



Function

The CE1310 thermostat-humidistat is a device specifically conceived for the regulation of underfloor heating and cooling in civil environments such as houses, offices, shops, etc.

GENERAL DESCRIPTION

In the heating control mode, the thermostat measures the room temperature and activates the heating circuit to reach the desired value (with selector on day or night function). When on the OFF position the antifreeze function activates and closes the relay contact if the temperature goes under +7 °C.

In the cooling mode, as soon as the temperature exceeds the set value, the device activates the relay to open the coolant valve. In any case, should the humidity be higher than the alarm level, the device opens the contact and stops the cooling ("A" on display) until the humidity is under the limit value again. The control function is not active when the selector is on OFF.

Technical data

Display:	LCD 3 digits and minus symbol
Temperature range of adjustment	5 ÷ 35 °C
Range of adjustment humidity alarm:	55 ÷ 70 % UR
Temperature range of measurement:	5 ÷ 45 °C
Humidity range of measurement:	10 ÷ 90 % UR
Intervention differential of thermostat:	0.5 °C
Intervention differential of hygrostat:	2 % UR
Humidity and temperature reading time:	85 sec.
Resolution:	Temperature 0.5 °C; humidity 1 %
Accuracy:	Humidity better than ± 3,5 % UR
Minimum time between two consecutive relay commutations:	45 ÷ 90 sec
Preset temperature:	Day + 20 °C, night + 16 °C
Set temperature for antifreeze function:	7 °C
Preset high humidity alarm:	60 %
Relay:	Spdt for max tension 250V, max current 5 A with resistive load (max 2 A with inductive load)
Power supply:	2 type AAA 1,5 V LR03 alkaline batteries (alert on display for low battery)
Installation:	Wall mounting with screw anchors or with screws for mounting in standard frame
Connection:	Through terminal block for ≤ 2,5 mm ² gauge wires
Dimensions:	125 x 75 x 30mm
Environmental conditions:	no shocks or vibrations, with temperature from 0 °C to +50 °C and relative moisture from 30% to 90% (non condensing)

Materials

Plastic housing:

Type UL94VO self-extinguishing ABS

Installation

General remarks:

The installation must be carried out only by specialized personnel in accordance to rules for electrical installations in force in the country where the products are installed. The thermostat/humidistat was conceived exclusively as a component for the thermo-regulation of fixed heating and cooling points. It must be installed in a place protected from water, shocks, steam, etc. and where temperature and moisture do not exceed the maximum levels indicated in the specifications. It is strongly recommend not to install the device close to doors, windows, sources of heat, behind curtains, in narrow places with little air flow, or in any position where the conditions may differ from the surrounding average values.

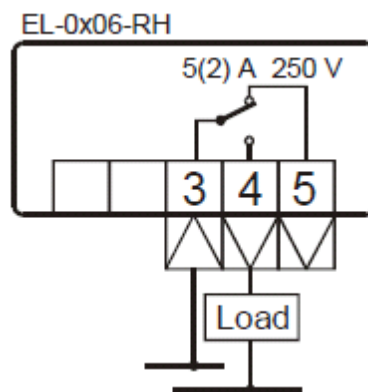
The kit is composed by the thermostat/humidistat, two wall screws $d=5\text{mm}$, four universal screws for mounting in standard frame and this instruction manual.

Electrical connections

In order to avoid damages which could affect its reliability, it is recommended to connect the device by carefully respecting the following electrical scheme. Take care not to squeeze or bend wires during the installation.

Connections

It is recommended to use wires of proper gauge, according to the power of the load; in any case they must not exceed $2,5\text{ mm}^2$ to avoid damage of the connector.



Installation

The CE 1310 thermostat/humidistat was conceived for indoor wall mounting. The housing was designed to suit both standard frames and wall mounting with screw anchors.

To install on in-wall frames, open the upper housing and insert the screws in the corresponding holes; then screw until the device adheres to the wall (avoid excessive screwing in order not to damage plastic parts).

For wall mounting, drill as shown in picture 1, insert the anchors, pass the wires through the conduits in the housing, then insert and tighten the screws (avoid excessive screwing in order not to damage plastic parts). It must be installed at a height of about 1.5m from the floor. (with certain inclinations the display may flicker slightly due to the updating technique of the display in combination with the angle of incidence of the light; it is recommended to fix the device so as to eliminate this optical effect).

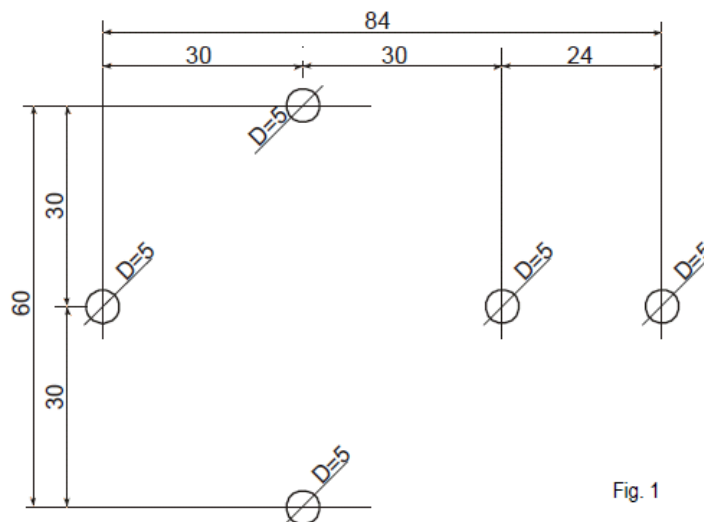


Fig. 1

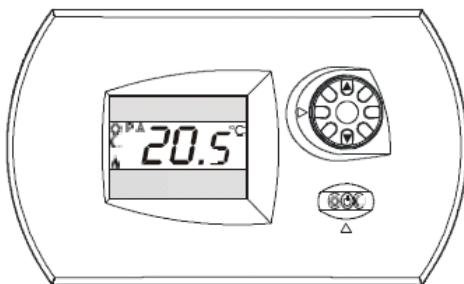
To insert batteries

1. Insert two type AAA 1,5 V LR03 alkaline batteries in their seat respecting the polarity indicated at the bottom of the housing (the insertion with wrong polarity compromises the electronics of the thermostat/humidistat);
2. Make sure the reeds are in contact with the batteries; otherwise, remove the battery and slightly bend the contacts towards the inside, then go back to 1;
3. Push the red reset button: it can be found under the removable front cover, in the upper part, between the display and the button. The thermostat/humidistat will display “—” and a sun (for heating control) or snow flake (for cooling control) symbol, which shows the current mode.

After about 10 seconds the device will display the measured room temperature and the regular control will start. Verify the settings.

Note: should the device not start correctly (or the display be switched off) at point 3, remove the batteries and push the reset button for 10 seconds. Then repeat the procedure from point 1.

Front panel functions



Buttons



- 1) Enter the desired temperature programming mode (P);
- 2) Increase the desired temperature value.



- 1) Display measured humidity (for 5 seconds, then it shows the temperature again);
- 2) Decrease the desired temperature value.
- 3) Cancel alarms (low temperature if heating);
- 4) Switch to heating/cooling control mode (push for 10s).

Selector



Day function: when the selector corresponds to this symbol, the thermostat/humidistat will adjust the room temperature according to the set value for this position.



OFF function: when the selector points in the middle (OFF) the thermostat/humidistat can be considered as switched off (only the anti-freeze function of the heating mode is active: if the temperature is lower than +7°C, the relay turns on).



Night function: when the selector corresponds to this symbol, the thermostat/humidistat will adjust the room temperature according to the set value for this position.

Warning: to disable the system it is advisable to turn off the main switch, leaving the device on OFF could not be sufficient.

Functions of the LCD display

- During ordinary operation, it shows the measured room temperature.
- After pushing the “▼” button, it shows the measured humidity for 5 seconds: relative humidity value (two digits and the letter “H”).
- It shows the set mode with the letter “P”.
- It shows the condition of high humidity or anti-freeze alarm with the letter “A”.
- It shows the condition of low battery with a flashing decimal dot and the letter “A”.
- It shows if it is operating in heating (sun symbol on) or cooling (snow flake symbol on) mode.
- It shows the status of the relay output with a flame/fan symbol.
- It displays “---” to indicate that the temperature value is out of the measurement range.

How to change the desired temperature

1) Turn the selector to Day or Night to modify the corresponding setting of desired temperature.

2) Push “▲” to activate the programming mode “P”.

3) Push “▲” to increase the temperature value or “▼” to lower it.

By keeping the button pushed, the values will increase or decrease automatically (with 0,5 degrees Celsius resolution).

4) After 5 seconds (without activating any button) the set value is recorded and the device resumes its normal functions of displaying and temperature adjustment.

In order to modify the temperature settings for both the Day and Night function, repeat the above operations by moving the selector to the other position.

How to change the heating-cooling control

- 1) Push “▼” for about 10 seconds, until the sun or snow flake symbol appears (whatever the position of the selector). The turning on of the sun symbol means that the thermostat is in the room heating mode; instead, the activation of the snow flake symbol shows that the thermostat is controlling the cooling. (if the button is pushed for a short time and release, the device will display the measured humidity for 5 seconds)
- 2) By switching from summer to winter mode and vice versa the values of temperature and humidity set for day and night do not change. Then adjust them as indicated in the instructions above.

When in heating mode, the thermostat will activate the relay as soon as the temperature goes under the set value minus a differential of 0,5°C. It will switch off the relay if the temperature reaches the set value plus 0,5°C. Vice versa for the cooling.

How to change the max humidity limit for cooling

- 1) Turn the selector to the middle, on OFF (the device displays the temperature).
- 2) Push the button “▲” and do not release until the symbol “°C” goes out (about 10 s);
- 3) Briefly push the “▼” button within 3 seconds, “P” and the current humidity limit value will appear (factory-set at 60 % UR).
- 4) Adjust the value (within the 55 .. 70 % UR range) and wait 5 seconds until the device exits the programming mode (“P” goes out), recording the new setting.

Note: if the device measures a room humidity above the set limit, the relay opens and stops the cooling.

Changing the batteries

The summer/winter thermostat/humidistat shows that the low battery condition with the flashing of the decimal dot and the activation of the letter “A”. In this condition, the device closes the relay (to avoid freezing) if in winter mode, and it opens the contact if in summer mode. The correct functioning is not guaranteed with low battery, the device stops every control. In order to avoid unpleasant inconveniences, it is recommended to always have new batteries available for an immediate substitution. To change the batteries open the top cover of the device (or the front cover), remove the exhausted batteries and insert new ones as describes in the above paragraph. Close the top cover, push the red reset button and verify that the thermostats works correctly.

Warning!

- The presence of exhausted batteries into the thermostat may compromise its functioning over time (acid leakage).
- A wrong positioning of the batteries may damage the thermostat's electronics.
- It is recommended to throw exhausted batteries in appropriate recycling containers.

Warnings

- Read carefully all the indications contained in this manual, because they give important indications with respect to safety and the correct use of this device.
- The manufacturer is not liable for any damages caused by an improper use of the device or tampering by third parties, unless they are the manufacturer itself or an authorised service centre.
- The system must absolutely be designed according to current safety regulations.
- Verify that the device is intact and accompanied by its bag of hardware accessories.
- Do not obstruct holes, slits and ventilation and heat dissipation slots for any reason.

Maintenance

CLEANING

It is recommended to clean the front panel with a soft cloth moistened with little water and soap. It is recommended to avoid the use of abrasives or detergents, which may damage the plastic surfaces.

END-OF-LIFE

The device cannot be treated as a common household waste, it must be given to the nearest waste collection facility for the recycling of electrical and electronic equipment. The disposal must be carried out according to the current environmental regulations on waste disposal. Contact the local city office for detailed information.



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