TG Series

Hot Runner Temperature Controller





Instruction Manual(380V)

TG.26.0

Thank you for purchasing the TIMEGA hot runner temperature controller. Please read this manual carefully before use and operate correctly. Keep this manual properly for future reference.

Contents

1 Essential Reading Before Operation 1
1.1 Manual Preservation & User Qualifications 1
1.2 General Safety Specifications 1
1.3 Cable Connection 2
1.4 Maintenance, Modification & Liability Statement 2
1.5 Compliance Certification 2
2 Safety Instructions 3
2.1 DANGER ⚠ 3
2.2 WARNING ⚠ 3
2.3 CAUTION ⚠ 3
3 Product & Application 4
3.1 Product Introduction 4
3.2 Scope of Application 4
4 Technical Specifications & Functions 5
4.1 Specifications 5
4.2 Function 5
4.3 Parameters 5
4.4 Power Wiring 6
4.5 Power connection 7
5 User interface 8
6 Operating Instructions 10
6.1 Operation Manual for Temperature Control Card 10
6.1.1 Power On / Off 10
6.1.2 Temperature Setting 10
6.1.3 Parameter Setting 10
6.1.4 Factory Reset 11
6.1.5 Replace the temperature control card 11
6.2 Touch Screen Operation 11
6.2.1 Preparations before operation 11
6.2.2 Power on/off 11
6.2.3 Temperature Setting 11
6.2.4 Quick Temperature Setting 11
6.2.5 Parameter Settings 11
6.2.6 Restore Factory Settings 12
6.2.7 System Settings 12

6.2.8 Operation Steps for System Parameter Configuration 12
6.2.9 Global Settings 12
6.3 Precautions 12
7 Troubleshooting 13
8 Electrical Principle Introduction 14
9 Installation Environment and Requirements 15
9.1 Installation Environment 15
9.2 Installation Requirements 15
10 Detailed Wiring Instructions 17
10.1 Important Warnings 17
10.2 Power Wiring 17
10.3 Thermocouple Wiring 17
10.4 Heater Wiring 17
10.5 Auxiliary Circuit and Communication Wiring (If Equipped) 18
10.6 Final Inspection Before Power-on 18
11 Routine Maintenance 19
11.1 Routine Cleaning 19
11.2 Periodic Inspection 19
11.3 Cable Inspection 19
11.4 Component Replacement 19
11.5 Long-term Shutdown and Storage 19
11.6 Professional Repair 19
12 Transportation, Storage and Disposal (WEEE Directive) 20
12.1 Transportation 20
12.2 Storage 20
12.3 Waste Disposal (Compliant with WEEE Directive) 21
12.4 Supplementary Provisions 21
13 Warranty Terms and Disclaimer 22
13.1 Warranty Terms 22
13.2 Disclaimer 22
14 Revision Record 23

1 Essential Reading Before Operation

1.1 Manual Preservation & User Qualifications

Personnel installing, commissioning, operating and maintaining this equipment must be qualified and fully understand this manual. All users shall comply with the following requirements:

- Keep this manual for reference at all times.
- Treat this manual as an integral part of the product.
- Retain the manual throughout the entire service life of the product.
- Hand over this manual to all subsequent owners or operators of the product.
- Incorporate all supplementary amendments into this manual in a timely manner.

Target Users:Qualified electricians and professional technicians.

1.2 General Safety Specifications

Please strictly follow all safety instructions to prevent electric shock,personal injury and fire hazards.Comply with local safety regulations and guidelines during commissioning.

For commercial premises,observe accident prevention regulations issued by industrial associations regarding electrical systems and operating equipment.

Keep the equipment dry.Do not operate the unit outside the specified ambient climate range.Take the equipment’s ingress protection rating into account when selecting operating conditions and working environment.

This equipment is not permitted for use in potentially explosive atmospheres.

Verify sufficient mechanical stability of the unit.Take protective measures to prevent the equipment from sliding off the mounting surface.

Check that the rated voltage marked on the nameplate matches the on-site power supply voltage.

Prevent power cables and connecting wires from being crushed,squeezed or pulled.Protect all cables against oil,sharp edges and temperatures exceeding 70℃.

Do not touch the power plug with wet hands.

Secure the mating connectors on the rear of the equipment with latches to prevent accidental disconnection.

1.3 Cable Connection

- Perform all wiring work only when the power supply is switched off.
- Route cables properly to avoid tripping hazards.

Ensure connected components such as injection molds are reliably connecte d to the protective earth conductor.

Do not place liquid containers on the equipment to avoid hazards. Prevent foreign matter, liquid, dust and vapor from entering the unit to avoid short ci rcuits, fire or electric shock.

Disconnect power before cleaning.

Install the equipment so the main power switch is readily accessible for e mergency shutdown.

Do not remove equipment feet. Reserve a minimum 5 cm clearance at the enclosure rear for heat dissipation; cooling air enters around and beneath the unit.

1.4 Maintenance, Modification & Liability Statement

All maintenance and repairs must be performed by authorized qualified per sonnel. Only qualified personnel familiar with the equipment and its hazards m ay operate it. Comply with accident prevention and occupational safety regulati ons.

The manufacturer and supplier shall not be liable for any damage caused by unauthorised modifications to the equipment.

Before performing any work on the equipment,disconnect it from the powe r supply or ensure the power is fully switched off.Implement lockout measures to prevent accidental re-energisation.

Warranty claims shall be void for personal injury and property damage res ulting from failure to follow this operating,servicing and safety manual.The ma nufacturer accepts no liability for such damages.

⚠Strictly follow the safety instructions corresponding to all symbols,mark ings and labels affixed to the equipment.

Properly dispose of packaging materials.Plastic films,foam and similar parts may pose safety hazards if left unattended.

1.5 Compliance Certification

This product complies with the essential safety requirements of the EU Lo w Voltage Directive 2014/35/EU.

The CE mark is affixed on the product.

2 Safety Instructions

2.1 DANGER ⚠

High voltage exists inside the equipment. Always disconnect the main power supply and perform lockout-tagout (LOTO) before opening the enclosure, wiring or maintenance work. Never work with live power to avoid electric shock.

The connected heating components can reach temperatures above 450 ℃. Do not touch heating parts and wiring terminals during operation or before full cooling to prevent severe burns.

Do not use this equipment in explosive, wet or water-exposed areas, otherwise electric leakage and fire hazards may occur.

2.2 WARNING ⚠

The equipment must be reliably connected to the protective earth (PE) conductor. Loose or broken earth connection will cause electric shock and equipment damage.

Distinguish between Type K and Type J thermocouples strictly. Mix-up or reverse connection is prohibited. Before wiring heaters, test the cable insulation; the insulation resistance shall not be less than 1 MΩ.

Do not block ventilation openings. Keep a minimum clearance of 5 cm around the unit for heat dissipation to prevent overheating and fire.

Only qualified electrical personnel are allowed to disassemble internal components or modify internal wiring.

2.3 CAUTION ⚠

Do not plug or unplug thermocouple and heater connectors while the equipment is powered on.

Only use original or equivalent replacement parts. Non-standard parts will impair safety protection.

The rated supply voltage is AC 230~400 V. Do not connect to power supply beyond the specified range.

3 Product & Application

3.1 Product Introduction

This hot runner temperature controller is a professional industrial temperature control device specially designed for plastic injection molding hot runner systems. Adopting high-precision microprocessor control technology, it accurately monitors and stabilizes the heating temperature of hot runner heaters in real time.

The equipment features stable output, fast temperature response, high control accuracy and comprehensive fault detection functions, including thermocouple breakage, short circuit, over-temperature and heater abnormality alarm. It effectively prevents temperature deviation, material scorching, wire burning and other abnormal conditions during injection production, ensuring stable injection molding quality and improving production efficiency.

The modular and compact structure ensures convenient installation, operation and maintenance, which meets long-term continuous industrial production requirements.

3.2 Scope of Application

This temperature controller is exclusively used for industrial indoor hot runner temperature control of plastic injection molding machines.

It is applicable to various hot runner molds with Type K or Type J thermocouple heating systems, and suitable for mass production, mold testing and sample production in plastic injection industries.

This device is only intended for professional industrial use.

It is not suitable for household use, explosive environments, outdoor open-air occasions or wet condensation working conditions.

4 Technical Specifications & Functions

4.1 Specifications

- 1. Temperature Precision：0.5%
- 2. Temperature compensation error：≤ ±1 ℃ temperature coefficient
- 3. Temperature control range: 0 ℃ ~450 ℃ for both Type K and Type J thermocouples
- 4. Maximum output power: 3.3 kW
- 5. Maximum output current per loop：15A(50W-1650W，110V)/(100W-3600W，240V)
- 6. Temperature deviation alarm range: 0－100° C, freely adjustable
- 7. Temperature sensor type: J-type or K-type thermocouple
- 8. Control mode: Digital PID regulation (PIDD)
- 9. Working environment: -10° C to 50° C, relative humidity 35%－85% RH, non-corrosive

4.2 Function

- 1. Color screen display
- 2. Color light alarm
- 3. Current and output ratio display
- 4. Fuse failure indication
- 5. Thermocouple fault detection
- 6. Heating tube fault detection
- 7. All industrial-grade electronic components, suitable for any low-temperature and high-temperature working environments.
- 8. Linear voltage control output, which better protects the heating tube.
- 9. Overvoltage alarm (optional)
- 10. 8-inch touch screen centralized control (optional)
- 11. RS485 communication interface (optional)
- 12. One-click global temperature and thermocouple type setting (Touch Screen Version)

4.3 Parameters

- P1 Mode setting: Auto/Manual
- P2 Manual output 0%–100%
- P3 Thermocouple model: J/K type

- P4 Alarm function: Alarm/Disabled
- P5 Overtemperature range: 0–50℃
- P6 Undertemperature range: 0–50℃
- P7 Temperature correction: -50℃–50℃
- P8 Temperature unit: ℃/℉
- P9 Signal output mode: continuous/pulse
- P10 Soft start time: 0-99 min
- P11 Soft start output: 0–100%
- P12 Ambient temperature temperature compensation value (non-adjustable)
- P13 Initial P parameter value (adjustable)
- P14 PID I value (adjustable)
- P15 PID D value (adjustable)
- P16 PID D2 value (adjustable)
- P17 PID mode: Position / Auto-tuning / Incremental
- P18 Address number: 001–128
- P19 Current limit: 5.0A–16.0A
- P20 Factory reset: Cancel / Reset (touch screen version)
- P21 Communication setting: Disable / Enable
- P22 Language setting: Chinese / EN
- P23 Short circuit detection: 0–99 (0 = disabled)
- P24 Follow function: Disable / 0–128 (touch screen version)

4.4 Power Wiring

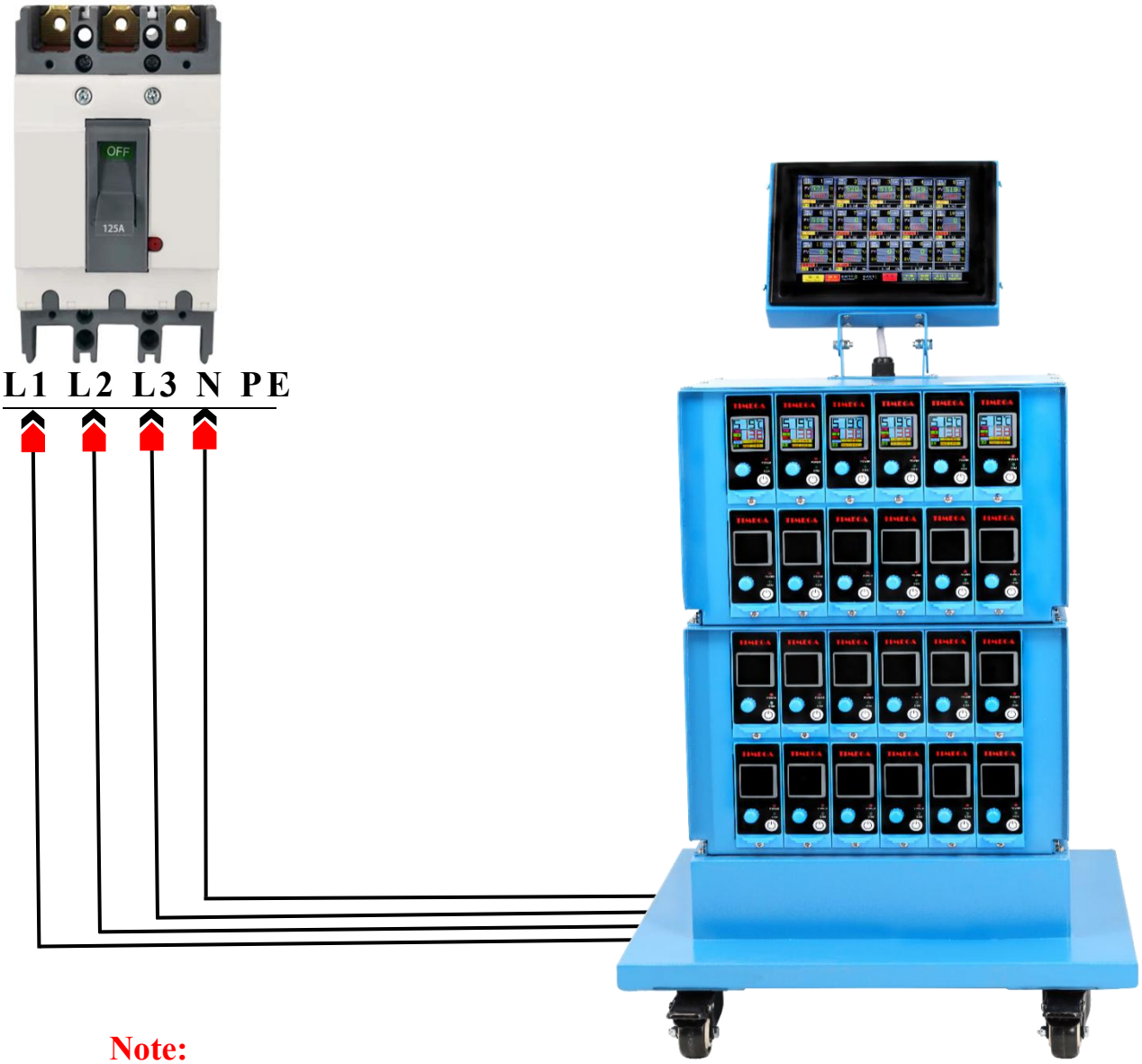
- Red (3 pcs) — Live wire
- Blue (1 pc) — Neutral wire
- Yellow-green (1 pc) — Earth wire

4.5 Power connection

Automatic circuit breaker:

Factory power grid: Three-phase AC380V(Phase Voltage) 50/60Hz

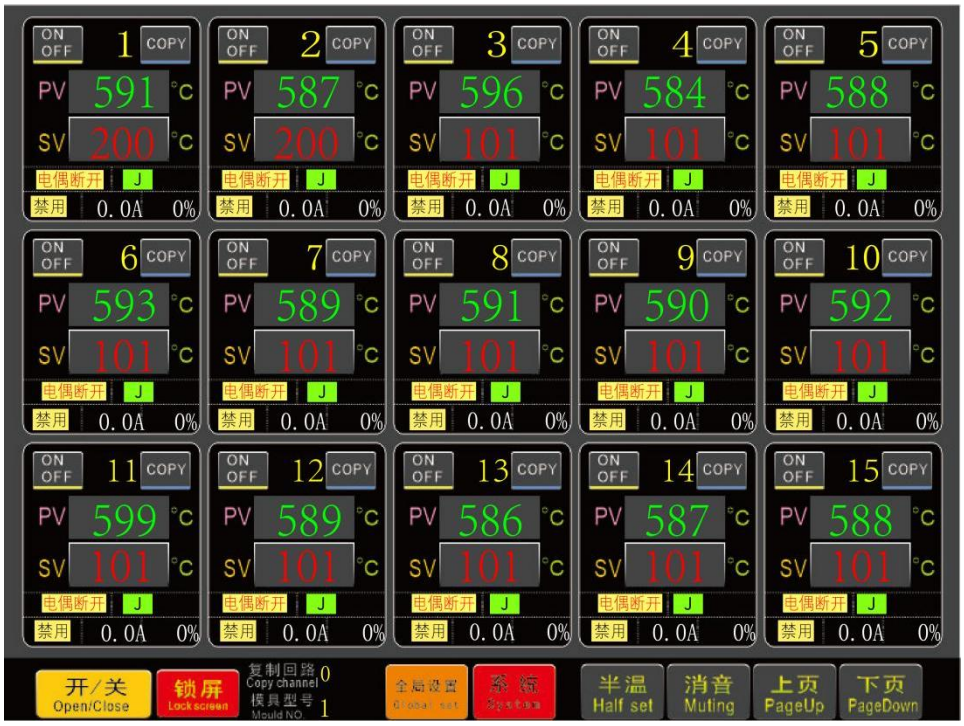
A 160A automatic circuit breaker (customer-supplied) must be connected in series at the incoming power side of 120-zone and 140-zone temperature controller, as shown in the figure.



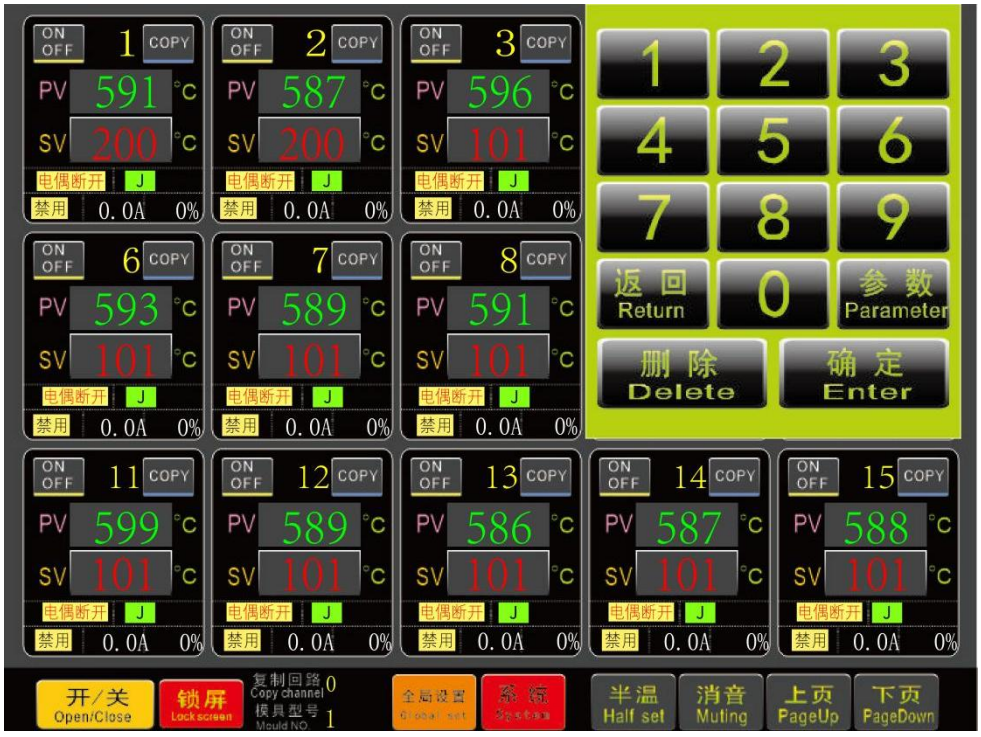
Note:

- The standard power supply for temperature controller is three-phase AC380V(Phase Voltage).
- The temperature controller cannot operate normally if any wire is missing or disconnected.
- The PE protective earth wire must be reliably grounded; otherwise, personal injury may occur.

5 User interface



Main Interface Display



Temperature Setting Interface



Parameter Setting Interface



System Setting Interface

6 Operating Instructions

6.1 Operation Manual for Temperature Control Card



6.1.1 Power On / Off

Connect power and mold cables correctly. After checking all connections, press the key on the front panel to start heating.

The unit will not heat if an alarm exists.Press the key again to stop output and enter standby mode.

Note: Turn off the air circuit breaker on the back if the unit is not used for a long time!

6.1.2 Temperature Setting

Turn the knob clockwise to increase temperature, turn the knob counterclockwise to decrease the set temperature.Press the knob to confirm after setting.

6.1.3 Parameter Setting

Long press the knob for 2s to enter parameter setting. Rotate the knob clockwise/counterclockwise to select parameters. Press the knob to enter the selected parameter, rotate it to adjust values, then press again to confirm. Long press the knob for 2s to exit parameter setting, or wait for auto exit.

6.1.4 Factory Reset

Set parameter P20 to Reset and confirm to restore all settings to default.

6.1.5 Replace the temperature control card

Remove the panel fixing screws, then pull out the temperature control card, insert the new temperature control card, and tighten the screws.

6.2 Touch Screen Operation

6.2.1 Preparations before operation

(1)Turn on the rocker-shaped power switch on the touchscreen.

(2) Check that all temperature control cards' power indicator lights are on. Ensure all temperature control cards are powered normally.

6.2.2 Power on/off

(1) Turn the air switch on each layer on the back of the control box up (turn it down to turn it off).

(2) Press the "On/Off" button on the main screen. A message will appear indicating you want to turn on the system. Click "Yes" to turn the system on. Press the "On/Off" button again. A message will appear indicating you want to turn off the system. Click "Yes" to turn the system off.

6.2.3 Temperature Setting

Press the raised button next to the circuit "SV" to be set. The input keyboard interface will pop up on the screen. Manually enter the required temperature and then press the "Confirm" button to complete the temperature input setting for this circuit.

6.2.4 Quick Temperature Setting

(1)To set multiple zones to the same temperature: For example, to set zones 1 to 10 to the same temperature, after setting the temperature of the first zone, press the "COPY" button on the first zone. A "Copy zone 1" option will appear at the bottom of the screen (pressing the "COPY" button again cancels the copy command). Then press the "COPY" button for zones 2-9 to quickly set zones 2-9 to the same temperature as zone 1.

(2)Press the global settings button on the home page to enter the global temperature settings interface, where you can set the temperature of all zones at once.

6.2.5 Parameter Settings

Press the raised button next to the zone "SV" you want to set. The input keyboard interface will pop up on the screen. Click 'Parameters' to enter the parameter settings interface. Use the up or down arrow to move the cursor to select the desired parameter. After selecting the desired parameter, you can use the numeric keypad or the "D+" and "D" keys to adjust the parameter.

6.2.6 Restore Factory Settings

Press the "Reset" button to restore to initial values.

6.2.7 System Settings

Press the "System Settings" button, enter the password: 13639, to enter the system settings interface. Use the up or down arrow keys to move the cursor and select the desired parameters. After selecting the desired parameters, use the numeric keypad or the "D+" and "D－" keys to adjust the parameters. (Language and mold model settings can be set.)

6.2.8 Operation Steps for System Parameter Configuration

Configuration items include: mold model, language, communication address, baud rate, automatic screen lock, switch between Celsius/Fahrenheit units.

Operation Steps: Press the system key. Use the up and down arrow keys to select Parameter 1 to Parameter 6, then press the D+ or D- key to set the corresponding options.

- Model Number
- Language
- Communication Address
- Baud Rate
- Automatic Screen Lock
- Temperature Unit (℃/℉)

6.2.9 Global Settings

On the main page, click the Global Settings button to enter the settings. Click the Global On or Global Off button to turn the power on or off for all temperature control zones of the device. Click the TCJ or TCK button to switch the thermocouple type of all temperature control zones of the device to type J or type K.

6.3 Precautions

(1)After communication is established between the touch screen and temperature control card, local operations on the temperature control card (including start/stop switching and temperature setting) will be disabled. If the touch screen power is cut off for more than 20 seconds, the temperature control card will automatically restore local operation authority to enable independent start/stop and temperature configuration.

(2)If the touch screen is damaged or faulty and cannot work normally, simply power off the touch screen, and the temperature control card will switch to independent local operation mode.

7 Troubleshooting

1. After switching on the air switch, the temperature control card beeps continuously with red alarm — Live wire and neutral wire are reversed, or neutral wire is missing.

2. Continuous alarm sounds after power-on — Thermocouple open circuit, heater short circuit / open circuit. Check whether the thermocouple, heater and connecting cables are loose.

3. Temperature keeps rising after startup while output current remains unchanged until high temperature alarm triggers — SCR short circuit; the temperature control card requires maintenance.

4. Unstable temperature control with drastic fluctuation of output current — Neutral wire missing. Inspect the power plug to eliminate the fault.

5. POWER indicator on the temperature control card is off — Check power supply connection or phase loss.

6. If heater short circuit alarm appears on startup, verify whether thermocouple and heater wiring are reversed. If wiring is correct, appropriately increase the threshold value of short-circuit detection parameter P23.

7. In case of unstable temperature control, enable auto-tuning function via parameter P17.

8 Electrical Principle Introduction

The equipment adopts a 3-phase 5-wire AC380V(Phase Voltage) power supply system (3P+N+PE). The output voltage of each single loop is 230V, suitable for industrial power grids. The internal circuit consists of a signal acquisition unit, main control unit, drive unit, power output unit and multiple protection circuits. The thermocouple converts temperature variations into analog electrical signals, which are sent to the microprocessor after cold junction compensation and signal processing. The processor calculates the temperature deviation using the digital PID algorithm and outputs corresponding drive signals. The drive signals control the conduction angle of the SCR module to adjust the power supplied to the heater, achieving high-precision constant temperature control. Meanwhile, the real-time monitoring circuit keeps track of power phase sequence, neutral wire status, loop current, as well as operating conditions of thermocouples and heaters. Once an abnormality is detected, the system immediately activates audible and visual alarms and triggers protective actions to prevent equipment damage and safety incidents.

9 Installation Environment and Requirements

9.1 Installation Environment

This temperature control device is developed for indoor industrial production and shall only be installed in standardized dedicated equipment rooms with basic environmental control.

Operating ambient temperature: -10 ℃ ～ 50 ℃ . Excessively high ambient temperature accelerates component aging, while excessively low temperature may cause abnormal operation of displays and relays.

Operating ambient humidity: 35% ～ 85% relative humidity, no condensation. Excessive humidity may lead to circuit short-circuits and metal corrosion; overly low humidity tends to generate static electricity that can break down chips.

The installation location must be free of corrosive gas, liquid, dust and conductive contaminants. Corrosive and conductive pollutants will erode circuits and shorten the service life of the equipment.

Install the equipment away from strong electromagnetic interference sources to avoid impacts on temperature control accuracy. Severe interference may distort thermocouple temperature signals.

Installation in flammable, explosive, damp areas or outdoor open environments is prohibited. This unit has no explosion-proof structure; use in hazardous areas may cause fire and electric shock hazards.

9.2 Installation Requirements

Place the equipment on a stable, level and dry mounting surface to ensure secure installation. Vibration and tilting may loosen internal wiring and solder joints.

Reserve a minimum clearance of 5 cm at the rear and all sides of the equipment for heat dissipation. Do not block ventilation openings. Blocked vents will activate overheat protection and may even burn out power components.

Do not remove the equipment feet, as this will impair bottom air intake and heat dissipation. The feet form the cooling air intake passage underneath the unit.

The power supply voltage, frequency and wiring system must conform to the parameters on the equipment nameplate. Mismatched power parameters will directly damage internal electrical components.

All wiring work must be carried out with power completely disconnected. Live wiring carries risks of electric shock and short circuits.

Route power cables and signal control cables separately. Prevent cables from being squeezed, stretched, contaminated by oil, exposed to sharp edges or temperatures above 70℃. Separate wiring reduces signal interference, and cable protection avoids insulation aging and electric leakage.

The equipment shall be reliably connected to the protective earth wire (PE) to guarantee electrical safety.

Grounding method: Secure the earth wire firmly to the dedicated PE terminal post on the chassis using flat washers and spring lock washers. Tighten the screws fully to avoid poor contact. It is forbidden to wrap wires directly around screws without cable lugs.

Ground wire specification: Use solid copper wire with a cross-sectional area of no less than 2.5 mm^2. If the main power cable exceeds 4 mm^2, the gauge of the ground wire shall match the power cable.

Wiring standard: The protective earth wire must be an independent dedicated cable. Sharing conductors with live or neutral wires is strictly prohibited. The earth circuit must not be omitted, broken or loosely connected. Independent and reliable PE grounding can prevent electric shock accidents in the event of insulation damage.

After installation, inspect all terminals, cables and connectors to ensure they are tightly fastened, preventing poor contact or accidental disconnection. Loose wiring causes overheating and arcing, and leads to unstable temperature control.

The main power switch shall be easily accessible for emergency shutdown, enabling operators to cut off power rapidly under abnormal conditions.

10 Detailed Wiring Instructions

10.1 Important Warnings

All wiring work must be performed after the main power supply is completely disconnected. Strictly implement the Lockout/Tagout (LOTO) procedure to prevent accidental power-on. Allow sufficient cooling time for the equipment and external components before operation.

10.2 Power Wiring

Verify that the on-site power supply meets the rated parameters: AC three-phase380V(Phase Voltage), 3-phase 5-wire system (3P+N+PE), 50Hz.

Distinguish each cable: three phase wires L1, L2, L3, neutral wire N and protective earth wire PE.

Connect L1, L2, L3 to the corresponding phase terminals respectively, and connect neutral wire N to the dedicated neutral terminal.

Firmly connect the protective earth wire PE to the equipment grounding terminal. Never omit grounding or allow poor grounding connection.

Tighten all terminal screws to avoid electric arcing caused by poor contact.

10.3 Thermocouple Wiring

This temperature controller is compatible with Type K and Type J thermocouples. Confirm the thermocouple model before wiring.

Strictly distinguish the positive (+) and negative (-) poles of thermocouple cables. Reversed polarity will cause abnormal temperature display and trigger alarms.

Thermocouple signal cables must be routed separately from power cables to minimize electromagnetic interference.

Insert the thermocouple connector into the corresponding zone terminal and lock the buckle to prevent loose connections.

Do not pull, twist or squeeze signal cables during installation.

10.4 Heater Wiring

Check the heater and cables for short circuits, open circuits and damaged insulation before wiring.

Connect both wires of each heater to the output terminals of the corresponding temperature control channel respectively.

All wiring terminals must be tightly fastened. Loose terminals may lead to

overheating, component burnout and even fire hazards.

Only one independent heating circuit is allowed per channel. It is prohibited to connect multiple heaters in parallel to a single output to avoid overload.

The maximum output current of a single circuit is 15A with a maximum power of 3.3kW. Overload operation is strictly forbidden.

10.5 Auxiliary Circuit and Communication Wiring (If Equipped)

USB Connection: Insert the data cable into the reserved interface to enable data logging and temperature curve viewing. Do not plug or unplug the USB data cable while the equipment is operating at full load.

Arrange all external cables neatly. Prevent cables from being compressed or stepped on, and keep them away from oil contamination, sharp edges and environments with temperatures above 70℃.

10.6 Final Inspection Before Power-on

Recheck power cables, thermocouple wires, heater wires and grounding circuits comprehensively. Confirm there are no short circuits, incorrect connections or loose terminals. Ensure the equipment ventilation openings are unobstructed and a minimum clearance of 5 cm is reserved around the unit for heat dissipation. Close the cabinet only after all inspections are completed, then switch on the power for commissioning.

11 Routine Maintenance

Important Note: All maintenance work must be carried out after the equipment is completely powered off, locked and tagged out, and fully cooled down.

11.1 Routine Cleaning

Only wipe the equipment surface with a dry soft cloth. Do not clean the unit with water, liquid detergent or corrosive solvents. Keep ventilation openings free of dust accumulation and blockages.

11.2 Periodic Inspection

Regularly check whether power terminals, thermocouple and heater connectors are loose, oxidized or damaged, and verify that the protective earth wire (PE) is firmly and reliably connected.

11.3 Cable Inspection

Regularly inspect all external cables. Replace any cables with damaged, cracked or aged insulation immediately. Prevent cables from being squeezed or pulled, and keep them away from high temperatures, oil contamination and sharp edges.

11.4 Component Replacement

Only original factory parts or qualified spare parts of equivalent specifications may be used for replacement. After component replacement, recheck wiring, insulation and connections before powering on the equipment.

11.5 Long-term Shutdown and Storage

Disconnect the main power supply completely if the equipment will be out of service for a long time. Store it in a dry, dust-free environment free of corrosive substances.

11.6 Professional Repair

Internal inspection, maintenance and component overhaul of the equipment shall only be performed by certified and authorized professional technicians. Unauthorized disassembly is prohibited.

12 Transportation, Storage and Disposal (WEEE Directive)

This equipment operates on three-phase AC 220 V, 50 Hz, 5-wire system. The equipment is designed to comply with environmental requirements specified in the EU Waste Electrical and Electronic Equipment Directive (WEEE) 2012/19/EU.

12.1 Transportation

General Safety: Disconnect power supply before transportation and wait for the equipment to cool down. Secure all loose components. Use original packaging or shock/vibration-proof materials of equivalent grade.

Environmental Protection: Avoid rain, snow and direct sunlight. Ambient temperature shall be maintained between -20℃ and +60℃, with relative humidity no higher than 85%.

Handling Requirements: Do not drop the equipment. The tilt angle shall not exceed 15°. Do not stack heavy objects on top of the unit. Keep ventilation openings unobstructed during transit.

Markings: Affix labels for "Fragile", "Keep Dry" and the crossed-out wheeled bin symbol for WEEE.

Prohibitions: Do not transport together with flammable, corrosive or hazardous goods.

12.2 Storage

Environmental Conditions:

Temperature: -10 ℃ ～ +50 ℃ Humidity: Relative humidity ≤ 75%, no condensation The environment shall be dry, clean, dust-free and well ventilated, free of corrosive gases and chemical substances.

Storage Requirements:

Place on flat and impermeable ground with leakage prevention measures, and cover with rainproof protection. Elevate the equipment at least 10 cm off the ground to prevent moisture ingress.

Stacking Requirements:

Maximum two layers for stacking. Do not place heavy objects on the top layer.

Periodic Inspection:

Inspect the equipment monthly for damage, corrosion or pest infestation.

Long-term Storage (over 3 months):

Disconnect all cables, clean the equipment and seal it with a moisture-proof

cover.

12.3 Waste Disposal (Compliant with WEEE Directive)

Legal Basis: This equipment is subject to EU WEEE Directive 2012/19/EU (AC voltage ≤1000 V).

Sorted Recycling: Do not discard together with ordinary household waste. Deliver to official collection points, distributors or the producer’s recycling scheme.

Hazardous Components: The equipment contains printed circuit boards and capacitors, which must be dismantled and processed by qualified WEEE recycling operators. Batteries shall be removed separately and recycled in compliance with the Battery Directive.

Disposal Specifications: Drain all fluids; recover copper, aluminium, steel, plastics and precious metals. Substances that deplete the ozone layer and high global warming potential gases shall be handled strictly in accordance with Regulation (EC) No 1005/2009.

Marking Explanation: The product bears the crossed-out wheeled bin WEEE symbol, indicating separate sorted recycling is required.

Producer Responsibility: Producers shall register in each EU Member State, join a Producer Responsibility Organisation and bear the costs for product collection and environmentally sound treatment.

12.4 Supplementary Provisions

Improper disposal will cause environmental pollution and result in legal penalties. Strictly comply with local WEEE regulations and entrust disposal to formally qualified recycling organizations.

13 Warranty Terms and Disclaimer

13.1 Warranty Terms

This product is covered by a 12-month limited warranty starting from the date of delivery or installation.

Within the warranty period, the manufacturer shall provide free repair or spare parts replacement for malfunctions resulting from raw material defects or manufacturing faults.

This warranty shall be valid only if installation, operation and maintenance are performed strictly in accordance with this manual.

The user shall keep the purchase voucher and product serial number properly for warranty verification.

13.2 Disclaimer

The warranty shall automatically become invalid under the following circumstances, and the manufacturer shall not be liable for any resulting damage:

1. Failures or damage caused by improper installation, wiring or operation contrary to the requirements specified in the manual;
2. Equipment damage arising from the use of non-original, unqualified cables, fittings and spare parts;
3. Damage caused by abnormal power supply, overvoltage, lightning strike, water ingress, corrosion, severe vibration or external impact;
4. Operation of the equipment beyond rated technical parameters, load limits and specified environmental conditions;
5. Unauthorized disassembly, modification or self-repair without the manufacturer’s approval;
6. Damage caused by force majeure such as natural disasters and accidents;
7. Natural wear of consumable parts during normal operation.

Although various protective measures have been incorporated into the controller by our company, the user shall still install appropriate protective devices within the controller application system and fully consider potential losses related to controller reliability. Our company declares that, except for the controller itself, we shall bear no liability for compensation for personal injury, property loss or any other losses arising from controller reliability or other causes.

14 Revision Record

V1.0 | 2026-07-02 | Initial Official Release

Final Statement: This manual is subject to revision at any time due to product upgrades and optimizations without prior notice. All technical parameters and diagrams are for reference only. The manufacturer reserves the right of final interpretation. Unauthorized reproduction of this document is prohibited.

Suzhou Timega Electronic Technology Co., Ltd.
Tel: +86 0512-66795379
Email: sales@timiga.com
Website: https://www.timega365.com

Address: No. 680 Huayuan East Road, Mudu Town, Wuzhong District, Suzhou City