



Underfloor Heating (UK)

Industrial - Commercial - Domestic

Devireg 540/550

Thermostat controller working with both
room and floor temperatures

Product Manual

www.underfloorheating-uk.co.uk

Installation Guide

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Please Note:

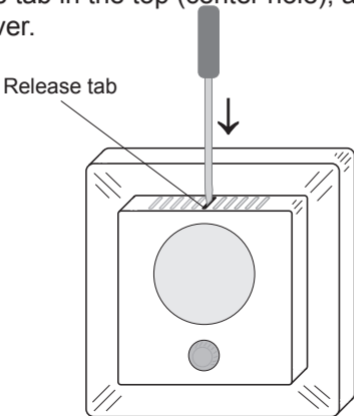
The **devireg**[™] 540/550 must be connected and the basic setting must be done by an authorised electrician.

In-appropriate installation and basic setting may cause damage to the heating system or floor construction.

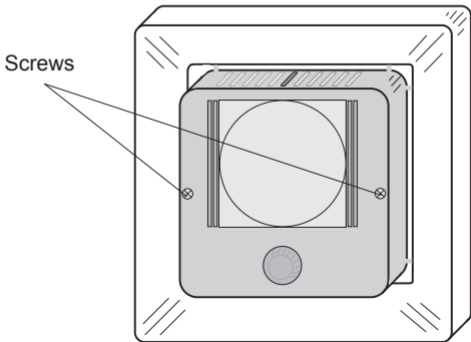
Installation of devireg™ 540/550:

When installing **devireg™** 540/550 you must first dismantle the thermostat.

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

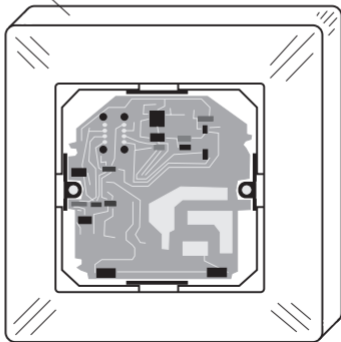


Remove the two screws, one in each side, and gently pull off the display module.

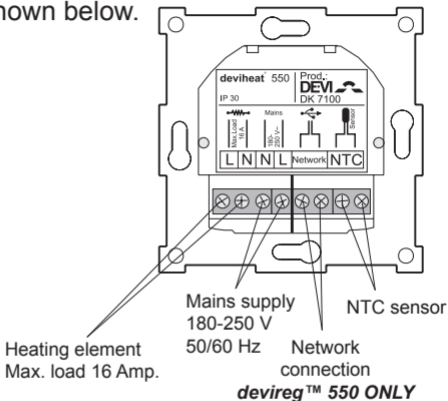


Remove the frame from the thermostat.

Frame



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



As the **devireg™ 540/550** is not equipped with an earth terminal, the earthing screen of the heating cable must be connected to the earth from the supply via the earthing terminal in the surface mounted box or the recessed metal box which ever is used.

When installing the **devireg™** 540/550 you need to choose the type of heating and thus which sensors should be used.

DEVI™ recommend always to install the 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.

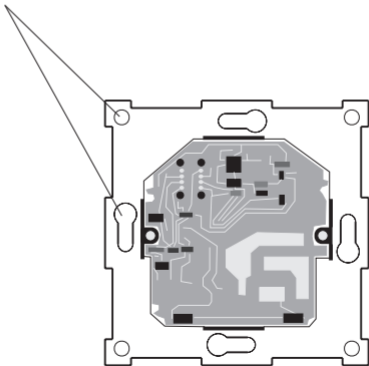
No Floor Sensor:

- 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. **DEVI™** recommend that a floor sensor is installed.

Do NOT use devireg™ 540/550 without floor sensor when the heating element 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.

Screw holes



For getting the best possible result when using the **devireg™ 540/550**, the thermostat should be installed in the wall, following a few basic

- rules:
- Installation height, typically between 80-150 cm.
- On a wall NOT facing the outside.
On a wall where it will NOT be subjected to
- direct sunlight.
Away from windows/doors that will be open
- occasionally.
On a wall where it will NOT be covered by
curtains, towels etc. hanging in front of the
thermostat.

Warning (devireg™ 550 ONLY):

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.

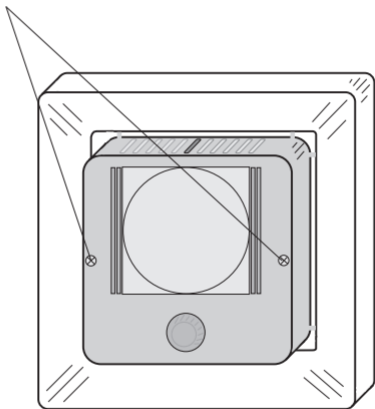
Reassemble the thermostat by first placing the frame, then mount the display module and finally press the front cover into place.

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 two screws in the side, please DO NOT over tighten them. They just need to be barely fastened.

DO NOT over tighten !



Activating devireg™ 540/550

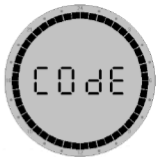
When the thermostat is connected to the mains voltage for the first time, a code must be chosen and the sensor(s) selected.

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 ...



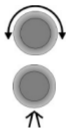
devireg™ 540/550 is able to use two sensors, one built-in sensor plus an external sensor which can be placed in the floor.

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 the thermostat only uses a floor sensor, the display will not show the actual temperature (5° to 35°), but a scale from 0 to 10).

Always use a floor sensor when the heating element is installed on or beneath wooden surfaces !



Change of basic setting

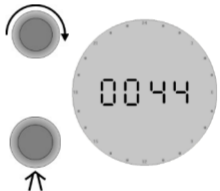
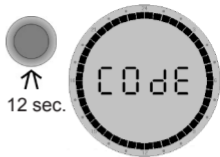
If it is necessary to change the basic setting, the button must be held for 12 sec.

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 ...



devireg™ 550 ONLY:

The first function to choose in the basic setting is whether **devireg™ 550** must 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 24.

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

Please note !

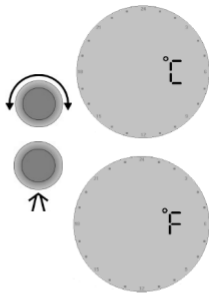
If Slave is chosen, not all settings in the Basic Setting will appear.

The settings left out can be set from the Master unit.



Choose whether the thermostat must show Celcius or Fahrenheit degrees.

Turn to choose **C°** or **F°**, and press ...



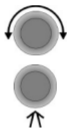
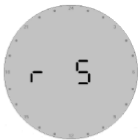
devireg™ 540/550 is able to use two sensors, one built-in sensor plus an external sensor which can be placed e.g. in the floor.

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 the thermostat only uses a floor sensor, the display will not show the actual temperature (5° to 35°), but a scale from 0 to 10).

Always use a floor sensor when the heating element is installed on or beneath wooden surfaces !



Due to different floor constructions it is possible to choose a maximum floor temperature (**Mt**) in the floor 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 preset from the factory to 45°C for cable temperature safety. Local building regulations must be observed, when changing the maximum preset temperature. For wooden floor constructions **DEVI**™ recommend to limit the temperature to maximum 27°C.

Max. temperature setting for different floor constructions !

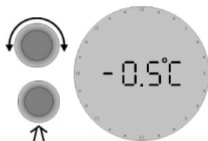
Tiles on chipboard	27°C
Carpet/vinyl on chipboard	35°C
Wooden floors (parquet, plank, etc.)	27°C
Other (concrete, screed, etc.)	45°C



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 $+1^{\circ}\text{C}$. The range is -5.5°C to $+5.5^{\circ}\text{C}$.



Turn to choose offset, and press ...



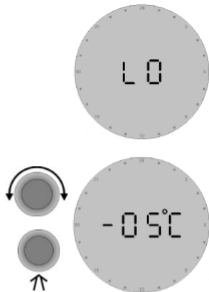
In connection with the built-in Timer, the thermostat can be programmed to lower the temperature (LO), e.g. during the night.

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).

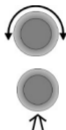
If normal room heating is installed we recommend not to lower the temperature at night with more than approx. -5°C.



Finally, the type of clock must be set.
Choose whether the clock must be 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 <i>(devireg™ 550 ONLY)</i>	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 (*devireg*TM 550 ONLY):

The **devireg**TM 550 features a network capability.

All **devireg**TM 550's installed in a building can be linked together via the network facility, giving the possibility of central adjustment of programming and parameters e.g. clock setting.

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

It is only possible to have one master unit.

A **devireg**TM 550 can be set as a stand alone unit, even though it is connected to the network. It will not respond to or send information to a master unit, 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 metres.

If more master units are configured on the network, an error message will flash in the display, and the unit will need to be reconfigured.

If a **devireg**[™] 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
15881150

Single core 0,75 mm²
(100 m)

Error messages:

devireg™ 540/550 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	Change the floor sensor
5	Sensor fault floor sensor shortcircuit	Change 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:

