EN

Installation Guide

DEVIreg™ Display Connect

Intelligent electronic timer controlled thermostat with App control

DEVI by Danfoss

Make it easy, **make it DEVI**

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1 Introduction

The DEVIreg™ Display Connect is a thermostat for use with electric floor heating, the thermostat has multiple control modes: Floor, Room* and Combined. the thermostat has adaptive timer support, which provides an efficient way of controlling your electric floor heating system.

**requires special action.*

The thermostat is special designed for wall mounted installation in standard EU wall mount boxes, in and on wall, and can be used for controlling total heating as well as comfort heating of the room. The thermostat supports a selection of commonly used frame systems for 55x55 (inner geometry) framing systems.

Among others, the thermostat has the following features:

- Ecodesign LOT20 compliance
- In App setup for specific flooring and room types.
- Support for 55x55 like frame systems.
- Simple knob operation for temp. control and features.
- Bluetooth connectivity on 2.4GHz frequency at a maximum power of 10 dBm.
- Access to thermostat via App for settings for easy access, setup, or remote troubleshooting. Firmware update via DEVI Control App.
- Works out of box with default parameters as thermostat.
- Ecodesign class TW(f4)

2 Standard Compliance

Electrical safety, Electro-Magnetic Compatibility and Radio aspects for this product is covered by the compliance with the following relevant standards:

- EN/IEC 60730-1 (general)
- EN/IEC 60730-2-7 (timer)
- EN/IEC 60730-2-9 (thermostat)
- EN 301 489-1 and EN 301 489-17 (EMC standard for radio equipment operating in the 2,4 GHz band)
- EN 300 328 (Efficient use of radio spectrum for radio equipment operating in the 2,4 GHz band)

SIMPLIFIED EU DECLARATION OF CONFORMITY

Hereby, Danfoss A/S declares that the radio equipment DEVIreg™ Display Connect is in compliance with Directive 2014/53/EU.

The full Declaration of conformity can be found on **https://assets.danfoss.com/approvals/latest/514081/ID528938029774-0101.pdf**

The UK Product Security and Telecommunications Infrastructure (Product Security) Regime

The DEVIreg™ Display Connect thermostat is considered a **UK consumer connectable product** under the Product Security and Telecommunications Infrastructure (Product Security) regime, as it can be indirectly connected

to the internet via a smartphone application, and is intended for use by consumers in the UK.

The product complies with the following minimum security requirements as specified in the **Product Security and Telecommunications Infrastructure (Security Requirements for Relevant Connectable Products) Regulations 2023**, which implement **Part 1 of the Product Security and Telecommunications Infrastructure Act 2022**:

https://www.legislation.gov.uk/ukpga/2022/46/part/1/enacted

- **No universal default passwords**: The product does not have any preset or hard-coded passwords.
- **Implement a means to manage reports of vulnerabilities**: You can report any vulnerabilities by visiting our website: https://www.danfoss.com/en/service-and-support/report-security-vulnerability/
- **Provide transparency and support for firmware updates**: The product supports firmware updates via the DEVI Control App, which may download updates from the internet and transfer them to the device over Bluetooth. Danfoss provides security updates for at least five years from the date of purchase.

Compliance with EN 18031-1 – Cybersecurity and Data Protection

The DEVIreg™ Display Connect Thermostat complies with **EN 18031-1**, the European harmonized standard that supports the **Radio Equipment Directive (RED)** by setting cybersecurity and data protection requirements for wireless communication devices.

To ensure compliance and protect both the device and its users, the following guidelines must be followed:

Standard Residential Installation

- **Controlled Access:** The thermostat is primarily designed for installation in **private homes** or areas with **restricted physical access**, where only authorized users (e.g. family members or building staff) can interact with it.
- **Secure Mounting:** Always install the device on a wall or in a flush-mounted electrical box using the provided hardware. This reduces the risk of tampering with physical interfaces like the reset or Bluetooth pairing button.
- **Bluetooth Use:** Pairing via **Bluetooth® Low Energy (BLE)** does not require a PIN, but the device enters pairing mode only briefly and within a short range. To reduce risk, perform pairing promptly and in a secure setting.

Installation in Public or Semi-Public Spaces (e.g. Offices, Shared Buildings)

If the DEVIreg™ Display Connect Thermostat is to be installed in areas accessible to the public or multiple users, **additional precautions** must be taken:

- **Enclosure or Housing:** Install the thermostat inside a **lockable protective cover** or within a secure enclosure to prevent unauthorized physical access to the device's buttons and connectors.
- **Limited Access to Pairing:** Ensure that only authorized personnel can activate the Bluetooth pairing mode. This may require temporarily disabling access to the thermostat during setup or commissioning.

- **Network Segmentation:** If integrated with a building management or automation system, make sure that communication between devices follows recommended **network security practices**, such as using isolated VLANs or secured local gateways.
- **User Responsibility:** In multi-user environments, assign clear responsibility for managing the thermostat (e.g. building maintenance personnel). Ensure all users are aware of how to avoid unintentional changes or unauthorized access.

Ongoing Security Measures

- **Firmware Updates:** Regularly check for firmware updates via the DEVI Control app and apply them promptly to benefit from the latest security enhancements.
- **Limit App Access:** Avoid sharing the DEVI Control App login or access with unknown or unauthorized users. Only trusted individuals should be allowed to connect to and control the thermostat.

By following these recommendations, the DEVIreg™ Display Connect Thermostat can be used securely in both private and shared environments while maintaining compliance with EN 18031-1.

3 Safety instruction

Make sure that the mains power supply to the thermostat is shut off before starting the installation.

Important: When the thermostat is used to control a floor heating element, always use a floor sensor, and never set the maximum floor temperature to more than the manufacturer recommends for the specific flooring type. The device is limited to 35 °C floor temperature, due to compliance requirements. In special cases the limit can be extended to 45 °C floor temperature after the unrecoverable breakout has been performed. Based on the setup in the app the thermostat has maximum temperature limitations imposed based on DEVI recommendations.

- Electrical heating thermostats must always be installed according to local building regulations and wiring rules. Installation must be carried out by an authorized and/or qualified installer.
- The thermostat must be used in a wall mounted installation supplied through an all-pole disconnection switch (fuse).
- Do not expose the thermostat/switch to moisture, water, dust, and excessive heat.
- This thermostat/switch can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved, by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the thermostat/switch.

- The device is designed for permanent operation.
- Please ensure that the device is protected from unauthorized access.

Instructional video material

To make it easy we show the features and functions of the product in videos that are present on our YouTube channel.

4 Installation Guidelines

Follow these guidelines when placing the thermostat.

Install the thermostat in a suitable height on the wall (typical 80 – 170 cm)

Do not place the thermostat on the inner side of a poorly insulated exterior wall.

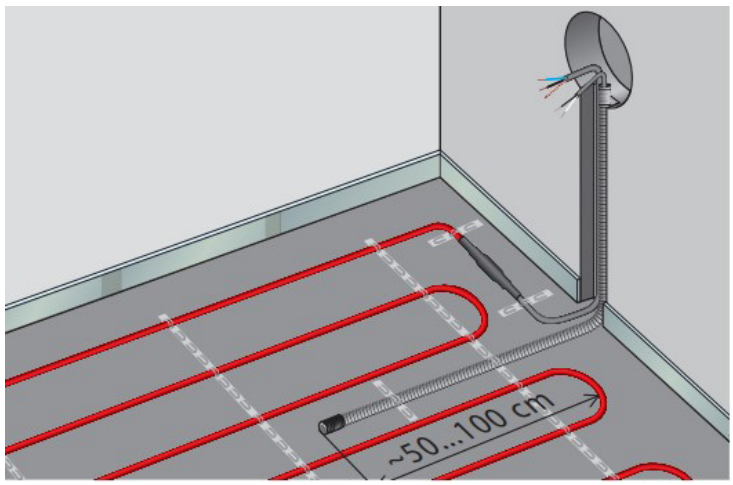
Install the thermostat more than 50 cm from window and door openings

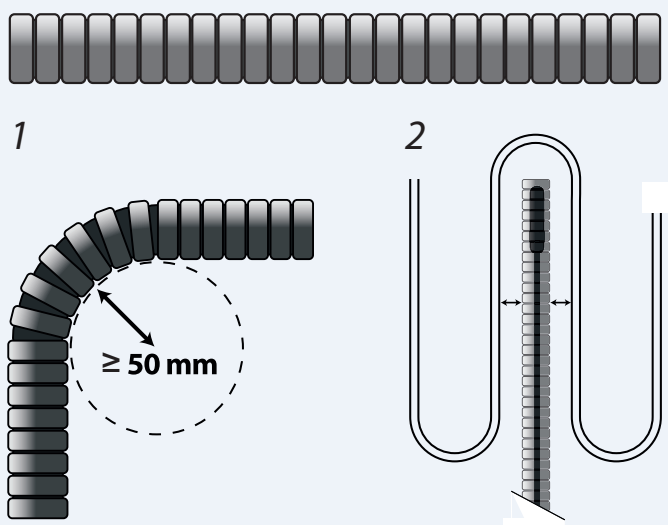
Do not place the thermostat in a way that it will be exposed to direct sunlight.

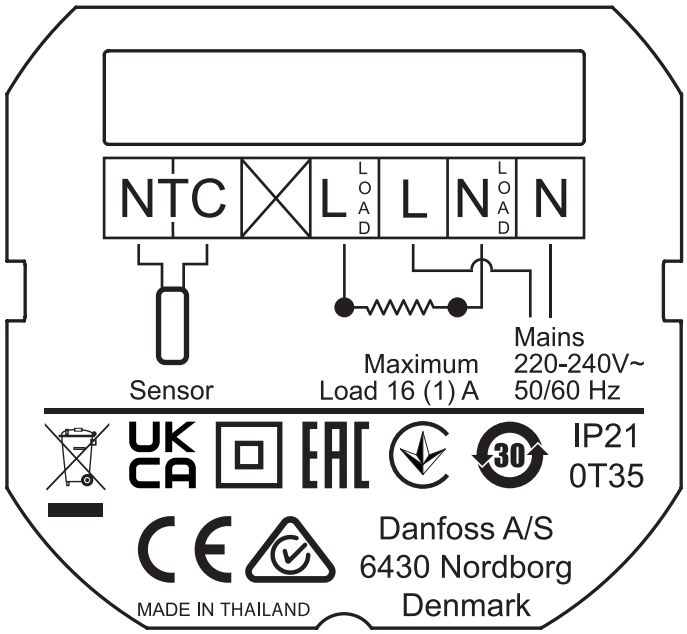
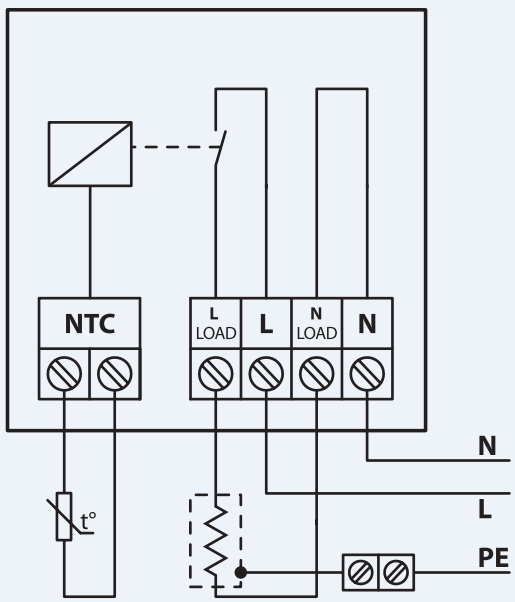
The thermostat must not be installed in direct wet areas (Zones 0, 1 and 2). Always follow local regulations regarding IP classes, this doesn't mean that the thermostats can't be installed in bathrooms.

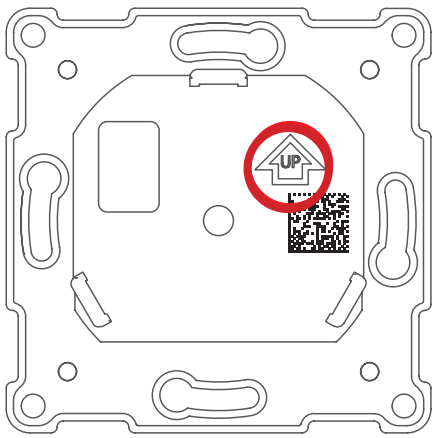
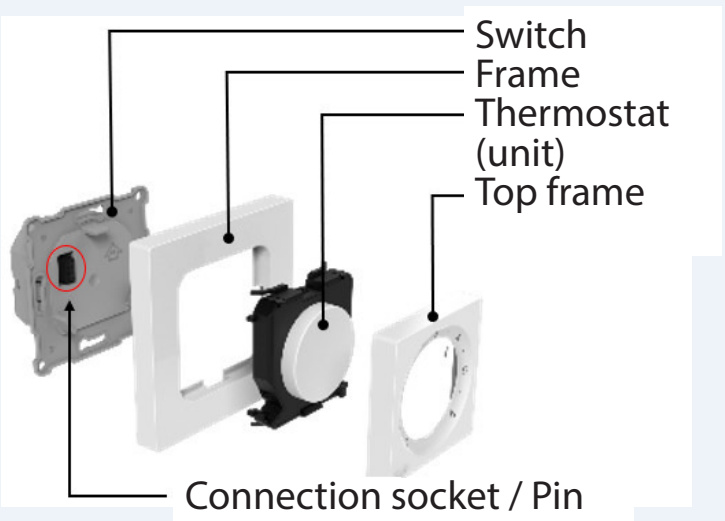
Do not position the floor sensor close to door openings or at places where the sunlight or other heat sources are located in the floor.

Installation steps

Description	Illustration
1. Unpack the thermostat. Make sure all parts are delivered (1 pc. thermostat unit ,1 pc. Power supply, 1 pc. Frame, 1 pc. Frame adapter, 1 pc. Spacer, and 1 pc. wire sensor) along with the instructions written in local official language.	 
2. Place the floor sensor in the Flexpipe and make sure the sensor element is properly fixed inside a Flexpipe. The Flexpipe must guide the sensor cable all the way to the wall/ connection box. DEVI's mats have this product included. sold separately as (140F1114).	

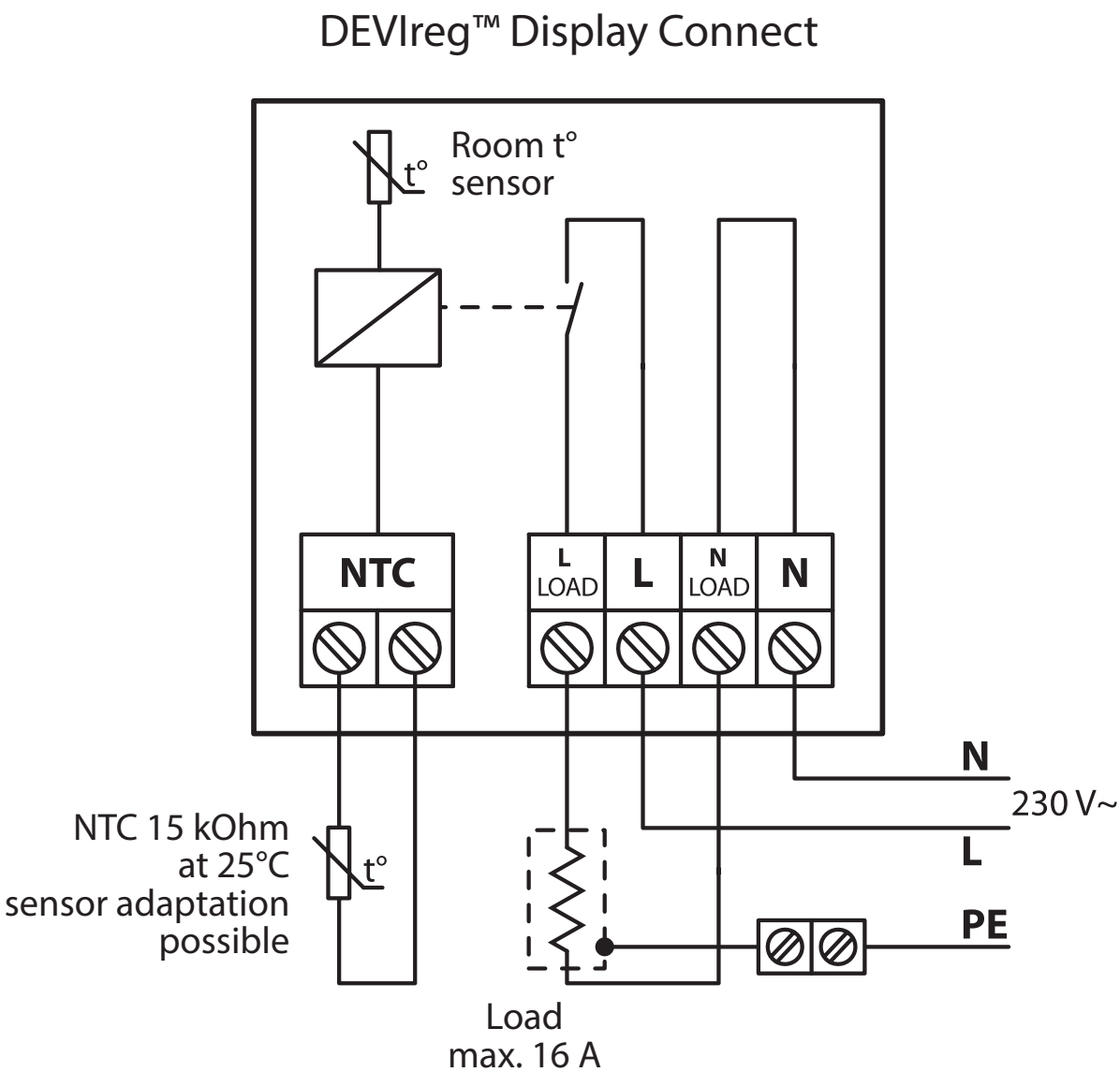
Description	Illustration
3. The bending radius for the Flexpipe must be more than 50 mm. 4. Make sure the floor sensor is located with equal distances between two heating cables (> 2 cm) located at a representative position. 5. For thin floor constructions: the Flexpipe should be flush with the sub-floor surface, countersink the Flexpipe if possible. For thicker constructions: the Flexpipe including the sensor should be located such that the sensor is exposed to a representative heating level, DEVI recommends that the sensor must be located equidistant between the cables or mat runs.	

Description	Illustration
6. Ensure that the wiring circuit is disconnected and voltage free, turn off the all-pole disconnection switch (fuse). 7. Connect the wires according to the wiring diagram on back of the power supply of the thermostat. Ensure that the terminals are properly fastened and wires are securely connected.	
8. The screen/PE wire from the electric heating element must be connected to the PE wire from the main power supply using a separate connector.	

Description	Illustration
9. Fasten the thermostat's power supply to the wall terminal box using screws in minimum 2 of the designated holes on the power supply unit. Notice: place the thermostat according to the UP - arrow	
10. Attach the frame and the Top frame to the thermostat. After that attach the thermostat to the Power supply unit by a softly press until all parts firmly connected. 11. Carefully attach the thermostat to the Power supply – take care that the connector pins are not bent.	
12. After electrical installation is completed, turn on the all-pole disconnect (fuse).	
13. The thermostat is now ready for use.	The thermostat is now ready for use. For scheduling and advanced features, connect to the DEVI Control app.

Description	Illustration
14. Dismount thermostat front for replacement.	Perform steps 11 and 10 carefully in the mentioned order, detachment can be done without tools or with a flathead screwdriver.

Connection scheme



Technical specifications

Nominal voltage	220 V- 240V~ 50/60 Hz
Standby power consumption, max	0,2 W
Relay: Resistive load Inductive load	 16A / 3680W @ 230V Cos Φ = 0.3 max. 1A
Compatible sensors	NTC 15 kΩ @ 25 °C, 3 m. (default), NTC 2 kΩ @ 25 °C NTC 6.8 kΩ @ 25 °C, NTC 10 kΩ @ 25 °C, NTC 12 kΩ @ 25 °C, NTC 33 kΩ @ 25 °C, NTC 47 kΩ @ 25 °C
Regulation	PWM - Pulse Width Modulation
Frost protection	4 °C - 14 °C (default 5 °C)
Temperature range	15 °C to 35 °C (room) 5 °C to 35 °C (45 °C with break out) (floor)
Cable specification for connectors terminals	Max: 1 x 4 mm^2 or 2 x 2.5 mm^2
Ball pressure test	75 °C
Pollution degree	2 (domestic use)
Software class	A
Controller type	1 B

Storage temperature and conditions	-25 °C to 60 °C, 90% RH non-condensing
Operating temperatures and conditions	0 °C to 35 °C, 90% RH non-condensing
IP class	21
Protection class	Class II - ⧈
Immunity against voltage surges	Over Voltage Category III
Transmission frequency (GHz)	2.400 – 2.4835 GHz
Transmission Power (dBm)	<10 dBm
Color	RAL9016 Polar white
Battery type or Name	Manganese Lithium or Super Capacitor
Dimensions (H/W/D):	85 mm x 85 mm x 20-24 mm (in-wall depth: 22mm)
Weight, net	204 g
Battery back-up time, min.	1 hour

** standard DEVI sensor 140F1091 3m.*

5 User Guide

Product interface

Dial and indicators

** When knob is in temp adjustment mode the thermostat will not run the time schedule program.*

Knob position		Description
OF		In this position the thermostat is not active.
SC		In this position the thermostat is running in schedule mode. In this position the thermostat is ready for App configuration/modification.
FP		In this position the thermostat is operating in frost protection mode.
example 20.5		By turning the knob clockwise the temperature will increase.

User interface/ daily use

On the thermostat, the temperature can be directly adjusted using the knob/dial by setting the desired temperature which is shown on the segmented display. This action will disregard any schedule but will still adhere to any set minimum or maximum limitations, which can be configured in the app.

The positions Frost Protection **(FP)**, Timer Schedule **(SC)**, or OFF **(Of)** can be selected using the knob/dial. Selecting the Frost Protection mode ensures that the frost temperature is maintained; this value can be set between 4-14 °C (default 5 °C) in the app.

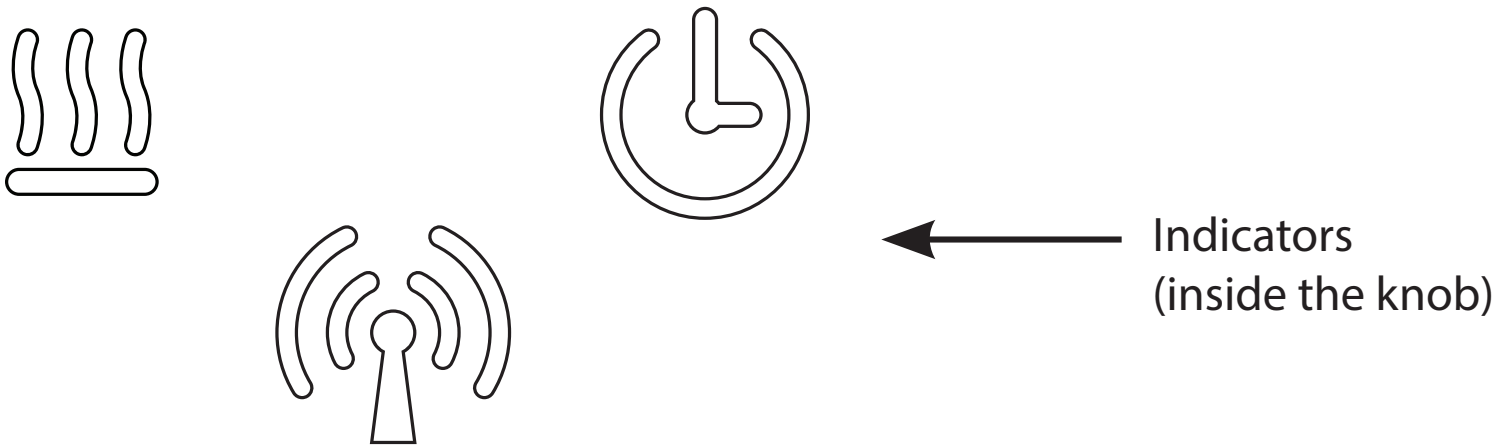
Selecting the Timer Schedule/App Communication mode makes the device connectable in the DEVI Control app via Bluetooth 4.2, where temperatures, settings, schedules, limits, and more can be adjusted. The thermostat is connected via Bluetooth to the app when the middle connection indicator is lighting blue.

Selecting the **OFF** mode will disable the thermostat completely. In **OFF** mode, both the app and thermostat will be completely off, with no indication or communication to the app.

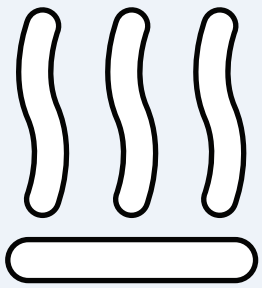
To pair the thermostat with the Bluetooth app, DEVI Control, place the thermostat in the Timer Schedule/App Communication mode **(SC)** and start the pairing process as instructed in the app. After the app initiates communication with the thermostat, the user needs to turn the dial to the manual temperature setting and then back to the Timer Schedule/App Communication mode **(SC)** to validate which thermostat the pairing is intended for. The middle connection indicator will blink blue when establishing the connection and will be solid blue once the pairing process is completed.

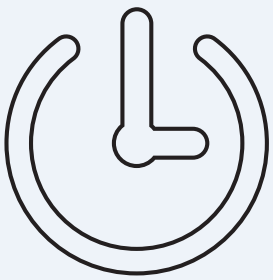
Indicators

The indicators are shine through and are within the knob of the product, these will light up when needed.



All indicators fade out after a duration (default 20 seconds) unless an error is present. Additionally, indicators will "wake up" upon manual interaction with the thermostat, heating state change, schedule event, app connection or errors/warnings appearing.

Heat indicator 	• This indicator lights up and turns **red** when the thermostat switches **on** and delivers current to the electric heating element. After some seconds the indicator fades out. • This indicator lights up and turns **green** when the thermostat is powered and OK. After some seconds the indicator fades out. • The indicator flashes **red** when an error is present, this will persist until error is alleviated, heating will not be activated/ activatable.
Data communication 	• This indicator flashes **Blue** or **Red** when initiating data communication between the thermostat and communication device unit. • The indicator flashes as part of the paring process • The indicator is constant lightning **Blue** or **Red** when communication between the thermostat and communication device is present. • The indicator turns off when communication stops. • The indicator is Blue when in Bluetooth mode and Red when in Zigbee mode

Schedule 	• This indicator lights up **white** when the built in schedule changes from Non active to active and vice versa. After some seconds, the indicator fades out. • This indicator flashes **white** when a warning has occurred. The warning will be present until App communication is activated, however the indicator will only flash for a duration (default 20 seconds). Warnings will be displayed in the App.

Default settings and out of the box settings.

The DEVIreg™ Display Connect will have the following settings out of the box:
Maximum Room temperature 35 °C
Maximum floor temperature: 28 °C
Minimum floor temperature 5 °C

If the thermostat is placed onto the schedule (clock) icon without having the app connected, the temperature is default 21 °C

Factory reset

To perform a factory reset the thermostat needs to be powered and correctly mounted, on the bottom of the device (circled below) is a pin hole, by pressing a sim card ejector tool or similar blunt tool into this pinhole a button will be activated, after 20-30 seconds of activation of this button the thermostat will perform a factory reset. All indicators will flash briefly to inform about successful factory reset.

The thermostat will briefly reboot, please allow for up to 10 seconds for the thermostat to be back to a responsive state.

Performing an factory reset will reset errors and warnings.

Alternatively, the front cover on the thermostat can be removed using the slot on the bottom of the thermostat and the button can be activated with a finger.

The factory reset can only be performed whilst the thermostat is powered.

Bluetooth <-> Zigbee changeover

To change the communication of the thermostat from Bluetooth to Zigbee or vise versa, the reset button is utilized.

To change over the communication, press the reset button for approximately 5 seconds. Once the middle communication indicator starts blinking purple, release the reset button, after which the thermostat will briefly restart. Please allow up to 10 seconds for the restart. When connecting, the middle connection indicator will light blue if in Bluetooth mode and red when in Zigbee mode.

Zigbee join procedure:

To join the thermostat with the DEVI Connect Zigbee app, a Zigbee gateway is required (DEVI Connect 140F1166).

Follow the instructions in the app to pair the thermostat. When prompted to set the thermostat in pairing mode, briefly press the reset button. The middle connection indicator will start quickly blinking red.

Should the Zigbee system require install code this is placed on the back of the thermostat as a QR code

Breakout

To enable the thermostat to go up to a floor temperature of 45°C, or to use the room only control functionality. a permanent modification must be made, this can invalidate your warranty on the product and connected products.

The higher maximum temperature limit or alternative control mode needs to be set in the app after the action has been performed.

To best perform the action the thermostat unit needs to be dismounted from the power supply, on the back of the thermostat there is a hole as shown below, to perform the breakout the plastic seal in the hole needs to be broken and thereafter the PCB trace needs to be broken. The action is best performed with a flathead screwdriver or similar as shown below.

whilst doing the breakout please take care not to damage any other components on the circuit board.

DEVI Control App:

DEVI Control App User Guide:

REFERENCE TO APP MANUAL

To pair the thermostat with the app, initiate the app and follow the instructions provided in the app.

DEVI Connect App:

App enabled functions

- wizard assisted installation scheduling
- smart preheating (adaptive heating)
- thermostat limits adaptation
- control mode configuration
- child lock
- app lock
- warning and error readout
- information export
- help function
- complete overview of data and functions

Warnings and error messages

Warning table

Warning	Description	Reference
W1	Schedule overwritten due to manual dial setting	Set when Schedule is active (Set in App) but dial has been turned to set a manual setpoint
W2	Invalid clock	If time is invalid - less than 2021 or above 2050 or use production date or first time connected to App
W3	Child lock is enable	Will be active if child lock is enable and the user tries to change the setpoint or mode with the potentiometer (or encoder)
W5	Set temperature not achievable	Warning given when the room/floor temperature from schedule or manual setpoint can't be reached within a reasonable time.
W8	Maximum Floor Temperature Limit reached	Set if Maximum Floor Temperature is reached while in Combi Mode while Room Temperature is not at Set point
W10	Temperature set above maximum temperature limit	Set, if maximum temperature is lower than the current temperature knob/potentiometer is pointing at. Like Max set to 25°C and knob is set to 27°C

Error table

Error type	No	Description	Solution	Need restart
Floor Sensor disconnected	E1	Connection to sensor is lost	Contact installer or local Danfoss service	The thermostat requires a restart to operate again
Floor Sensor short-circuited	E2	Sensor short-circuited	Contact installer or local Danfoss service	The thermostat requires a restart to operate again
Thermostat overheated	E3	Thermostat is overheat-ed, heating is turned off.	Wait until thermostat cools down	The thermostat needs no restart but will start heating when the temperature is lowered
Room sensor disconnected	E4	Room tem-perature sensor value too low.	Contact installer or local Danfoss service	
Room sensor short-circuited	E5	Room tem-perature sensor value too high.	Contact installer or local Danfoss service	

Error type	No	Description	Solution	Need restart
Unrecover-able error, Power supply	E6	Power supply is detected as defective	Contact installer or local Danfoss service	
Potentiom-eter / dial error	E9	Potenti-ometer is detected as defective	Contact installer or local Danfoss service	The potentiometer is reading a value that is outside of the given range
Invalid com-munication	E10	Bluetooth communi-cation error	Retry / Contact installer or local Danfoss service	Bluetooth communication has encountered an unexpected / faulty command
Unrecover-able error	E11	Unrecover-able error	Contact installer or local Danfoss service	

Factory reset will reset all errors and warnings.

6 Ecodesign Sheet

To comply with Ecodesign regulations for electric local space heaters 2024/1103 the following table is to be filled in with the specifics of the heating system. Herein the thermostat information for this specific product is prefilled, please fill any/all blank slots.

Information requirements for electric local space heaters

Danfoss A/S, Nordborgvej 81, 6430 Nordborg, Denmark	Danfoss A/S, Nordborgvej 81, 6430 Nordborg, Denmark

Model identifier(s): DEVIreg™ Display Connect

Item		Symbol	Value	Unit	Item	
Power consumption				**Type (select one)**		
In off mode	P_o	0,2	W	single stage heat output and no room temperature control		no
In standby mode	P_{sm}	0,2	W	two or more manual stages, no room temperature control		no
In idle mode	P_{idle}	0,6	W	mechanic thermostat room temperature control		no
In networked standby	P_{nsm}	0,21	W	electronic room temperature control		no
Standby mode with display of information or status		no		electronic room temperature control plus day timer		no

	electronic room temperature control plus week timer	yes
	Other control options (multiple selections possible)	
	presence detection	no
	open window detection	no
	distance control option	yes*
	adaptive start control	yes
	working time limitation	no
	black bulb sensor	no
	self-learning functionality	no
	control accuracy	no

** requires zigbee gateway (DEVI Connect 140F1166)*

Control function codes

		Code of temperature control (TC)	Control functions							
Type of temperature control	Single stage, no temperature control	NC	f1	f2	f3	f4	f5	f6	f7	f8
	Two or more manual stages, no room temperature control	TX								
	Mechanic thermostat room temperature control	TM								
	Electronic room temperature control	TE								
	Electronic room temperature control plus day timer	TD								
	Electronic room temperature control plus week timer	TW								
Control functions	Presence detection		1							
	Open window detection			2						
	Distance control option				3					
	Adaptive start control					4				
	Working time limitation						5			
	Black bulb sensor							6		
	Self-learning functionality								7	
	Control accuracy with CA<2 Kelvin and CSD<2 Kelvin									8

This product contains TW(f4) control functions

7 Warranty

A 5-year product warranty is valid for:

- thermostats incl. DEVIreg™ Display Connect.

Should you, against all expectations, experience a problem with your DEVI product, you will find that Danfoss offers DEVIwarranty valid from the **date of purchase that was no later than 5 years from production date** 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 decision to either repair or replace will be solely at the discretion of Danfoss.

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.

DEVIwarranty 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 DEVIwarranty 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 visit **www.devi.com.devi.danfoss.com/en/warranty/**

WARRANTY CERTIFICATE

The DEVIwarranty is granted to:

Address **Stamp**

Purchase date

Serial number of the product

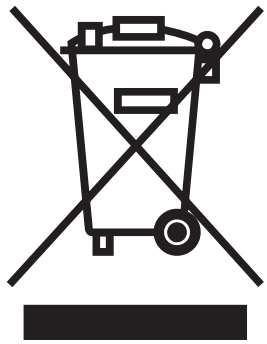
Product **Art. No.**

***Connected output [W]**

Installation Date & Signature **Connection Date & Signature**

**Not mandatory*

8 Disposal instruction



This symbol on the product indicates that it may not be disposed of as household waste.

It must be handed over to the applicable take-back scheme for the recycling of electrical and electronic equipment.

- Dispose of the product through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Danfoss A/S
Nordborgvej 81
6430 Nordborg
Denmark

Danfoss A/S
DEVI • devi.com • +45 7488 8500 • E-Mail: EH@danfoss.com

140R0137 | AN528246787827en-010101
Produced by Danfoss © 2025.08

140F1162

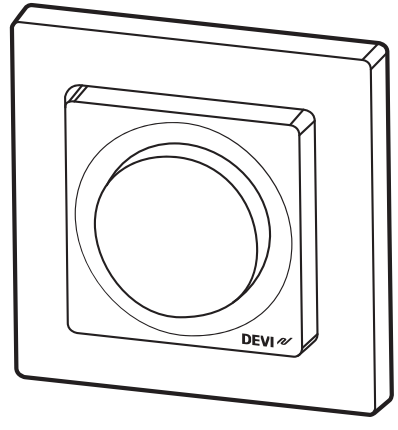
DEVIreg™ Display Connect

DEVI® by Danfoss

Designed in Denmark

140R0137

Connectable Room thermostat
220-240V~
Load 16 A/3680 W
@ 230V ~
50/60Hz
0T35 °C
IP21



Danfoss Ltd. 22
Wycombe End
HP9 1NB, GB

MADE IN THAILAND

5 703466 250396