PB130-230 Power Base

Installation Instructions

1 Introduction

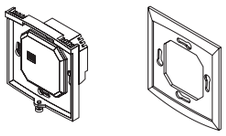
The PB130-230 power base is designed to power a TSTAT control module. The resistive load must not exceed 3450 watts (NI) @ 230 VAC (15 A).

2 Installation Guidelines

TURN OFF POWER TO THE HEATING SYSTEM AT THE MAIN POWER PANEL TO AVOID ELECTRICAL SHOCK.
Installation must be carried out by an electrician.

- All work must conform to the most recent IEE regulations for electrical installations and wiring.
- This thermostat must be connected on a circuit equipped with an RCD. It must be installed on a certified electrical box.
- The thermostat must be installed on an inside wall.

3 Material



1. One (1) PB130-230 power base
2. One (1) wall plate
3. One (1) floor sensor
4. Two (2) screws

Technical Specifications

Supply: 230 VAC, 50 Hz
Maximum load: 3450 Watts (NI) @ 230 VAC; 15 A (resistive only)
Compliance: EN60730-2-9 / EN50081-1 / EN50082-2
Storage: -20°C to 50°C (-4°F to 122°F)
Protection: Class 2
Protection degree: IP20
Automatic action: Type 1.B
Environment: Normally polluted
Size (H • W • D) : 2.94 x 2.94 x 0.53 in. (74.6 x 74.6 x 13.3 mm)

Warranty

WARMUP PLC THREE-YEAR LIMITED WARRANTY

This product is warranted against material defects and workmanship in normal use for a period of three (3) years, from the date of the original purchase from authorized dealers. During this period,Warmup plc will repair or replace the product with a new or of equivalent quality at Warmup plc's option, without charge, any product proven defective in normal use.

Warranty does not cover transportation costs. Nor does it cover a product subjected to misuse or accidental damage. This warranty does not cover the cost of installation, removal or reinstallation.

This limited warranty is in lieu of all other warranties, obligations or liabilities expressed or implied by the company. In no event shall Warmup plc be liable for consequential or incidental damages resulting from installation of this product. This warranty does not affect your statutory rights.

The defective product and the original sale receipt must be returned to the original dealer or shipped pre-paid, insured and addressed to:

Warmup PLC
702 Tudor Estate
Abbey Road
London NW10 7UW

WEEE Directive:

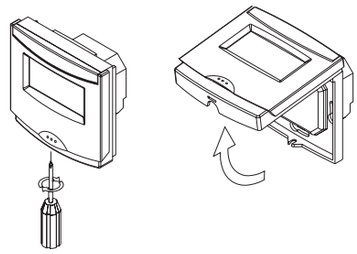
- **Do not dispose along with normal household waste.**
- **Do not burn.**

The product and its packaging must be disposed at a suitable recycling centre.

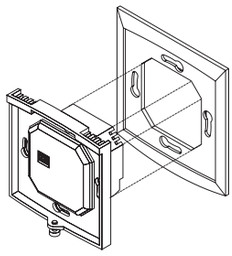
4 Installation and Wiring

1. Remove the screw holding the control module to the power base.

   The screw cannot be completely removed.



2. **If you have a wall plate**:
   Before making the connections, make sure that the base covers the electrical box entirely. Otherwise, install the cover plate behind the base.

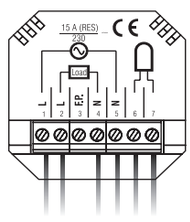


NOTE: *The cover plate can also be used to cover the plate for aesthetic reason.*

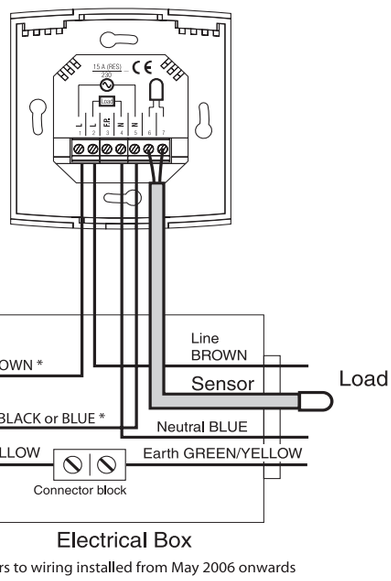
3. Connect the wires:
   - **Power**: Terminals 1 and 5
   - **Load**: Terminals 2 and 4
   - **Floor sensor**: Terminals 6 and 7 (no polarity)
   - Terminal 3 (F.P.) is not connected

NOTE: *The terminals are designed to handle wires between 0.33 and 4 mm^2.*

The floor sensor must be centered between the heater wires (80°C max.). Do not place the floor sensor next to a heater wire. The temperature sensor wire must not cross any heater wires.
Make sure the temperature sensor wire is properly affixed along the wall, in the concrete and into the electrical box (insulated material only and could be run in a raceway) and that there is no interference with the thermostat.

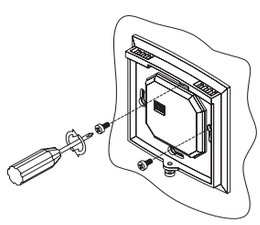


F.P. : Unconnected

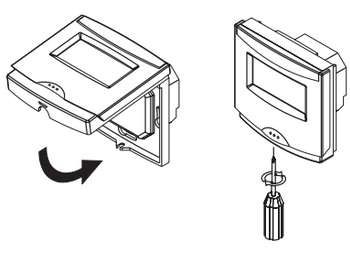


* refers to wiring installed from May 2006 onwards

5. Push the wires into the electrical box and secure the base to the electrical box anchorage using the screws provided.



6. Install the control module onto the power base **(see owner's guide)**.

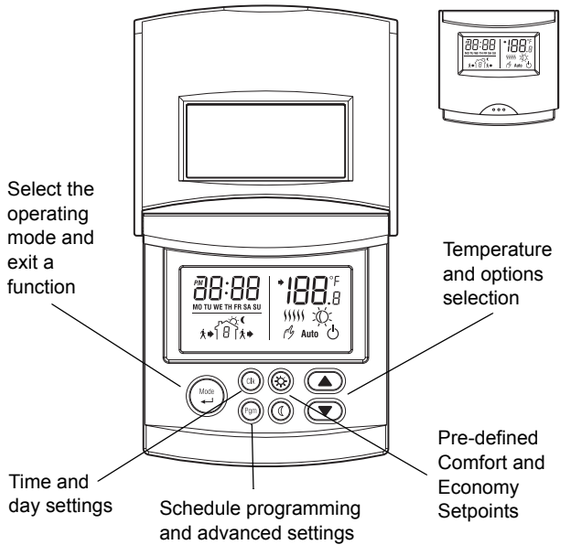


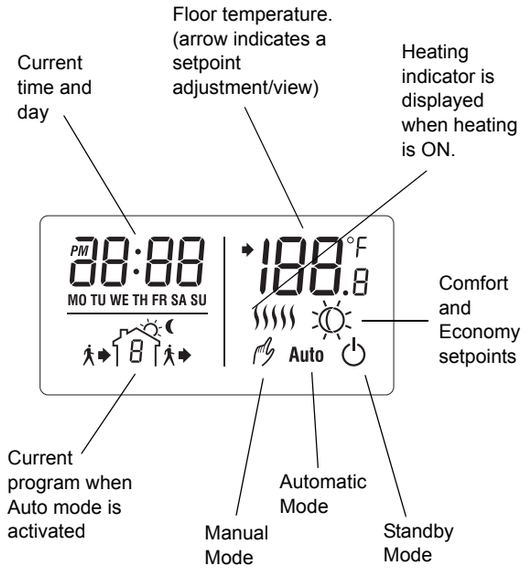
7. Return power to the heating system.

Warmup
UNDERTILE HEATING

TSTAT Floor Thermostat

Owner's Guide





Press any key to activate the display backlight

Introduction

Your new programmable electronic thermostat is designed to control electric floor heating systems and is equipped with a microprocessor and proportional integral adaptive (PIA) temperature control technology for total comfort.

The TSTAT is also preprogrammed to fit most homeowners' lifestyles and settings can be easily modified if required.

On/Standby Feature

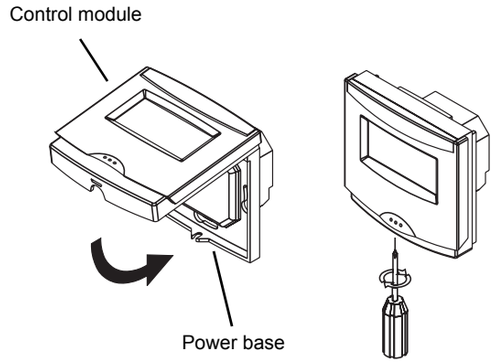
The thermostat has an On/Standby feature making it possible to put the thermostat in sleep mode when its use is not required (e.g. summer).

Display with Backlight

The convenient backlight will light at the press of any button and will stay on for 12 seconds.

1 Install the Control Module

Align the bracket tabs on the control module with the holes located on top of the power base.



Note: Keep the thermostat's air vents clean and free from obstructions.

Note: The screw cannot be removed completely.

2 First Power On

On the first installation, the screen displays: 0:00, MO, and the floor temperature.

Temperature reading is above or below display limits:

LO: The temperature is below -10°C.

The heating indicator is displayed and the relay is closed (energized). The screen will display the floor temperature when it rises above -10°C.

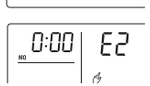
HI: The floor temperature is above 60°C. The floor temperature will be displayed when it drops below 60°C.

The floor sensor is defective:

E1: The floor sensor is not connected properly or is open circuit.

E2: The floor sensor is short circuited.

If this situation occurs, you can configure the thermostat to operate like a regulator.



2 Clock and Day Settings

See "Advanced Programming" for more information.

Follow these steps to set the current time and day:

1. Press CLK; the hour segment flashes.
2. Press △ ▽ to set the hour.
3. Press CLK; the minutes segment flashes.
4. Press △ ▽ to set the minutes.
5. Press CLK; the day flashes.
6. Press △ ▽ to set the day.
7. Press MODE to exit.

Note: To switch from 12-hour to 24-hour, see "Advanced Programming" .

Note: After 60 seconds of inactivity, the thermostat will automatically exit programming mode.

3 Setpoints Definition

Comfort (default is 28°C)

Represents the temperature you wish to have when you are at home (morning and evening).

- Associated with programs 1 and 3

To modify:

Set the temperature using △ ▽ and press ☼ until the icon is displayed on the screen (approx. 3 seconds).

Economy (default is 20°C)

Represents the temperature you wish to have when you are away at work and during the night.

- Associated with programs 2 and 4

To modify:

Set the temperature using △ ▽ and press ☾ until the icon is displayed on the screen (approx. 3 seconds).

4 Select the Operating Mode

There are three operating modes:

Manual

Maintains a constant temperature.

- Press MODE to select .
- Set the temperature using △ ▽ or press one of the pre-defined setpoint buttons ☼ ☾.

Automatic

Executes the schedule.

- Press MODE to select **Auto**.

To bypass the current program for a 2-hour period, simply define a new setpoint using △ ▽. The Auto icon flashes to indicate the bypass.

Standby

This mode is used to put the thermostat in sleep mode when it is not required (e.g. summer).

- Press MODE to select .

5 Preprogrammed Schedule

The preprogrammed schedule is used with the Automatic mode and controls the floor temperature by automatically alternating between the Comfort and Economy programs.
The schedule consists of 4 daily programs which are defined as follows:
Program 1: time you wake up, Comfort temperature
Program 2: time you leave home, Economy temperature
Program 3: time you return home, Comfort temperature
Program 4: night time, Economy temperature

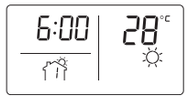
Overview of the preprogrammed schedule:

Programs		MO	TU	WE	TH	FR	SA	SU
1	☼	6:00					6:00	
2	☾	8:30						
3	☼	17:00						
4	☾	23:00					23:00	
PPD[1]		4	4	4	4	4	2	2

1. Number of programs per day. See “Advanced Programming”.

6 Modify the Schedule

To modify the pre-programmed schedule, follow these steps:



1. Press PGM; the first program is displayed and the clock segment flashes.
2. Use △ ▽ to set the start time of the first program.
3. Once you are done, repeat steps 1 and 2 for remaining programs (2, 3 & 4).
4. Press MODE to exit.

Note: To modify the number of programs per day, see “Advanced Programming”.

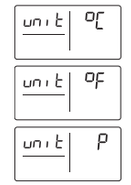
Note: After 60 seconds of inactivity, the thermostat will automatically exit programming mode.

7 Advanced Programming

Description	Menu	Default	Option
Display settings & Temperature control	unit	°C/24h	°C/24h or °F/12h or P
Number of programs per day	PPd MO	4	0, 2, 4
	PPd TU	4	0, 2, 4
	PPd WE	4	0, 2, 4
	PPd TH	4	0, 2, 4
	PPd FR	4	0, 2, 4
	PPd SA	2	0, 2, 4
	PPd SU	2	0, 2, 4
Heating Cycles	CPH	4	2, 3, 4, 5, 6

1. Press and hold PGM for 3 seconds to access the advanced programming mode.
2. Press PGM to select the desired menu.
3. To modify the default programming, use △ ▽ to select an option.
4. Press MODE to exit.

Display Settings (unit)



- **°C/24h or °F/12h**

To select the temperature and time display format on the screen. PIA control mode.

- **P (Power Regulator)**

In this mode, there is no temperature reading nor display. Should be used only when the floor sensor is damaged (E1/E2 error).
The TSTAT operates on perpetual heating cycles and heating commands are sent based on the amount of power you define.

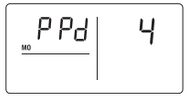
For example (15-minute [a] cycle):
If you select 6 (60%) as the setpoint, your system will heat for 60% of the cycle; it will be ON for 9 minutes then OFF for the last 6 minutes. Scale: 0 to 10 (0 to 100%).

Setpoint and equivalent %	1 0%	2 20%	4 40%	6 60%	8 80%	10 100%
ON	0 min	3 min	6 min	9 min	12 min	15 min
OFF	15 min	12 min	9 min	6 min	3 min	0 min

Note: The time, day and programs are saved.

a. This thermostat has selectable heating cycles, see Heating Cycles below.

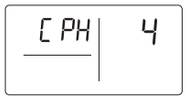
Number of Programs per Day (PPd)



You can select the number of programs to be executed for each day of the week. For example, you can run all 4 programs or only 2 (1st and 4th) or none (0).

Note: When none (0) is selected, the TSTAT will maintain the temperature setpoint of the last program.

Heating Cycles (CPH)



You can select the number of cycles per hour to suit your heating area.
To minimize temperature swings, a large floor area requires longer heating cycles, whereas a small floor heating area requires shorter heating cycles.

Cycles/hour	Length
2	30 min.
3	20 min.
4	15 min.
5	12 min.
6	10 min.

Technical Specifications

Model: TSTAT

	PIA temperature control	Regulator
Pre-programmed setpoints	☼ 28°C (82°F)	☼ 6 (60%)
	☾ 20°C (68°F)	☾ 3 (30%)
Setting range	5°C to 40°C (40°F to 104°F)	0 to 10 (0 to 100%)
Setting scale	0.5°	1 (10%)
Display range	-10°C to 60°C (14°F to 140°F)	0 to 10 (0 to 100%)
Display scale	0.1°	1 (10%)
Temp. accuracy	± 0.2°C (0.36°F)	

Storage temperature: -20°C to 50°C (-4°F to 122°F)
Software and controller: Class A, electronic
Programming protection: Protected memory
Clock protection: 6 hours
Size (H/W/D): 3.2 x 3.3 x 0.65 in (81.4 x 84.6 x 16.5 mm)

Warranty

WARMUP PLC THREE-YEAR LIMITED WARRANTY
This product is warranted against material defects and workmanship in normal use for a period of three (3) years, from the date of the original purchase from authorized dealers. During this period,Warmup plc will repair or replace the product with a new or of equivalent quality at Warmup plc’s option, without charge, any product proven defective in normal use.
Warranty does not cover transportation costs. Nor does it cover a product subjected to misuse or accidental damage. This warranty does not cover the cost of installation, removal or reinstallation.
This limited warranty is in lieu of all other warranties, obligations or liabilities expressed or implied by the company. In no event shall Warmup plc be liable for consequential or incidental damages resulting from installation of this product. This warranty does not affect your statutory rights.
The defective product and the original sale receipt must be returned to the original dealer or shipped pre-paid, insured and addressed to:

Warmup PLC
702 Tudor Estate
Abbey Road
London NW10 7UW

WEEE Directive:

- **Do not dispose along with normal household waste.**
- **Do not burn.**

The product and its packaging must be disposed at a suitable recycling centre.