WIRSBO® Systems

Wirsbo Underfloor Heating

Electronic Thermostat ITR 3 24 V AC

The ITR 3 electronic thermostat consists of two elements: a thermostat for temperature adjustment and an external temperature sensor. This makes it possible to position the sensor in an environment where a normal room thermostat cannot be used, e.g. a stable or a car wash, while the thermostat is positioned in a more protected location. This can also be an aid in protecting the thermostat against vandalism, e.g. in highly exposed positions in schools or care institutions.

Please note: ITR 3 is controlled by the temperature of the external sensor, unlike the Wirsbo CoSy Room Thermostats, where the temperature is controlled by the built in sensor and the external sensor provides maximum or minimum floor temperature limitation.

The thermostat is mounted in a separate enclosure (box) with DIN rails. Each box has room for two ITR 3 thermostats.

The thermostat box can be positioned next to the underfloor heating manifold or in another suitable location.

The external sensor supplied is a 4 m cable with a sensor element at one end. Sensors are normally positioned in the floor to be regulated, but can also be used as room temperature sensors in rooms that requires regulating.

Fig. 1 Thermostat, sensor and DIN enclosure

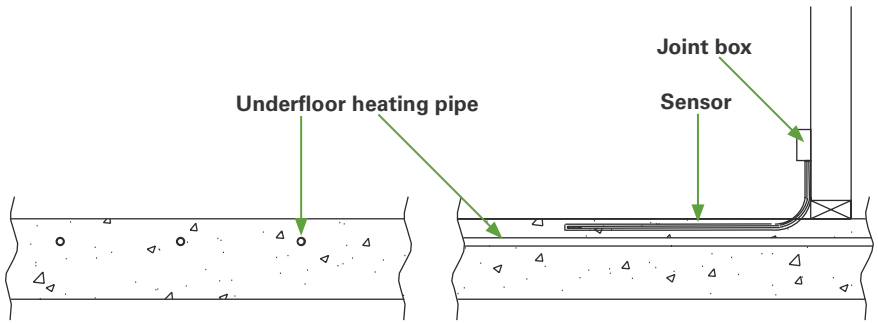


Fig. 2 The sensor mounted in conduit

Installation and setting instructions

Mounting

The thermostat is designed for mounting onto 35 mm DIN rail according to EN 50 022. Electrical connections are according to wiring diagram.

NOTE! The thermostat should be installed by qualified personnel only.

Function

The desired temperature is set via the dial on the front of the thermostat (fig 3). The setting can be locked with the button located below the setting knob. A 5°C limit range is possible with the use of tappets on the temperature scale.
Please note: Locking and range limits are provided to protect against incorrect settings. Never turn the setting knob using force. If it cannot be turned easily, check whether or not the dial is locked.

Contacts 2 and 3 are made until the set temperature is reached. The green LED lights up.

Fig 3

Fig 4

External sensor

The sensor can be extended up to 50 m with a cable diameter of 1.5 mm^2 without adverse effect on the accuracy of the thermostat. When the sensor cable is laid in cable ducts or near high current cables, it may be necessary to use screened cable. The screen shall be connected to terminal 4.

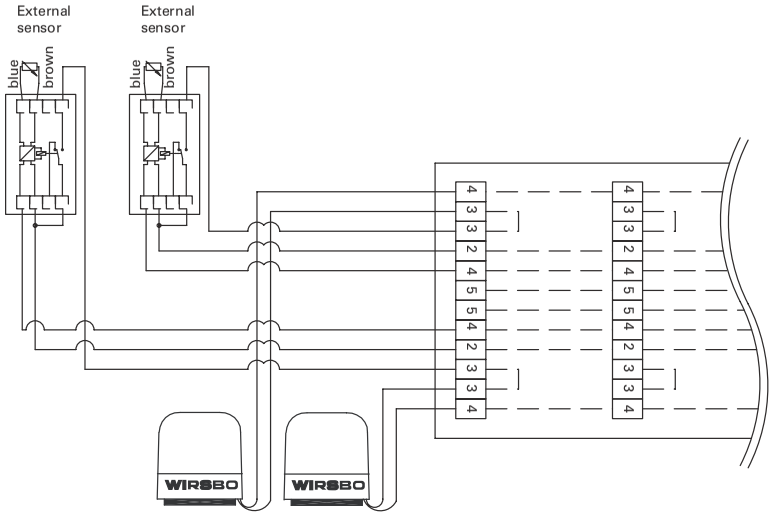
Sensor data

To check the sensor function, the resistance below can be measured at different temperatures:

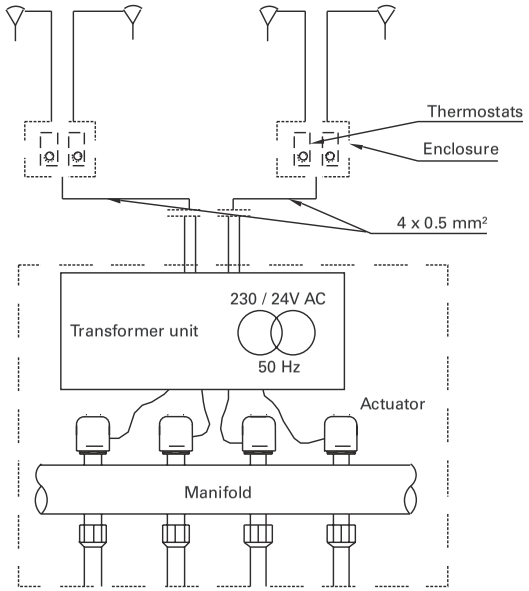
°C	ohm
-10	754
0	820
10	889
20	962
25	1000
30	1039
40	1118

Wiring and circuit diagram

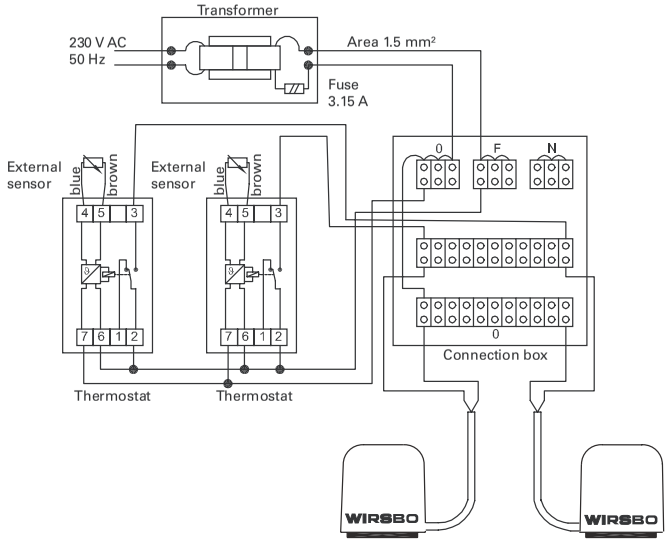
Wiring diagram for Wirsbo CoSy Transformer Unit



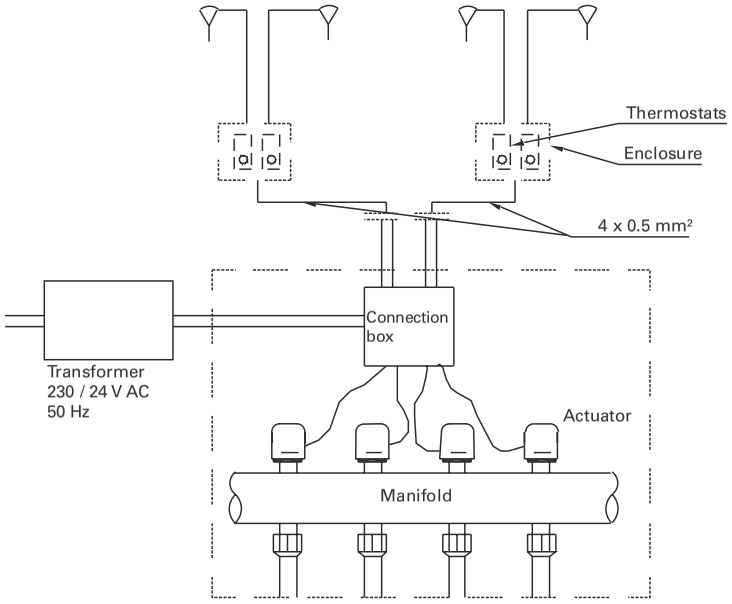
Circuit diagram for Transformer Unit



Wiring diagram for transformer with connection box



Circuit diagram for transformer with connection box



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In keeping with our policy of continuous improvement and development, Uponor Wirsbo AB reserves the right to change specifications without prior notice.

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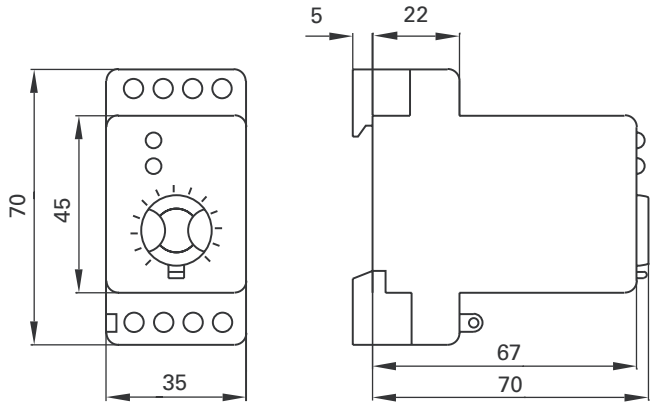
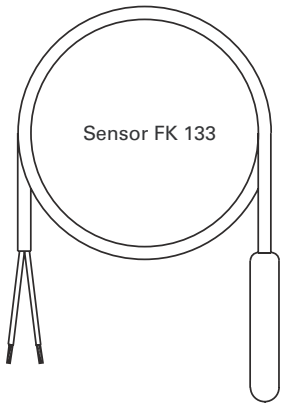
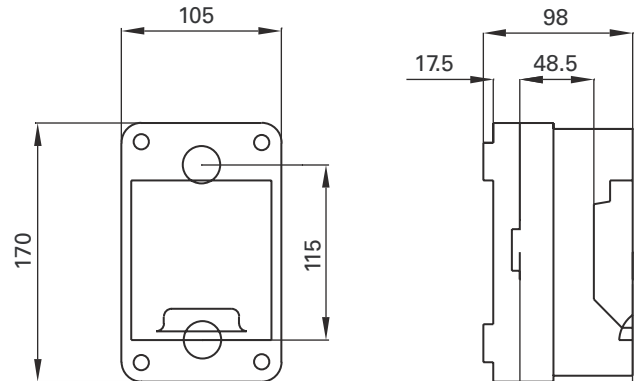
Technical data





Electronic thermostat ITR 3 with external sensor
Art No 80421

Temperature range:	0 to +60°C
Connection differential:	1 K (Static)
Operating voltage:	24 V AC (20.4 - 26.4 V)
Max load:	10 A (4 A) 250 V AC equivalent to 12 Wirsbo actuators
Frequency:	50/60 Hz (48-62 Hz)
Permitted ambient temp:	-10 to +50°C
Dimensions:	35 x 70 x 75 mm
Socket:	Rail as per DIN EN 50022
Protection class:	IP 40
Weight:	approx. 80 g
Length, external sensor:	4 m



DIN enclosure for ITR 3
Art No. 804221
In which two ITR 3 thermostats can be installed.

Protection class:	IP 55
Permitted ambient temp:	-25 to +60°C
No. of thermostats:	2
Dimensions:	170 x 105 x 98 mm

The box is equipped with a transparent hinged cover.

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