

Appendix 1 - Thermostat

MTD is an electronic heating thermostat designed to be installed in a standard single gang electrical box with a minimum width of 2-1/4". Once installed, it requires no maintenance. **MTD** has an adjustable limit sensor (floor sensor) which can be set to maintain a minimum floor temperature or to protect the floor via a maximum temperature setting.

A LED illuminates to indicate "call" for heating, this also aids in system testing. An **On/Off selector switch** on the front of the thermostat makes system operation extremely simple.

PRODUCT LINE

24V supply, °F

MTD-3994UF with built-in room sensor and separate limitation (floor) sensor

24V supply, °C

MTD-3994UC with built-in room sensor and separate limitation (floor) sensor

CE MARKING

CJ declare under their own responsibility that this product meets the requirements of the European Council's directive 89/336 and successive modifications as to electro-magnetic compatibility and the Council directive 73/23 as to electrical equipment to be applied within certain voltage ranges.

Standards applied

En 50 081-1, EN 61000-6-2, and EN 60730-2-9.

If the product has been exposed to damage e.g. in transport, it must be checked and overhauled by qualified staff before the product is powered up.

CLASSIFICATION

The product is a class III device according to IEC 60730-2-9 and EN 60730-2-9 and the product must be connected to the following conductors:

- 1) L-24V AC
- 2) N - 0 (Neutral)

WARNING

The system may not be energized unless the system is installed according to this instruction and the installation meets all applicable codes.

Warranty is void if not installed according to this instruction and proper procedure.

TECHNICAL DATA

Power supply (model dependent) 24V AC $\pm 10\%$, 60Hz
Output relay, SPST, dry contact 24V ... max. 2A
Built-in switch 2 pole
Ambient operating temperature 32-122°F
..... (0-50°C)
Scale limitation minimum/maximum
Scale range 40-104°F (5-40°C)
Temperature setback (adjustable) 4-14°F (2-8°C)
..... see programming/operation
On/Off differential 0.7" (0.4°C)
Enclosure IP20
Dimensions (HxWxD) 4.5"x3"x2.0"
..... (115x84x50 mm)

FLOOR SENSOR INSTALLATION

The sensor shall be mounted in a conduit which

should be sealed and placed as high as possible in the concrete, etc. The sensor is UL and cUL approved regarding the isolation test. The sensor wiring may be extended up to 150' (50 m) using 18 gauge wire and the wiring resistance shall not exceed 20 ohms. Sensor wires must be kept in a separate conduit, away from all other wiring. The sensor and wires must be protected from damage during the installation. If shielded wire is used, it must not be grounded but connected to terminal 6 on the thermostat.

ERROR DETECTION

The MTD has built-in error detection which will de-energize the heating circuit if the sensor is damaged or if it detects an open or shorted sensor circuit.

CAUTION!

Disconnect all electrical power prior to installing or servicing this unit.

THERMOSTAT INSTALLATION (fig. 1-3)

1. Remove thermostat knob, noting the position (A).
2. Loosen screw to remove frame and cover (B).
3. Attach wiring from the rear of the thermostat according to the wiring diagram.
4. The thermostat is to be mounted in a standard single gang electrical box with a minimum width of 2-1/4".
- re-install frame and cover
- re-install the knob in the proper position.

LIMIT SENSOR/SETTING AND OPERATION

Minimum limitation:

Adjustable 59-86°F (15-30°C), typical use is to maintain a warm bathroom floor even when there is intermittent heating demand as typically encountered in the spring or fall.

Maximum limitation:

Adjustable 77-122°F (25-50°C), typical use is to protect the heating element or floor from extremely high temperatures.

TEMPERATURE SETBACK (fig. 2-3)

Room temperature can be set back during unoccupied times via a remote time switch. The time switch must be the same voltage as the MTD and it must switch the same voltage as required by the MTD, all wiring must be in accordance with Figure 3. The setback temperature is adjustable with a screwdriver 4-14°F (2-8°C).

TEMPERATURE SETTING/ADJUSTMENT

Adjust the temperature knob to the desired room or floor temperature, if after a few days you find the temperature to be different from the setting, adjustment can be made as follows: Measure the room temperature with a thermometer, remove the knob without rotating it, then reposition the knob according to the measured temperature on the scale and re-install it.

MAXIMUM/MINIMUM TEMPERATURE LIMITATION

Behind the knob there are red and blue locking rings held in position by a screw. To set the limitations, loosen the screw (C) and adjust the red limit ring to the desired maximum, set the blue ring to the desired minimum temperature, then retighten the screw. The knob must be re-installed exactly as it was removed.

Fig. 1a (Fahrenheit)

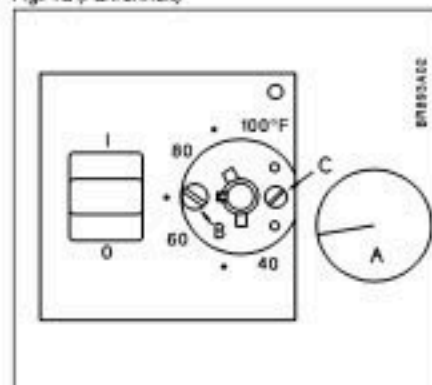


Fig. 2

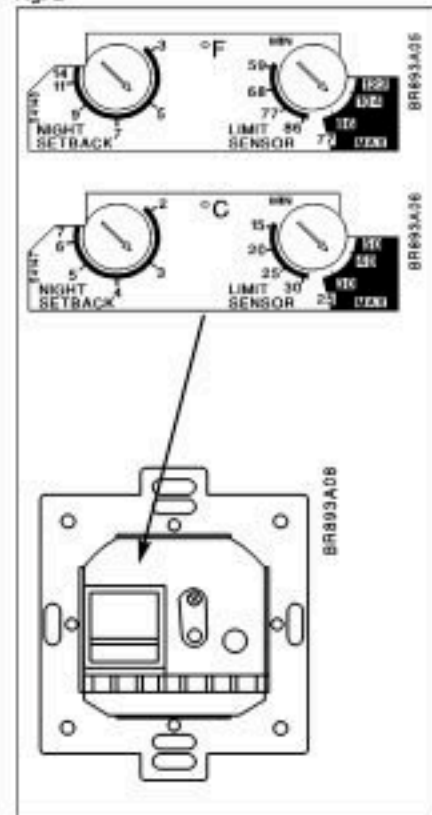


Fig. 3

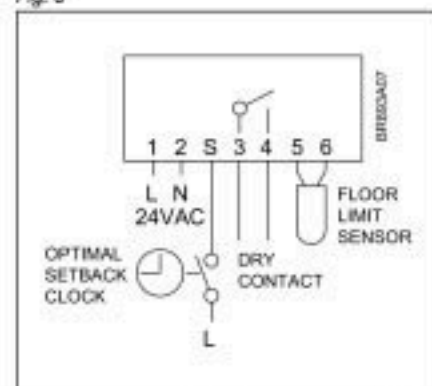


Diagram number: 57525-00/01 (3x)