

LK Connection Box 1

DESIGN

LK Connection Box 1 is a simple connection box used to regulate temperatures in small floor heating systems. The terminal is used for connecting and 24 Volts powering LK Room Thermostat S1 or LK Room Thermostat S2 and LK Actuator 24 V. A maximum of one LK Room Thermostat S1 24 V can be connected, but the thermostat will control up to five LK 24 V Actuators [thus one zone, max five loops]. LK Connection Box 1 is powered via a LK Transformer 230V/24 V.

ASSEMBLY

The LK Connection Box 1 is mounted on a wall using suitable fixings. It should be situated close to the manifold to avoid extending the actuator cables. The LK Connection Box is powered by a LK Transformer 230 V/24 V AC, so there must be a 230 V spur or power socket available.



LK Room Thermostat S1 connected to LK Connection Box 1



LK Room Thermostat S2 connected to LK Connection Box 1

ELECTRICAL CONNECTION

Connection of LK Actuator 24 V



LK Actuator NO (normally open) opens when power is cut. On top of the actuator is a position indicator. When the position indicator is at the top, the valve is open, and vice versa. LK Actuator NO is connected to the terminal marked with an actuator symbol. A maximum of 4 actuators can be physically coupled to the terminal. If one more actuator is required, they can be coupled to an additional connection box. The LK Connection Box 1 can, however, control a maximum of five LK actuators. A LED located beside the actuator terminal will light when the room temperature calls for heat.

Connection of LK Room Thermostat S1 or S2



LK Room Thermostat S1



LK Room Thermostat S12

LK Room Thermostat S1 NO/LK Room Thermostat S2 NO should be installed on an inner wall 1,5 m above floor level. Avoid installation where its function might be affected (e.g. direct sunlight, vents etc.) Lit LED indicates that the room thermostat is calling for heat. Wiring between the LK Room Thermostat S1 NO and LK Connection Box 1 must use cable such as a signal cable EKKX 4 x 0,5 mm², (NOTE: one wire remains unused and isolated). The signal cable is connected to room thermostat terminals 1, 2 and 4 and to the connection box's terminals marked 1, 2 and 4. A LED located by the thermostat connection terminal in the Connection Box 1 will light up when the thermostat calls for heat.

ROOM THERMOSTAT TEMPERATURE MEASUREMENT

In order to achieve accurate room temperature measurement it is important to prevent draft behind the thermostat. If air is sucked in from an adjacent room through the wall box or conduit, the sensor may experience varying temperature depending on wind direction and ventilation. One way to avoid this is by sealing with fireproof insulation like mineral wool / glass wool.

Connection of LK Transformer



The LK Transformer 24 V is connected to the terminal marked 24 V AC. A LED located by the 24 V terminal will light up to indicate when power is on.

Switch NC/NO function

When delivered the LK Connection Box is adapted for LK Actuator NO and LK Room Thermostat S1 NO/LK Room Thermostat S2 NO. If necessary the LK Connection Box 1 can be adapted to LK Actuator NC and LK Room Thermostat S1 NC/LK Room Thermostat S2 NC. The adjustment is made by switching the NO/NC jumper switch according to the illustration below.



FUNCTION CONTROL TEST

Once installation is complete a function control test should be carried out.

- 1. Turn the thermostat up to max. Check that the LED of the thermostat lights up. Check that the "thermostat LED" lights up on Connection Box 1. After approx. 6 min. all actuator position indicators should be at the upper position.
- 2. Turn down the thermostat to min. The LED on the thermostat and the LED for the control box thermostat terminal should be turned off. After approx. 6 min, all actuator position indicators should be at the lower position.

FUSE CONTROL

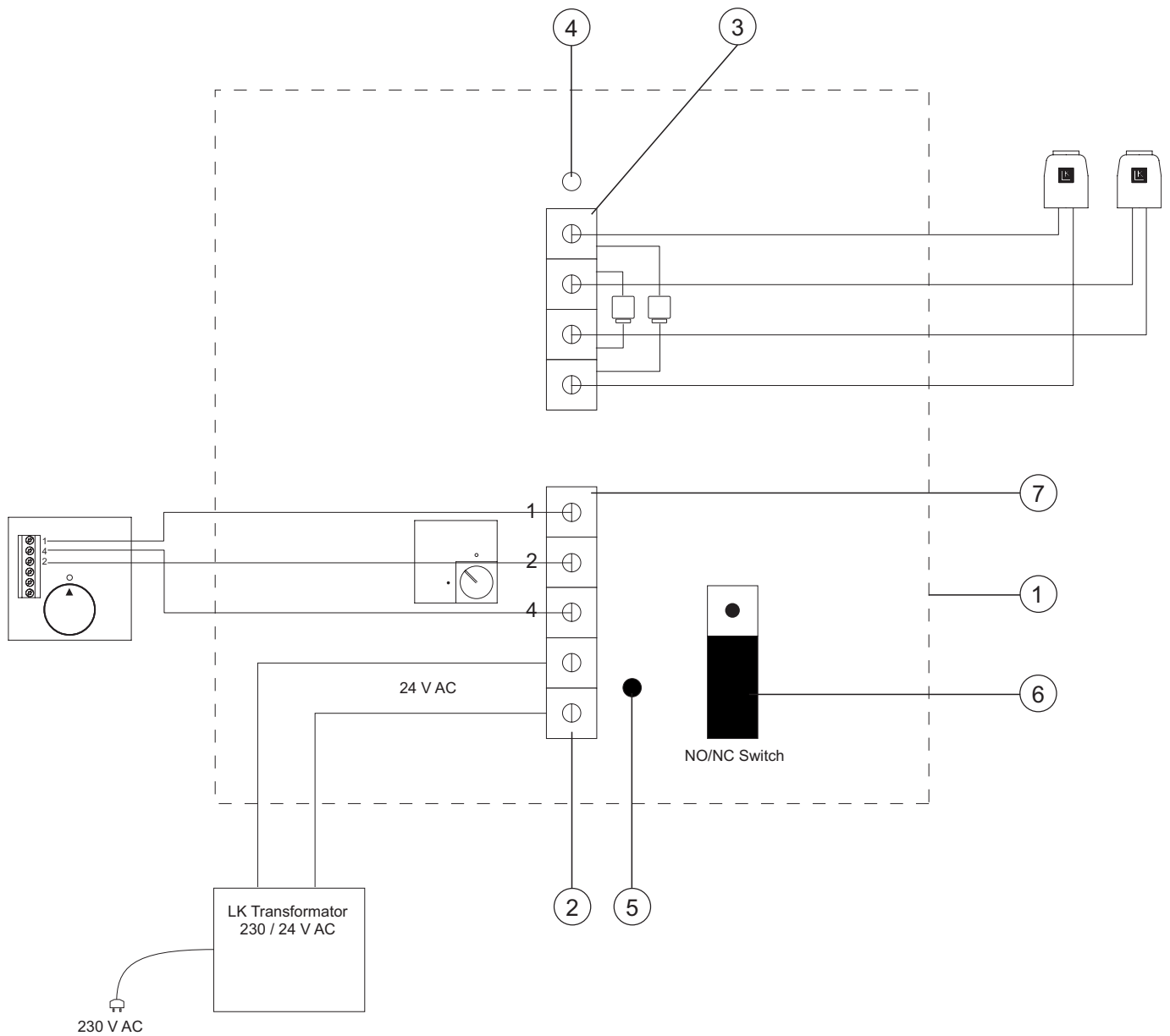
LK Connection Box 1 is equipped with a LED on the terminal marked 24 V AC. If this LED is unlit, then the fuse of the LK Transformer 24 V must be checked. The fuse is situated on one side of the transformer under a lid marked FUSE. Replace the fuse with the same type/size.

TECHNICAL DATA

Article name	LK Connection Box 1
Article no.	241 73 28
Enclosure class	IP 44
Max. actuators	5 pcs.
Max. thermostats	1 pcs.
Dimensions	105 x 105 x 50 mm
Voltage	24 V AC
Max. fuse	6,3 AF

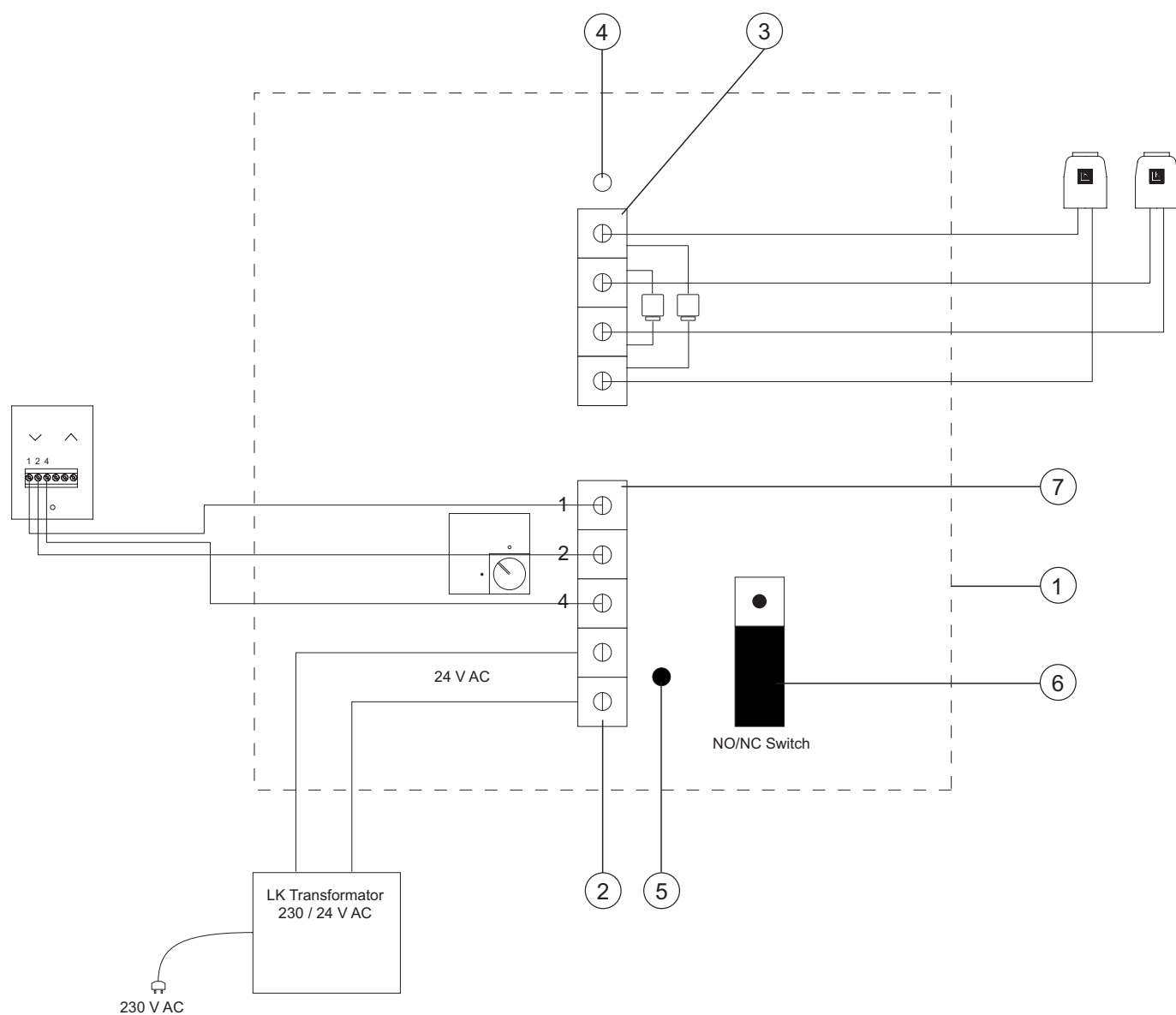


WIRING DIAGRAM



Connection with LK Room Thermostat S1

1	LK Connection Box 1
2	LK Transformer connection terminal
3	LK Actuator connection terminal
4	LED Actuator
5	LED Power supply
6	NC/NO switch
7	LK Room Thermostat S1 connection terminal



Connection with LK Room Thermostat S2

1	LK Connection Box 1
2	LK Transformer connection terminal
3	LK Actuator connection terminal
4	LED Actuator
5	LED Power supply
6	NC/NO switch
7	LK Room Thermostat S2 connection terminal

