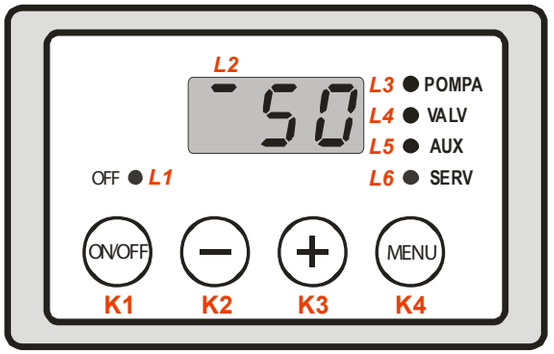
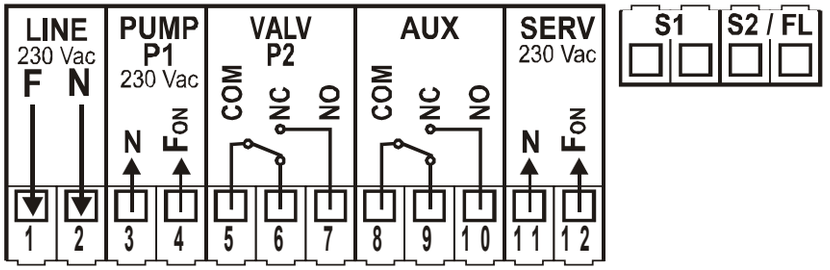




	Code	Connectors		Device	Characteristics
INPUTS	S1	S1		Fireplace/Stove Probe	Sensor NTC10K@25°C Range 0÷120°C; Measurement 0÷99°C
	S2 / FL	S2 / FL		DHW Temperature Probe	Sensor NTC10K@25°C Range 0÷120°C; Measurement 0÷99°C
				Flow switch	Contact Open/Closed
OUTPUTS	PUMP P1	3	N	Fireplace/Stove Pump	Supply Voltage 230 Vac Max 3A 230Vac
		4	FON		
	VALV P2	5	COM	Electrovalve / Pump	Free contacts Max 3A 230Vac
		6	N.C.		
		7	N.O.		
	AUX	8	COM	Auxiliary Command	Free contacts Max 3A 230Vac
		9	N.C.		
		10	N.O.		
	SERV	11	N	Conf. **tEr**: Under Thermostat Conf. **Grl**: Output ON/OFF	Supply Voltage 230 Vac Max 3A 230Vac
		12	FON		
LINE		1	F	Main Supply Voltage	230 Vac ±10% 50 Hz; Fuse T3,15 A
		2	N		

Mechanical dimensions:	Inbox Controller 3 modules: 120 x 80 x 50 mm
Absorbed Power:	2VA
Applied Rules:	EN 60730-1 50081-1 EN 60730-1 A1 50081-2

CE

1. ON/OFF

The **ON/OFF** of the controller is through the prolonged pressure of the button **K1**

- The OFF state is signalled with the led L1

2. Visualizations

- Normally the display shows Probe1 temperature.
- The Probe2 temperature is showed by the prolonged pressure of **K4**
- The closed contact of Flowswitch is displayd by **L2**

3. ALARM Function

If the temperature read by the **Probe** is over the value Alarm Thermostat **A01**

➢ The acoustic and visual signal is activated

- **SILENCE** Function: the acoustic signal can be deactivated for 5 minutes pushing any button. If the alarm condition remains the acoustic signal starts again

4. ANTI ICE Function

If the temperature read by the **Probe** is under the Anti Ice Thermostat **A03** and **P06**=1

- The Pump is activated and the display shows **ICE**

5. STANDBY Function

If the system is **OFF**, in condition of **ALARM** or **ANTI ICE**

- ➢ The device goes in **ON** status

6. ANTI BLOCK Pump Function

If the Pump is OFF for a time over the Anti Block Timer **T01** (also in STANDBY Status)

- ➢ The Pump is activated for **T02** seconds and the display shows **bLP**

7. Pump TEST Function

Through the prolonged pressure of the button **K3**

- ➢ The Pump is activated for the time of the button's pushing and the display shows **tSt**

8. Plant Configuration: H= H0 Internal DHW production without electrovalve

In case of the **contact FL** (Flowswitch) **is closed** for Domestic Hot Water request

- ➢ The **P1 Pump** is deactivated to stop the plant heating
- ➢ The function is signalled with the blinking led **L3** and led **L2**

9. Plant Configuration: H= H1 Internal DHW production with electrovalve

In case of the **contact FL** (Flowswitch/DHW tank Thermostat) **is closed** for Domestic Hot Water request and the temperature read by the Probe is over the thermostat **TH-Valv**

- ➢ The output **Valv/P2** is activated for the electrovalve management to stop the heating plant
- ➢ The **P1 Pump** is forced for the recirculation in the DHW circuit
- ➢ The function is signalled with the led **L2**

10. Plant Configuration: H= H1b Internal DHW production with double Pump

In case of the **contact FL** (Flowswitch/DHW tank Thermostat) **is closed** for Domestic Hot Water request and the temperature read by the Probe is over the thermostat **TH-Valv**

- ➢ The output **Valv/P2** is deactivated to stop the plant heating
- ➢ The **P1 Pump** is forced for the recirculation in the DHW circuit
- ➢ The function is signalled with the led **L2**

11. Plant Configuration: H= H2 DHW production on DHW tank with electrovalve

In case of:

- ♦ The **S2** probe temperature is under the **T-Valv/P2** thermostat
- ♦ The differential temperature **S1-S2** is greather than **A31**
  - ➢ The output **Valv/P2** is activated
  - ➢ The **Pump P1** activation is forced

12. Plant Configuration: H= H2b DHW production on DHW tank with double Pump

In case of:

- ♦ the **S2** probe temperature is under the **T-Valv/P2** thermostat
- ♦ The differential temperature **S1-S2** is greather than **A31**
  - ➢ The output Valv/P2 is activated for the control of the sanitary pump
  - ➢ The **Pump P1** is deactivated to stop the heating plant

13. SANITARY Safety

The above functions are disabled and deactivated in case of the Probe **S1** temperature is greather than the Safety termostat **A02**

14. Plant Configuration: H= H3 BUFFER Tank Loading

In case of:

- ♦ The Probe S1 temperature is over the **Pump** thermostat **A04**
- ♦ The differential temperature **S1-S2** is greather than **A31**
  - ▪ The **Pump P1** is activated to charge the Buffer Tank

15. 'SERV' Configuration: to set the functioning of the output SERV

- ➢ **' Gri '= GRILL Function**: the button **K2** to **Switch OFF**, the button **K3** to **Switch ON** the **SERV**
- ➢ **' tEr '= TH-Serv Thermostat Function**

To enter into the configuration **Menu**

- ▪ Push **<u>together</u>** the buttons **K2** and **K3 for about 5 seconds**
- ▪ The display shows the current configuration: ' **Gri '** or ' **tEr '**
- ▪ Modify through the buttons **K2** or **K3**

To exit and memorize push the button **K4** or wait for 5 seconds
The default setting is '**Gri'**

16. MAIN Menu: Main Thermostats' Setting

- ➢ **T-PUMP / P1**: to control the heating pump
- ➢ **T-VAL / P2**: to control the electrovalve/pump
- ➢ **T-AUX**: to control Gas Boiler Integration, electrovalve or other application
- ➢ **T-SERV**: to control an electrovalve or other application
- ➢ Through the **click** of the button **K4** the current values of the thermostats are visualized signalled by the correspondent blinking led

To modify:

- ▪ Chose the value to modify
- ▪ Through the buttons **K3** and **K2** increase/decrease the value
- ▪ To memorize, wait for about 5 seconds or scroll the values with the button **K4**
- ▪ The thermostat T-SERV is not available in case of **SERV= Gri**

MAIN Menu Parameters		U.M.	Code	Min	Default	Max	Set
T-PUMP/P1	Pump1 Thermostat	°C	**A04**	20	**40**	85	
T-VALV/P2	Valve/P2 Thermostat	°C	**A05**	20	**45**	85	
T-AUX	Auxiliary Thermostat	°C	**A06**	20	**50**	85	
T-SERV	Service Thermostat	°C	**A07**	20	**60**	85	

17. MAIN Menu: Main Thermostats' Setting

The admission to this MENU is only for INSTALLERS or EXPERT PERSONNEL, because the modification of the parameters could make the product not suitable for the application.

To enter to the MENU push **together** the buttons **K1 and K4** for about **5 seconds**

- To visualize the parameters' labels use the buttons **K3** or **K2**
- To visualize the parameter value push the button **K4**
- To modify the value push the buttons **K3** or **K2 together** the button **K4**
- To visualize again the parameter list and memorize push the button **K4**

To exit and memorize wait about 5 seconds

INSTALLER Menu Parameters	U.M.	Code	Min	Default	Max	Set
ALARM Thermostat	°C	**A01**	85	**90**	99	
SAFETY Thermostat [°C]	°C	**A02**	20	**85**	90	
ANTI ICE Thermostat [°C]	°C	**A03**	4	**6**	8	
Differential Thermostat S1-S2	°C	**A31**	2	**5**	15	
A04 Thermostat Hysteresis	°C	**i 04**	1	**2**	15	
A05 Thermostat Hysteresis	°C	**i 05**	1	**2**	15	
A06 Thermostat Hysteresis	°C	**i 06**	1	**2**	15	
A07 Thermostat Hysteresis	°C	**i 07**	1	**2**	15	
A31 Thermostat Hysteresis	°C	**i 31**	1	**2**	15	
ANTI BLOCK Waiting Timer	H	**t01**	1	**168**	255	
Pump activation time in ANTI BLOCK	Sec	**t02**	0	**20**	99	
ANTI ICE enable	--	**P06**	0	**1**	1	
Domestic **H**ot **W**ater Modality	--	**H**	0	**2**	3	

18. FAULT or ALARM warnings

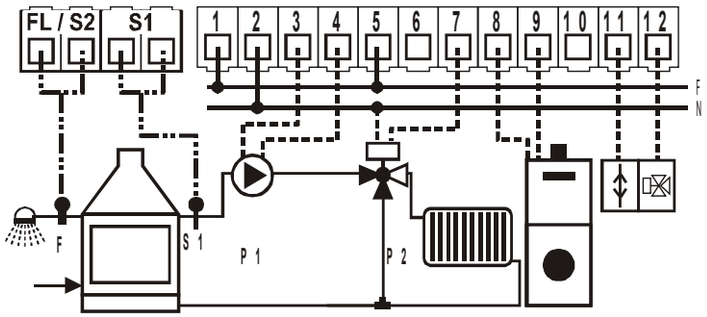
The controller is able to signal the failure of the probe

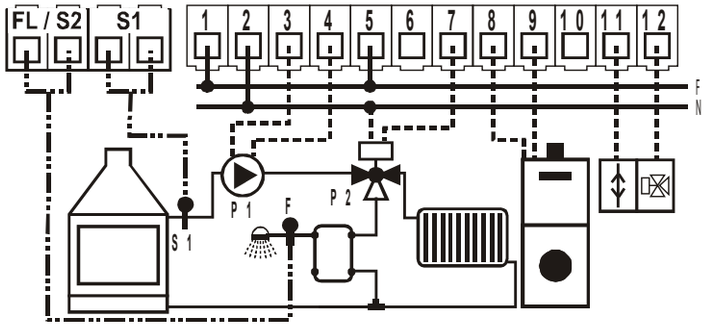
Blinking messages:

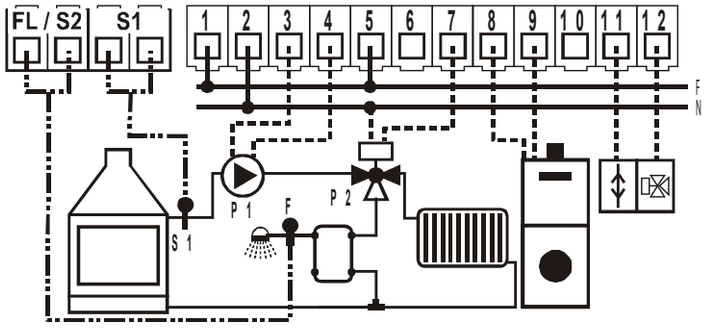
- **Lo:** out of range to the low temperature (under 0°C): **Probe broken**
- **Hi:** out of range to the high temperature (over 100°C): **Probe in short circuit**

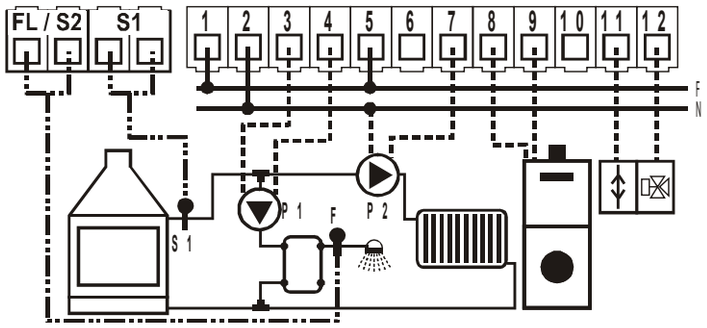
19. Examples of diagram and settings

H0	T-P1	30°C	30 <S1< 45 °C	P1=ON	P2=OFF
	T-P2	45°C	S1> 45°C	P1=ON	P2=ON
			Se FL=Closed	P1=OFF	
	A02	85°C	S1> 85°C	P1=ON	P2=ON
H1	T-P1	30°C	30 <S1< 45 °C	P1=ON	P2=ON
	T-P2	45°C	S1> 45°C	P1=ON	P2=OFF
			Se FL=Closed	P1=ON	P2=ON
	A02	85°C	S1> 85°C	P1=ON	P2=OFF
H1	T-P1	30°C	30 <S1< 45 °C	P1=ON	P2=ON
	T-P2	45°C	S1> 45°C	P1=ON	P2=OFF
			Se FL=Closed	P1=ON	P2=ON
	A02	85°C	S1> 85°C	P1=ON	P2=OFF
H1b	T-P1	30°C	30 <S1< 45 °C	P1=ON	P2=OFF
	T-P2	45°C	S1> 45°C	P1=OFF	P2=ON
			FL=Closed	P1=ON	P2=OFF
	A02	85°C	S1> 85°C	P1=ON	P2=ON









H1b	**T-P1**	**30°C**	**30 <S1< 45 °C**	**P1=ON**	**P2=OFF**
	T-P2	**45°C**	**S1> 45°C**	**P1=OFF**	**P2=ON**
			FL=Closed	**P1=ON**	**P2=OFF**
	A02	**85°C**	**S1> 85°C**	**P1=ON**	**P2=ON**
H2	**T-P2**	**50°C**	**S2< 50°C**	**P1=ON**	**P2=ON**
	A31	**5°C**	**S1-S2> 5°**		
	A02	**85°C**	**S1> 85°C**	**P1=ON**	**P2=OFF**
	T-P1	**40°C**	**S1>40°C:S2>50**	**P1=ON**	**P2=OFF**
H2b	**T-P2**	**50°C**	**S2< 50°C**	**P1=OFF**	**P2=ON**
	A31	**5°C**	**S1-S2> 5°**		
	A02	**85°C**	**S1> 85°C**	**P1=ON**	**P2=ON**
	T-P1	**40°C**	**S1>40°C;S2>50**	**P1=ON**	**P2=OFF**
H3	**T-P1**	**30°C**	**S1< 30°C**	**P1=ON**	
	A31	**5°C**	**S1-S2> 5°**		
	T-P2	**50°C**	**S2> 50°C**		**P2=ON**