with white segments
- 6 sensitive capacitive-touch buttons
- Relay switching with HELTUN Advanced Zero-Cross Technology
- Maximum resistive load: 16A, 4000W @ 250VAC
- Relay life time: 100.000 cycles
- Internal ambient light sensor
- Internal temperature sensor
  - Measurement range: -30°C to +80°C
  - Accuracy:  $\pm 0.5^\circ\text{C}$
- Internal humidity sensor
  - Measurement range: 0% to 80%RH
  - Accuracy:  $\pm 3.0\%$ RH
- External floor temperature sensor
  - NTC 10kOhm
  - Measurement range: -30°C to +80°C
  - Accuracy:  $\pm 0.5^\circ\text{C}$
- Energy consumption meter
- External control through a pilot wire
- Operating temperature: 0°C to +50°C
- Power supply: 85-265VAC 50Hz/60Hz, 24-48VDC
- Power consumption: 1W
- IP class: IP21
- Z-Wave Plus V2 SDK: V7.11
- Z-Wave module: ZGM130S
- Requires mounting to flush electrical junction box: round or square type – min. depth 40mm

## FUNCTIONS & FEATURES:

- Options for Inclusion/Exclusion to/from Z-Wave network
  - Non-Secure
  - S0 Secure
  - S2 Unauthorized, S2 Authorized with Key
- Association control of 10 devices from network
- 6 operational modes with individual temperature set points: COM, TIME, DRY, ECO, VAC, MANUAL
- Four schedules for 7 days of the week: Morning, Day, Evening, Night
- Temperature sensor selection:
  - Floor temperature only
  - Air temperature only
  - Floor + Air temperature
  - Power regulator (Automatic ON/OFF timer)
- Can be used with different NTC-sensors (1k $\Omega$  - 100k $\Omega$ )
- Periodic measurements from:
  - Internal temperature sensor
  - External floor temperature sensor
  - Internal humidity sensor
  - Internal ambient light sensor
  - Energy consumption meter
- Calibration of Internal Room Air Temperature Sensor
- Calibration of External NTC Temperature Sensor
- Temperature set intervals: 4.0°C to 37.0°C
- Temperature limiter: 40.0°C
- Temperature hysteresis selection range: 0.2°C to 10.0°C
- Time mode format: 24 or 12 hours (AM/PM)
- LCD brightness:
  - Automatic adjustment (depending on ambient light)
  - Manual adjustment (15 levels).
- LCD standby mode
- LCD blinking function (for identification among other devices)
- Child lock mode (touch buttons lockout mode)
- Real-time and cumulative energy usage to 0.1kW accuracy
- Factory reset function
- SmartStart technology for quick addition to Z-Wave networks
- Encrypted OTA (Over The Air) firmware update

## Z-WAVE PLUS V2 SPECIFICATIONS:

Generic Device Class: GENERIC\_TYPE\_THERMOSTAT  
 Specific Device Class: SPECIFIC\_TYPE\_THERMOSTAT\_GENERAL\_V2

### Supported Command Classes

COMMAND\_CLASS\_ZWAVEPLUS\_INFO [0x5E], V2  
 COMMAND\_CLASS\_ASSOCIATION [0x85], V2  
 COMMAND\_CLASS\_ASSOCIATION\_GRP\_INFO [0x59], V3  
 COMMAND\_CLASS\_MULTI\_CHANNEL\_ASSOCIATION [0x8E], V3  
 COMMAND\_CLASS\_BASIC [0x20], V2  
 COMMAND\_CLASS\_SENSOR\_MULTILEVEL [0x31], V11  
 COMMAND\_CLASS\_THERMOSTAT\_OPERATING\_STATE [0x42], V1  
 COMMAND\_CLASS\_THERMOSTAT\_MODE [0x40], V3  
 COMMAND\_CLASS\_THERMOSTAT\_SETPOINT [0x43], V3  
 COMMAND\_CLASS\_METER [0x32], V4  
 COMMAND\_CLASS\_CLOCK [0x81], V1  
 COMMAND\_CLASS\_TRANSPORT\_SERVICE [0x55], V2  
 COMMAND\_CLASS\_SECURITY [0x98], V1  
 COMMAND\_CLASS\_SECURITY\_2 [0x9F], V1  
 COMMAND\_CLASS\_VERSION [0x86], V3  
 COMMAND\_CLASS\_MANUFACTURER\_SPECIFIC [0x72], V2  
 COMMAND\_CLASS\_DEVICE\_RESET\_LOCALLY [0x5A], V1  
 COMMAND\_CLASS\_POWERLEVEL [0x73], V1  
 COMMAND\_CLASS\_SUPERVISION [0x6C], V1  
 COMMAND\_CLASS\_INDICATOR [0x87], V3  
 COMMAND\_CLASS\_CONFIGURATION [0x70], V4  
 COMMAND\_CLASS\_APPLICATION\_STATUS [0x22], V1  
 COMMAND\_CLASS\_FIRMWARE\_UPDATE\_MD [0x7A], V5





# HELTUN™

IMPOSSIBLY SMART

Designed and Manufactured in Armenia | The Land of Surprising Engineering

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