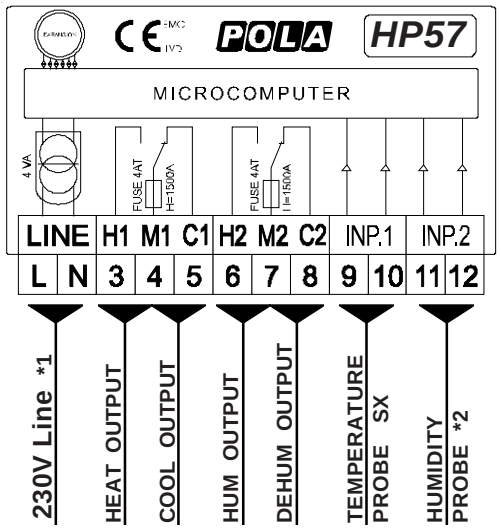
INSTALLATION

How to connect the sensors
To connect the 2 probes use N.2 two- wire cable 0,5 mm2 section, taking great care over the connections, by insulating and sealing the joins carefully. ***-O.C.-*** is displayed when the temperature sensor wiring is open, ***-S.C.-*** is displayed when the temperature sensor wiring is short circuit.

How to connect the line
Connect line on terminals **L-N**.
Protect supply with adequate fuse.

How to connect the contacts
Connect terminals on the terminal block (contacts up to 4AMP.AC1).

***1** Other power voltage if you required.

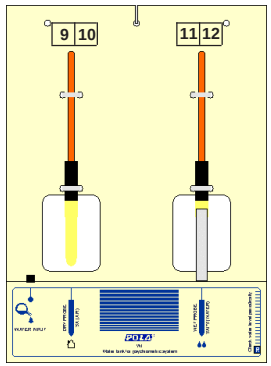


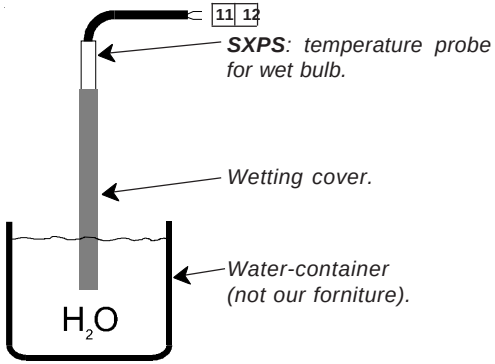
***2 How to connect humidity-psychrometer system (wet bulb).**

***WT1** Option.*

Psichrometric kit with predisposition to fixing ambient probe (**SX** air) and wet probe (**SXPS** water). Water tank with trasparent side to check the water level and plug for water inlet.

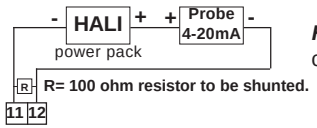
In the case of our **WT1** option (water tank) will not used, deep only the terminal side of the wetting cover of **SXPS** probe.
Put **SX** probe (dry bulb) in the closeness.





Check periodically the sock installed on the sensor has not been clogged by calcium carbonate scale. If so, remove it then clean or replace it.

***2 How to connect 4-20mA electronic humidity probe.**



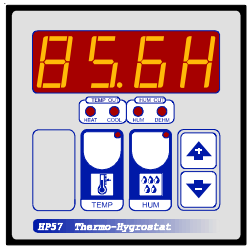
Huny=1 electronic humidity probe connection.

08.01.13

HP57

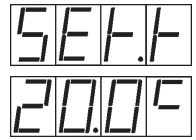
SL 3.1
Thermo-Hygrostat controller

Handbook



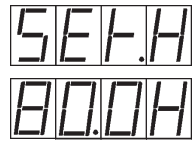
MAIN SETTINGS

TEMPERATURE SETTING.
Press **TEMP** key (key lamp flashes)**:**
This message will be displayed instead of the *°C Set Temperature value.*
Press + or - to modify. Press **TEMP** to confirm.



Example with ***SEt.t*** = **20.0°**

HUMIDITY SETTING.
Press **HUM** key (key lamp flashes)**:**
This message will be displayed instead of the *% Rh Humidity value*.
Press + or - to modify. Press **HUM** to confirm.



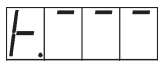
Example with ***SEt.H*** = **80.0H**

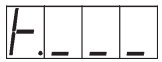
VIEWING TEMPERATURE AND HUMIDITY

With **TEMP** key lamp light (press **TEMP** key) ambient temperature is displayed. With **HUM** key lamp light (press **HUM**) ambient humidity is displayed (if the humidity is obtained with "wet bulb" pressing **HUM** for more than 3 second on display will appear the message ***t.vEt*** in turn of obtained value of temperature probe "wet bulb").

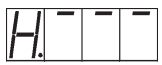
VIEWING AMBIENT TEMPERATURE AND AMBIENT HUMIDITY RECORDING

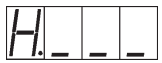
TEMPERATURE RECORDING VIEWING.
Press **TEMP** key and after:

Press **+** :  will be displayed followed by *°Maximum Temperature Recording.*

Press **-** :  will be displayed followed by *°Minimum Temperature Recording.*

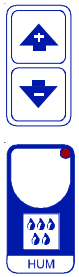
HUMIDITY RECORDING VIEWING.
Press **HUM** key and after:

Press **+** :  will be displayed followed by *°Maximum Humidity Recording.*

Press **-** :  will be displayed followed by *°Minimum Humidity Recording.*

Values recorder are memory permanent stored: for memory clear keep pushed **+** keys for more than 3 seconds: ***CLEA*** message will be composed on display before clearing operation.

COSt PROGRAMMING (*System constants*)



These settings refer to the operation mode of the system and must be made on initial startup. Press - / + at the same time for at least one second: the message ***C.O.S.t***. will be displayed.
Press than repeatedly **HUM** until the message regarding the chosen variable is displayed (see table below) : value of variable and message will be displayed.
Press + or - to set a new value and then press **HUM** to confirm.
The next system constant will then appear.
You can press **HUM** for at least 2 seconds to exit and return to the Run Mode.

Mess.	Value	Meaning	Note
diF.t	**0.2 °**	° temperature differential	***1)**
rEL.t	**0.0 °**	° setting shift reffering to ***Set.t***	***1)**
CYC.t	**0"**	Temperature regulation cycle time in seconds	***1)**
min.t	**0"**	Minimum time temperature actioning cycle in seconds	***1)**
diF.H	**1.0%**	° Humidity differential	***1)**
rEL.H	**0.0%**	%Rh setting shift reffering to ***Set.H***	***1)**
CYC.H	**0"**	Humidity regulation cycle time in seconds	***1)**
min.H	**0"**	Minimum time humidity actioning cycle in seconds	***1)**
tEnP	**=1**	Temperature representation (=1 °C, =2 °F)	
Huny	**=0**	Humidity sensor type (0= psycrometric, 1= 4-20mA)	***2)**
Ad.tE	**0.0 °**	° Input temperature sensor correction (+ or -)	***3)**
Ad.tu	**0.0 °**	° Input temperature wet bulb sensor correction (+ or -)	***4)**
Ad.Hu	**0.0%**	%Rh Input humidity correction (+ or -)	***5)**

***1**) For more details see *Operating Diagram.*
***2**) See also *Installation.*
***3**) You can correct the readings on the temperature sensor (**+** or **-**).
***4**) You can correct the readings on the wet bulb probe sensor (**+** or **-**).
To calibrate the %RH reading (when using the psycrometric kit):
1. Remove the wet sock from the wet temperature probe.
2. Allow the wet temperature probe to dry for 10 mins.
3. Adjust the above setting to make the wet bulb temperature match that of the dry bulb.
Check periodically the sock installed on the sensor has not been clogged by calcium carbonate scale. If you, remove it and clean or replace it.
***5**) You can correct the readings on the 4-20mA humidity sensor (**+** or **-**).

PRESET PROGRAMS (*Bootstrap*)

This processor is already programmed with the following (variable) settings.
To return to these settings at any time you may:
Power off the processor, press **HUM** key and keep it pressed giving power on: ***boot*** message will be displayed (release now **HUM** key).
***SEt.t*=20.0°** ***SEt.H*=80.0H**.
The COSt values are shown in *COSt Programming.*

"HAND" MODE

In some start-up conditions may be useful to work in "manual" mode:
Power off the processor, press **+** key and keep it pressed giving power on: ***HAnd*** message will be displayed (release now **+** key). Push **+** until is displayed number required to be handed (see table *State indication lamps*) and push **HUM** for activing relay. Pushing again **+** for increase relay number previous relay is disactivated.
You can press **HUM** key for a least two seconds to escape and return to the *Run Mode*.

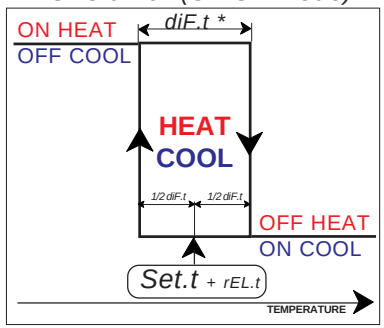
STATE INDICATION LAMPS

Lamp.	State	N ° Relay	Conacts
HEAT	Heat On	1	3-4
COOL	Cool On	1	4-5
HUM	Hum On	2	6-7
DEHM	Dehm On	2	7-8

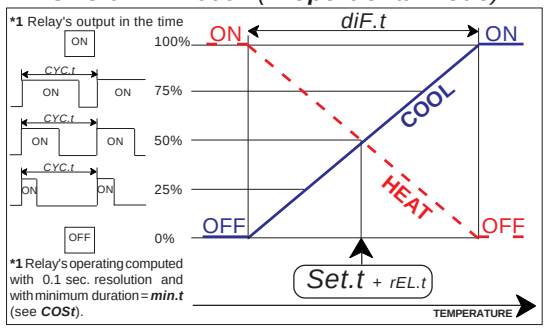
OPERATIVE DIAGRAMS

TEMPERATURE

CYC.t = 0" (On-Off mode)



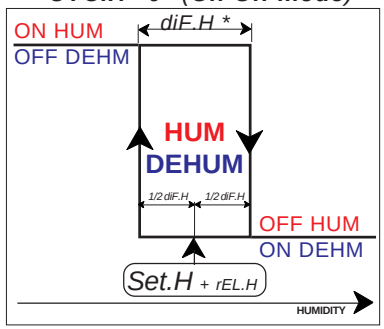
CYC.t = 1"...999" (Proportional mode)



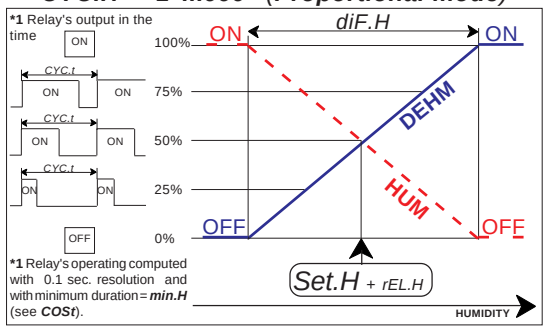
* In the case of proportional working (***CYC.t*** different from ***0"***) we suggest to set:
diF.t* = *2.0° ***CYC.t*= = *120"*** ***min.t*= = *5"***

HUMIDITY

CYC.H= 0" (On-Off mode)



CYC.H = 1"...999" (Proportional mode)



* In the case of proportional working (***CYC.H*** different from ***0"***) we suggest to set:
diF.H* = *2.0° ***CYC.H*= = *120"*** ***min.H*= = *5"***