

# GDC-100 User Manual

GDC is short for Gongyi (company) Deck-oven Controller. The controller is mainly used for time and steam temperature control in food furnace and deck-oven. Its system uses a high-performance microcomputer control technology, with high precision temperature control and simple setting operation. It is safe and convenient to use it, owing to the controller's relay switch output, digital control panel and LED, which can indicate how to operate and the machine's working condition concisely.

## Chapter 1 System Features and Technical Specifications

### I. The System Features

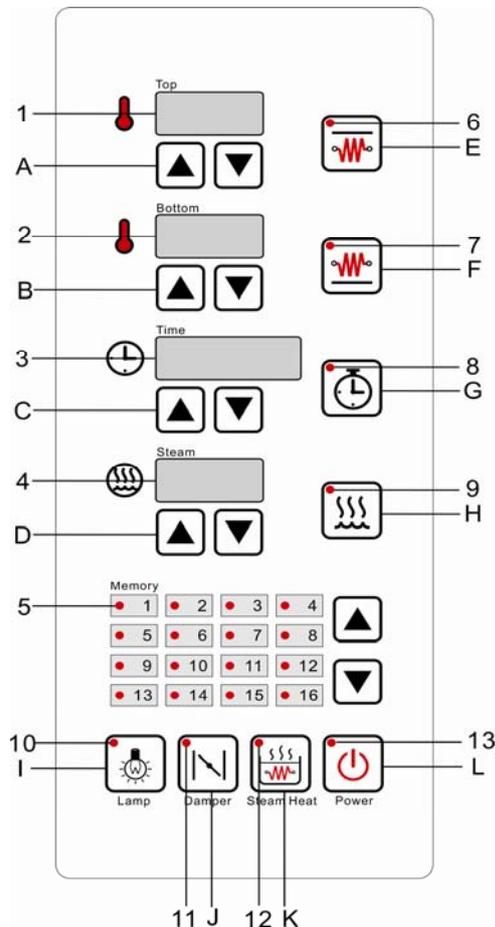
1. Microcomputer control, speedy, precise control, high stability.
2. LED, indicator and alarm status.
3. Temperature display range :0 ~ 450°C, accuracy: ± 1°C.
4. Temperature control range :0 ~ 400°C, accuracy: ± 1°C.
5. Time setting and control range: 0~ 99:59, timing accuracy: 1 second, countdown mode.
6. Steam time setting controls range: 0~ 99.9 seconds.
7. Temperature control: PID control + ON/OFF control.
8. Input type: K-type thermocouple.

### II. Technical Specifications

1. Display: LED, indicator and alarm status.
2. Input signal: top heater thermocouple (K type); Bottom heater thermocouple (K type); door switch (it will be activated only if the switch is off); steam enable, (it will be activated only if the switch is off), you can choose not to use this function.
3. Output signal: Top heater output (switch); Bottom heater output (switch); Steam heating output (switch); Jet steam output (switch); Damper output (switch); Light output (switch); Alarm output (large buzzer).
4. Power supply: AC85~265V, 50-60Hz.
5. Working environment: 0~50°C, relative humidity ≤85%, non-corrosive and no strong electromagnetic radiation occasion

## Chapter 2 Key Operating Instructions

### I. The Operation Panel



## II. Key Function Description

NO.	Key	Function Description
A		Top heater temperature setting key, press it to plus or minus, press longer to accumulate
B		Bottom heater temperature setting key, press it to plus or minus, press longer to accumulate
C		Working time setting key, press it to plus or minus, press longer to accumulate
D		Steam time setting key, press it to plus or minus, press longer to accumulate
E		Top heater on / off button
F		Bottom heater on / off button
G		Timing start / stop button
H		Steam on / off button
I		Lamp
J		Damper
K		Steam box heating button
L		Power button

## III.The Display Window and Indicators

No	Display	Function Description
1		Top heater temperature display window, it will flash the set value when setting temperature
2		Bottom heater temperature display window, it will flash the set value when setting temperature
3		Working time display window, it will flash the set value when setting time
4		Steam working time display window, it will flash the set value when setting steam time
5		Work program indication, its indicator lights when selected, the arrow button is for selecting the program
6		Top heater heating indicator
7		Bottom heater heating indicator
8		Timer function start indicator
9		Steam function start indicator
10		Lamp start indicator
11		Throttle start indicator
12		Steam heating indicator
13		Power indicator

## IV.The Internal Parameters

With the controller off, press TIMER button more than 3 seconds, the digital tube will display *INI* --- *PASS 000*, then press the arrow keys below the steam window, enter the password [068] and press tap timing key to enter the internal parameters: Top heater Temperature window displays [Fxx], next push the up and down keys to switch the corresponding parameters. Bottom heater temperature window will display [---].

*Steam window displays the corresponding parameter value, and press the arrow keys to adjust the parameters, after setting, press time key long to save and exit, or press the power button to exit without saving.*

No.	Code	Name	Setting range	Default
F01	T-rT	Top heater temperature correction	(-99~99) °C	0
F02	b-rT	Bottom heater temperature correction	(-99~99) °C	0
F03	T-HT	Top heater temperature deviation alarm value	(0~99) °C,	0
F04	b-HT	Bottom heater temperature deviation alarm value	(0~99) °C,	0
F05	T.MAX	The maximum set temperature value	0~999	400
F06	T-P	Top heater PID temperature P value	(0~99) °C,	20
F07	b-P	Bottom heater PID temperature P value	(0~99) °C,	20
F08	T.OUT	Top heater temperature PID I output period	(0~99) °C,	20
F09	b.OUT	Bottom heater temperature PID I output period	(0~99) °C,	20
F10	O.MIN	Minimum output value	(0-30) S	2
F11	PIDC	PID sampling period	(0-30) S	5
F12	db	ON/OFF temperature control dead area	(-9.9-9.9) S	1.0
F13	T.STM	Steam operating temperature	(0~300) °C	0
F14	H.STM	Steam heating switch	(0,enable; 1,disable)	1
F15	I.STM	Steam input switch	(0,enable; 1,disable)	0
F16	LAMP	Lamp delay time value	(0~99) minutes	2
F17	DAMP	Damper delay time value	(0~99) minutes	5

## Chapter 3 Function Description

### I. The Power-off State

Top heater temperature will display OFF, while the rest digital tubes and LED are closed. In this state, you can press  to power-on, than press  for seconds to enter into the internal parameter setting mode with password authentication. If you want to know more in detail, please refer to specific internal parameters setting.

### II. The Power-on State

Press  to power-on the controller and the top heater temperature window will display the actual top heater temperature. If the temperature sensor fails, it will display the corresponding fault code; and the bottom heater temperature window will display the actual top heater temperature, if the temperature sensor fails, it will display the corresponding fault code as well; Time window will display time; Steam window shows steam working time. Indicator on the side of each key is on, which indicates that the corresponding function is turned on, while off means the corresponding function is off. Program indicator indicates the corresponding working program.

**Parameter Set and Save:** press  in the corresponding window to set parameter, the corresponding window will flash, it will automatically exit after 5 seconds, if the timer doesn't start, parameters are automatically saved to the current program group, otherwise the parameters are only modified temporarily, which shall fail after timing operation.

**Program Shift:** in the case of the timing is not started, press the arrow keys to the right of the program group indicator to switch program, while adjusting the corresponding temperature and time parameters.

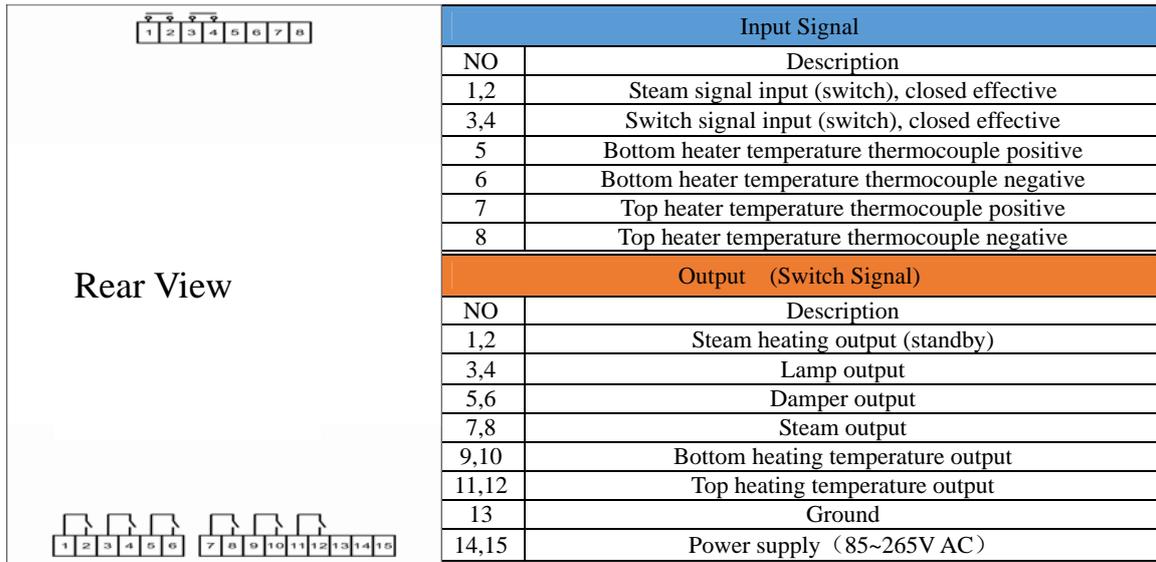
**Workflow:** Press  to power-on, the top and bottom heater will start automatically, if something is wrong with the temperature sensor, it will automatically turn off the corresponding heating switch. The user can switch heating manually in normal working conditions; select the preset operating parameters by pressing the program selection button. Press  to start time, when time count is finished, the timer window will flash *done*, and the alarm buzzer sounds, press any key to cancel the alarm, press  to return to standby mode. If there is no button operation, the alarm will close after 30 seconds automatically. Lamp and damper can be activated by setting at any time in power on state. If you want to know more in detail, please refer to internal parameters setting in *F12-F15 for Steam start conditions*. When there is heating output, the corresponding last digit LED point will be on, while no output, it off. In working or standby mode, if the door is opened, the heater and steam function will close automatically, but lamp, lighting, damper and so on will not be affected, at last the time window displays *door*.

### III. Alarm Indication

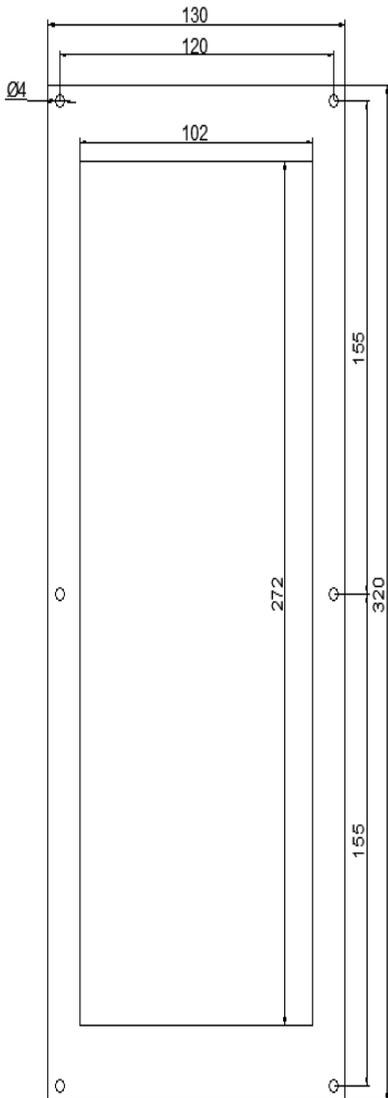
When top or bottom heater temperature fails, the alarm code will be displayed in the corresponding window, and the buzzer will sound, press any key to cancel the alarm sounds, and the codes are as follows: *ER1, thermocouple disconnected. ER2, over-temperature or the deviation alarm.*

# Chapter 4 Wiring and Installation

## I. Wiring Diagrams



## II. The Installation Size and Hole size



### Yuyao Changjiang Temperature Meter Factory Service Guide

Dear Customer:

Thank you for choosing our GDC-100 Series Intelligent Controller. Yuyao Changjiang Temperature Meter Factory will provide quality service for your trust. We recommend that you carefully read the *Notice for GDC-100 Series Intelligent Temperature Controller* and *Warranty Service Rules* before using, which will help you use GDC-100 Series Intelligent Temperature Controller conveniently and learn to know our warranty service and other information well.

#### A, Initial Use of GDC-100 Series Intelligent Temperature Controller Notes

Before using our product, please carefully read the user manual first, which will help you make better use of the product. We will not be responsible for wrong operation and corresponding loss. Instructions, which do not represent any description of the product hardware and software configurations, can help you use our products correctly. Specification image and wiring diagrams are used for reference only, and if pictures or wiring diagram does not match with the actual product, please refer to the real product. Our company will improve product technology, design and specification without notification. Please take appropriate measures to protect the instrument control output when using it. We shall not take any responsibility for the loss caused by the instrument's output control. If you find that there are differences between the actual product and this manual when using it, or want to get the latest information, or have any question or idea, please call us or visit our website <http://www.yycj.com.cn>.

#### B The Warranty Service Rules

- Free warranty for one year and six months (product quality).
- The warranty period begins from user's purchase invoice date (please note specify product model, serial number) or the invoice copy. If you **can** not provide invoices or its copy, the warranty period should be calculated in accordance with our company's factory date.
- Because customer improper use damaged product, or the customer has opened the seal of qualified products, even during the warranty period, we also need to collect a fee. After the product repaired, we'll delay free warranty for six months again.
- Customer Information:
  - When a defective product delivered, please attach a problem description, which will help our engineers to fix it as soon as possible.
  - Please fill in your telephone and fax numbers, mail address and contact person so that we can return the fixed products in time.
  - Our engineers can provide home service at customer's cost according to needs.
  - Usually we return fixed products by courier without buying the relevant insurance. Customers, who need transportation in other ways, please note and pay related costs in advance.