

# Leaflet for thermostat

## Description

This thermostat specially designed for underfloor heating. It has the following features and functions:

- Regulation by means of an integrated room sensor or external floor sensor.
- Monitoring of the floor or room sensor. Indication in the event of malfunction of the sensor.
- Possibility to have floor limitation.
- High breaking capacity of the output relay 16A / 230 V (3600W).
- 2 poles main switch.
- Enclosure class IP 21 as standard.
- Floor sensor with 3 metres of cable included.
- The thermostat is supplied with a front and assembly frame for the ELJO TREND box system. An extra front for the ELKO / ENSTO system is also included.

## Position and installation

This thermostat is intended for flush-mounting in a standard 65 mm box. It should be positioned approximately 1.5 metres above the floor, protected from direct sunlight and draughts. All electrical conduits to the thermostat box that contain heating cable and floor sensors must be sealed to protect the thermostat against hot air currents.

Thermostat boxes which are to be installed in electrical conduits must also be sealed. Flash-mounting can also be mounted in a raised frame for external installation.

## Connection of the thermostat

See figure 1

The thermostat must be connected to 230 VAC according to the circuit diagram. A protective earth, PE, for the incoming power cable and heating cable must be connected to a common terminal. Heating cable of maximum 3600 W / 230V may be connected direct to the thermostat. For control of larger heater loads a contactor must be used.

If a floor sensor is used, it must be connected to the terminal. Installation and any extension of the sensor cable must be connected as for mains voltages.

## Operating modes and nominal temperatures

See figure 3

The thermostat can operate in 3 different modes :

### 1) Floor sensor mode

jumper configuration:  
Rk : if sensor default regulation on room sensor



### 2) Room sensor mode

jumpers configuration :  
Rk : if sensor default : regulation on fixed cycle 20%



### 3) Room sensor mode with floor overheat protection 27°C

regulation on room sensor  
jumper configuration :  
Rk : if room sensor default , regulation on floor sensor limited to 27°C.



See figure 2

The room temperature is then set with the temperature regulation knob.

The main switch has two positions :

When it is down current is switched on and when it is up the current is switched off.

## Calibration of the thermostat

See figure 2

When the thermostat has been in operation for 1-2 days and the temperature in the room has stabilised, it may be appropriate to calibrate the temperature regulation knob against the desired setting.

This is done by pulling the temperature regulation knob straight out, without turning it, so that it comes off the spindle. Replace the knob on the spindle so that the mark on the knob is exactly opposite the appropriate figure on the thermostat front. If the temperature in the room is 20°C, the mark should point at the number 4. The number 4 is used to mark the normal temperature of the room.

## Technical specifications

Power	230VAC ±10%
Power consumption	5VA
Main switch	2 poles 16A
Relay output - Heating cable	230 V current Max. 16A
Ambient temperature - operation	0 to +50°C
Ambient temperature - transport	-20 to +60°C
Enclosure class	IP21
Temperature range room	+5 to +35°C
floor	+5 to +35°C
Accuracy - room/floor sensor	± 1°C
Switching hysteresis	0.75°C
Indicator - Heating	Red LED Shinning
Indicator default sensor	Red LED Blinking
Terminals	Max. 2.5 mm <sup>2</sup> for incoming and outgoing 230V current Max. 1.5mm <sup>2</sup> for floor sensor
Dimensions	H81xB81x D51mm
ELJO version	
Colour	RAL 9010
Maximum length of floor sensor cable	10m 2 x 0.75mm <sup>2</sup>

## Monitoring of the temperature sensors, fault location.

In the event of damage or malfunction of one of the temperature sensors. The floor sensor's temperature/ resistance values are as follows:  
15°C / 16,1 kΩ  
20°C / 12,6 kΩ  
25°C / 10,0 kΩ  
30°C / 7,9 kΩ  
35°C / 6,4 kΩ  
The values may be checked with an ohm-meter  
The floor sensor may be replaced by a new one. In the event of malfunction of the air sensor the entire thermostat must be replaced.

Figure 1

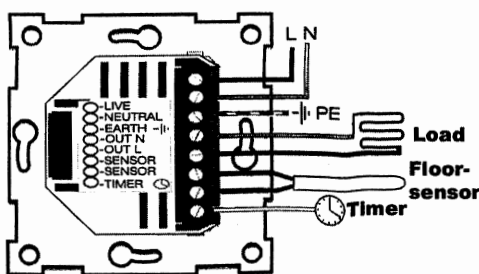


Figure 2

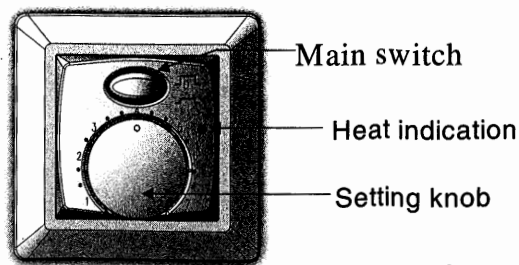


Figure 3

