MAXIMUM COMFORT AND CONTROL IN HEATING

TSSHC-3DPAS-2/4/7GFCI or TSSHC-3DPFS-2/4/7GFCI

INSTRUCTIONS

The thermostat is an electronic on/off thermostat for control of temperature by means of an NTC sensor either placed externally or internally in the thermostat. The thermostat has integrated a Ground Fault Circuit Interrupter (GFCI, Class A). The thermostat and the GFCI is a dual model suitable for 120/240 V 50/60 Hz supply. The thermostat is for flush mounting in a wall socket.

Product program

Clock-Thermostats with built-in GFCI

TSSHC-3DPFS-2/4/7GFCI ---- Incl. floor sensor 3 m

TSSHC-3DPAS-2/4/7GFCI ----With built-in room sensor

Mounting of floor sensor (fig. 3)

The floor sensor is used for temperature regulation in floor surfaces. For easy replacement the sensor can be mounted in a tube which is placed between 2 heating cables. The tube is ended towards the floor surface and sealed. If required, the sensor cable can be extended up to about 100 m with a standard installation cable. 2 leads in a multi lead cable, which is used as supply cable for the heating cable, must not be used.

Mounting of thermostat with built-in sensor (fig. 4)

The room sensor is used for comfort temperature regulation in rooms. The thermostat is mounted on the wall with free air circulation about 4 ft or 1.2 m above the floor, next to the light switch. Draught, direct sunlight, or any other direct heating outlet must be avoided. No external sensor is to be connected.

Mounting of thermostat

Installation

TURN OFF THE POWER TO THE HEATING SYSTEM AT THE MAIN POWER PANEL TO AVOID ELECTRICAL SHOCK. KEEP AIR VENTS OF THE THERMOSTAT CLEAN AND OBSTRUCTION FREE.

This thermostat is an electrical product and must be installed in conformity with the National and/or Local Electrical Code. The installation must be performed by qualified personnel where required by law. The thermostat is equipped with a ground fault circuit interrupter (GFCI, Class A), which require that the line and load is isolated from each other for correct operation. The resistive load must not exceed16A (1920W at 120Vac /3840W at 240Vac). During a ground fault, the two lines will be cutoff.

Line Power

Delivers power from the service panel (breaker panel or fuse box) to the thermostat. This cable shall only be connected to the thermostat's line terminals marked L1 and L2.

Load to Panel or Ceiling

Delivers power from the thermostat to the heating cable.

This cable shall only be connected to the thermostat's load terminals marked load, 16A.

1. Use a screwdriver to open the lock (fig. 1), and remove the frame
2. Connect cables according to the diagram (fig. 2)
3. The thermostat is mounted in the wall socket. The frame are remounted.

Temperature sensor

The floor sensor is connected to the screw less terminals marked sensor. Push with a screwdriver on the terminal spring and mount the wires.
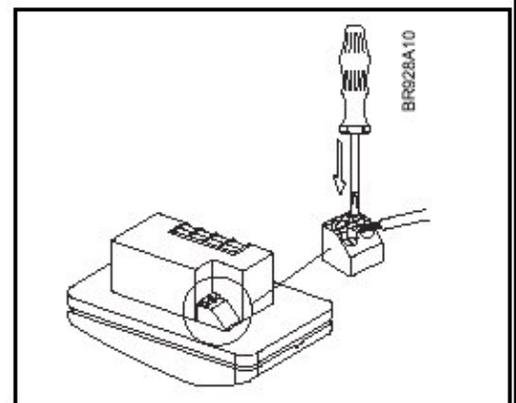
Operation
With integrated clock:
The first time the thermostat is connected, time and day must be set:

☞ $\triangle \triangledown \sqrt{}$ Setting of time (the clock flashes during setting)

☞ $\triangle \triangledown \sqrt{}$ Setting of day (day flashes during setting)

Without integrated clock:
Actual temperature setting is shown and the thermostat is ready for use.

Checking GFCI
It is important that the GFCI has been checked for correct installation and function.

To check the GFCI:

Testing can only be performed if the thermostat has a heating demand. Adjust the set point until the heating symbol (SSS) appears, use the ($\triangle$), to increase the heating demand. Wait 10 sec to let the thermostat work according to the new set point.

Press the button "TEST"

The test is conclusive if the red light on the thermostat lightens, and the display signs disappear. If this does not occur, check the installation.

Press on RESET button to reset the GFCI.

The red light should disappear and the display will return to normal appearance. Push ok accept button ($\sqrt{}$) to cancel the previously set temperature If the test fails, check your heating cable and the thermostat. The GFCI test should be carried out monthly. If the GFCI trips in normal operation, without pressing the TEST button, there could be a ground fault! To check whether it is a ground fault or a nuisance tripping, press RESET. If this cause the red light to shot off and not comes on again, it was a nuisance tripping and the system is functioning. If this cannot be done there is a ground fault! Check your heating cable, the sensor cable and the thermostat. Exchange the defective part.

Programming
See user's manual.

Fault location
If the sensor is disconnected or short-circuited, the heating system is cut out. The sensor can be checked according to the resistance table fig. 5.

Error codes
E0: Internal error. The thermostat must be replaced.

E1: Built-in sensor short-circuited or disconnected. The thermostat must be replaced

E2: External sensor short-circuited or disconnected.

UL LISTED
According to the following standards,

GFCI: UL 943:1993

Thermostat: UL 8730-2-9:1998; UL 60730-1A:2002

UL file number: E157297.

Classification
The product is a class II device (enhanced insulation) and the product must be connected to the following leads:

Phase (L, L1) 240 V ±15%, 50/60 Hz or 120 V ±15%, 50/60 Hz

Neutral (N, L2)

Load max. 16A

The terminals are suitable for field wiring of 12 AWG to 22 AWG conductors

Technical Data
Supply . . . . .120/240 Vac 50/60 Hz

Load . . . . .16A maximum (resistive load)

Power . . . . .1.920 W at 120 Vac
. . . . .3.840 W at 240 Vac
GFCI . . . . .Class A (5 mA trip level)
Temperature range .+5 to +40°C, +40 to +104°F
Amb. Temperature range Thermostat . . . . .0 to +40°C, +32 to +104°F
GFCI . . . .-35 to +65°C, -31 to +149°F

Fig. 1

BR928A06

Fig. 2

BR928A05

L1
120/240VAC
L2
SENSOR
16A
1920W /
3840W

1/4"

1/4" Strip
length

Fig. 3

BR928A02

Fig.4

1.6m

Fig. 5

BR928A07
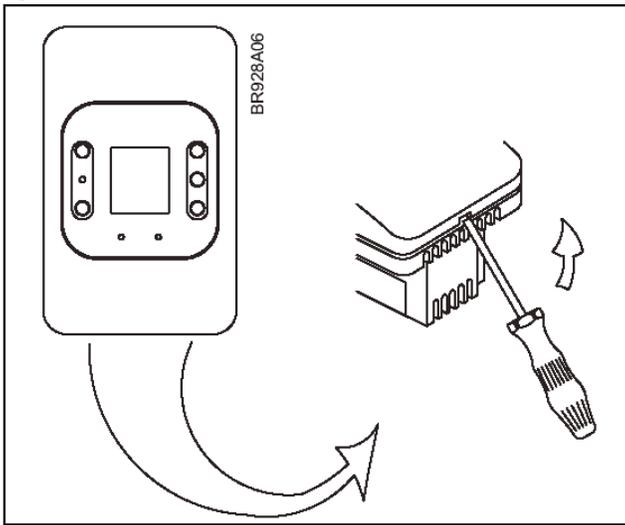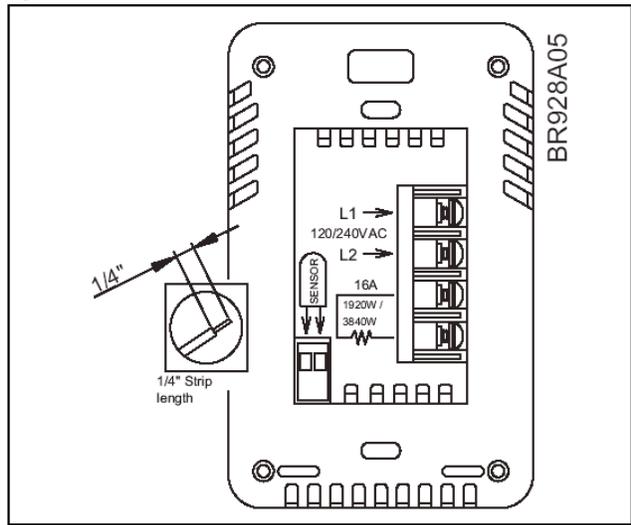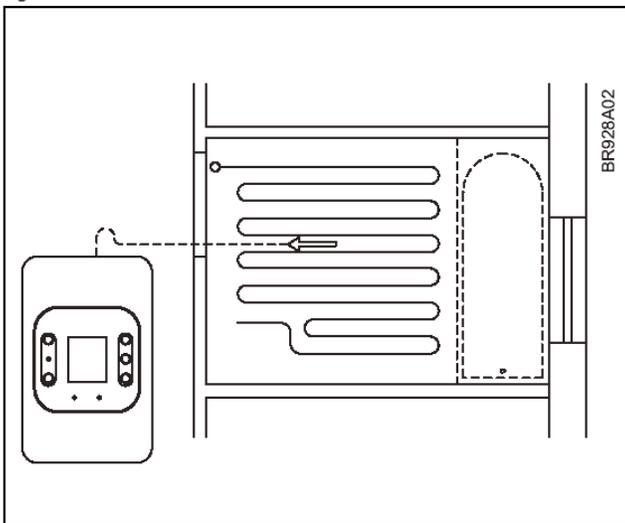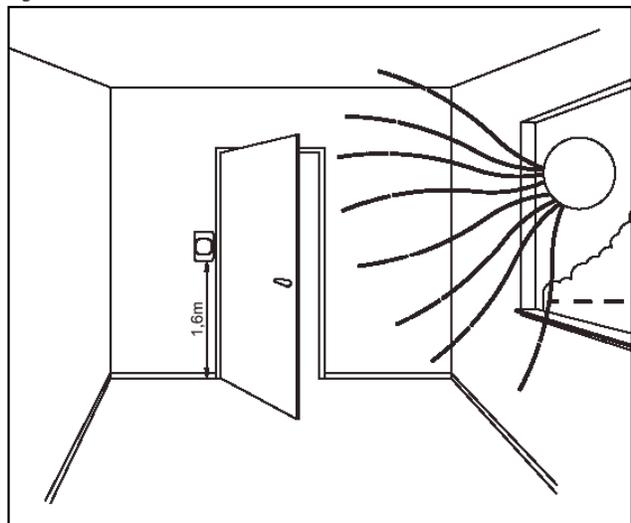
Sensor		
Temp.(˚C)	Temp.(˚F)	Value (ohm)
-10	-14	64000
0	32	38000
10	50	23300
20	68	14800
30	86	9700