

# Configuration and connection of the temperature and humidity controller **AKO-16624**

The connection to be made depends on the type of installation chosen in the initial wizard (In1/In2). See the attached table to find out which diagram to use.

Operation mode	Application	In2 configuration							Diagram
		Humidifier		Heat provision by:			Dehumidification		
		ON/OFF	4-20mA	Electrical resistors	Hot Gas	Electric resistors + Hot Gas	With cold	With external dehumidifier	
Cold + humidification	Greenhouses, Flower chambers, storage of fresh meats, etc.	In2= 1 + rH07=1	In2= 2 + rH07=1	No	No	No	No	No	A
Cold + Heat + Dehumidification (heat input for the temperature and dehumidification process)	Drying processes (the controller dehumidifies with the addition of cold and heat)	No	No	In2= 5 + rH07= 0	In2= 8 + rH07= 0	In2= 11 + rH07= 0	Yes (In2: 5, 8, 11)	No	L
Cold & Heat (neutral zone) + humidification & dehumidification (neutral zone) (heat input for the temperature and dehumidification process)	Complete regulation for different applications, e.g. wine cellars	In2= 3, 6, 9 + rH07= 0	In2= 4, 7, 10 + rH07= 0	In2= 3, 4	In2= 6, 7	In2= 9, 10	Yes (In2= 3, 4, 6, 7, 9, 10)	No	C
Cold & Heat (neutral zone) (heat input for temperature only)	Climate rooms, laboratories, etc.	No	No	In2=5 + I00= 3 or 4	In2=8 + I00=3 or 4 + rH07= 1	In2=11 + I00= 3 or 4 + rH07= 1	No	No	H
Only Cold	It only regulates temperature	Select desired In1 (depending on your cold room and type of defrost) and select parameter I10 = 4, or In0 = I20 = 4, or In0 = I30 = 4							E
Cold + dehumidification (external dehumidifier)	Drying processes (the controller does NOT dehumidify with cold production, but with an external dehumidifier)	No	No	No	No	No	No	Yes (In2= 14)	F
Cold + humidification + dehumidification (external dehumidifier)	Humidifies and dehumidifies (does not dehumidify with cold input)	In2=12	In2=13	No	No	No	No	Yes (In2=12, 13)	G
Cold + Heat + humidification	Heat input for temperature, no humidity	In2= 3, 6, 9 + rH07= 1	In2= 4, 7, 10 + rH07=1	In2= 3, 4	In2= 6, 7	In2= 9, 10	No	No	H

## Icons



Compressor



Crankcase resistor



Solenoid



Evaporator fans



Defrost heater / defrost solenoid



Evaporator heaters



Valve for heat supply by hot gas



Condenser inlet valve



Humidifier



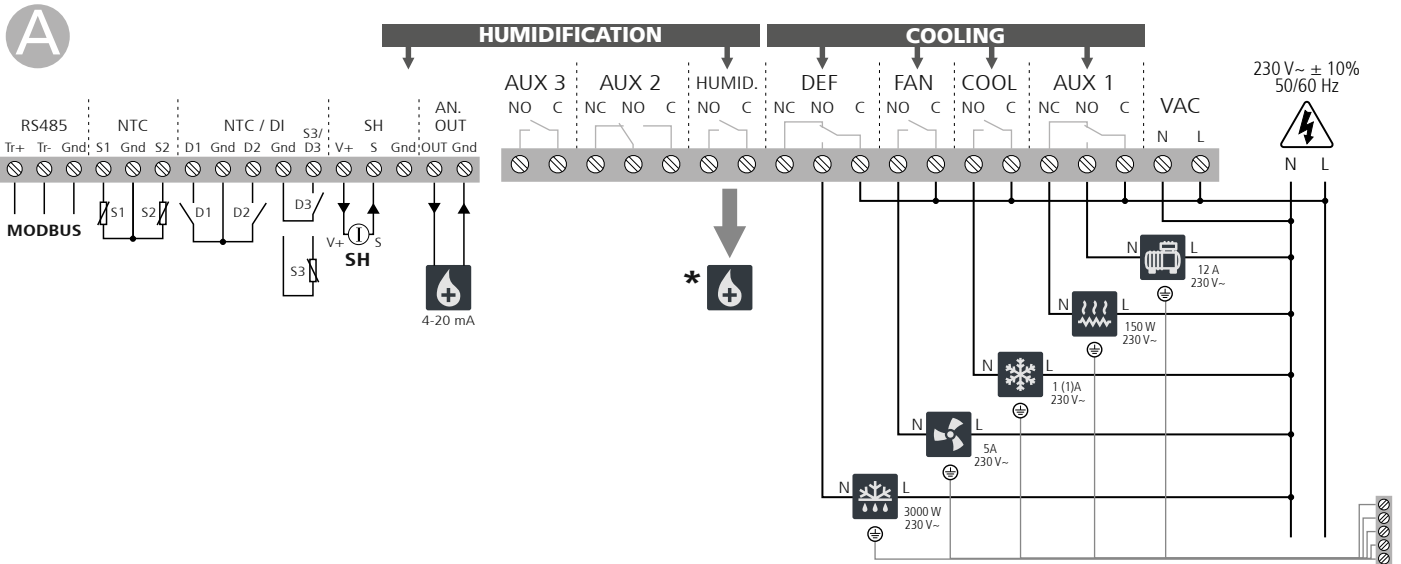
Dehumidifier

<b>S1</b> Probe S1 (Camera)	<b>S2</b> Probe S2 (Evaporator) (I00 = 2 or 4)	<b>D1</b> Digital input 1 (See parameter I10)	<b>D2</b> Digital input 2 (See parameter I20)	<b>S3 / D3</b> Digital input 3 / Probe 3 (See parameter I30)	<b>SH</b> Humidity probe (I00 = 1 or 2)
--------------------------------	---	--	--	---	--

## Diagrams

### In2 = 1 or 2. Cold regulation + humidification (rH07 = 1)

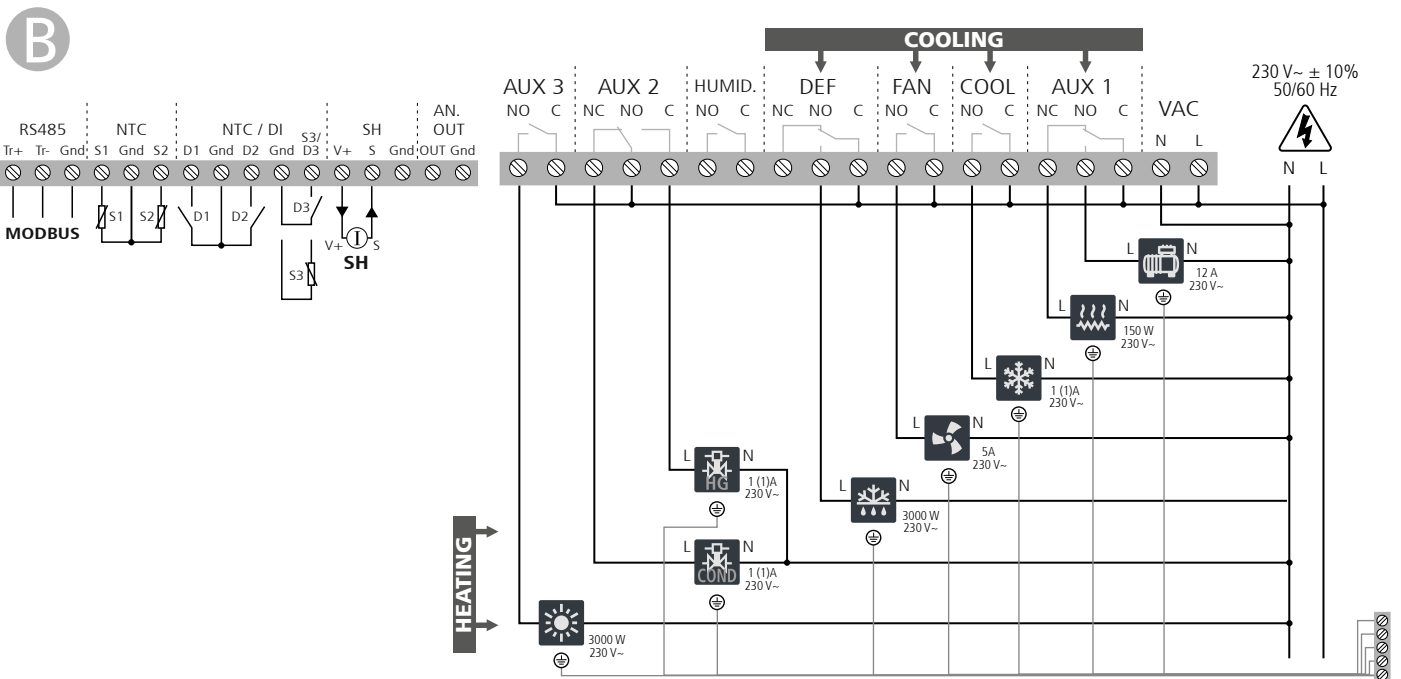
The temperature is regulated by the contribution of cold. Humidification by means of an external humidifier regulated by the 4-20 mA signal (if In2 = 2) or by the ON / OFF output (if In2 = 1).



\*Review the humidifier / dehumidifier's instructions to consult how to connect it.

### In2 = 5, 8 or 11. Cold regulation + heat input + dehumidification (rH07 = 0)

The temperature is regulated by the contribution of cold and the contribution of heat. Dehumidification is carried out by adding cold, while adding heat prevents the temperature from dropping excessively. There is no contribution of humidity.

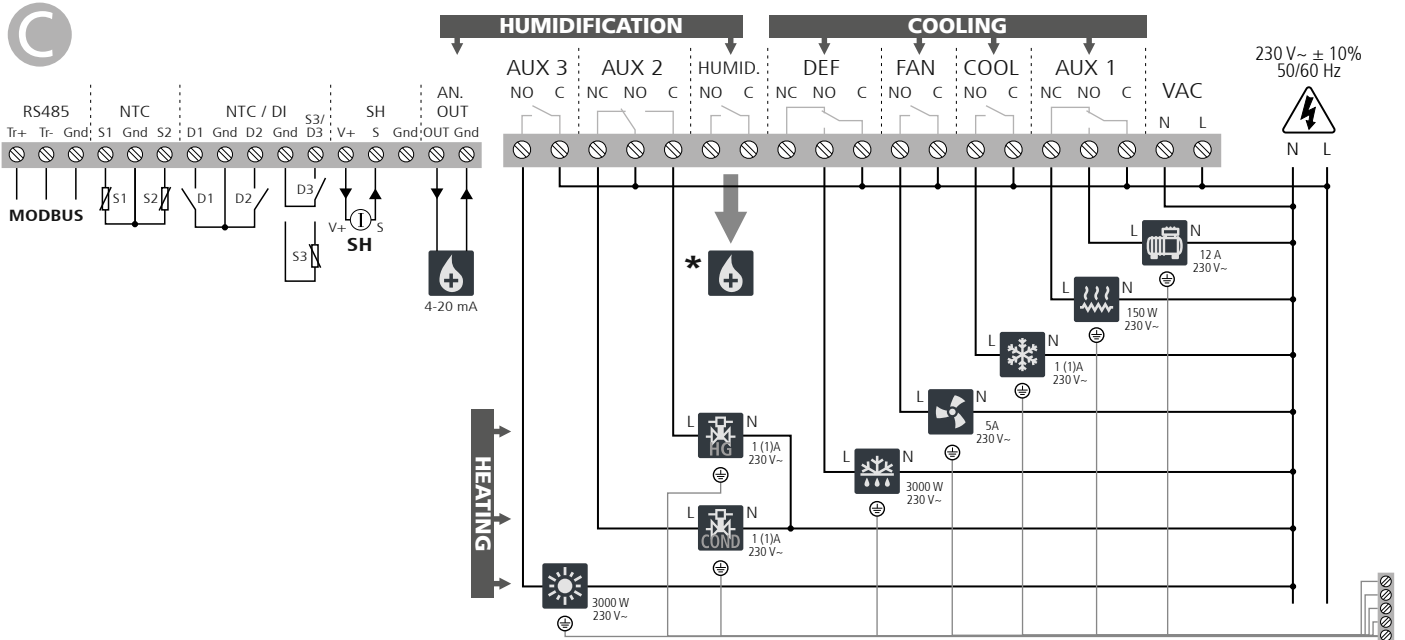


**In2 = 3, 4, 6, 7, 9 or 10. Cold regulation + heat input + humidification + dehumidification (rH07 = 0)**

The temperature is regulated by the contribution of cold and the contribution of heat (neutral zone). Humidification is carried out using the extreme humidifier with ON/OFF control (If In2 = 3, 6 or 9) or with 4-20 mA output control (If In2 = 4, 7 or 10).

The heat input is carried out by electrical resistances (If In2 = 3 or 4), by Hot Gas (If In2 = 6 or 7) or by both (If In2 = 9 or 10).

Dehumidification is carried out by adding cold, while adding heat prevents the temperature from dropping excessively.

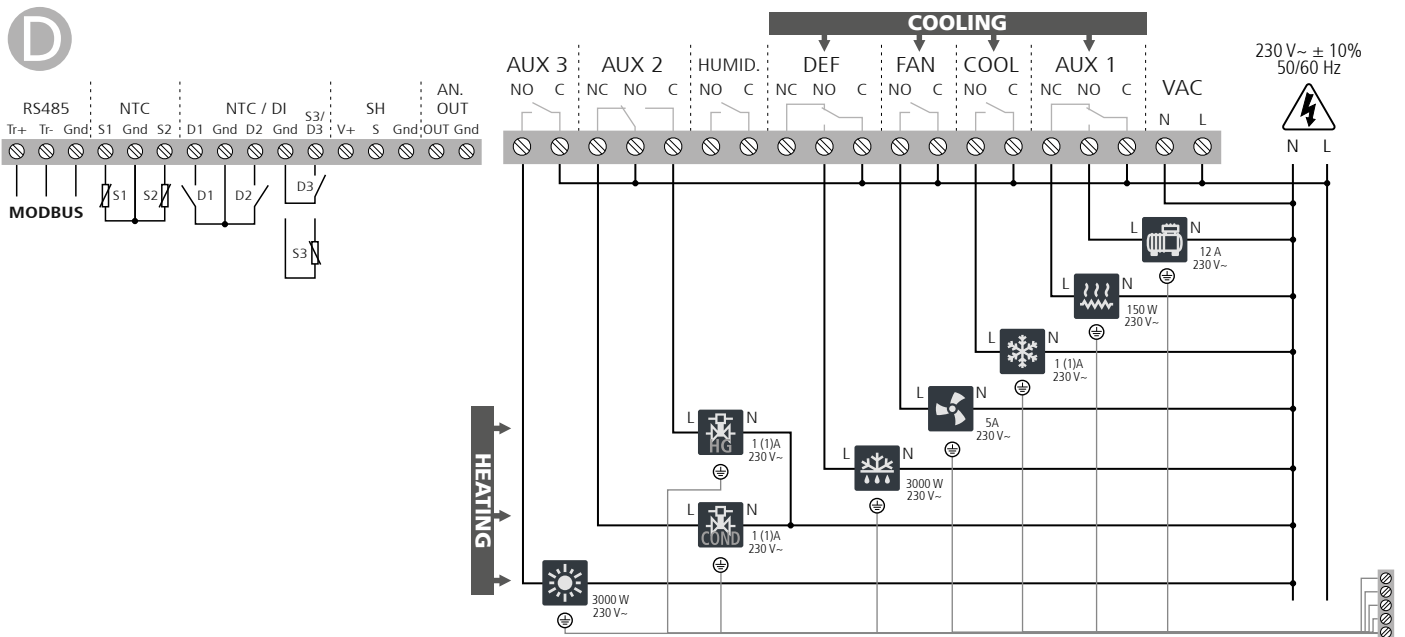


\*Review the humidifier / dehumidifier's instructions to consult how to connect it.

**In2 = 5, 8 or 11. Cold regulation + heat input (rH07 = 1)**

The temperature is regulated by the contribution of cold and the contribution of heat (neutral zone).

There is no humidity regulation.

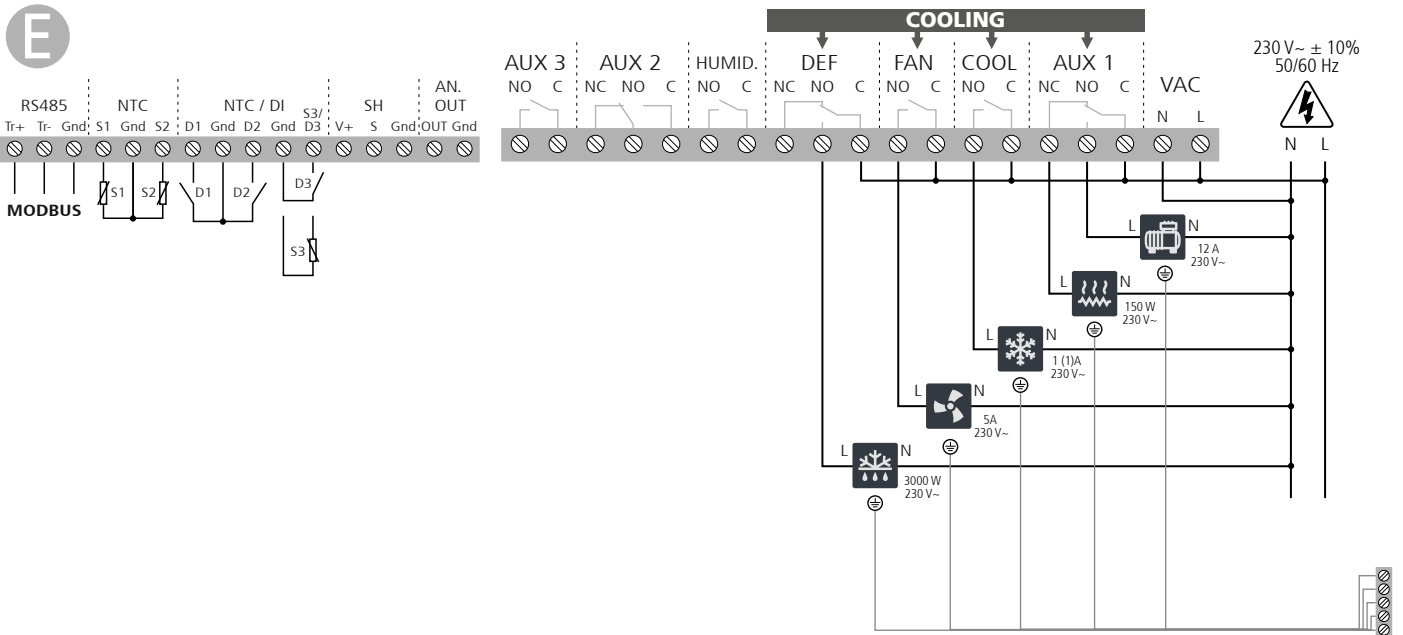


**Cold regulation**

The temperature is regulated only by the contribution of cold.

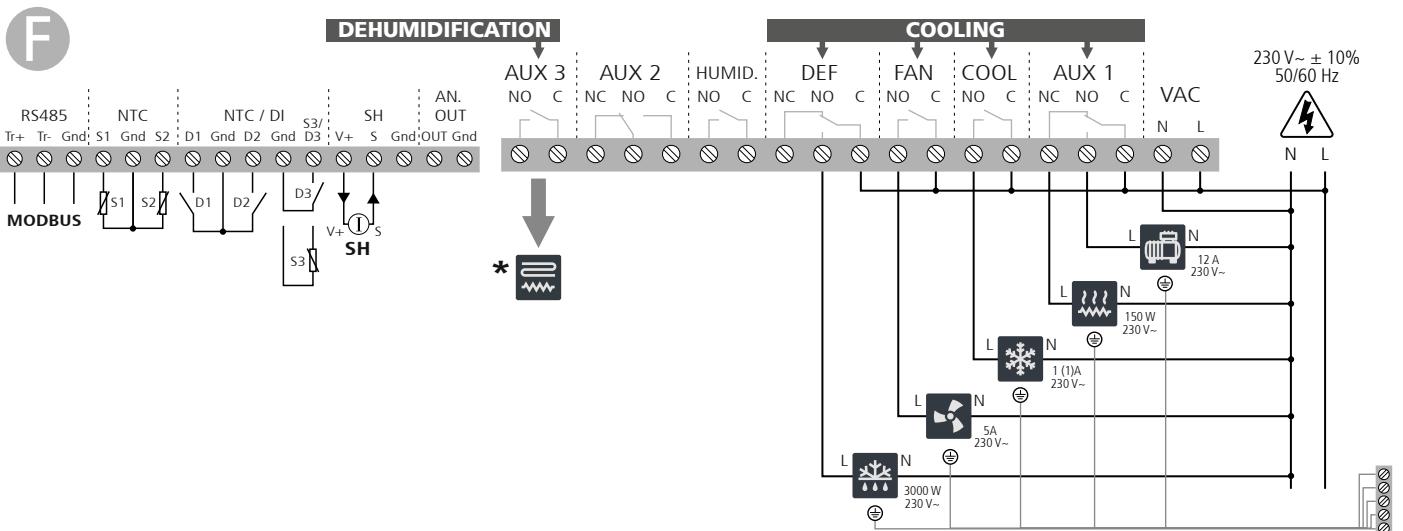
Choose any option of In2 and configure the following parameters:

- Dehumidify off: rH07 = 1
- Deactivate the humidity probe: I00 = 3 or 4
- Configure one of the digital inputs as a temperature or temperature and humidity control selector: I10, I20 or I30 = 4
- Set the polarity of the chosen input to normally closed: I11, I21 or I31 = 1



**In2= 14. Cold regulation + Dehumidification (rH07 = 0)**

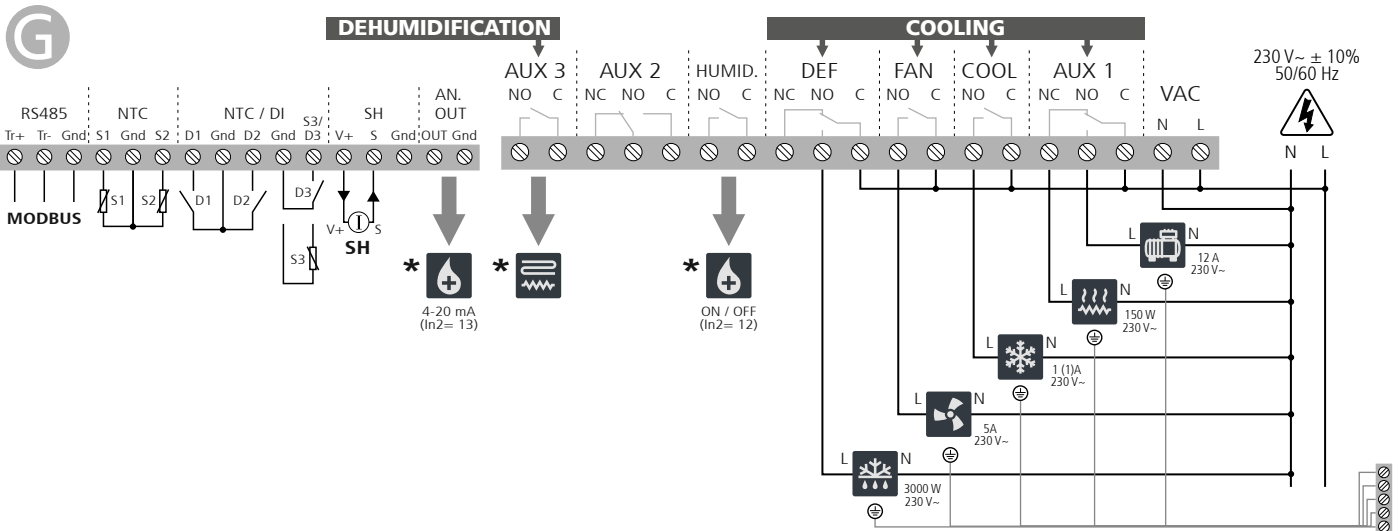
The temperature is regulated only by the contribution of cold. Dehumidification is carried out by an external dehumidifier controlled by the AUX 3 relay.



\*Review the humidifier / dehumidifier's instructions to consult how to connect it.

**In2 = 12 or 13. Cold regulation + humidification + dehumidification**

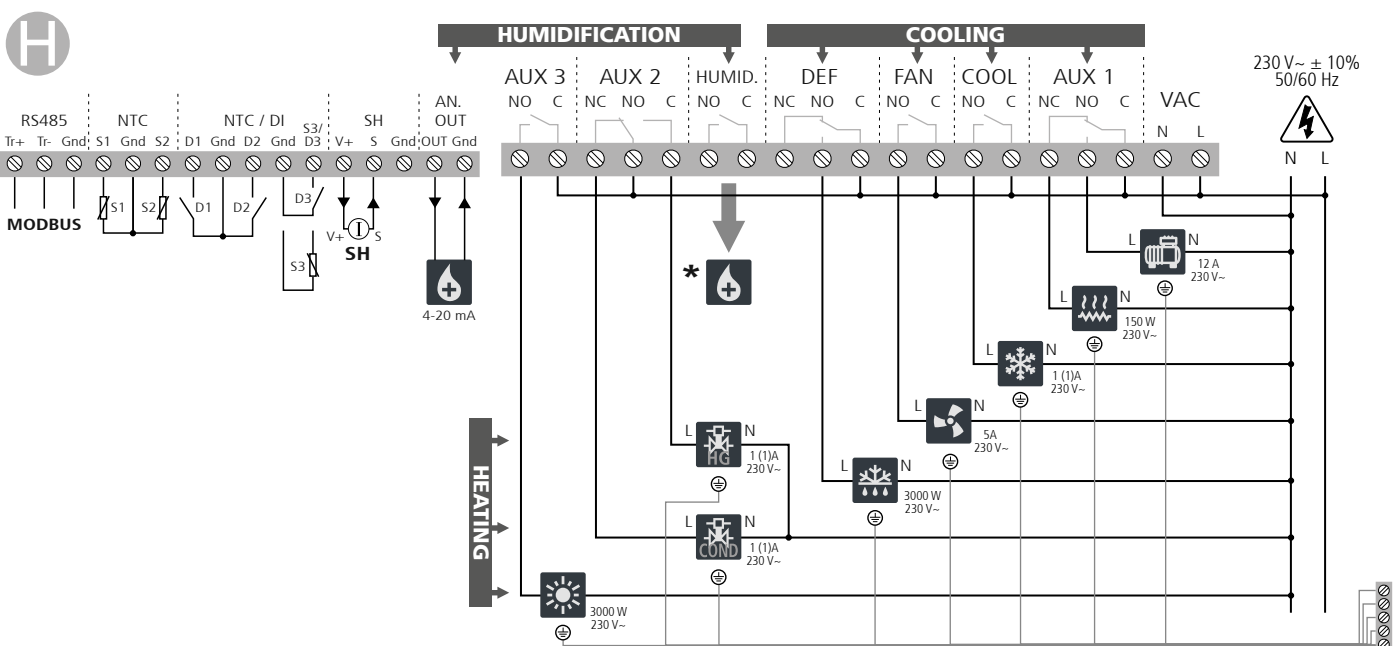
The temperature is regulated only by the contribution of cold. Humidity control by means of an external dehumidifier controlled by AUX 3 (ON / OFF control) and by means of an external humidifier controlled by the HUMID output. If the humidifier allows 4-20 mA regulation, choose In2 = 13, if it only allows ON / OFF control, choose In2 = 12.



\*Review the humidifier / dehumidifier's instructions to consult how to connect it.

**In2 = 3, 4, 6, 7, 9 or 10. Cold regulation + heat input + humidification (rh07 = 1)**

The temperature is regulated by the contribution of cold and the contribution of heat (neutral zone). Humidification is carried out using the extreme humidifier with ON/OFF control (If In2 = 3, 6 or 9) or with 4-20 mA output control (If In2 = 4, 7 or 10). The heat input is carried out by electrical resistances (If In2 = 3 or 4), by Hot Gas (If In2 = 6 or 7) or by both (If In2 = 9 or 10). Dehumidification is deactivated.



**AKO ELECTROMECÁNICA, S.A.L.**  
Avda. Roquetes, 30-38  
08812 • Sant Pere de Ribes.  
Barcelona • Spain

**[www.ako.com](http://www.ako.com)**

We reserve the right to supply materials slightly different to those described in our Data Sheets. Updated information in our website.