

User's manual

TC 110-24-A-04

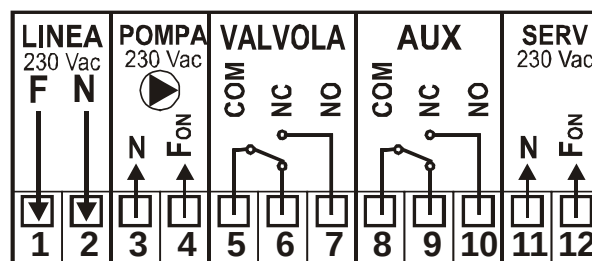
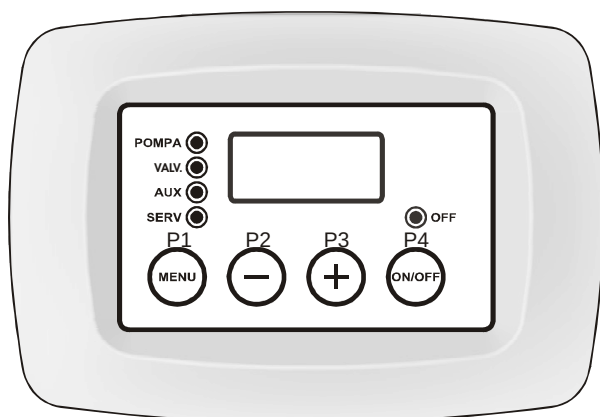


fig. 1 External aspect and connection diagram

Inputs	SONDA	Fireplace Probe: Temperature range 0 – 100 °C	
	FLUX	Consent ON/OFF: Fluxswitch/ Boiler-Sanitary thermostat	
Outputs	POMPA	Pump: 230 Vac	connectors 3(N) –4(Fon)
	VALVOLA	Electro Valve: Free contacts in exchange	connectors 5(COM)–6(N.C.) – 7(N.O.)
	AUX	Auxiliary: Free contacts in exchange	connectors 8(COM)–9(N.C.)–10(N.O.)
	SERV	THERMOSTAT configuration	
		Electro Valve 2 wires: 230 Vac	connectors 11(N) –12(Fon)
		GRILL configuration	
		Grill: 230 Vac:	connectors 11(N) –12(Fon)

⇒ FUNCTIONALITY

1. ON/OFF:

The ON/OFF of the controller is through the extended pressure of the button **P4 (ON/OFF)**

- The state OFF is signalled with the blinking led **OFF**

2. Function ALARM:

If the temperature read by the **PROBE** is over the value Alarm thermostat **A01**

- The acoustic and visual signal is activated
 - Function **SILENCE**: the acoustic signal could be deactivated for 5 minutes pushing a button
- After this time, if the alarm condition is active, the acoustic signal starts again.

3. Function ANTI FREEZING:

If the temperature read by the **PROBE** is under the value of the Anti freezing thermostat **A03**

- The exit **PUMP** is activated
- The display shows **ICE**

4. Function STANDBY:

If the system is **OFF**

in condition of **ALARM** or **ANTI FREEZING**

- The device starts **ON**

5. Function ANTI BLOCK PUMP:

If the **PUMP** is off for a time over Timer Anti block **T01 (about a week)**

- The output **PUMP** is activated for **T02 seconds**
- The display shows **blP**

The function is ON also in **STANDBY**.

6. Function TEST PUMP:

Pushing the button **P3(+)**

- The outputs **PUMP** is activated for the time of the button's pushing
- The display shows **tSt**

7. Function SANITARY:

➤ Modality **H__ = H0**

Production of internal fireplace sanitary WITHOUT Sanitary Electro valve

If Input FLUX= **ON** for **fluxstate contact close for sanitary water request**

- The **PUMP** is deactivated
- The Function is signalled with the blinking led PUMP and high hyphen on the first digit of the display

The function is **NOT ACTIVE** when the PROBE's temperature is over the value of the security thermostat **A02**

➤ Modality **H__ = H1**

Production of internal sanitary or external boiler WITH Sanitary Electro Valve

If:

- Input FLUX = **ON** for **Fluxstate contact close for sanitary water request**
Or contact boiler thermostat close for temperature not reached
- The temperature read by the PROBE is over the **Thermostat VALVE**
 - The output VALVE is activated for the sanitary ElectroValve command
 - The activation of the PUMP is forced
 - The function is signalled with the high segment on the display's first digit

The Function is **NOT ACTIVE** when the PROBE's temperature is over the value security thermostat **A02**

The product standard is with configuration **H__ = H0**

⇒ Menu CONFIGURATION 'SERV'

It allows the functioning of the output **SERV**

- Function **GRILL**: button **P2(-)** off, button **P3(+)** on
- Function **THERMOSTAT** programmable
- To enter the **Menu** push together buttons **P2(-)** and **P3(+)** for about 5 seconds
- The display shows the configuration: **Gri** or **tEr**
- Modify through buttons **P2(-)** and **P3(+)** together to button **P1(MENU)**
- To exit and memorise wait about 5 seconds.

The product standard is with configuration Function GRILL= **Gri**

⇒ MAIN Menu

❖ **Setting out of the functioning THERMOSTAT of the controlled outputs:**

Thermostat **PUMP**: for the control of the system pump functioning

Thermostat **VALV**: for the control of the sanitary Electro valve

Thermostat **AUX**: for integration of the gas boiler, Electro valve or other application

Thermostat **SERV**: for direct command of the Electro valve or other application

- Through the **click** of the button **P1(MENU)** visualise the values of the set thermostats signalled by the correspondent blinking led PUMP / AUX / SERV
- To modify:
 - Chose the value to modify
 - Through buttons **P3(+)** e **P2(-)** increase/decrease the value
- To memorise wait about 5 seconds and chose the values with button **P1(MENU)**

the Thermostat SERV is not available with configuration output SERV = GRILL

see Menu CONFIGURAZIONE 'SERV'

Main menu Parameters	Min	Firm	Max	Typical values	Set values	Other
Thermostat PUMP	20	40	85			
Thermostat VALVE	20	45	85			
Thermostat AUX	20	50	85			
Thermostat SERV	20	60	85			

⇒ INSTALLER Menu

The admission to this **Menu** is only for **INSTALLERS** or **EXPERT PERSONNEL**, because modified parameters could damage the product or could make the product not fit for the applications.

- To enter the MENU push **together** buttons **P1(MENU)** and **P4 (ON/OFF)** for about 5 seconds.
- To visualise the parameters use buttons **P3(+)** and **P2(-)**
- To Visualise the parameter push button **P1(MENU)**
- To modify the value push buttons **P3(+)** or **P2(-)** **together with** **P1(MENU)**
- To see the list of the parameters and memorise push button **P1(MENU)**
- To exit and memorise wait about 5 seconds.

Parameters INSTALLER Menu	Symbol	Min	Firm	Max	Set Values
Thermostat of activation Function ALARM [°C]	A 01	85	90	99	
Thermostat of SECURITY [°C]	A 02	20	85	90	
Thermostat of activation ANTI FREEZING [°C]	A 03	4	6	8	
Hysteresis thermostat PUMP [°C]	A 04	1	2	5	
Timer of ANTI BLOCK [h]	t 01	0	168	999	
Tempo of activation pump ANTI BLOCK [sec]	t 02	0	20	99	
Set Modality SANITARY	H__	0	0	1	

⇒ SEGNAI FAILURE OR ALARMS

The controller could signal the damage of the probe.

Blinking damage 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**

⇒ TECHNICAL CHARACTERISTICS

Power:	230 Vac ±10%~ 50 Hz; Protection fuse T3,15 A	
Temperature probe:	Silicon cable Functioning temperature: -50°C / 130 °C Measure Limits: 0 – 99 °C Precision: ± 1°C	
Outputs:	Output PUMP: 5A 250 Vac Output VALVOLA: Free contact 5A 250 Vac Output AUX: Free contact 5A 250 Vac Output SERV: 5A 250 Vac	
Mechanical dimensions:	Inbox controller: 120 x 80 x 50 [mm]	



Table 2 – Technical characteristics



Applied rules EN 60730-1 50081-1 EN 60730-1 A1 50081-2

DIMOSTRAZIONE DIAGRAMS

Here are some examples of demonstrative systems and the configuration of the parameters **H__** e **SERV** for the management of the Heating and Sanitary circuit.

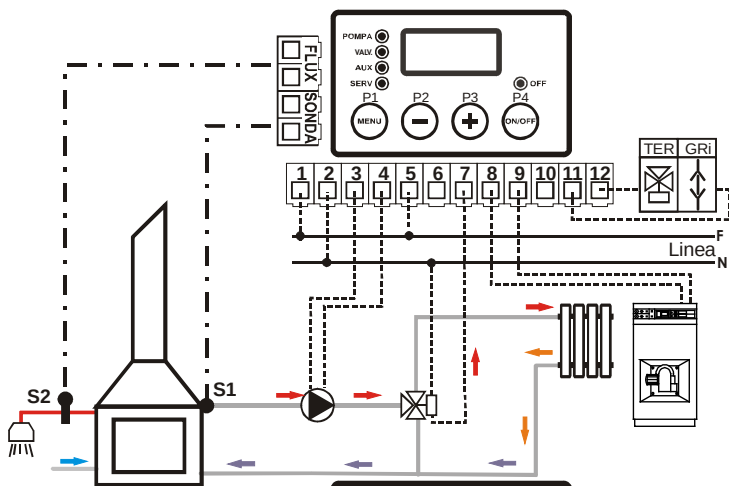


Diagram 1

**Production of sanitary water
Internal to the fireplace**

The Fluxstate blocks the Pump

- ◆ Circulation until the Temperature 60°C with valve OFF
- ◆ Over 60°C activation valve and exchange to the heating system and boiler extinguishing (AUX)

H	SERV	S2	Pump	VALV	AUX
0	GRI tER	FLUX	45 °C	60 °C	60 °C

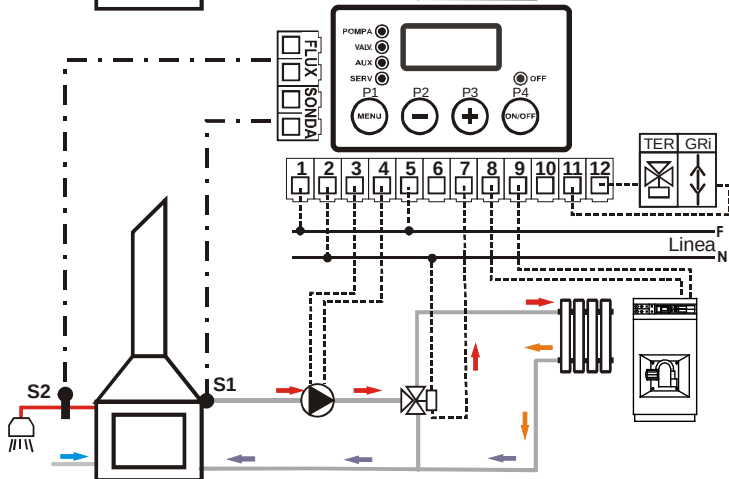


Diagram 2

**Production of sanitary water
Internal to the fireplace with sanitary valve**

Valve deactivated and exchange to the heating system
With temperature more than 45°C activation pump and boiler extinguishing (AUX)

Start of Fluxstate and temperature more than 30°C

- ◆ Obliges the circulation on the fireplace with the pump activation and activation valve to the fireplace

H	SERV	S2	Pump	VALV	AUX
1	GRI tER	FLUX	45 °C	30 °C	45 °C

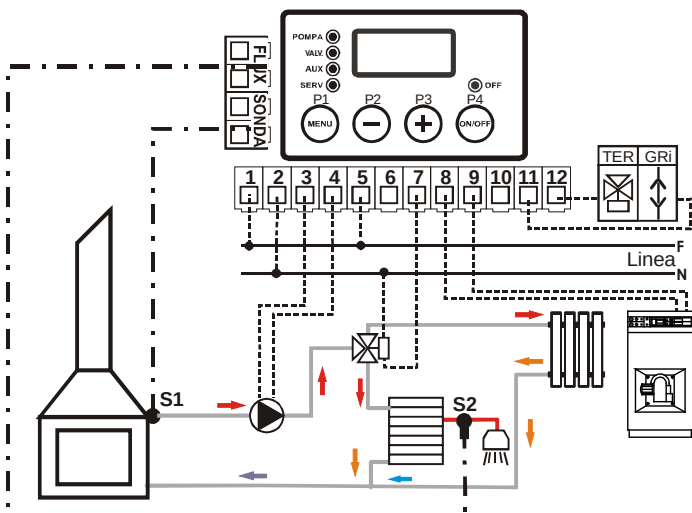


Diagram 3

**Production of sanitary water with exchanger and
sanitary valve**

Deactivated valve and exchange to the heating system
With temperature more than 45°C activation pump and boiler extinguishing (AUX)

Start of the Fluxstate and temperature more than 30°C

- ◆ Oblige circulation to the fireplace and activation of Pump, and Valve on the plate exchangers

H	SERV	S2	Pump	VALV	AUX
1	GRI tER	FLUX	45 °C	30 °C	45 °C

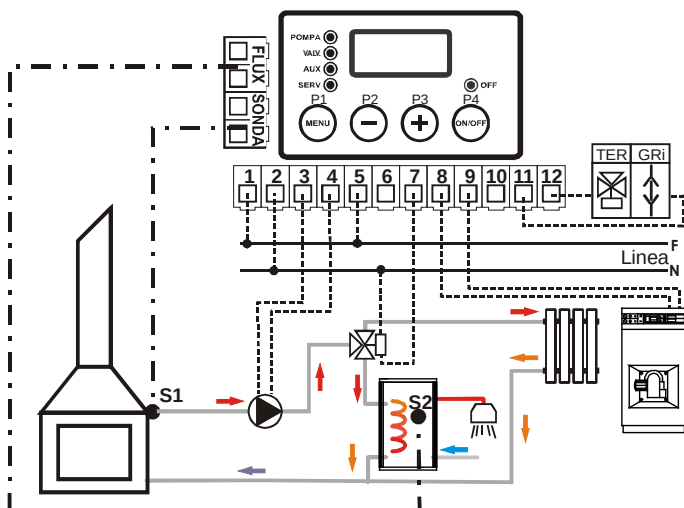


Diagram 4

**Production of external sanitary water through
boiler**

H	S2	Pump	VALV	AUX
1	Boiler Thermostat	To define	To define	To define