Floor Warming and Heating Systems

CONCERTO™/MC

Installation Guide

FLK50 Non-programmable floor heating thermostat (3600 W)

Warnings

The installation of this thermostat should be made by a certified electrician and must be installed in conformity with the national and local Electrical Codes.

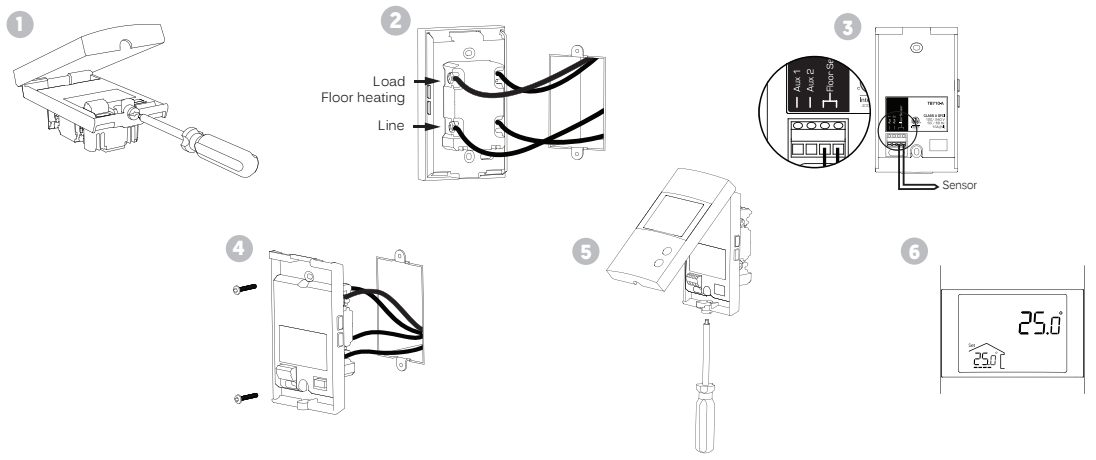
Before starting the installation of your new thermostat, please make sure that the breakers for your heating system are off at the main electrical panel!

INSTALL YOUR THERMOSTAT

1. Unlock and lift the thermostat cover.
2. Connect the heating floor by using the wire connectors load / line located on the back of the thermostat. Connect the ground wire to the screw in the electrical box intended for this purpose.

⚠ Make sure to firmly tighten the wire connectors for a secure connection. A loose connection can be a fire hazard.

3. Connect the sensor. (Only for control applications in F mode or with floor limit.)
4. Use the screws to secure the thermostat to the electrical box.
5. Replace the cover and lock.
6. Power up the thermostat. After performing a test sequence, the thermostat should display the floor temperature. If not, refer to the trouble-shooting guide in this manual.



Increasing or lowering the temperature
To adjust the temperature, press ↓ or ↑. The requested temperature will blink to confirm the new setpoint.

Placing the thermostat on standby
Press and hold the ↓ and ↑ buttons simultaneously for 3 seconds to place the thermostat on standby. The LCD display will not be blank: the ⏻ symbol will be displayed.

When the thermostat is on standby, press any button to turn back ON the thermostat. The thermostat will resume operation under its last program settings.

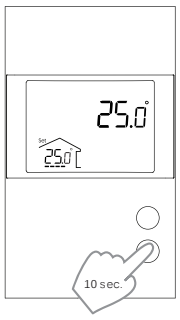
A thermostat that is placed on standby before a power failure will be on standby by default when power is restored.

USER SETTINGS

Get the setpoint to its minimum and hold the ↓ button for 10 seconds to access the menu.

Press the ↓ or ↑ button to change the setting.

Press the ↓ and ↑ buttons simultaneously to save and go to the next parameter. Continue to press until the end of the list to exit the menu.



USER SETTINGS

#	Name	Parameters & settings	Display
1	Display	**Temperature format** °C or °F (default: °C)	°C
2	Backlight	**Backlight control** ON or OFF (default: OFF)	OFF
3	Control	**Control mode** A (Air), F (Floor) (default: F)	F
4	Setpoint Min	**Minimum setpoint** 5 °C to 36 °C (default: OFF)	OFF
5	Setpoint Max	**Maximum setpoint** 5 °C to 36 °C (defaut: OFF)	OFF
6	Limit Air Max	**Maximum ambient temperature** (Visible only in F mode) 5 °C to 36 °C (default: OFF)	OFF
7	Limit Floor Max	**Maximum floor temperature** (Visible only in A mode) 5 °C to 36 °C (default: OFF)	OFF
8	Limit Floor Min	**Minimum floor temperature** (Visible only in A mode) 5 °C to 36 °C (default: OFF)	OFF
9	Sensor	**Floor sensor** 10K or 12K (default: 10K)	10
10	Aux	**Assignment of auxiliary output** OFF, EXP, 15 sec, 15 min (default: OFF)	OFF

3) The thermostat offers 2 temperature regulation modes:
F mode (default): Regulates the floor's temperature by means of an external temperature sensor with the possibility to limit ambient temperature.

A mode: Regulates the ambient temperature with the possibility to limit floor temperature by means of an external temperature sensor.

6) Maximum floor temperature limit (A mode)
The thermostat limits floor heating to the set temperature to ensure it does not exceed the selected limit. Ideal for protecting engineered wood floors.

7) Maximum ambient temperature limit (F mode)
The thermostat limits floor heating to ensure that the ambient temperature does not exceed the selected limit.

10) Assigning the auxiliary output (F mode):
The thermostat provides an auxiliary output that has one function which is set from the user settings.

EXP function: Auxiliary output to connect several heating floors (FLE TR1310 sold separately).

Assigning the auxiliary output (A mode):
The thermostat provides an auxiliary output that has three functions which are set from the user settings.

15 sec function: Short cycle auxiliary output (15 seconds). Used for a heater controlled through an electronic relay (SSR).

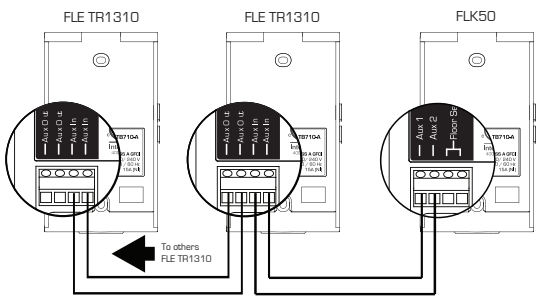
15 min function: Long cycle auxiliary output (15 minutes). Used for a heater controlled through an electromechanical relay or equipped with a fan.

In the 15 sec and 15 min functions, the thermostat controls the ambient temperature with the floor. Once the floor temperature has reached its limit, if the desired ambient temperature is not reached, the auxiliary output activates the heating device to reach the set temperature. (The auxiliary output acts as a second heating stage.)

EXP function: Auxiliary output to connect several heating floors (FLE TR1310 sold separately).

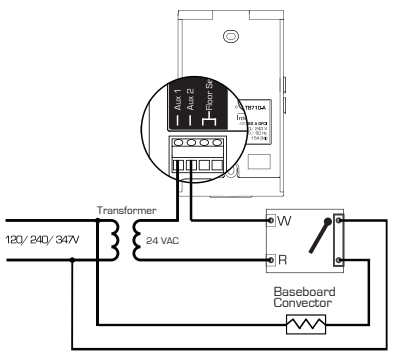
CONNECT AN EXPANSION UNIT (FLE TR1310)

It is possible to connect up to 10 expansion units to the same device. (EXP function)



CONNECT THE AUXILIARY OUTPUT

Second heating stage (15 sec / 15 min functions)



GROUND FAULT PROTECTION

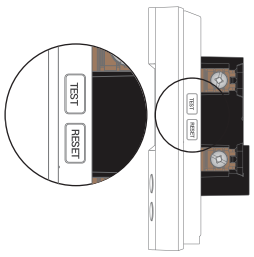
The thermostat is equipped with a ground fault protection that can detect a current leakage of 5 mA. When a current leakage is detected, the ground fault protection is triggered and quickly interrupts the power supply to prevent any serious injuries.

Resetting the ground fault protection
The RESET button warning light turns ON (red) when the ground fault protection is triggered. If the RESET button warning light turns ON during normal operation of the thermostat, simply press the RESET button to reset the ground fault protection. The light will turn OFF. If for any reason this situation occurs again, cut the power to the heating system from the main electrical panel and ask a qualified electrician to verify the installation.

Testing the ground fault protection
This thermostat has an Auto Test which periodically verifies the correct operation of the protection circuit. You can also do this manually:

1) Press the TEST button. If the RESET button's, red warning light does not turn ON, the test has failed. Cut the power to the heating system from the main electrical panel and ask a qualified electrician to verify the installation.

2) Press the RESET button to restart the thermostat's base.



TROUBLESHOOTING GUIDE

What should I do if the E1F code appears on my thermostat display?

The E1F code means that the thermostat is in "Floor" mode and there is no connected sensor. If your thermostat is not intended to control an heated floor, change the thermostat's control mode for the "A mode".

TECHNICAL SPECIFICATIONS

Operating voltage: 120/208/240 Vac, 50/60 Hz

Maximum load:
1800 W @ 120 V / 15 A
3120 W @ 208 V / 15 A
3600 W@ 240 V/ 15 A

Setpoint range floor: 5 °C to 36 °C (41 °F to 96 °F)
Setpoint range ambient air: 5 °C to 36 °C (41 °F to 96 °F)
Display range: 0 °C to 50 °C (32 °F to 122 °F)
Resolution: ± 0.5 °C (± 1 °F)
Storage: -20 °C to 50 °C (-4 °F to 122 °F)

Auxiliary output: 24 Vac/Vdc / 0.1 A
GFCI protection: Class A (5mA)

3-year limited warranty

FLEXTHERM INC. warrants the components of their products against defects in material and workmanship for a 3-year period from the date of purchase, under normal use and service, when proof of purchase of such is provided to the manufacturer. This warranty does not cover any transportation costs that may be incurred by the consumer. Nor does it cover a product subjected to misuse or accidental damage. The obligation of Flextherm Inc., under the terms of this warranty, will be to supply a new unit and this releases the manufacturer from paying the installation costs or other secondary charges linked to replacing the unit or the components.

If an error code is displayed, or for more information, contact FLEXTHERM's Customer Service at **1 800 353-9843.**