

Installation Guide

Danfoss ECtemp 530

Electronic Thermostat



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1 Introduction


ECtemp 530 is an electronic thermostat provided with a 2- pole switch and a wire sensor to measure and control the desired floor temperature. It can be either flush-mounted (standard) or surface-mounted (using special box).

The thermostat has a button for adjusting the temperature setting with a scale from ($\frac{XX}{XX}$) 1 to 6 (each step corresponds to approximately 8 °C). Furthermore, it has a LED indicator showing standby periods (green light) and heating periods (red light).

More information on this product can also be found at:
ectemp.danfoss.com

1.1 Technical Specifications

Operation voltage	220-240 V~, 50 Hz
Standby power consumption	Max 0.25 W
Relay: Resistive load Inductive load	Max 15 A / 3450 W @ 230 V cos φ = 0.3 max 1A
Sensing units	NTC 15kOhm at 25°C
Sensing values: 0 °C 25 °C 50 °C	42 kOhm 15 kOhm 6 kOhm
Hysteresis	± 0.4 °C
Ambient temperature	-10 to +30 °C
Frost protection temperature	5 °C - ❄
Temperature range	(❄) 5-45°C with floor sensor only
Cable specification max	1x4 mm ² or 2x2,5 mm ²
Ball pressure temperature	75 °C
Pollution degree	2 (domestic use)

Type	1C
Storage temperature	-20 to +65 °C
IP class	31
Protection class	Class II - 
Dimensions	85 x 85 x 36 mm
Weight	90 g

The product complies with the EN/IEC Standard «Automatic electrical controls for household and similar use»:

- EN/IEC 60730-1 (general)
- EN/IEC 60730-2-9 (thermostat)

1.2 Safety Instructions

Make sure the mains supply to the thermostat is turned off before installation.

IMPORTANT: When the thermostat is used to control a floor heating element in connection with a wooden floor or similar material, always use a floor sensor and never set the maximum floor temperature to more than 35 °C.

Please also note the following:

- The installation of the thermostat must be done by an authorized and qualified installer according to local regulations.
- The thermostat must be connected to a power supply via an all-pole disconnection switch.
- The sensor is to be considered as live voltage. Have this in mind if the sensor must be extended.
- Always connect the thermostat to continuous power supply.
- Do not expose the thermostat to moisture, water, dust, and excessive heat.

2 Mounting Instructions



Place the thermostat at a suitable height on the wall (typically 80-170cm.).



In wet rooms, place the thermostat according to local regulation on IP classes.

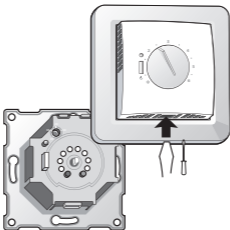


Note: A floor sensor enables a more accurate temperature control and is recommended in all floor heating applications and mandatory under wooden floors to reduce the risk of over-heating the floor.

- Place the floor sensor in a conduit in an appropriate place where it is not exposed to sunlight or draft from door openings.
- Equally distant and >2cm from two heating cables.
- The conduit should be flush with the floor surface - countersink the conduit if necessary.
- Route the conduit to the connection box.
- The bending radius of the conduit must be min 50mm.

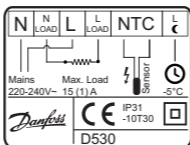
Follow the steps below to mount the thermostat:

1. Open the thermostat:



- Press the release tab in the bottom of the thermostat using a flat object.
- Carefully detach the front cover.
- Carefully detach the frame.

2. Connect the thermostat according to the connection diagram.



By connecting an external timer to the terminal marked by a moon symbol (and by using for example the same phase as for the mains power supply), the thermostat can be set to reduce the temperature by 5 °C during specified periods.

The screen of the heating cable must be connected to the earth conductor of the power supply cable by using a separate connector.

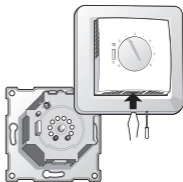
Note: Always install the floor sensor in a conduit in the floor.

3. Mount and reassemble the thermostat.
 - Fasten the thermostat to a socket or an exterior wall box by driving the screws through the holes in each side of the thermostat.
 - Install the frame and front cover in the reverse order of disassembly.
4. Turn on the power supply.

3 Settings

How to change the minimum and maximum floor temperatures

1. Remove the adjustment button.
2. Move the pins to the desired positions.
3. Put the adjustment button back in place.



Note: Please be aware of the following:

- The floor temperature is measured where the floor sensor is placed.
- The temperature of the bottom of a wooden floor can be up to 10 degrees higher than the top.

- Floor manufactures often specify the max temperature on the top surface of the floor (usually 27-28 °C).
- Always use a floor sensor to control floor heating. Without a floor sensor, the temperature control may be less accurate and you risk overheating the floor.

Thermal resistance [m²K/W]	Examples of flooring	Details	Approximate setting for 25 °C on top surface of floor
0,05	8 mm HDF based laminate	> 800 kg/m ³	28 °C
0,10	14 mm beech parquet	650 - 800 kg/m ³	31 °C
0,13	22 mm solid oak plank	> 800 kg/m ³	32 °C
< 0,17	Max. carpet thickness suitable for floor heating	acc. to EN/IEC 1307	34 °C
0,18	22 mm solid fir planks	450 - 650 kg/m ³	35 °C

4 Warranty

A 2-year product warranty is valid for:

- thermostats: ECtemp 530.

Should you, against all expectations, experience a problem with your Danfoss product, you will find that Danfoss offers Danfoss warranty valid from the **date of purchase** on the following conditions: During the warranty period Danfoss shall offer a new comparable product or repair the product if the product is found to be faulty by reason of defective design, materials or workmanship. The repair or replacement.

The decision to either repair or replace will be solely at the discretion of Danfoss. Danfoss shall not be liable for any consequential or incidental damages including, but not limited to, damages to property or extra utility expenses. No extension of the warranty period following repairs undertaken is granted.

The warranty shall be valid only if the WARRANTY CERTIFICATE is completed correctly and in accordance with the instructions, the fault is submitted to the installer or the seller without undue delay and proof of purchase is provided. Please note that the WARRANTY CERTIFICATE must be filled in, stamped and signed by the authorized installer performing the installation (Installation date must be indicated). After the installation is performed, store and keep the WARRANTY CERTIFICATE and purchase documents (invoice, receipt or similar) during the whole warranty period.

Danfoss warranty shall not cover any damage caused by incorrect conditions of use, incorrect installation or if installation has been carried out by non-authorized electricians. All work will be invoiced in full if Danfoss is required to inspect or repair faults that have arisen as a result of any of the above. The Danfoss warranty shall not extend to products which have not been paid in full. Danfoss will, at all times, provide a rapid and effective response to all complaints and inquiries from our customers.

The warranty explicitly excludes all claims exceeding the above conditions.

For full warranty text please use QR code



WARRANTY CERTIFICATE

The Danfoss warranty is granted to:

Address _____ Stamp _____

Purchase date _____

Serial number
of the product _____

Product _____ Art. No. _____

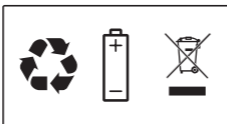
*Connected
output [W] _____

Installation Date
& Signature _____ Connection Date
& Signature _____

**Not mandatory*



5 Disposal Instruction



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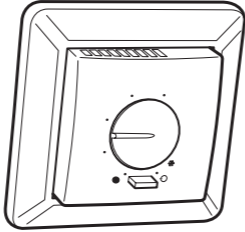
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ECtemp 530

088L0033

Thermostat
Floor Sensor
220-240 V~
50-60 Hz~
+5 to +45 °C
15 A/3450@230 V~
IP 31



Product documentation



088L0033

Designed in Denmark for Danfoss A/S



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