



## THS-02

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**Thermostat for heat pump- 2 compressors with auxiliary heating**  
**User's guide**



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**A70 UG 007 GB**



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# Operating instructions

Your new THS thermostat has been designed to provide precise control and display of the ambient temperature. It also displays all the other information you need concerning your system. The symbols on the keys and the information display format make it a product that is easy to understand and use. It is a good idea to set aside some time to read these instructions and familiarise yourself with the different functions to get the maximum benefit from this electronic control system.

## General information

The thermostat normally displays the ambient temperature, the operating mode and indicates whether the unit is cooling or heating. The six keys on the front panel give you total control of the equipment.


You can select different heating and cooling set points for the system, e.g. 21°C for heating and 24°C for cooling. To increase or decrease the heating and cooling set points, you only have to press one key. In addition you can choose display in °F or °C. You can also select continuous fan operation (useful for an air purifier) or fan operation linked to operation of the air-conditioning system.


## User commands


**MODE:**  \*

Select the operating mode you want by pressing the MODE key several times.

\* - controls the system in cooling mode only.  
(the word "COOL" is displayed for 5 seconds).





 - controls the system in heating mode only (the word "HEAT" is displayed for 5 seconds).

 \* - controls the system in both heating and cooling modes (the word "AUTO" is displayed for 5 seconds).





 - forced heating (the word "EHT" is displayed for 5 seconds).

**OFF** - stops the thermostat and the system





### COOLING: \*

Select the temperature the system must maintain in cooling mode by pressing the  and  keys. The set point value is displayed for 5 seconds with  .

### HEATING:

Select the temperature the system must maintain in heating mode by pressing the  and  keys. The set point value is displayed for 5 seconds with  .

### FAN:

The fan starts automatically when the system is operating, but this is not indicated on the display unit. To select continuous operation of the fan press the   key and the screen displays  .

### OFF:

When the word "OFF" is displayed, the system does not operate.



Avoid using the **OFF** mode during periods of extreme cold, to prevent the risk of frosting.



### AUTO: \*





In this mode the system operates in heating and cooling mode. The thermostat changes automatically from one to the other according to the chosen set points.



**N.B.: The thermostat always leaves a difference of 1°C between the heating and cooling set points.**

**KEY  /  (Outdoor temp. option):**

When the outdoor temperature option is connected to your thermostat, you can display this value by pressing the  /  key. If this option is not connected, the thermostat displays “- -”

**KEY  /  (Day/Night):**

When the thermostat is initialised, the symbol  corresponding to the day-time temperature is displayed. By pressing the  /  key or powering up the CLK1 and CLK2 terminals at the back of the thermostat (customer connection), you can select a relief or night-time temperature . (The thermostat memorises this temperature).

To alternate between the two temperature settings simply press the  /  key.

**CLOCK TERMINALS (option):****CLK1 - CLK2**

If you connect a clock to these terminals, the thermostat can alternate automatically between the day/night set point values.

**REMOTE SENSOR TERMINALS****(option):****RS1-RS2-RS+V**

The THS thermostat is designed to accept an electronic remote sensor that will enable you to place the thermostat in an unobtrusive position.

**°C/°F**

Press the  and  keys simultaneously to change the °C /°F display.

**Power cuts**

One of this thermostat's special features is that it does not need a battery to conserve the selected set points if a power cut occurs. Its memory is not affected by power cuts, no matter how long they last. When the current returns, the thermostat will continue to operate as if the power had never been disconnected.

**Temperature precision**

The thermostat will measure the temperature exactly once it has been installed and powered up for at least one hour.

# Installation instructions

## Position

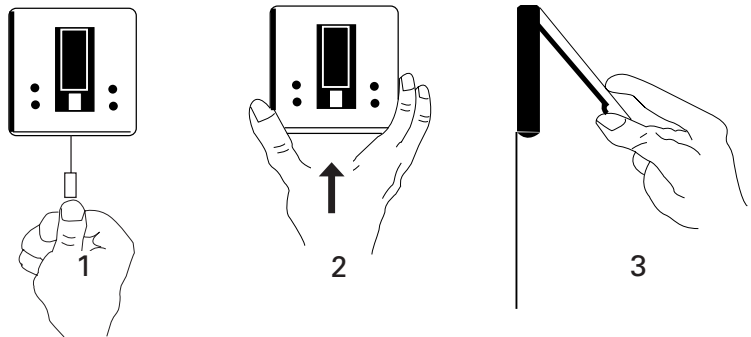
To operate correctly, the thermostat must be positioned on an indoor partition wall in a part of the building that is regularly occupied. In addition, it must be placed at least 50 cm from any external wall, at a height of roughly 1.5 m, in a place where the temperature represents an average for the building and where the air circulation is unobstructed.

### Avoid the following locations:

- Behind doors or in corners where air does not circulate freely.
- Places where direct lighting or radiator heating installations may affect the control system.
- On an external wall.
- Next to or facing air-conditioning discharge grilles, stair wells or external doors.
- Places where the presence of water or steam piping, hot air ducts or an unoccupied room behind the thermostat may affect its operation
- Near to a unit's air discharge grille.
- Near to sources of electrical interference, such as contact relays.

## Removing the thermostat from its base

- 1) Place a flat screwdriver blade in the slot in the middle of the unit's bottom edge. Pull up the blade gently until the lid comes off the base.
- 2) Pull the bottom part of the thermostat towards you and rotate it.
- 3) Lift up the thermostat to remove it from the base
- 4) Connect the system's wires to the thermostat, referring to the diagram below. The wiring can then be inserted in the wall cavity or a junction box. The access hole must be made water-tight to prevent air currents inside the wall affecting the thermostat's measurements.
- 5) You need terminal (C) of the 24V transformer common.



## Setting the micro-switches

### \* Heat pump:

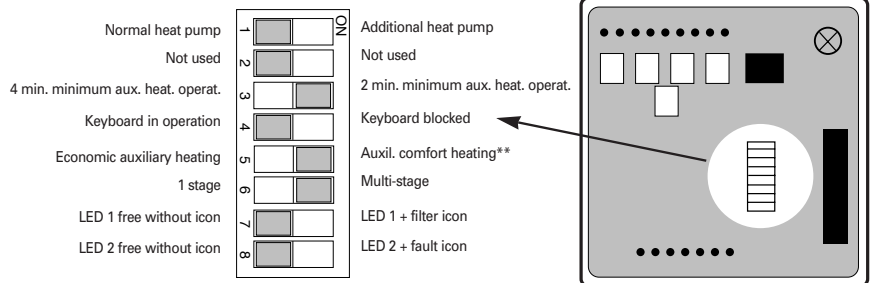
Additional: the compressor system ceases to operate when the auxiliary heating is operating.

Normal: the compressor system and the auxiliary heating can operate simultaneously.

### \*\* Auxiliary heating :

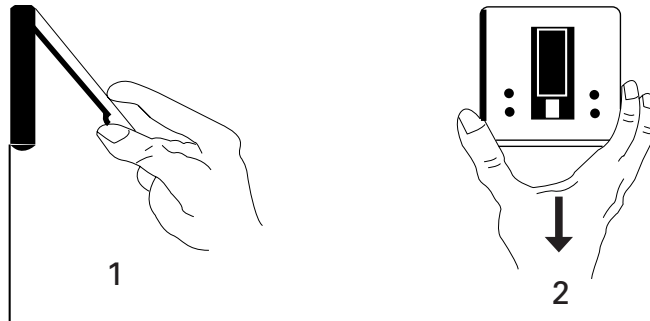
Comfort: the auxiliary heating can be activated as soon as the room temperature is 2°C below the set point.

Economic: auxiliary heating ceases to operate if the room temperature is within 0.5°C of the set point. Forced heating is never authorised.

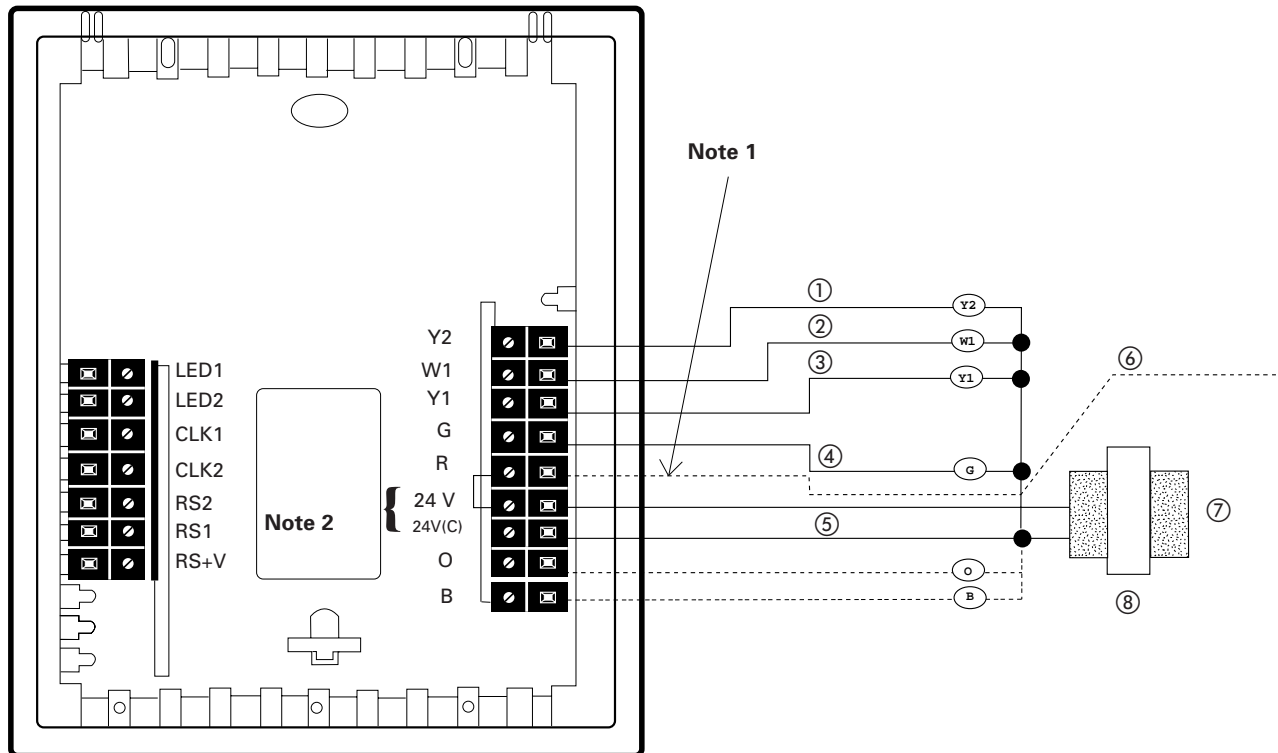


## Replacing thermostat on its base

- 1) Position the thermostat on the hinge lugs located on top of the base.
- 2) Slowly lower the thermostat while rotating it and press down on the bottom edge until it clicks into place.



## THS 02



- ① Compressor 2
- ② Auxiliary heating
- ③ Compressor 1
- ④ Fan

- ⑤ Common
- ⑥ Independent power supply
- ⑦ Mains power supply
- ⑧ 24 V transformer



### Output terminal functions

W1	Make-up or forced auxiliary heating
Y1	Compressor 1 in cooling or heating
Y2	Compressor 2 in cooling or heating
G	Fan starting
O	Reversing valve supplied with cooling
B	Reversing valve supplied with heating
R	Independent power supply
24 V	System 24 V power supply
24 V (C)	24 V common
LED 1	Free LED for status
LED 2	or to indicate function
CLK1	Used with remote clock
CLK2	for alternating set points
RS2	Used to connect the outdoor temp.sensor option
RS1	and/or remote ambient temp. sensor option
RS+V	Refer to instructions supplied with the sensors.

**Note 1: The R terminal can be used for a second independent power supply. If there is just one power supply, bridging is provided between 24V and R.**

**Note 2: This thermostat can operate using 24VDC. The negative pole must be connected to the 24V terminal (C).**

### Specifications

Nominal voltage	20-30 VAC, or 24 VDC nominal
Current amps (AC)	0.05 to 0.5 A direct per output with max. peaks at 1A
Current amps (DC)	0 to 0.5 A direct per output with max. peaks at 1A
Control range	Heating: 5 to 30°C in 1°C stages Cooling: 16 to 40°C in 1°C steps
Ambient temperature measurement range	0 to 48°C
Outdoor temperature measurement range	-48°C to 48°C
Precision	±0.5°C at 20°C
Minimum dead band	1°C between heating and cooling modes.

**Note : This thermostat contains electronic circuits which replace traditional mechanical contacts.**



# Notes

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# Notes

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The constructor's policy is one of continuous product improvement, and he reserves the right to alter any details of the products at any time without notice

This publication is a general guide to install, use and properly maintain our products. The information given may be different from the specification for a particular country or for a specific order. In this event, please refer to your nearest office.

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