

Instructions for installing & using

the deviheat[®] 550

16 Amp. "adaptive" clock/thermostat



Table of Contents

Installation Instructions

Installation of deviheat [®] 550	4
Activating deviheat [®] 550	13
Changing the Basic Setting	15
Factory Settings	21
Network	22
Error Messages	23
Technical Specifications	25
Connection Diagram	26

Please Note:

The **deviheat**[®] 550 **MUST** be connected and the basic settings programmed by a licensed electrician.

Inappropriate installation or settings may cause damage to the heating system or floor coverings.

User Instructions

Introducing the deviheat [®] 550	29
How to use your deviheat [®] 550 clock/thermostat	32
Daily Operation	33
Setting the clock & day	36
Timer Programming	37
Warranty	41

Please Note:

Do not install deviheat[®] 550 behind curtains or towels.

Installation of deviheat[®] 550

When installing the **deviheat[®] 550** you must first dismantle the thermostat.

Remove the front cover by gently pressing the release tab in the top (centre hole), and lift out the cover.

Remove the screws, on each side, and gently pull off the display module.

Remove the frame from the thermostat.

Connection of the thermostat must be carried out as shown below.

As the **deviheat**[®] 550 is not equipped with an earth terminal, the earth/screen of the heating cable must be connected to the system earth via a separate connection.

When installing the **deviheat**[®] 550 you need to choose the level of heating and which sensor should be used.

DE-VI always recommends the use of a floor sensor!

Comfort Heating:

- Constant temperature on the floor in e.g. bathrooms and other rooms that are often used with bare feet.
- Install the Floor sensor and choose only the Floor sensor in Basic Settings.

Total Room Heating:

- Control of room temperature in living rooms etc.
- Install the Floor sensor and choose both Floor sensor and Room sensor in Basic Settings.

No Floor Sensor:

- A Floor sensor is not present, and cannot be installed.
- Choose Room sensor only in Basic Settings.
- Be aware that temperature control is less accurate without the Floor sensor. **DE-VI** recommends that a floor sensor be installed.

Do NOT use a deviheat[®] 550 without a floor sensor when heating is installed on or beneath wooden surfaces!

You can now mount the thermostat in the wall by using any of the eight screw holes in the base module.

To get the best possible result when using the **deviheat**[®] 550, the clock/stat should be installed as follows:

- Installation height, typically between 0.8 – 1.5m.
- NOT on an outside wall.
- NOT where it will be subjected to direct sunlight.
- Away from windows/doors that will be opened occasionally, or other draughty areas.
- NOT where it will be covered by curtains, towels etc.

Warning

Please note, when working on thermostats connected to a network, ensure that the mains supply for all thermostats in the network is disconnected before the work is started.

Reassemble the thermostat by first placing the frame, then mount the display module and finally press the front cover into place.

Note:

The display must be gently remounted on the base module, ensuring that the 8-pin plug is placed accurately by using the four tabs surrounding it.

When remounting the screws on the sides, please DO NOT tighten them too hard. They just need to be barely fastened.

DO NOT over tighten!

Activating deviheat[®] 550

*When the **deviheat[®] 550** clock/stat is connected to the mains voltage for the first time, a code must be chosen and the sensor(s) selected.*

Turn to choose code...

*Choose the code: **0044***

When the code is chosen, press the button ...

Now the sensors to be used, should be selected...

deviheat[®] 550 is able to use two sensors, one built-in air sensor plus an external floor sensor.

Choose the sensor(s) which will be used for this heating system.

Turn to choose Room Sensor (**r S**), Floor Sensor (**FS**) or both Room and Floor Sensor (**rFS**), and press...

If using a floor sensor only, the display will show a scale from 0 to 10, instead of actual air temperature (5° to 35°).

A Floor sensor must always be used when heating is installed on or beneath wooden surfaces!

Changing the basic setting

If it is necessary to change the basic setting, the button must be held for 12 seconds.

It is then possible to access the basic setting menu by choosing the code!

Turn to choose code...

*Choose the code: **0044***

When the code is chosen, press the button...

*The first function to choose in the basic setting is whether the **deviheat**[®] 550 is to operate Alone or as Master or Slave thermostat. If several thermostats are linked in one network, only one of the thermostats can be chosen as Master!*

For further information about network and Master/Slave, see section on Page 21.

Turn to choose Alone (**ALO**), Master (**MAS**) or Slave (**SLA**), and press...

Please note!

If Slave is chosen, not all settings in the Basic Setting will appear. The settings left out can be set from the Master unit.

Choose whether the thermostat must show Celsius or Fahrenheit degrees.

Turn to choose °C or °F, and press...

deviheat[®] 550 is able to use two sensors, one built-in air sensor plus an external floor sensor.

Choose the sensor(s) which will be used for this heating system.

Turn to choose Room Sensor (**rS**), Floor Sensor (**FS**) or both Room and Floor Sensor (**rFS**), and press...

If using a floor sensor only, the display will show a scale from 0 to 10, instead of actual air temperature (5° to 35°).

A Floor sensor must always be used when heating is installed on or beneath wooden surfaces!

If required it is possible to choose a maximum floor temperature (Mt) which cannot be exceeded.

The temperature range is 20°C to 50°C.

Turn to choose maximum floor temperature, and press...

Please note!

Maximum floor temperature is pre-set from the factory to 45°C.

Local building regulations must be observed, when changing the maximum pre-set temperature.

*For wooden floor coverings **DE-VI** recommends a maximum temperature of 27°C.*

Max. temperature setting for different floor constructions:

Wooden floor coverings (parquet, floor boards, laminates etc.)	27°C
Carpet/vinyl/tiles over particleboard or timber	30°C
Tiled floors over F/C sheeting	35°C
Concrete slabs & screeds over slabs	45°C

Note: Manufacturer of particleboard flooring should be contacted regarding product suitability with floor heating.

*Offset (**OFFS**) can be used to adjust a variation between the thermostat and a thermometer in the room, if any. If the thermometer shows e.g. 1°C more than the thermostat, it is possible to adjust the offset with +1°C. The range is -5.5°C to +5.5°C.*

Turn to choose offset, and press...

*The built-in Timer, can be programmed to lower the temperature (**LO**), e.g. during the night. The range is 0°C to - 15°C.*

Turn to choose economy set-back level, and press...

(Choose -5°C if the temperature must be lowered 5 degrees.)

If normal room heating is installed it is not recommend to lower the temperature at night more than approx., -5°C.

*Finally, the type of clock must be set. Choose **24** hours or **12** hours **AM/PM**.*

Turn to choose **12** or **24** hours, and press...

To finish the basic setting, press the button, and the display will return to the daily operation menu.

Factory setting:

The thermostat is preset with the following parameters:

<u>Operation</u>	<u>Factory setting</u>	<u>Choices</u>
Network Type	Alone	Alone, Master or Slave
Temp. Display	°C	°C or °F
Sensor	Room + Floor	Room, Floor or Room + Floor
Max. Floor Temperature	+45°C	+20°C to +50°C
Offset	0.0°C	-5.5°C to +5.5°C
Economy set-back	-5°C	-1° to -15°C
Weekday	1	1,2,3,4,5,6,7
Clock	24	12 hours AM/PM or 24 hours
Time	--:--	--:--
Timer Settings	-	Up to 336/week

Network connections:

The **deviheat**[®] 550 features network capability. All **deviheat**[®] 550's installed in a building can be linked together via the network facility, providing central adjustment of programming and parameters e.g. clock settings.

The network can include up to 32 units, i.e. 1 master and up to 31 slave units.

A **deviheat**[®] 550 can be set as a stand-alone unit, even though it is connected to the network. It will not respond to or send network information, but it will count as one of the maximum 32 units in the network.

The network is a separate two wire net, where the cables are unshielded, untwisted and unpolarised for easy installation. The maximum length of the network cables are up to 500 meters.

If more than one master unit is configured on the network, an error message will flash in the display, and the unit(s) will need to be reconfigured.

If a **deviheat**[®] 550 is configured as a slave unit, the following set-up parameters are controlled from the master unit:

- Time
- Day of week
- °C or °F
- 12 hour AM/PM or 24 hour clock
- Set back program

Network accessories:

Network cable Single core 0,75 mm²
15881150 (100 m)

Error messages:

The **deviheat**[®] 550 has a built-in system that constantly checks the heating system, the thermostat itself and a possible network for any malfunctions. If an error occurs, the display will flash together with a reading of the detected fault, which will be shown indicated by the weekday numbers 1 to 7:

<u>No:</u>	<u>Fault:</u>	<u>What to do:</u>
7	Clock is not adjusted	Set the clock
4	The thermostat is switched off because of overheating	Let the thermostat cool for a period. Then enter basic setup to leave fault mode
3	Configured as a Slave, but cannot find any Master Unit	One unit must be configured as Master

<u>No:</u>	<u>Fault:</u>	<u>What to do:</u>
2	Configured as Master, but can detect another Master Unit	Only one unit may be configured as a Master
6	Sensor fault - floor sensor open circuit	Replace the floor sensor
5	Sensor fault - floor sensor short-circuit	Replace the floor sensor

Technical specifications:

Temperature Range:	+5° to +35°C or OFF
Floor Temperature Limit:	+20° to +50°C
Voltage:	180 – 250 V ~ 50/60 Hz
Resistive Load:	250 V ~ 16 A
Inductive Load:	1 A (power factor 0.3)
Power Consumption:	< 500 mW
Battery Back-Up:	100 hours
Economy Set-Back:	0° to -15°C
Offset:	-5.5° to +5.5°C
IP Class:	IP 30
Type of Sensor:	NTC
Sensor Value:	15 kOhm/25°C

Connection diagram:

the deviheat[®] 550

16 Amp. "adaptive" clock/thermostat



Introducing the **deviheat**[®] 550

You have purchased a **deviheat**[®] 550 “adaptive” clock/stat, which forms an intergral part of a **deviheat**[®] system.

DE-VI has developed the **deviheat**[®] 550 to make your floor heating an even more environmentally correct way of heating your home.

deviheat[®] 550 will work dynamically with both the room and floor temperature in order to give you the highest possible comfort in the most economical way.

deviheat[®] 550 will take a few days to optimise the use of the heating system. The **deviheat**[®] 550 will continue to learn from the room conditions and constantly improves its performance and consequently your comfort and economy.

We wish you many years of comfort with your new **deviheat**[®] system.

The **deviheat**[®] 550 is an “adaptive” clock/thermostat, especially designed for floor heating systems.

The **deviheat**[®] 550 will measure the radiant comfort from the floor combined with the comfort from the air temperature in the room to offset the outside weather conditions.

We as human beings perceive comfort as the combined effect of the radiant heat from the floor and air temperature in the room. By continually measuring this combined effect, it is therefore possible to maintain the highest possible comfort level.

A suitable radiant floor temperature can produce a sense of comfort with a lower air temperature which can result in lower running costs without reducing comfort levels.

This means that as soon as you have set your **deviheat**[®] 550 to your desired comfort level, you don't have to do anything else. Your **deviheat**[®] 550 will automatically adjust the heating to meet your requirements for comfort and economy, no matter how often the weather changes outside.

The **deviheat**[®] 550 is also capable of detecting a sudden temperature drop in the room. Instead of immediately switching the heating on to compensate, the **deviheat**[®] 550 uses the information stored to see if this was caused by a window being opened for 10 minutes!

Even the programming of economy temperatures (i.e. during the night) is very simple. You don't have to calculate how much earlier the heating should start in order to reach a specific temperature at a specific time. Just tell the **deviheat**[®] 550 when you want the comfort level and the **deviheat**[®] 550 will take care of the rest. By learning the rate of heat loss from the room, the **deviheat**[®] 550 knows when to start heating in order to achieve the selected comfort level at exactly the right time.

- **deviheat**[®] 550 – the clock/stat that thinks!

How to use your deviheat[®] 550 clock/thermostat

The function of the button

The button can be turned both ways, as indicated by

Or the button can be pressed/held, as indicated by

View of symbols in the display

Daily operation

deviheat[®] 550 has two temperature settings:

1. Constant temperature with the timer off.
This can be used e.g. as 'Party Mode' or for maintaining a lower Temperature when going on holiday. This is indicated by a continuous clock ring...
2. *Timer setting with automatic switching between economy and comfort temperature. Clock and timer must be set! This is indicated by the timer Symbol and the clock ring showing the timer program...*

(Display will indicate same temperature during both comfort and economy periods. But temperature will, during economy periods, be lowered according to the setback level.)

To raise the temperature...

Turn clockwise.

To lower the temperature...

Turn counter-clockwise.

If you want to switch the timer on or off...

Press the button to switch on the timer.
Press again to switch off the timer.

The marking on the clock-ring indicates when comfort temperature is chosen and when economy set-back is switched on. A flashing point indicates the actual clock (every half hour).

If the temperature is lowered to minimum (+5°C), a frost symbol will appear in the display, indicating that the thermostat will maintain minimum + 5°C in the room for frost protection.

If the temperature is turned below +5°C, the thermostat will switch off. (Only possible with the timer off)
When the temperature is raised again the thermostat will automatically switch on.

If using a floor sensor only the display will show a scale from 0 to 10 instead of actual air temperature (5°C to 35°C).

Setting the clock & day

*You want to set/change the clock...
(The clock is not factory set)*

Hold the button for 3 seconds.

The clock can now be set forward or back by turning the button to the right or left respectively.

Changing the week day is done by continuing to change the time until it passes 0:00, either way.

The numbers 1-7 do not correspond to any specific days, so you can choose which day of the week is No. 1.

When the clock is set correctly, you must press the button to save the settings.

Timer programming

*You want to set/change the economy set-back program ...
(The timer is not factory set)*

Hold the button for 6 seconds.
The program for economy set-back
can now be edited.

First, turn the button to choose the
weekday which you want to
program...

Press the button to start the
programming...

The button is alternately turned and pressed to choose periods with economy set-back and periods with comfort temperature respectively.

The programming switches between low (economy set-back) and high (comfort) temperature every time you press the button.

And between every time you press, you can turn the button and choose the period of time.

Example

When you enter the programming menu choose a day and press the button...

Turn until you reach the first time when you want comfort temperature, e.g. 06:00. Press...

Turn until the temperature must be lowered again, e.g. 07:30. Press...

And turn to the next comfort period, e.g. 15:30, and press...

Then, turn until you reach the time when the next lowering of the temperature must start, e.g. 22:30, and press...

If you continue to turn, the program will automatically continue with the next day.

This way, the programming can continue for the entire week.

End

When you have ended the programming, the changes must be saved.

This is done by holding the button for 3 seconds. The display will automatically return to normal display.

Remember

With a deviheat[®] 550 you only have to program the times when you want comfort temperatures and the times you want economy temperatures. The deviheat[®] 550 will do the rest. You don't have to calculate when the heating should start; deviheat[®] 550 will do this for you.

NOTES: