

ICON	DESCRIPTION	OFF	ON
①	OUTPUT 1	Output 1 off	Output 1 on
②	OUTPUT 2	Output 2 off	Output 2 on
③	PROBE 1 OR 2	PROBE 1 DISPLAY	PROBE 2 DISPLAY
⚠	ALARM	No alarm registered	Warning alarm! See the code on display
🔑	CONFIGURATION	Normal functioning	Display/Change of parameters

8. KEYBOARD LOCK

To enable the keyboard's lock set **HL** parameter to 1 or 2.

⚠ WHEN THE KEYBOARD IS LOCKED IS NOT ALLOWED TO:

- Change/read the set point;
- Change/read the parameters;
- Turn OFF the device;
- Manually start a defrost;

⚠ IF YOU PRESS ANY KEY WHEN THE KEYBOARD IS LOCKED THE DISPLAY WILL SHOW THE LABEL "Loc".

To temporary unlock the keyboard press the keys \curvearrowright + \curvearrowleft for more than 3 seconds until the label "Loc" changes into "OFF".

To lock automatically the keyboard wait for 30 seconds without pressing any key.

9. DISPLAY OF TEMPERATURE OF PROBE 1 OR 2

Press the key \curvearrowright to choose the probe, 1 or 2, to be displayed; the icon $\text{P}=\text{2}$ shows the selected input:

- Icon $\text{P}=\text{2}$ OFF : the display shows the probe 1;
- Icon $\text{P}=\text{2}$ ON : the display shows the probe 2;

10. DISPLAY AND CHANGE OF "SP1" OR "SP2" SET-POINT VALUE

SP1= output 1 intervention temperature
SP2= output 2 intervention temperature

⚠ SET-POINT CANNOT BE CHANGED WHEN THE KEYBOARD IS LOCKED

- Press SET key until the label "SP1" or "SP2" appears on display;
- Release SET key. Now regulator's intervention temperature 1/2 is displayed and $\text{P}=\text{2}$ icon lights on;
- Press \curvearrowright or \curvearrowleft keys to change set-point value;

To exit operation and save changes either press SET key or wait for 30 seconds without operating on keyboard.

11. PASSWORD FOR PROTECTING PARAMETERS

Through adequate setting of **HL** parameter, a password may be required to change parameters. When **HL** parameter is 2, the letters "PA" appear at request of access to parameters and the icon $\text{P}=\text{2}$ lights on. Press SET key to access to **PA** parameter value and type 95 using \curvearrowright or \curvearrowleft keys, then press briefly SET key again. If operation has been properly performed, it will be possible to change and read all the device's parameters, otherwise it will be possible to read them only.

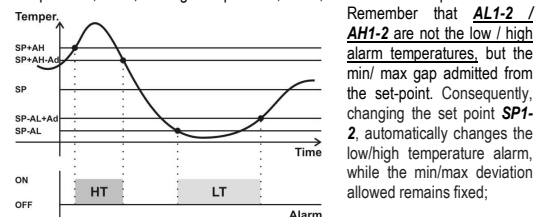
12. CHANGING INSTRUMENT PARAMETERS

- Press \curvearrowright and \curvearrowleft keys simultaneously for 5 sec.;
- If letters "PA" appear on display, a **PA**ssword has to be inserted as described at point 11 in order to proceed;
- Press \curvearrowright or \curvearrowleft key to search for the parameter you wish to change;
- Press SET key to display parameter value;
- Press \curvearrowright or \curvearrowleft keys to change value;
- Press SET key again to go back to parameter list;

To exit and save changes keep pressed for more than 3 sec. the SET key or wait for 30 sec. without touching keyboard.

13. RELATIVE ALARMS

The values of the parameters **AL1/2** and **AH1/2** are the alarm's thresholds of low temperature, **LT1/2**, and high temperature, **HT1/2**, relative to the set-point 1/2.



Remember that **AL1-2 / AH1-2** are not the low / high alarm temperatures, but the min/ max gap admitted from the set-point. Consequently, changing the set point **SP1-2**, automatically changes the low/high temperature alarm, while the min/max deviation allowed remains fixed;

- AL1-2** is the value to subtract from the set-point1-2; below it an alarm is activated. If **AL1-2=0** the low temperature alarm is disabled.
- AH1-2** is the value to add to the set-point1-2; over it an alarm is activated. If **AH1-2=0** the high temperature alarm is disabled.

14. LIST OF INSTRUMENT PARAMETERS

Code	Parameter	Range	UM	Def
Parameters of regulating probe				
/0	Selection probe. 0 = NTC ; 1 =PTC (**)	0...1	-	1
/6	Remote display 1= probe 1; 2= probe 2;	1...2	-	2
/C1	Probe 1 calibration	-12...12	°C	0
/C2	Probe 2 calibration	-12...12	°C	0
Regulator parameters				
rd1	Differential set-point SP1	1...12	°C	1
rd2	Differential set-point SP2	1...12	°C	1
rA1	Relay 1 running mode 0 = direct running (cold) 1 = inverted running (warm)	0...1	-	1
rA2	Relay 2 running mode 0 = direct running (cold) 1 = inverted running (warm)	0...1	-	1
rL1	Minimum SP1 set-point limit (*)	(*)...rH1	°C	-50
rH1	Maximum SP1 set-point limit (*)	rL1...(*)	°C	150
rL2	Minimum SP2 set-point limit (*)	(*)...rH2	°C	-50
rH2	Maximum SP2 set-point limit (*)	rL2...(*)	°C	150
Output parameters				
Lr1	Safety output 1 in the event of bad working probe 0 = relay OFF; 1 = relay ON	0...1	-	0
Lr2	Safety output 2 in the event of bad working probe 0 = relay OFF; 1 = relay ON	0...1	-	0
Li1	Minimum OFF interval of output 1	0...15	Min	0
Li2	Minimum OFF interval of output 2	0...15	Min	0
Defrost parameters				
d1	Interval between defrost cycles	0...99	Hour	8
dE	Duration of defrost cycle	1...99	Min	30
d12	Interval between defrost cycles of relay 2	0...99	Hour	8
dE2	Duration of defrost cycle of relay 2	1...99	Min	30
d8	Alarm deactivation time after defrosting	0...15	Hour	1
Alarm parameters				
Ad	Alarm differential	1...12	°C	1
AL1	Set-point 1 relative low temperature alarm. It is the value to subtract from set-point beyond which an alarm condition is activated. AL1=0 low temperature alarm overridden	0...99	°C	0
AH1	Set-point 1 relative high temperature alarm. It is the value to add to set-point beyond which an alarm condition is activated. AH1=0 high temperature alarm overridden	0...99	°C	0
AL2	Set-point 2 relative low temperature alarm. It is the value to subtract from set-point beyond which an alarm condition is activated. AL2=0 low temperature alarm overridden	0...99	°C	0
AH2	Set-point 2 relative high temperature alarm. It is the value to add to set-point beyond which an alarm condition is activated. AH2=0 high temperature alarm overridden	0...99	°C	0
A3	Alarm deactivation time from instrument activation	0...15	Hour	2
Other parameters				
Hb	Enable/disable key ON-OFF. 0=OFF; 1=ON	0...1	-	0
Hd	MFI multifunction input performance. 0=disable; 1=defrost start;	0...1	-	0
HL	Keyboard lock, password for changing parameters: 0= keyboard unlocked, password disabled; 1= keyboard locked, password disabled; 2= keyboard locked, password enabled;	0...2	-	0

(*)=depending on input type
(**)= to modify the value follow instructions on point 5

15. ALARM MUTING

The signs "H1", "L1", "H2", "L2", "EE", "E1", "E2" indicate that an alarm condition is in progress and determines alarm activation. Pressing any key buzzer or alarm relay (according to instrument model) is deactivated, while alarm condition keeps appearing on display until removal of alarm cause.

16. DISPLAY SIGNALS

Display	Icon	Description
EE	⚠	EEPROM broken, try to switch off instrument and start it again;
E1	⚠	Thermostat probe in short-circuit or not connected or temperature over instrument limits. Check conditions of cable which connects to probe; The relay1 activity depends on parameter Lr1 . The alarm stops when the probe starts to work correctly again.
E2	⚠	Thermostat probe in short-circuit or not connected or temperature over instrument limits. Check conditions of cable which connects to probe; The relay 2 activity depends on parameter Lr2 . The alarm stops when the probe starts to work correctly again.
Ht1	⚠	High-temperature alarm 1 ON (temperature higher than AH1 + Ad). Check AH1 parameter
Lt1	⚠	Low-temperature alarm 1 ON (temperature lower than AL1 - Ad). Check AL1 parameter.
Ht2	⚠	High-temperature alarm 2 ON (temperature higher than AH2 + Ad). Check AH2 parameter
Lt2	⚠	Low-temperature alarm 2 ON (temperature lower than AL2 - Ad). Check AL2 parameter.
dF		It is not an alarm signal. It means that a defrost cycle is in progress.
Loc		Keyboard locked
--		Device turn OFF. ATTENTION: the instrument is powered also if it is turned off

17. GUARANTEE

Orbis Italia guarantees its products against construction and material defaults within (1) year from building date stated on package. Only those items which are out of order due to *Orbis Italia's* responsibility will be mended or replaced after a survey by *Orbis Italia's* technical service. In case of faults due to special conditions of use, misuse, and/or tampering, *Orbis Italia* cannot be held responsible. All forward expenses to send item back to producer, after regular agreement, and to have it delivered back to customer are charged on the latter.

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