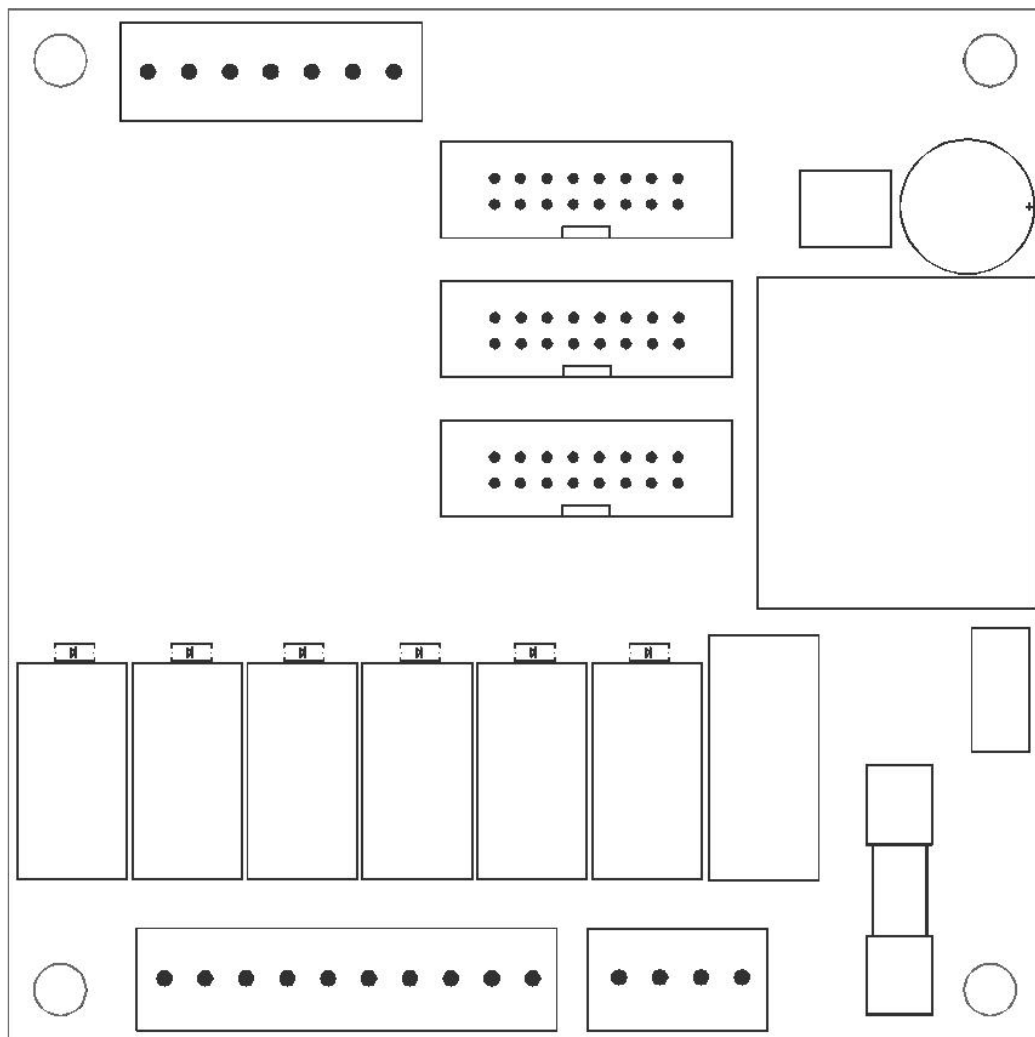


# Coffee Machine Control Board

## GA3G

### Instruction Manual



## PREFACE

Thank you for purchasing our **GA3G**, Control board for the Coffee machine.

This manual contains instructions for the mounting, functions, operations, and notes when operating the **GA3G**. To ensure safe and correct use, thoroughly read and understand this manual before using this instrument.

To prevent accidents arising from the misuse of this instrument, please ensure the operator receives this manual.

## HAZARD INTENSITY LEVELS

The level of risk and importance of the notification is determined by the following definitions. Always observe the warnings to ensure safety and prevent potential injury and product damage.



*Important:*

Alerts against unsafe practices. Observe *Important* notifications to prevent possible minor personal injury or damage to the board.



*Warning:*

Indicates a potentially hazardous situation that, if the *Warning* is ignored, could result in injury or death.



*Note:*

Gives additional information which may be helpful for the proper operation of the board.

**WARNINGS:**

*Note: TIFATECH Co., Ltd* declines all responsibility for damage to persons or property resulting from failure to follow the instructions and warning listed below when installing and using this board.

- Ensure every part of the machine including actuators and sensors is working properly before replacing the new control board.
- Ensure that the power supply voltage does not fluctuate by more than 6%.
- Before mounting or removing the control board, disconnect it from the power supply and wait a while for it to cool down.
- Do not remove any original electrical part of the board.
- Repairing, cleaning, or parts replacement should only be performed by **TIFATECH** or other qualified service personnel.
- Children should never be allowed to play with the board.
- This board is intended to only use for the espresso coffee machine control board. Do not use it for any other purpose.

**PRECAUTIONS****❖ Installation precautions**

Read thoroughly the following conditions before installing the **GA3G** board to the coffee machine.

The mounting location must be:

- No flammable, explosive gases
- No exposure to water.
- An ambient temperature of 0 to 70°C that does not change rapidly, and no icing.
- An ambient non-condensing humidity of 35 to 85 %RH.

**❖ Operation and Maintenance Precautions**

- Do not touch live terminals. This may cause an electrical shock or problems in operation.

- Ensure the board surface is completely dry before powering.

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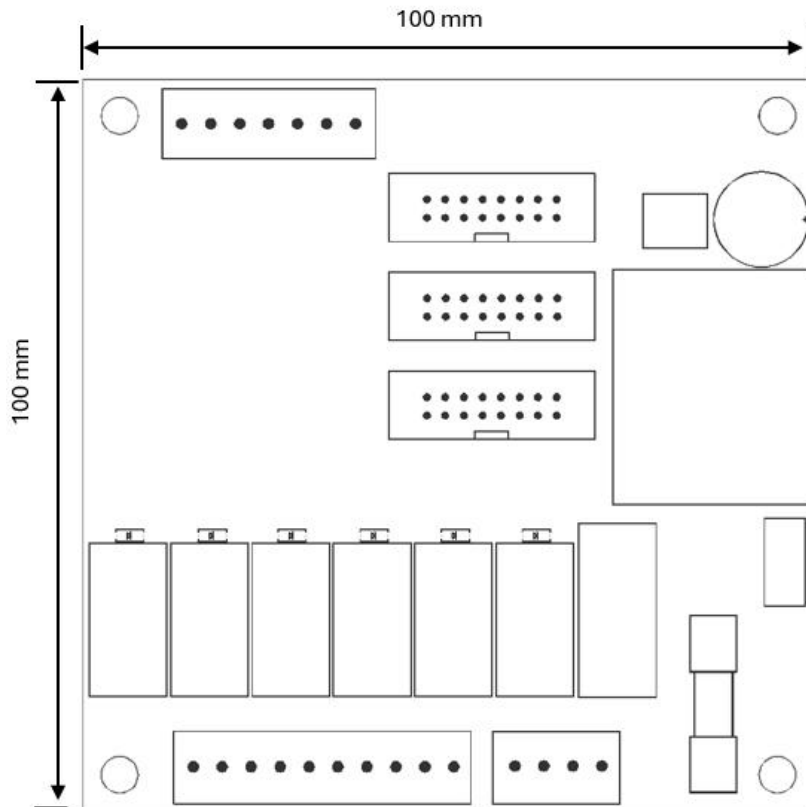
**I. GENERAL**

**1. Introduction**

- This manual contains important instructions regarding the safe intended use of the machine.
- If any damaged or loss to this manual, request a copy from the *TIFATECH* manufacturer.

**II. TECHNICAL SPECIFICATIONS**

**1. Dimensions (mm)**



**2. Specifications**

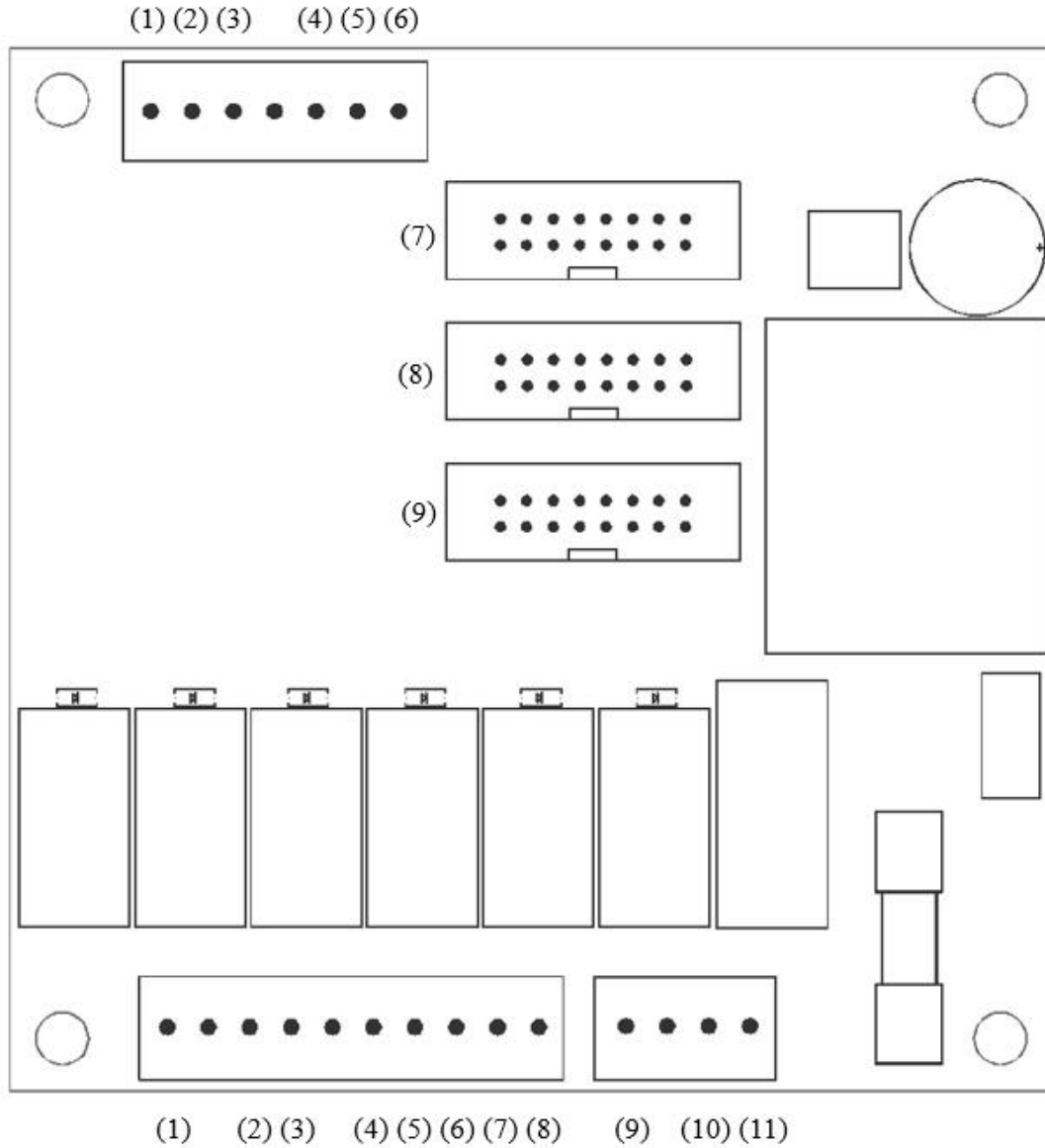
- ❖ Power supply: 230V AC 50/60Hz
- ❖ Actuator voltage: 230V AC



*Note:* Please contact us if your country doesn't support the power supply requirement above.

III. WIRING

- |          |           |            |
|----------|-----------|------------|
| (1) Out3 | (4) Level | (7) Group1 |
| (2) Out2 | (5) V12   | (8) Group2 |
| (3) Out1 | (6) Gnd   | (9) Group3 |



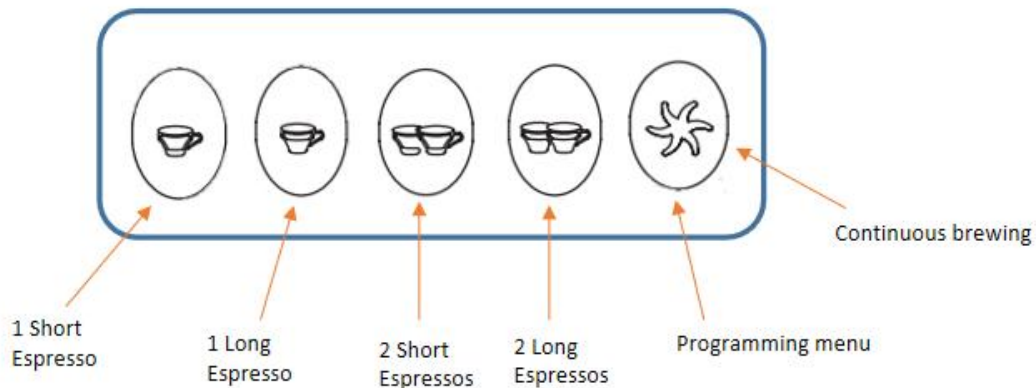
- |           |            |           |            |
|-----------|------------|-----------|------------|
| (1) EVTEA | (4) EVFILL | (7) PUMP  | (10) AC(N) |
| (2) AUX   | (5) EVGR3  | (8) AC(L) | (11) AC(N) |
| (3) EVGR1 | (6) EVGR2  | (9) AC(L) |            |



*Important:* Any mistake in connecting actuators will affect the normal operation of the coffee machine, and even cause damage.


Terminal	Description
Group1	Key + LED input of group 1
Group2	Key + LED input of group 2
Group3	Key + LED input of group 3
GND	Ground
V12	12VDC output
LEVEL	Water level probe input
OUT1	Water flow meter input of group1
OUT2	Water flow meter input of group2
OUT3	Water flow meter input of group3
AC(L), AC(N)	Power supply
PUMP	Pump
EVGR1	Solenoid valve of group1
EVGR2	Solenoid valve of group2
EVGR3	Solenoid valve of group3
EVFILL	Solenoid valve of filling
EVTEA	Solenoid valve of hot water
AUX	Heating element

## IV. PROGRAMMING AND USE



### 1. Programming the coffee dosage

To program coffee doses dispensed automatically by each drink button, follow the steps below:


**Step 1:** Press and hold the Continuous Dispensing button  for 3 seconds to enter setting mode. This button light starts to blink at 1 second period.

**Step 2:** Press the dispensing option that you wish to program: 1 Shot Espresso, 2 Shot Espresso, 1 Long Espresso, 2 Long Espresso. The lights are on the pressed button and the Continuous Dispensing button will remain on. The group will start dispensing coffee.

**Step 3:** When the desired volume is reached in the cup, press the selected button again. This volume setting will be saved.


**Step 4:** Repeat the steps above to program for other dispensing options or go to the next step if you want to exit the setting mode.

**Step 5:** Press and hold the Continuous Dispensing button for 3 seconds or wait for 5 seconds to finish the setting process. All lights are on.


 Note: The dispensing options that are not programmed will be kept as the

default setting. The new coffee doses will be valid just on the setting group, the others will be retained as before.



## 2. Copying the coffee dosage

Press and hold the Continuous Dispensing button  for 5 seconds of Group 2 or Group 3 to copy the dispensing volumes of all drink buttons from Group 1 to the selected Group.



## 3. Coffee dispensing

- Press any drink button to start to dispense coffee. The light on the pressed button is on and the rest are off.
- Press the  button to stop dispensing immediately or the dispensing process will stop automatically when reaching the button's programmed dosage. All lights are on.

## 4. Automatic group cleaning

- Press the  and  button simultaneously to perform auto-cleaning on the group. These buttons' lights blink at 1 second period.
- The pump and group valve will begin to turn on in 7 seconds then turn off in the next 3 seconds. This process repeats 6 times before finishing.
- Press any button of the selected group to stop the cleaning process immediately. All lights are on.

## 5. Pre-infusion

- Press the  and  button at the same time to enable pre-infusion. All button lights will blink 3 times.
- Repeat the step above to disable pre-infusion.

## V. ERROR DETECTION AND TROUBLESHOOTING

### 1. Water flow meter error

#### a. Error symptom

##### ❖ *When programming:*

The programming process will also start normally but the coffee amount on the error group won't be saved afterward.

The key which is programmed in error condition will be locked after that.

##### ❖ *When dispensing:*

- When dispensing, if it has malfunction at the water flow meter, the process won't stop automatically.

#### b. Solution

Check if the connection to the water flow meter is correct and stable.

Ensure the water flow meter still works properly on another group. Otherwise, you need to replace it with the new one.

### 2. Autofill problem

#### a. Error symptom

- The boiler is overfull of water.
- The boiler is underfull of water.



Warning: Any error above need to be handled instantaneously. Otherwise, it will interrupt your machine's operation, and even cause damage to the pump.

#### b. Solution

- Water level probe: Removing the level probe and checking for continuity, replace the new one if needed.

- Autofill solenoid: If the water pump is running and the machine is trying to fill but not making any progress, the solenoid may be stuck shut, not allowing water to fill the boiler. Correct or replace if needed.

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