



UNDERFLOOR HEATING WORLD



UM1 Manual Thermostat **INSTRUCTIONS**

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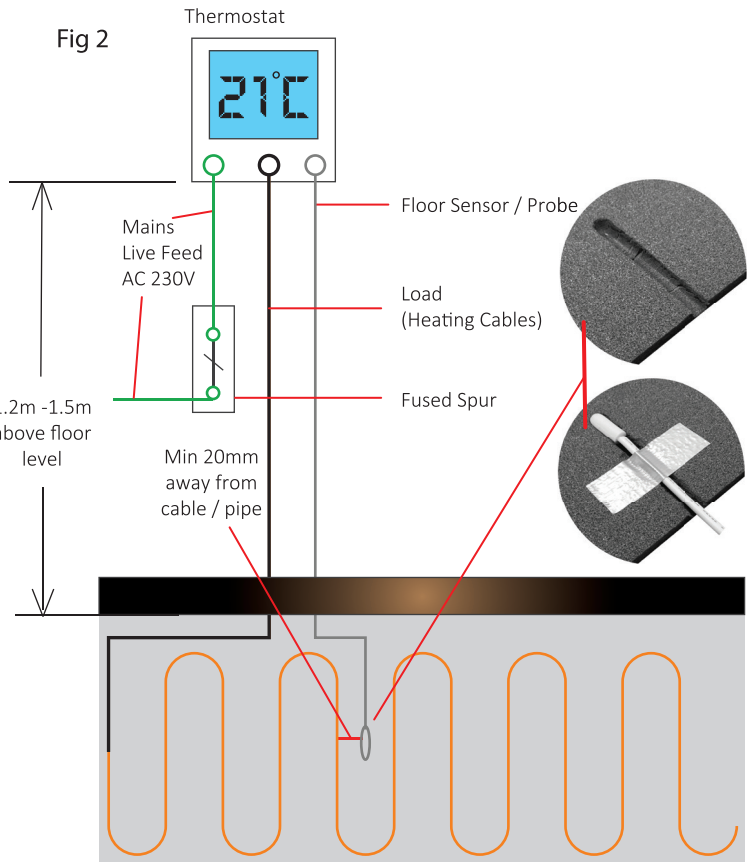
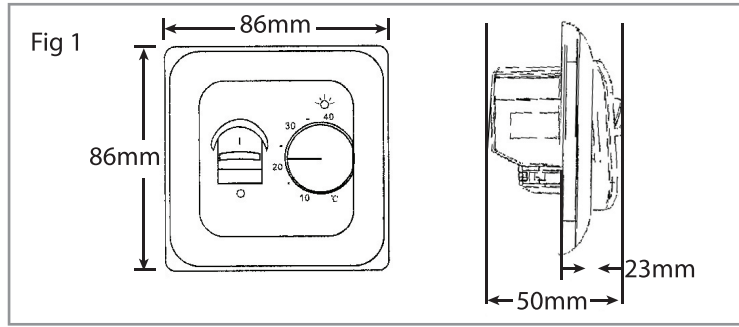
UM1 Manual Thermostat

Recommended for control of electric underfloor heating or on/off valve actuator used in water-based floor heating systems.

Technical data:

Voltage	: AC230V
Max Current	: 16A
Power consumption	: 5W
Setting range	: 5°C -40°C
Switching differential	: +0.5K
Ambient temperature	: -5°C -50°C
Protective housing	: IP20
Housing material	: Anti-flammable PC
Floor sensor	: Rubber-thermoplastic NTC sensor, cable length is 3m

Dimension:



Placement of Thermostat See Fig 2

This thermostat is ideally placed within easy reach of the floor being heated. This would typically be 1.2m - 1.5m above floor level on a flat wall or vertical background. This thermostat comes with a 3m floor sensor. This sensor will need to be connected to the rear of the thermostat, (see fig 4) with the other end located within the heated floor. The sensor can be extended if needed with standard 1mm twin and earth cable up to 10m. Preferably the thermostat would be located to avoid the need for probe extension.

Placement of Floor Sensor Probe See Fig 2

This thermostat does not have a built in air sensor so external heat sources that affect air temperature will not affect this thermostat. Correct placement of the floor probe is essential for efficient regulation of the floor heating system.

The probe must be located within the heated floor area and directly between two heating cables / pipes. The probe should never be positioned closer than 20mm from any heating cable / pipe. The probe must never come into contact or be affected by other heating or cooling sources. Other external heating or cooling sources will adversely affect its performance / ability to accurately read the floor temperature.

The probe should be embedded into the floor and not left loose in a conduit. Only one probe can be wired into the thermostat. If a second probe is needed for a back up it should be installed and left loose ready to be wired in if needed at a later date.

Once the probe is fitted it must be tested before the floor is fitted. The below table is a guide to what resistance the probe should read at what ambient temperature. The higher the temperature the lower the resistance reading of the probe.

Temperature to Resistance Value of Floor Sensor

Temperature (°C)	Resistance (Ω) @20k
5	22.07
10	17.96
20	12.09
30	8.31
40	5.82

Operation manual:

Temperature Setting / Adjustment

The thermostat has a temperature range of +5 to +40°C. When power is going to the heating and the floor is warming up the thermostat has an LED which will glow RED, (the LED will NOT remain on constantly). When the heating has reached temperature the thermostat will cut power to the heating and the LED will turn off. The thermostat will then maintain the set temperature by turning the power + LED on and power + LED off as the floor temperature rises and falls.

The thermostat works on a 1 degree switching differential. This means the thermostat will turn on and heat the floor 1 degree past the set temperature before it then turns off. The thermostat will then remain off until the temperature drops 1 degree below the set temperature before tuning back on to heat the floor up and repeat the cycle.

The temperature can be tuned up and down using the temperature knob. Turn the knob clockwise to increase and counter-clockwise to decrease the temperature. Note: Make sure the thermostat is turned on (switch is in the up position) when changing the temperature.

Temperature Calibration

The thermostat comes calibrated but should you need to calibrate the thermostat you can do so at any time. To do so heat the floor until it is holding at a stable temperature. Using an accurate alternative thermostat measure the temperature of the floor. Once you are confident you have an accurate temperature reading of the heated floor simply remove the temperature knob and reposition it to reflect the actual floor temperature.

Maximum / Minimum Temperature Range Setting

A locking mechanism is positioned behind the temperature knob to limit the amount of adjustment possible. By loosening the black screw rings A & B can be adjusted (see fig 5). These two rings can be adjusted to reduce the range of the temperature controller knob so a new minimum and maximum temperature range can be set. Once you are happy with the new minimum and maximum temperature settings re-tighten the small black screw and replace the temperature knob.

Note: Please be sure to replace the temperature knob accurately to the same position it was in when you removed it. This is important as it will keep the thermostat calibrated.

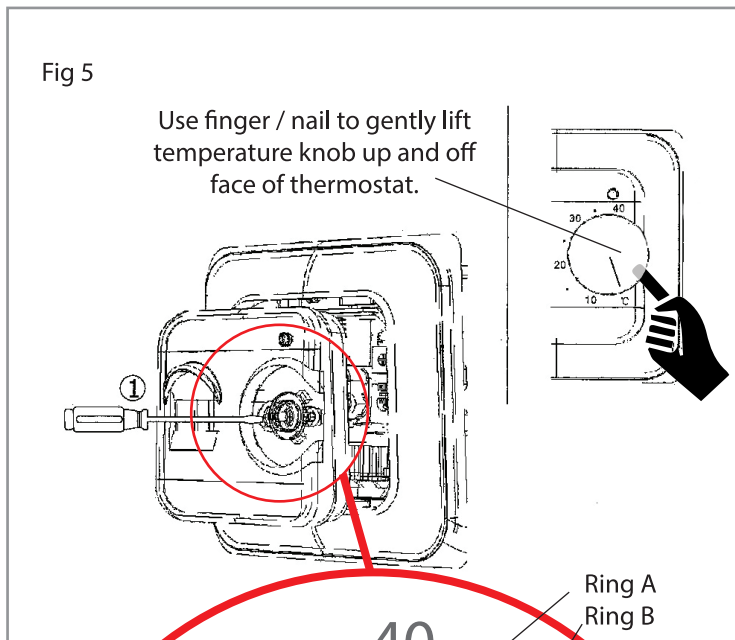
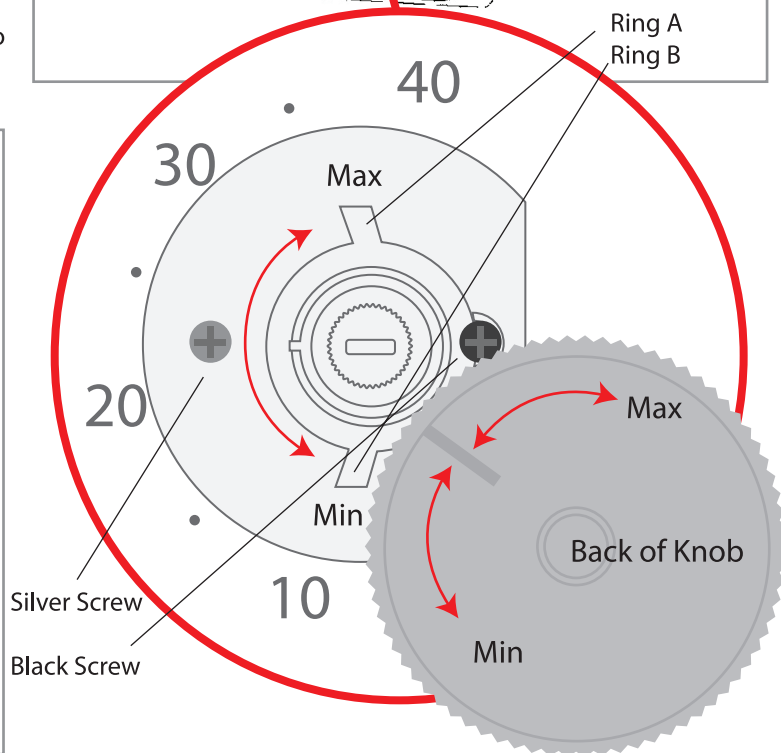
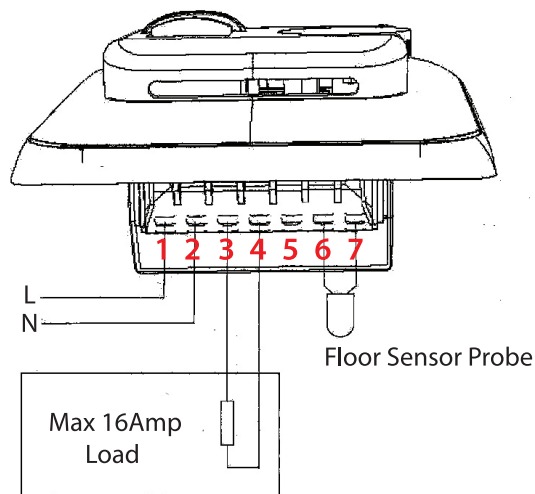


Fig 4 / Simple Electric Heating Wiring Diagram



Dismantling The Thermostat

Simply remove the temperature knob and unscrew the silver screw (see fig 5). This will then allow the thermostat to be taken apart so it can be fixed back to a wall / electrical back box.

Note: Before removing any part make sure to note the position of the temperature knob and part 2. Removing these parts and replacing them without consideration could change the temperature setting / calibration of the thermostat.

