HEATIT Z-WAVE
Installation guide
SW 1.7

· **STANDARD COLOR** White RAL 9003 – Black RAL 9011
· **APPROVALS** CE – Z-Wave Plus

IMPORTANT!
PLEASE READ THIS BEFORE INSTALLATION.
This thermostat is tested and certified by Pepper One Gmbh according to the requirements put forward by the Z-Wave Alliance. This is a Z-Wave Plus product with the 500 series chip. If the product does not work with your gateway, then the gateway manufacturer has not made an integration or implemented such a thermostat with their gateway. We do not give any guarantee towards integration.

PRINCIPLES FOR REGULATION
The Heatit Z-Wave is designed for controlling electrical heating cables and electrical radiators/convectors. The thermostat has 2 internal temperature sensors and has 3 algorithms for temperature compensation.
After you have set the temperature, the thermostat will use a hysteresis to regulate the temperature. The hysteresis is adjustable.

TEMPERATURE SHOWN IN DISPLAY
The temperature shown in the display is the actual temperature for floor sensor and the external room sensor. You are able to calibrate the sensor values.
When using the internal room sensor, the temperature shown is the set point. Due to the internal heat buildup in the thermostat, we do not recommend to use this function. This makes the thermostat sensitive towards draft in the connection box.

If the thermostat is to be used with waterbased heating systems, you have to use an external sensor.

Z-WAVE THERMOSTAT – SETUP
This manual describes the most essential functions and technical specifications of the thermostat.
These instructions help the user to control the thermostat, and the electrician to install and setup the thermostat.

INSTALLATION
Installation must be done by a qualified Electrical Installer in accordance with the National Building codes. Before installation, disconnect any power to the thermostat's mains. During installation of the thermostat, power to the thermostat must be disconnected AT ALL TIMES!
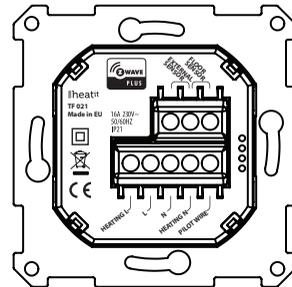
Use e.g. a small slotted screwdriver. The front cover and the frame can now be removed.

Now connect the wires to the thermostat's terminals:

HEATING (N)	Heating cable connection (Neutral)
N	Power connection (Neutral) 230V
L	Power connection (Live) 230V
HEATING (L)	Heating cable connection (Live)
PILOT	230V pilot signal

FLOOR SENSOR NTC type (10, 12, 15, 33 or 47kΩ). Default 10kΩ.
EXTERNAL SENSOR NTC type (10, 12, 15, 33 or 47kΩ). Default 10kΩ.

Next, position the thermostat and fasten it onto the wall's mounting box using 2-4 screws. Position the frame, then position and carefully press the front cover until it snaps in place. Check that the front cover has snapped in place properly on both left and right side. The front cover should now be firmly fixed on all sides.
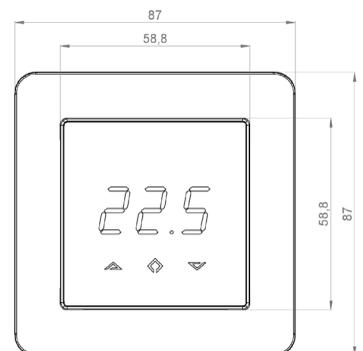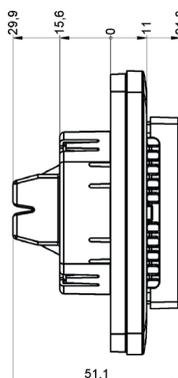
· **DISPLAY** LED-display 3x 7-Seg 13.2mm CA white

STARTUP
AFTER CONNECTING THE POWER TO THE THERMOSTAT FOR THE FIRST TIME, ALL PARAMETERS WILL DEFAULT SETTINGS.

ThermoFloor
— Heating systems —

CONTROL

The thermostat is controlled by three touch sensitive capacitive buttons.
You only need to touch lightly to activate the buttons.
• Left (Up)
• Center (Confirm)
• Right (Down)

INCLUSION/EXCLUSION

To include the thermostat to your home automation gateway, press Center (confirm) for 10 seconds.
The display will show OFF. Press Right (down) 4 times till you see Con in the display.
Now start add device in your home automation software.
Start inclusion mode by pressing Center (confirm) for approximately 2 seconds. The inclusion/exclusion icon will appear in the display.
Confirmation will show Inc/EcL in the display.
If inclusion fails, Err (error) will appear.
Leave programming mode by choosing ESC in menu. Your thermostat is ready for use with default settings.

PROGRAMMING YOUR THERMOSTAT

To activate the programming mode, press Center (confirm) for 10 seconds. Now the display will show OFF.
Now you are in programming mode. To scroll up and down in the menu use button 1 and 3 (left and right) to navigate. To enter submenu press Center (confirm). Always confirm your setting by pressing Center (confirm) for 2 seconds.

Menu:

OFF	Turns the thermostat off.
A	Sensors:

	A	Air/room sensor
	AF	Air+Floor sensor
	A2	External room sensor
	A2F	External room sensor + Floor sensor
	P	Power regulator
	FP	Floor sensor + Power regulator
	F	Floor sensor

SEn	Select the right Ohm value for your external/floor sensor. NTC type (10, 12, 15, 33 or 47kΩ). Default 10kΩ.
CAE	Calibration for external sensor.
CAF	Calibration for floor sensor.
CAR	Calibration for room sensor.
br1	Brightness of display can be adjusted in this menu.
Con	Activation of inclusion/exclusion mode.
diF	Hysteresis
ALo	Setting lowest allowed temperature (limitation). (Airsensor)
AHI	Setting highest allowed temperature (limitation). (Airsensor)
FLO	Setting lowest allowed temperature (limitation). (Florsensor)
FHI	Setting highest allowed temperature (limitation). (Floorsensor)
ESC	Escape – go out of programming menu.

PRODUCT INFO Heatit Z-Wave

FEATURES

· Floor sensor	· 7-segment LCD-screen
· External room sensor	· Can be used in connection
· Temperature limiter	with different NTC-sensors
· Power regulator	· Lock mode/child lock
· Z-Wave Plus chip, 500 series	· Backlight
· Weekly program	· Calibration
· Setback mode via gateway	· 8 associations
or pilot wire	

TECHNICAL DATA

Rated voltage:	230V 50/60Hz
Max load:	3600W (resistive load)
	750W self-limiting heating cable
Max current:	16A
Power consumption:	1,5W
Power regulator:	Time cycle 0-30min
Min/max installation temp:	-20°C to 40°C
Min/max operating temp:	5°C to 40°C
Temperature intervals:	Floor sensor 5°C to 40°C
	External room sensor 5°C to 40°C
Hysteresis:	0,3°C to 3,0°C (default 0,5°C)
Sensor values:	0°C 29,1 kOhm
	10°C 18,6 kOhm
	15°C 15,1 kOhm
	20°C 12,2 kOhm
	25°C 10,0 kOhm
Switch:	Single-pole switch
IP class:	IP21

TERMINAL

Use 1,5mm² or 2,5mm² according to load.

INCLUDED IN PACKAGE

Floor sensor 3 meters, Art. no. 5430109

WARRANTY

2 years

The thermostat is designed for electrical heating.

ART. NO.	PRODUCT	COLOR
5430499	Heatit Z-Wave thermostat 3600W 16A	White RAL 9003
5430498	Heatit Z-Wave thermostat 3600W 16A	Black RAL 9011
5430311	Frame for Heatit	White RAL 9003
5430312	Frame for Heatit	Black RAL 9011
5430497	Cable for software update on thermostat	
5430108	Floor sensor Ø3mm 6m NTC 10 kOhm	
5430109	Floor sensor Ø4mm 3m NTC 10 kOhm	
5430128	External room sensor NTC 10 kOhm	
5430129	External room sensor, mini, NTC 10 kOhm	

CHOICE OF SENSOR

The thermostat has a range of choices when it comes to sensors. To get to the menu you have to press Center (confirm) for 10 seconds, then press Right (down) once and an A shows in the display. Then press Center (confirm) again and you can choose one of these modes, while moving up and down with buttons Left or Right.

A   Air/room sensor
AF   Air+Floor sensor
A2   External room sensor
A2F   External room sensor + Floor sensor
P   Power regulator
FP   Floor sensor + Power regulator
F   Floor sensor

When you have decided on the sensor mode you want to use, press Center (confirm) button.

If you choose F or AF and there is no floor sensor installed, Err will display in the screen.

SELECT THE RIGHT OHM VALUE FOR YOUR EXTERNAL/ FLOOR SENSOR

The following values are available: NTC type (10, 12, 15, 33 or 47kΩ). Default 10kΩ. The function is only active when an external sensor is connected. Confirm with Center (confirm) button.

CALIBRATION

In this mode you are able to adjust the displayed temperature. If the thermostat of some reason (or sensor) is not calibrated properly you are able to make minor changes to the temperature. You are able to raise/lower the set point by up to 4℃. Confirm with Center (confirm) button.
This function is only available for the floor sensor and external room sensor.

BRIGHTNESS

Use Left and Right (up and down) button to adjust the brightness between 0-9. Confirm with Center (confirm) button.

INCLUSION/EXCLUSION

To include the thermostat to your home automation gateway, press Center (confirm) button for 10 seconds.
The display will show OFF. Press Right (down) 4 times till you see Con in the display.
Now start add device in your home automation software.
Start inclusion mode by pressing Center (confirm) button for approximately 2 seconds. The inclusion/exclusion icon will appear in the display.
Confirmation will show Inc/EcL in the display.
If inclusion fails, Err (error) will appear.

HYSTERESIS (DIF)

In this mode you are able to make changes to the hysteresis in the thermostat. This means that you can changes the hysteresis from 0.2℃ up to max 3.0℃. Confirm with Center (confirm) button. Default setting is 0.5℃. When using a waterbased system the hysteresis should be min 1.0℃.

Min/Max temperature settings
FLO –   Min Floor temperature
FHI –   Max Floor temperature
ALO –   Min Air/room temperature
AHI –   Max Air/room temperature
PLO –   Min temperature in Power Reg Mode
Confirm with Center (confirm).

ESC

Leaving programming mode. Confirm with Center (confirm) button.

STANDBY AND MAIN SCREEN

When the thermostat remains untouched for a while, it will automatically go to standby screen. In standby screen the light is dimmed. By pressing Left or Right (up or down) button the set point will be shown in the display.

DISPLAY ON/OFF - DON/DOF

Activate by pressing Left and Center (up and confirm) button for 10 seconds.

In case doF is activated, the screen will be blank (can be used if installed where people are sensitive to the light of the display). A very nice feature when used in a bedroom. When touching the display, the screen lights up.

CHILDLOCK - LOC

By pressing Left and Right (up and down) buttons for 10 seconds, child lock will be activated and no changes can be made. Trying to make changes causes the LOC text to appear in the display. Child lock is deactivated by pressing Left and Right (up and down) buttons for 10 seconds. OPn will appear in the display.

FACTORY RESET - RES

By pressing buttons Right and Center (down and confirm) for 20 seconds, the thermostat will perform a complete factory reset. NB! Please use this procedure only when the primary controller/ gateway is missing or otherwise inoperable.

CO/ECO MODE

The thermostat has 2 main programs, CO – comfort mode and ECO - economy mode. When Center (confirm) button is pushed for 2 seconds you switch between the 2 modes. You would normally have 2 different set-points for the different modes.
CO – mode: Is used for normal use. Example: 22℃.
ECO – mode: Is a setback mode that you can use if the thermostat is installed in a room or a house that is rarely used. The ECO-mode can also be activated by the pilot wire if this is connected.

Some gateways also support switching between CO/ECO mode. We would normally think about CO/ECO as functions for Home/Away.

ASSOCIATIONS

Association enables the thermostat to control a device e.g a relay or a wallplug, that is included in your z-wave network.

With this function the thermostat can control other heating devices such as an electric radiator or an electric fan. Remember to use association group 2, when you enable the associations. Maximum 8 devices per thermostat.

NOTE Wooden floor requires that the use of a max temperature floor sensor is connected. The floor temperature should be limited to 27°C.

In order to run some schedule or week program, the primary controller/gateway should be responsible for controlling the thermostat using those selected command classes.

Classes:
GENERIC_TYPE_THERMOSTAT
SPECIFIC_TYPE_SETPOINT_THERMOSTAT

COMMAND_CLASS_BASIC
COMMAND_CLASS_THERMOSTAT_SETPOINT_V3
COMMAND_CLASS_THERMOSTAT_SETBACK
COMMAND_CLASS_SENSOR_MULTILEVEL
COMMAND_CLASS_VERSION
COMMAND_CLASS_MANUFACTURER_SPECIFIC
COMMAND_CLASS_ASSOCIATION
+ All other mandatory classes for selected device type

DESCRIPTION	
Temperature range	+5°C/+40°C
Displayed temperature	-30°C 60°C
Floor min. limit	5°C (5°C 35°C)
Floor max. limit	35°C (5°C 35°C)
Air min. limit	5°C (5°C 40°C)
Air max. limit	35°C (5°C 40°C)
Regulator min. limit	0 (0 9)
Hysteresis	0,3°C - 3,0°C
Default hysteresis	0,5°C
CO set point	21°C (5°C 40°C)
ECO set point	18°C (5°C 40°C)
Power regulator	P02 (P00 P10) cycle of 30 minutes
Temperature setback	Adjustable within temperature range
Temperature setback activation	Pilot wire/Z-Wave user interface