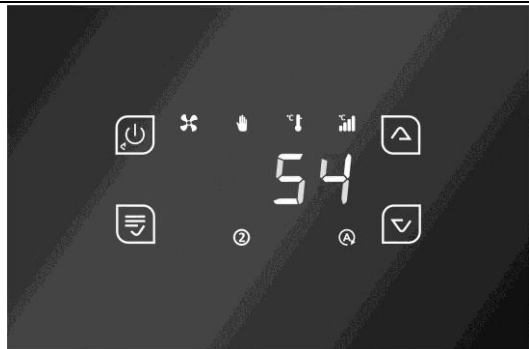# GLA810 Termperature Controller — User Manual

## 1. GENERALITÀ

The **GLA810** Temperature Controller manages and controls Fireplaces with Air Heating.



**Safety Rules**

Read carefully the following safety regulations, in order to prevent accidents damage to people and things.

When carrying out installation work, observe

- the accident prevention regulations
- the regulations on environmental protectionnorme sulla protezione ambientale,
- the regulations of the National Insurance Institut
- These instructions for use are intended exclusively for technical personnel.
- Electrical work must only be carried out by qualified electrical technicians
- The first commissioning of the system must be carried out by expert personnel

### Declaration of Conformity

| **Applied Regulations:**<br>EN 60730-1  50081-1<br>EN 60730-1 A1 50081-2 | **TiEmme elettronica**<br>06055 Marsciano (PG) Italy<br>Tel.+39.075.874.3905 Fax. +39.075.874.2239<br>info@tiemmeelettronica.it www.tiemmeelettronica.it | CE |
|---|---|---|

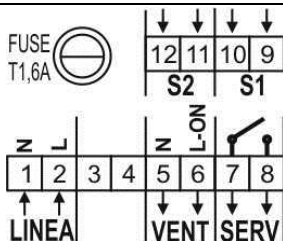| **Dati Tecnici**<br>Supply: 230 Vac 50 Hz ± 10%<br>Absorption: 2 VA<br>Internal Fuse: T1,6 A | **Caratteristiche Meccaniche**<br>Materiale: ABS Plastica<br>Installazione: Inbox 3 Modules<br>Imbox Dimensions: 120x80x55 mm<br>Protection Degree: IP40 | **Installation and Use Conditions**<br>Operating Temperature: 0÷40 °C<br>Storage Temperature: 0÷60 °C<br>Umidity: 85% @25°C |
|---|---|---|

## 2. ELECTRICAL CONNECTIONS



⚠️ **Make sure that the Main Power Supply is OFF before the device installation**

- Install the product in a dry environment with proper climatic conditions
- Insert a bipolar main switch compliying to local regulations
- Avoid coupling the probe cables with these of power
- Use for wiring, cables with conductors of appropriate section and in according the rules
- Position the probes to detect correctly the temperature
- Make sure the probe wires are placed away from direct/indirect flame

| | Code | Connectors | Device | Characteristics |
|---|---|---|---|---|
| **INPUTS** | LINE | 1 – 2 | Power Supply | 230 Vac 50 Hz ± 10% |
| | S1 | 9 – 10 | Air Temperature Probe | Operating Range: -10°C ÷ 180 °C<br>NTC100K Measure: -10 ÷ 300 °C ± 1°C |
| | S2 | 11 – 12 | Ambient Temperature Probe | Operating Range: -10°C ÷ 80 °C<br>NTC10K Measure: -10 ÷ 110 °C ± 1°C |
| **OUTPUTS** | VENT | 5 – 6 | Heating Fan | 230 Vac 0,8A / 1,5A powered version |
| | SERV | 7 - 8 | Thermostat<br>Grill<br>Combustion Air Damper | Contact in deviation:<br>COM. (7) - N.O. (8) |

| 3. Control Panel: USE AND FUNCTIONS | | | | | | | |
|---|---|---|---|---|---|---|---|

| ON/OFF Exit the Menu | **K1** | ⏻ | | | ⏻ ✳ ● 🕒 📶 ⌃ <br> 🖩 **54** <br> ▤ ② Ⓐ ⌄ | | ⌃ | **K3** | Scroll/Increase Grill Service Damper Manual Start |
|---|---|---|---|---|---|---|---|
| Enter User Menu Probes Menu | **K2** | ▤ | | | | ⌄ | **K4** | Scroll/Decrease |

**Main Screen**

| 🖩 **54** | S1 Probe Temperature | | ✋ | MANUAL Modality |
|---|---|---|---|---|
| ② | S2 Probe Temperature Displayed | | ℃🌡 | AUTOMATIC Modality |
| ✳ | ON: Fan ONo    Flashing: Fan in Safety | | ℃📶 | PROPORTIONAL Modality |
| Ⓐ | SERV Output activated | | | |

## 4. FUNCTIONALITIES

### 4.1 ON/OFF

Controller ON/OFF is perforemd by applying prolongued pressure to **K1** key

- OFF state is displayed by **K1** led ON
- When the controller is turned on, the following messages will appear

Product Code:  **F001**                Product Revision:        **r 0.1**

### 4.2 OPEARTING MODALITIES

It is possible to select between three Operating Modalities:

- **MANUAL**: signal led ✋

  The fan works at the speed set by the user, indepndly from the **S1** Temperature

- **AUTOMATIC:** signal led ℃🌡

  The fan works at the speed set by the user, if the **S1** temperature is is greater than **E01**.

- **PROPORTIONAL:** signal led ℃📶

  The controller defines the speed based on the temperature of Probe **S1** in the range from **E01** to **E01**+**E50**

### 4.3 SAFETY FUNCTION

This funcion is active if **P04**=**1** and it starts a heat disposing process to remove excess heat buildup of the fireplace.

If the **S1** temperature exceeds the value of **E02** Safety Thermostat and the Fan is turned OFF in MANUAL Modality or by Ambient Thermostat, the system starts operating in PROPORTIONAL modality with 10 seconds delay.

### 4.4 ALARM FUNCTION

If the **S1** temperature exceeds the value of the **E03** Alarm Thermostat

- If the parameter **P05 = 1** an audible and visual signal is activated (the temperature value flashes on the display)
- **SILENCE** Function: The audible signal can be turned off for 5 minutes by pressing any key. If the controller remains in the alarm condition, the audible signal will start again.

The system goes in PROPORTIONAL modality with 10 seconds delay

### 4.5 FAN SAFETY FUNCTION

This function is active if **P03**=**1**. If the **S1** exceeds the value of **E04** Fan Safety Thermostat, the Fan is turned OFF in order not to demage it.

#### 4.6 STANDBY FUNCTION

In case of **OFF** device, if the **S1** temperature exceeds the value of the thermostat **E02** o **E03**
- The device automatically goes in **ON**

#### 4.7 PROBES DISPLAY

The display shows currently the value read by the **S1** Probe
- By simple click of the **K2**, the temperature of the **S2** Probe is displayed (the Led ② flashes).
- You can exit the visualization through the key **K1**, or scrolling all the probes with **K2**, or automatically after 10 seconds.
- If the read value is below the minimum range of the probe appears the message **Lo**
- If the read value is above the maximum range of the probe appears the message **Hi**

#### 4.8 SERVICE OUTPUT

SERVICE output is programable from the Installer MENU by using parameter **P02**:
- **P02 = 0**  **DISABLED**:  the output does not work.
- **P02 = 1**  **THERMOSTAT**:  the output is activated if the **S1** temperature is above **E07** Thermostat
- **P02 = 2**  **GRILL**:  press during 3 seconds **K3** key to turn on/off the output
- **P02 = 3**  **AIR DAMPER**:  the output manages an Air Damper to control the Combustion Inlet Air

#### 4.9 AIR DAMPER

**P02=3:**  **Output ON=Air Damper Open;**  **Output OFF=Air Damper Closed**

**Air Damper** is OPEN if **S1** temperature is below **E06** Thermostat. It is CLOSED if **S1** temperature is over **E06** Thermostat.
- If **P12 = 1** the **Start Manual** function is enabled:

If **S1** temperatura is below **E05**, the Air Damper is Closed. During the Fireplace Ignition (S1 temperature below **E05**), by pressing **K3**, the Air Damper will be forced OPEN (Led Ⓐ flashes). Once the **t06** time has elapsed, if the temperature drops below the **E05** thermostat, the Air Damper closes automatically.

| 4.10 S2 INPUT CONFIGURATION | > **P01 = 0** | **S2** input = **DISABLED** |
|---|---|---|
| Through the **P01** parameter it is possible to | > **P01 = 1** | **S2** input = **AMBIENT PROBE** |
| manage the following devicee: | > **P01 = 2** | **S2** input = **AMBIENT THERMOTAT** |

#### 4.11 AMBIENT PROBE/THERMOSTAT

**P01=1 / 2:**  if the **S2** Ambient Probe Temperature is over the **b01** Thermostat **/** or the Ambient Thermostat contact is **Open** ( Led ② flashes)
- The Fan will turn **OFF** and the Air Damper will **Close**

#### 4.12 FAN ACELERATION FUNCTION

This function, in fan start-up phase, allows it toork at Maximum Speed for a programmable time **t08**.
Once the **t08** time has elapsed, the Fan works at the programmed speed. To disable the function set **t08=0 seconds**.

## 5. MENU'

#### 5.1 MAIN MENU

To enter the main menu, press the **K2** for 3 seconds
- Through **K2** again, the other parameters are scrolled, indicated by the flashing of the corresponding led.
- Press **K3** and **K4** to change the parameter value.
- Press **K2** to save the new value or wait 10 seconds.
- Press **K1** to exit without saving

| Led | Description | Cod. | Min | Set | Max | U.M. |
|---|---|---|---|---|---|---|
| ✋ | MANUAL Functioning | **MANU** | | | | |
| °C | AUTOMATIC Functioning | **AUTO** | **MAN** | **MAN** | **PROP** | - |
| °C | PROPORTIONAL Functioning | **PROP** | | | | |
| ② | Ambient Thermostat Probe | **b01** | 5 | **20** | 50 | [°C] |

### 5.2  FAN MENU

Through this Menu it is possible to select the Fan Speed in the **Manual** and **Automatic** Modalities.

➤ By pressing **K3** or **K4** the display showes the current speed: Led �֎ flashes.

➤ **MANUAL Modality**: you can set the speed from **P0**(OFF), **P1** (minimum speed ÷ **P10** (maximum speed).

➤ **AUTOMATIC Modality**: you can set the speed from **P1** (minimum speed ÷ **P10** (maximum speed).

➤ **PROPORTIONA Modality**: the selected speed by the Controller is displayed.

➤ Press **K2** to save the new value or wait for 5 seconds.          Press **K1** to exit without saving.

### 5.3  INSTALLER MENU

**Only QUALIFIED PERSONEL must access this MENU**

➤ To enter into the MENU press **at the same time K2** and **K4** for 3 seconds

➤ To scroll through the parameter codes press **K3** or **K4**

➤ To view the value of a parameter and to enter modification mode press **K2**

➤ To modify the value press **K3** and **K4**.

➤ To save the new value press **K2**. To exit without saving press **K1**

➤ Press  **K1** again, to exit the Menu or wait 60 seconds

| Description | Cod. | Min | Set | Max | U.M. |
|---|---|---|---|---|---|
| Air Thermostat for Fan Activation | E01 | 30 | 45 | 100 | [°C] |
| Air Thermostat for SAFETY | E02 | 80 | 100 | 140 | [°C] |
| Air Thermostat for ALARM | E03 | 100 | 120 | 180 | [°C] |
| Air Thermostat for FAN SAFETY | E04 | 100 | 135 | 180 | [°C] |
| Air Thermostat for Valve Opening | E05 | 20 | 30 | 140 | [°C] |
| Air Thermostat for Valve Closure | E06 | 20 | 80 | 140 | [°C] |
| Air Thermostat for SERVICE output Activation | E07 | 20 | 50 | 180 | [°C] |
| Temperature Delta for Proportional management | E50 | 20 | 20 | 100 | [°C] |
| Hysteresis Thermostat for fan Activation | IE01 | 1 | 2 | 40 | [°C] |
| Hysteresis Thermostat for SAFETY | IE02 | 1 | 2 | 40 | [°C] |
| Hysteresis Thermostat for ALARM | IE03 | 1 | 2 | 40 | [°C] |
| Hysteresis Thermostat for FAN SAFETY | IE04 | 1 | 2 | 40 | [°C] |
| Hysteresis Thermostat for Valve Opening | IE05 | 1 | 2 | 40 | [°C] |
| Hysteresis Thermostat for Valve Closure | IE06 | 1 | 2 | 40 | [°C] |
| Hysteresis Thermostat for SERVICE output Activation | IE07 | 1 | 2 | 40 | [°C] |
| Hysteresis Ambient Thermostat | Ib01 | 0 | 1 | 20 | [°C] |
| P01 Fan Speed (minimum) | UA01 | 20 | 1 | 100 | [%] |
| P09 Fan Speed (ninth) | UA09 | 80 | 1 | 100 | [%] |
| P10 Fan Speed (maximum) | UA10 | 100 | 1 | 100 | [%] |
| Delay time for Air Damper closure | t 06 | 0 | 10 | 120 | [min] |
| Audible alarm suspension time | t 07 | 1 | 5 | 60 | [min] |
| Time for the Fan Acelerator function | t 08 | 0 | 2 | 10 | [sec] |
| S2 Input Configuration | P01 | 0 | 0 | 2 | n |
| SERVICE Output Configuration | P02 | 0 | 0 | 3 | n |
| Enable FAN SAFETY | P03 | 0 | 1 | 1 | n |
| Enable Air SAFETY | P04 | 0 | 1 | 1 | n |
| Enable Air ALARM | P05 | 0 | 1 | 1 | n |
| Enable "Start" Function of Air Damper | P12 | 0 | 0 | 1 | n |

**NOTE:** if you modify **UA01**, **UA09**, **UA10**, the Fan immediatly works at the speed you are calibrating, showing the effect of calibration