

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

STATE INDICATION LAMPS

Lamp.	State	N° Relay	Contact
COMP *1	Compressor ON	1	3-4
RES *2	Defrost resistors ON	2	5-6
VENT *3	Ventilators ON	3	7-8
DEFR	Defrost cycle ON	4	9-10
IDEAL	OK ambient temperature		
C.AIR	Change air ON	6* HPAL	3-4-5
MIN	Minimum alarm ON (n.c.)	7* HPAL	6-7-8
MAX	Maximum alarm ON (n.c.)	7* HPAL	6-7-8

(*) Available only with **HPAL optional slot**.

(*1) Flashing during delay **Comp**, **droP** (see **COST**).

(*2) Flashing during defrost state with defrost resistors Off.

(*3) Flashing during **vEnt** (see par. **COST**).

INSTALLATION

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.

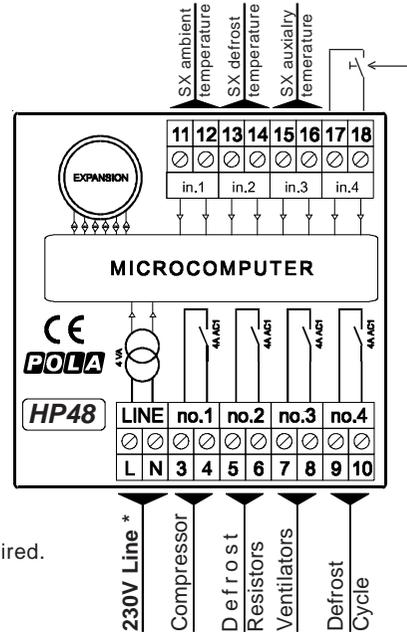
How to connect the line

Connect line on terminals **L-N**.

How to connect the contacts

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

Start Defrost contact (N.O.): temporarily closed (key type) it start full **DEFROST** cycle(when it is not in **DEFROST**), or it end when is in **DEFROST**.



*Other power voltage if you required.

As it company policy to continually improve the products the Manufacturers reserve the right to make any modifications thereto without prior notice. They cannot be held liable for any damage due to malfunction.



HP48

SL 6.0

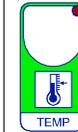
Freezer store controller

Handbook



MAIN SETTING (Run Mode)

TEMPERATURE SETTING



Press **TEMP** (key lamp flashes):
 this message will be displayed instead of the
 ° Set temperature value .
 Press **+** or **-** to modify, press **TEMP** to confirm.

t.5Et

DEFROST PARAMETER SETTING



Press **DEFR** (key lamp flashes):
 this message will be displayed instead of the
 Daily number defrost.
 Press **+** or **-** to modify, press **DEFR** to confirm.

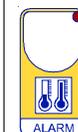
n.dEF

At this point this message will be displayed instead of the
 Duration defrost (minutes).

ddEF

Press **+** or **-** to modify, press **DEFR** to exit.

ALARM TEMPERATURE SETTING



Press **ALARM** (key lamp flashes):
 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 .

AL._.

Press **+** or **-** to modify, press **ALARM** to exit.

TEMPERATURE AND PROGRAM STATE VIEWING

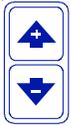
In normally condition ambient temperature is displayed: for viewing other parameters press these keys for at least two seconds.

Tasto	Message	Meaning	Note
TEMP	t.AuS	° Auxiliary temperature viewing	(Input 3)
DEFR	Defr	Start Defrost minutes count down	not in Defrost
DEFR	On.dE	End Defrost minutes count down	in Defrost
DEFR	10.3° (example)	Defrost temperature viewing	*1
ALARM	C.Air *2	Start Change Air minutes count down	not in C.AIR
"	On.CA *2	End Change Air minutes count down	in C.AIR

*1) After for a least 5 seconds of **DEFR** key, this message is displayed.

*2) With **n.CHA=0** (see par. **COST**) **-oF-** message is displayed.

VIEWING AMBIENT TEMPERATURE RECORDING

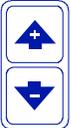


Press + **F. _ _ _** : will be displayed followed by °Maximum Temperature Recording.

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

Values are permanently stored in the memory: for deleting all values in the memory keep pushed + key for more than 3 seconds: **CLEA** message will appear 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) : value of variable 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.	Value	Meaning	Note
rEL.C	0.0°	° t.SET setting referring to COMP Set	*1)
diF.C	1.0°	°COMP differential	*1)
tEn.d	10.0°	° Set DEFR temperature	*1)
diF.d	1.0°	°DEFR differential	*1)
ConP	0"	COMP on delay seconds	
droP	0'	Actioning off delay in minutes after DEFROST	
vEnt	1'	VENT on delay minutes to end droP	
oPt.d	=1	DEFROST type	*2)
n.CHA	0	daily number C.AIR	*3)
d.CHA	0'	Minutes duration C.AIR	*3)
tEnP	=1	Temperature representation (=1°C, =2°F)	*4)
Ad.t1	0.0°	Input Ambient temperature correction (+ or -)	*5)
Ad.t2	0.0°	Input Defrost temperature correction (+ or -)	*5)
Ad.t3	0.0°	Input Auxiliary temperature correction (+ or -)	*5)

*1) For more details see *Operating Diagrams*.

*2) **HP48** can configured in these different defrost type:

- =1 : time duration defrost is programmable under **DEFR** key (**d.dEF**). During this time defrost resistors are switch-thermostat to Set temperature value (**tEn.d**).
- =2 : The defrost ends to the Set of defrost temperature (**tEn.d**). Always the maximum time defrost duration is that programmed under **DEFR** key (**d.dEF**).

*3) Available only with **HPAL** optional slot.

*4) **tEnP =1** : °C Temperature range.

tEnP =2 : °F Temperature range.

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

PRESET PROGRAMS



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

t.SET=10.0° n.dEF=4 d.dEF=20' AL_=-50.0° AL-=-50.0°

COST value are shown in **COST** paragraph.

OPERATIVE DIAGRAMS

