STATUS INDICATION LAMPS

The lights situated at the bottom of the display show the state of the relay.

Table of relay Outputs with *tYPE= 1-2-3-4-13* (Variable speed control)

Lamp.	Output relay						N°Relay
	HEAT	0	1	2	3	4	
HEAT	1	0	0	0	0	0	5
VENT 1	0	0	1	0	0	0	1
VENT 2	0	0	0	1	0	0	2
VENT 3	0	0	0	0	1	0	3
VENT 4	0	0	0	0	0	1	4

Table of relay Outputs with *tYPE = 14* (On-Off regulation type)

Lamp.	Output relays with *tYPE = 14* (see COSt)						N°Relay
	HEAT	0	1	2	3	4	
HEAT	1	0	0	0	0	0	5
VENT 1	0	0	1	0	0	0	1
VENT 2	0	0	1	1	0	0	2
VENT 3	0	0	1	1	1	0	3
VENT 4	0	0	1	1	1	1	4

INSTALLATION

How to connect the line
Connect 230V line on terminals **L-N**.
Protect supply with adequate fuse.
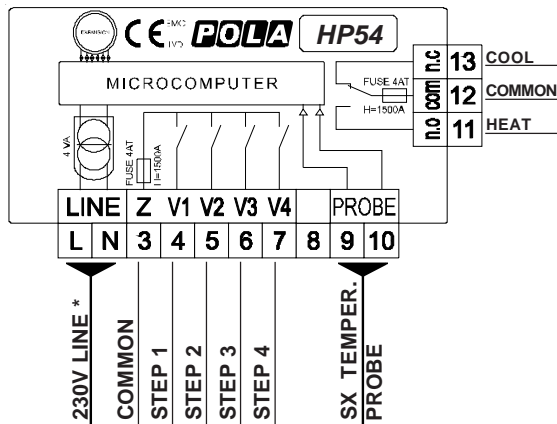
How to connect the sensors
Connect the provided sensor as shown in the diagram. **For remote connections use a standard 0.5-square millimeter two-pole wire**, taking great care over the connections, by insulating and sealing the joins carefully. **-O.C.-** is displayed when the temperature sensor wiring is open, **-S.C.-** is displayed when the temperature sensor wiring is short circuit.

How to connect the contacts
Output contacts are N.O. (Normally Opened free of voltage) on wich is apliable a 4AMP AC1 maximum load.
3-4= Step 1 contact
3-5= Step 2 contact
3-6= Step 3 contact
3-7= Step 4 contact
11-12= Heat contact
12-13= Cool contact
Alarm and Cooling are available only with **HPAL** optional slot.

CE EMC LVD **POLA** *HP54*

MICROCOMPUTER

		n.c	13	COOL
FUSE 4AT H=1500A		com	12	COMMON
		n.o	11	HEAT

LINE	Z	V1	V2	V3	V4		PROBE
L	N	3	4	5	6	7	8 9 10

230V LINE * — COMMON — STEP 1 — STEP 2 — STEP 3 — STEP 4 — SX TEMPER. PROBE

4 VA   FUSE 4AT I=1500A

* Other power voltage if you required

POLA® CE   12.02.13

HP54
SL 3.1
4 step ventilation + thermoreg.

Handbook

25.3°C

HEAT   VENT   ALARM
HP54 Steps-Controller
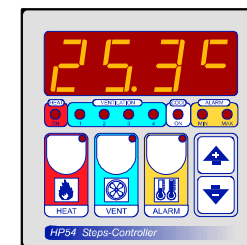
MAIN SETTINGS *(Run Mode)*

HEAT TEMPERATURE SETTING.
Press **HEAT**:
This message will be displayed instead of the *°Set Heat temperature value* .
Press **+** or **-** to modify, press **HEAT** to exit.

`HEAt`

VENTILATION TEMPERATURE SETTING.
Press **VENT**:
This message will be displayed instead of the *°Set Ventilation temperature value (start first step).*
Press **+** or **-** to modify, press **VENT** to confirm.

`uEnt`

At this point: this message will be displayed instead of the *Minimum Ventilation Step* (*****).
Press **+** or **-** to modify, press **VENT** to confirm.

`SP._ _`

At this point: this message will be displayed instead of the *Maximum Ventilation Step.*
Press **+** or **-** to modify, press **VENT** to confirm.

`SP.¯ ¯`

(*****) If the minimum speed is set to *0*, this message appears instead of the *Set Shutter Running Time* (seconds).
Press **+** or **-** to modify, press **VENT** to confirm.

`t.on`

At this point: this message will be displayed instead of the *Shutter Dwell Time* (seconds.).
Press **+** or **-** to modify, press **VENT** to confirm.

`t.oF`

At this point: this message will be displayed instead of the *Shut Speed Number.*
Press **+** or **-** to modify, press **VENT** to exit.

`SP._ _`

ALARM PARAMETER SETTING.
Press **ALARM**:
This message will be displayed instead of the *°Set Minimum Alarm temperature value* .
Press **+** or **-** to modify, press **ALARM** to confirm.

`AL._ _`

At this point: this message will be displayed instead of the *°Set Maximum Alarm temperature value* .
Press **+** or **-** to modify, press **ALARM** to exit.

`AL.¯ ¯`

VIEWING TEMPERATURE RECORDING

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

Press **-** : `|-. _ _ _|` will be displayed followed by
°Minimum Temperature 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 **ALARM** until the message regarding the chosen variable is displayed (see table below): variable's value and message will be displayed. Press + or - to set a new value and then press **ALARM** to confirm.

The next system constant will then appear.

You can press **ALARM** for at least 2 seconds to exit and return to the *Run Mode*.

Mess.	Valore	Meaning	Note
d.HEA	0.2 °	°HEAT differential	*1
rEL.1	0.0 °	° Temperature set of step 1 referred to the vEnt set	*1
rEL.2	1.0 °	° Temperature set of step 2 referred to the Step 1 start	*1
rEL.3	1.0 °	° Temperature set of step 3 referred to the Step 1 start	*1
rEL.4	1.0 °	° Temperature set of step 4 referred to the Step 1 start	*1
d.FAn	0.2 °	° Ventilation differential	*1
r.COL	6.0 °	° COOL setting shift referring to vEnt set	*1
d.COL	0.2 °	° COOL differential	*1
tEnP	=1	Temperature unit (=1: °C, =2: °F)	
Ad.tE	0.0 °	° Temperature sensor adjustment (+ or -)	*2
tYPE	1	Start ventilation actioning mode	*3

***1)** For more details see *Operative Diagrams*

***2)** You can correct the readings on the sensor (**+** or **-**).

***3)** Different mode of ventilator initial start-up optionally settable (step from **0** to **1** speed).

tYPE= 1 : 0 to 1 step become in normal mode.
tYPE= 2 : 0 to 1 step become with a momentary **10** seconds at speed **2**.
tYPE= 3 : 0 to 1 step become with a momentary **5** seconds at speed **3**.
tYPE= 4 : 0 to 1 step become with a momentary **5** seconds at speed **4**.
tYPE=13 : Heating mode ventilation.
tYPE=14 : Progressive ventilation contacts (On-Off regulation type).
Options **2, 3 , 4** permits to make an easy opening of shutter models ventilators.
Option **13** permits Heater mode ventilation (low temperature = higt speed; in other options high temperature= high speed).
Option **14** permits On-Off regulation mode (in other condition regulation is for variable speed control).

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 **MAX VENT** key and keep it pressed giving power on: **boot** message will be displayed (release now **MAX VENT** key).

HEAt = 20.0°   **vEnt** = 25.0°   **SP._ _**= 0   **SP.- -** = 4   **AL._ _**= 10.0°   **AL.- -** = 40.0°
t.on = 10"   **t.oF** = 60"   **SP.--** = 0   The **COSt** values are shown in *COSt Promagramming*.

MANUAL 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 **ALARM** for activing relay.
Pushing again **+** for increase relay number previous relay is disactivated.
You can press **ALARM** key for a least two seconds to escape and return to the *Run Mode*.

OPERATIVE DIAGRAMS

If Minimum speed is programmed to 0 **(SP._ _=0)**, when the ventilation is off it is possible to insert a cyclical operation of minimum speed, composed of a turn-on time fans **(t.on)**, by a switch-off time fans **(t.oF)**, and the selected speed during an's shuttering operation (**SP- -**).

With **tYPE = 13 :**
V0 ◁ ▷ V4
V1 ◁ ▷ V3
V2 ◁ ▷ V2
V3 ◁ ▷ V1
V4 ◁ ▷ V0
Heater mode ventilation

Step from **0** to **1** speed become according to chosed **COSt** function **tYPE**.