

**LABSTAC**



# OPERATION MANUAL

## Drying Oven

### OVE13-040

[www.labstac.com](http://www.labstac.com)

# Index

1. Safety and Warning signs, label explication.....	3
2. Safety operation and Preventive measure.....	4
3. Instruction (Application, Working principle, Technical parameters).....	6
4. Product Structure.....	7
5. Installation.....	8
6. Routine using and maintenance .....	17
7. Assistant Configuration connection.....	18



## 01. Safety and Warning signs, label explication

This manual has important use information, user should comply with it.

Put this manual in convenient place for later use.

The symbols appear to the equipment and the manual will guide you safely and correctly to operate this equipment, to avoid the possible harm.

“Warning” symbol



Warning

**It will cause serious harm or fatal accident if not comply with warning.**



Attention

**It will cause human injury, equipment damage and loss of relative property if not comply with attention.**

• The meaning of symbols :



Prohibit



Must follow

• Symbols on equipment



AC



Protective conductor terminal



Power is connected



Power is disconnected



Warning, Attention, Caution and Danger



## 02. Safety operation and Preventive measure



### Warning

⊘	Do not place this equipment outdoors. If it is exposed in the rain, it may cause creepage and electric shock.
⚠	Only professional persons have the qualification to install this equipment. If not, it may cause electric shock or fire.
⚠	Should place this equipment on the firm ground in case of a tumble. If not, it may cause injury because it capsizes.
⊘	Do not place equipment in a humid environment or a place with dripping water. Otherwise it may cause creepage or electric shock.
⊘	Do not place equipment near flammable materials and volatile substances. Otherwise it may cause explosion or fire.
⊘	Do not place equipment in an area where it is surrounded by acidic or corrosive gas. Otherwise it may cause creepage or electric shock.
⚡	Please use a power supply socket with a protective conductor terminal in case of electric shock. If a power socket without a protective conductor terminal is used, it is necessary to install it by a licensed technician.
⊘	Do not connect a protective conductor terminal through a gas pipe, water pipe, telephone line, or lighting arrester, which will cause electric shock.
⚠	Please use the specified power supply. If not, it may cause electric shock or fire.
⊘	Do not put volatile and flammable substances in the inner chamber of the equipment if it cannot be sealed, or it may cause explosion or fire.
⊘	Do not insert nails or wires and similar metal objects into any inlet or outlet of the equipment, or it may cause electric shock or injury.
⚠	Please operate this equipment in a safe area if it stores any toxic, harmful, and radioactive substances, or it may do harm to humans and the environment.
⚠	Make sure to cut off the power supply before maintaining the equipment in case it causes electric shock or injury.



⊘	Do not touch any electric components or switch with wet hand, or it may cause electric shock
⚠	Make sure wear mask when maintaining the equipment to prevent any harmful drug substance and airborne particle.
⊘	Do not splash water onto the equipment, or it may cause electric shock or short circuit .
⊘	Do not place container which is filled of water on the top of equipment, or it may cause creepage or electric shock.
⊘	Do not drag, twine or bind power cord. Do not damage power plug, or it may cause electric shock or fire hazard.
⊘	Do not use loose power plug, or it may cause fire or electric shock
⊘	Do not dismantle, repair or refit equipment without authorization and guidance from our company. It may cause fire or injury due to the improper handling.
⚠	Please unplug the power if equipment is malfunctioning. It may cause fire or electric shock if it continues.
⚠	Press power plug instead of pulling the power cord when you want to unplug the power from power socket, or it may cause electric shock or fire hazard because of short circuit.
⚠	Should unplug the power before moving equipment. Do not damage power cord. Damaged cord may cause electric shock or fire.
⚠	Should unplug power plug if it's not used for long period, or it may lead to electric shock, leakage or fire because of wear and tear of insulator.
⚠	Keep out of reach of children and the door unsealed if the equipment is not supervised or not used for a long period.
⚠	Should inform authorized technician when you dispose the equipment. Should dismount the equipment door to prevent suffocation and such accident.
⊘	Keep out of reach of children with the wrapping plastic.





## Attention

⚠	Please clean the dust on the power plug and then insert it into power socket properly, or it may cause over-heating or strike sparks
⚠	Check temperature, humidity, segment and timing and other setting value when reboot the equipment after been short circuited or cut off by power supply. Otherwise may cause damage lost of products stored inside.
⚠	Please place equipment in ventilative and dry place if not used for long period after purchase, or it may lead to equipment malfunctioning when use.
⚠	Should arrange proper carrying-tools or qualified person when moving equipment. Prevent tumbling when moving equipment, it may cause damage of equipment or human injury.
⚠	Ensure enough space when moving equipment. If you need to carry it to the second or higher floors, make sure the elevator has enough space for the equipment and working personal.
⊘	Do not put acidic, alkaline or corrosive substance in the inner chamber if the container is not sealed. Otherwise it will cause corrosion or damage to the components of equipment.

## 03. Instruction (Application, Working principle, Technical parameters)

### Application

GX series Constant temp. Drying Ovens are temperature control equipment with heating control, highly precise and advanced. Widely used in bio-chemistry, pharmacy, medical institution, industrial and mining enterprises, university, colleges and other scientific research field etc. Can be used for drying, baking, disinfection, sterilization, etc.

### Working principle

Constant temp. Drying Ovens transfer actual temperature detected from temperature sensor into signal, through the microcomputer control to the heater towards required temperature.

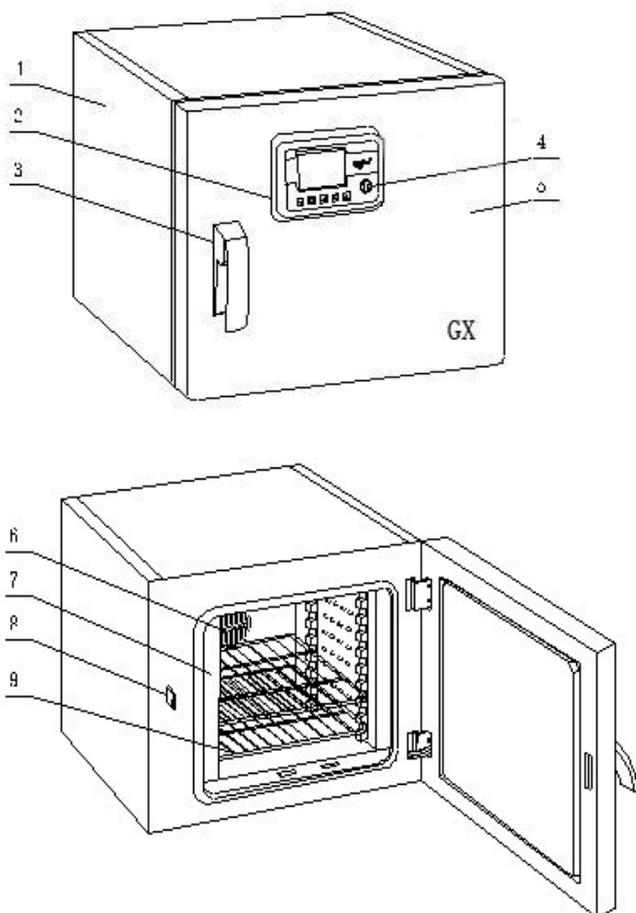


## Technical parameters

1. Temp control range : +5~250°C;
2. Temp. resolution: 0.1°C
3. Temp fluctuation range :  $\pm 1.0^{\circ}\text{C}$ (50°C~240°C);
4. Temp uniform range : 2%(50°C~240°C );
5. Power voltage : AC 220V/50Hz;
6. Timing range: 0~99hour, 0~9999min
7. Equipment class : class I
8. Working ambient : ambient temp 10~40°C relative humidity 70% below ;

## 04. Product Structure

### Components



## Drying Oven

1. incubator body
2. controller
3. door handle
4. power supply
5. outer door
6. fan cover
7. inner chamber
8. door button
9. mesh board

### Control panel



#### Button definition:

1. “ ”Indicator light: This light is on during operation and off at the end of operation; This light blinks during auto-setting.
2. “”Indicator: This indicator blinks when it adjusts.
3. “”Indicator light: with heating output, this light is on, and vice versa.
4. “”Indicator light: When the overtemperature alarm is on, otherwise off..

## 05. Installation

### Installation place

In order to optimize the performance of equipment, please install the equipment in the following condition:

-  Attention: ambient temperature 10~30°C ;relative humidity less than 70%



- Avoid exposure to the sunlight.

Do not place it in direct sunlight, or it won't reach predicted performance

- An efficient ventilative place

If you operate this equipment in a narrow and concealed room, it may lead to over-heating and malfunctioning. Minimum safe distance between equipment and wall is 10CM

- Keep away from heat source

Don't install the equipment near heating source. External excess heat will affect performance of the equipment and may cause malfunctioning

- Flat and firm ground

Make sure to install it in flat and firm ground. Uneven surface or leaning installation may damage equipment or injure people. Proper installation can avoid shaking and noise

- Avoid humid place

Install the equipment in a place where humidity is less than 70%. Otherwise it may cause creepage or electric shock.

- Avoid place with flammable or corrosive gas.

Do not place equipment near flammable materials and volatile substance. Otherwise it may cause explosion or fire. Do not place equipment in the place where has acidic and corrosive gas, or corrosion will cause creepage, electric shock or equipment damage.



### **Warning**

Do not place this equipment outdoors. If it exposed in the rain, it may cause creepage and electric shock.

Do not place equipment in humid environment or a place with dripping water. Otherwise it may cause creepage or electric shock

## **Installation**

### **1. Unpacking**

Remove packing materials, open the door for ventilation. Please use neutral detergent to clean if the shell and panel is dirty. Then wipe with wet cloth and at last with dry clean cloth



### 2. Level equipment

Fix equipment with the front brake-wheel after installation in case equipment moves. To prevent shaking on uneven ground, pads maybe needed.

### 3. Protective conductor thermal

Remove packing materials, open the door for ventilation. Please use neutral detergent to clean if the shell and panel is dirty. Then wipe with wet cloth and at last with dry clean cloth.

#### **Warning**

Please use power socket that has protective conductor terminal in case of electric shock. If it is not connected, has to install protective conductor terminal by licensed technician.

Do not connect protective conductor terminal through gas, water pipe, telephone line or lighting arrester which will cause electric shock.

### 4. Idle equipment

Before setting equipment aside, empty water in the humidifier and remove internal moisture thoroughly. Be sure the inner chamber is dry and cool before closing the door .

### 5. Moving equipment

Before moving equipment, empty inner chamber to prevent objects falling off.

### Preparation before hand

When equipment is running the first time, please operate according to following:

1. Take out the shelf boards and other accessories inside.
2. Clean the inner chamber with gauze
3. Insert the shelf boards into inner chamber according to your experiment and requirement
4. If you place samples on the same shelf, should keep space between samples for air circulation.

 **Attention** : Do not use NaCl or other Halide solution to clean this equipment, or it will cause rust

## Operation methods

1. After the controller is powered on, the indicator number (PT-) is displayed in the upper row of the display window, and the Range Value is displayed in the lower row of the display window for about 3 seconds.
2. Parameter setting and function introduction

### Reservation function:

Enter password 13, set the reservation time APT, reservation switch AEn,0: off,1: on, after the reservation is opened, enter the reservation countdown, enter the temperature control when the time is up.

### Normal mode:

Click the "Set" key to enter the wind speed selection state, the upper row of the display window displays the prompt "FS-", and the lower row displays the wind speed level (the first bit value flashes), which can be modified to the required set value by shifting, increasing and decreasing keys (if there is no wind speed function, it directly enters the "SP-" setting); Then click the "Set" key to enter the temperature setting state, the upper row of the display window displays the prompt "SP-", and the lower row displays the temperature setting value (the first digit value flashes), which can be modified to the required setting value by shifting, increasing and decreasing the key; Then click the "Set" key to enter the constant temperature time setting state, the upper row of the display window displays the prompt "St-", and the lower row displays the constant temperature time setting value (the first digit value flashes), which can be modified to the required setting value by shifting, increasing or decreasing the key; Then click "Set" button to exit this setting state, and the modified setting value is automatically saved.

When ET=0 in password 3, the timing function is not enabled and the set time is not displayed. When the constant temperature time is set to "0", it means that there is no timing function, the controller runs continuously, and the lower row of the display window displays the temperature setting value. When ET=1, the lower row of the display window displays the running time, and the lighted decimal point flashes, the instrument is powered on, and the timer begins to time. When ET= 2, the running time is displayed in the lower row of the display window, and the lighted decimal point flashes. When the measured temperature reaches the set temperature, the timer starts to time.

If En=0, the time is up, the operation is over, the display window displays "End", the buzzer buzzes for 30 seconds, and all outputs are turned off.

If En=1, the time ends, the display window displays the running time, the buzzer buzzes for 30 seconds, and the temperature continues to be constant;

After the timer is running, hold down the Reduce/Run button for 3 seconds to restart the timer.

### Program segment mode (optional) :

Click the "Set" key to enter the wind speed selection state, the upper row of the display window displays the prompt "FS-", and the lower row displays the wind speed level (the first bit value flashes), which can be modified to the required set value by shifting, increasing and decreasing keys (if there is no wind speed function, it directly enters the "SP-" setting); Then click the "Set" key to enter the cycle setting, the upper row of the display window displays the prompt "SC", and the lower row displays the set value (the first one bit value flashes), which can be modified to the required set value by shifting, increasing and decreasing the key; Then click the "Set" key to enter the setting state of the number of segments. The upper row of the

display window displays the prompt "SE", and the lower row displays the set value (the first one bit value flashes), which can be modified to the required set value by shifting, increasing and decreasing keys; Then click the "Set" key to enter the temperature setting state of paragraph 1. The prompt "Sp1" is displayed in the upper row of the display window, and the set value is displayed in the lower row (the first one bit value flashes), which can be modified to the required set value by shifting, increasing and decreasing keys; Then click the "Set" key to enter the setting state of the first section of constant temperature time. The prompt "St1" will be displayed in the upper row of the display window, and the set value will be displayed in the lower row (the first bit value flashes), which can be modified to the required set value by shifting, increasing or decreasing the key; Click "Set" button again, set the temperature setting value for the second stage, and set the constant temperature time for the second stage..... Until each paragraph has been set, exit this setting state, and the modified setting value is automatically saved.

3. When the overtemperature alarm, the buzzer continuously sounds, “”The alarm icon lights up. If an overtemperature alarm is generated due to changing the temperature setpoint, “”The alarm icon lights up, but the buzzer does not sound.
4. When the buzzer is ringing, you can press any key to silence the sound.
5. "Shift/Self-tuning" key: Long press this key in the non-set state for 6 seconds to enter or exit the system self-tuning; Click this key in the setting state to make the set value shift and blink to modify, if there is an independent temperature limit function, short press the lower bar to display sp-A, the middle bar to display alarm set temperature.
6. "Reduce/Run Again" key: In the non-set state, when the running is over, long press this key for 3 seconds to restart the running. In multi-value mode, press to display the current running period, and then press to display the number of current running segments, In the setting state, click this key to make the set value decrease, and long press this key to make the set value pass continuously.
7. "Increase/Backlight" key: Click this key in the non-set state to turn on or off the LCD backlight (this function is only available in the LCD series); Click this key in the setting state to make the set value increase, long press this key to make the set value increase continuously.
8. In the setting state, if no key is pressed within 1 minute, the controller will automatically return to the normal display state.
9. If ---- is displayed on the upper panel of the display window, the temperature sensor or controller is faulty. Check the temperature sensor and cables carefully.

### System self-tuning

When the temperature control effect is not ideal, the system can be self-tuning. The temperature will have a large overshoot during the self-tuning process, the user should fully consider this factor before the system self-tuning.

In the non-setting state, long press the "shift/self-tuning" key for 6 seconds to enter the system self-tuning program. “”The indicator icon blinks, and the indicator stops blinking after



the tuning, and the controller gets a better set of PID parameters, and the parameter values are automatically saved. In the process of system self-tuning, long press the "shift/self-tuning" key for 6 seconds to stop the self-tuning program.

If there is an overtemperature alarm in the process of system self-tuning, "🔔" The alarm icon does not light and the buzzer does not sound, but the heat alarm relay automatically disconnects. The "Set" key is invalid during system self-tuning. In the process of system self-tuning, regardless of whether there is a constant temperature time setting, the lower row of the controller display window always displays the temperature setting value.

### Check and set the internal parameters of temperature

Hold down the set key for about 3 seconds. The password prompt "Lc" is displayed in the lower row of the controller display window, and the password value is displayed in the upper row. Change the password to the desired value by increasing, decreasing, and shifting the key. If the password value is incorrect, the controller will automatically return to the normal display state. If the password value is correct, the controller will enter the temperature internal parameter setting state, and then click the setting key to modify each parameter in turn. Press and hold the setting key for 3 seconds to exit this state, and the parameter value is automatically saved.

#### 1:normal mode

Parameter indication	Name of parameter	Parameter function description	(Fan Wai) Factory value
FS-	Wind speed gear	5~10: Voltage 120~220V(the actual supply voltage will vary) Note: This parameter is not displayed in the wind speed function	5~10(10)
SP-	setting temperature	setting temperature	0~RH (°C)
St-	setting time	setting time	0~9999min(h)

#### 2:Segment mode

Parameter indication	name of parameter	Parameter function description	(Fan Wai) Factory value
FS-	Wind speed gear	Gear 5 to 10: Voltage 120 to 220V(The actual voltage may vary due to the power supply voltage) Note: This parameter is not displayed in the wind speed function	(5~10)10
SC-	cycle time	0:infinite loop	(0~100)0
SE-	number of segments	Sets the total number of segments	(1~30)1



SPX	Set the temperature for each section	Section X sets the temperature	0~RH (°C)
STX	Each set time	Paragraph X sets the time	0~9999min(h)

## intrinsic parameter1:

Parameter indication	name of parameter	Parameter function description	(Fan Wai) Factory value
Lc-	password	You can view and modify parameter values when Lc=3 is displayed.	0
AL-	Overtemperature deviation alarm	When "Temperature measured value > Temperature set value +AL", the alarm light is on, the buzzer buzzes (see V.3), and the heating output is disconnected.	(0 ~ 100°C) 5.0
T-	control period	Heating control cycle	(1 ~ 60S) <b>5 record 2</b>
P1-	proportional band 1	Time ratio plays a role in regulation 1	(1.0 ~ Range value)35.0
I1-	integral time 1	Integral action regulation 1	(1 ~ 1000s) 400
d1-	rate time1	Differential action regulation 1	(0 ~ 1000s) 200
P2-	proportional band 2	Time ratio plays a role in regulation 2	(1.0 ~ Range value)25.0 FCH set as 35.0
I2-	integral time 2	Integral action regulation 2	(1 ~ 1000s) 400
d2-	rate time 2	Differential action regulation 2	(0 ~ 1000s) 200
dc-	Inflection point temperature	Select different P,I,D work according to the temperature setting value. SP≤dc P1, I1, D1 take effect. SP>dc Select P2, I2, and D2 to take effect.	(0 ~ Range value)80
Pb-	zero adjustment	Fixed errors in sensor (low temperature) measurements. Pb= Actual temperature value - instrument measurement value	(-50 ~ 50°C)0
PK-	Full adjustment	Fixed errors in sensor (high temperature) measurements. PK=1000* (actual temperature value - instrument measurement)/instrument measurement value	(-999 ~ 999) 0
F-Pb	correction for wind effect	Wind speed output voltage correction	(-50 ~ 50°C)0
Et-	timing function	When ET=0, there is no timing function. The timer starts when the device is powered on at 1, and the timer starts when the device is	(0 ~ 2) 2



	powered on at 2	
--	-----------------	--

Note 2: If the relay output is selected, the heating control period should be selected 20 seconds, the current output should be 1 second, and the other models are 5 seconds.

### intrinsic parameter 2:

Parameter indication	name of parameter	Parameter function description	(Fan Wai) Factory value
Lc-	password	You can view and modify parameter values when Lc=9 is displayed	0
Co-	Turn off the heating output deviation	When "temperature measurement value $\geq$ temperature set value +Co", turn off the heating output.	(0 ~ 50°C) 5
Hn-	Thermostatic timing system	0: minute timer; 1: Hourly timing	(0 ~ 1) 0
En-	End-of-run constant temperature	En=0 End of run off output	(0 ~ 1) 0
		En=1 Keep constant temperature after operation	
Lt1-	mts maximum power output1	The maximum power percentage of the heating output is valid only when the temperature $SP \leq dc$	(0 ~ 100)70
Lt2-	mts maximum power output 2	The maximum power percentage of the heating output is valid only when the temperature $SP > dc$ .	(0 ~ 100)100
oP-	Gating function	0: Turn off the door opening judgment function; 1: Enable the door opening judgment function.	(0~1) 1
rH-	Range value	Set according to the temperature measurement range.	FCD:(0 ~ 400°C) <b>300</b>
			FCH:(0 ~ 500°C) 400

### intrinsic parameter 3:

Parameter indication	name of parameter	Parameter function description	(Fan Wai) Factory value
----------------------	-------------------	--------------------------------	-------------------------



Lc-	password	You can view and modify parameter values when Lc=13.	0
APT-	appointment time	Heat control starts countdown (min)	(0~9999min)0
AEn	Enable by appointment	0: disables. 1: Enable	(0~1)0

## intrinsic parameter 4:

Parameter indication	name of parameter	Parameter function description	(Fan Wai) Factory value
Lc-	password	You can view and modify parameter values when Lc=23 is displayed	0
FC-	Celsius/ Fahrenheit switch	0: ° C 1: ° F (Only ° C in multi-value mode)	(0 ~ 1)0
Ad-	mailing address	The mailing address of the machine	(1 ~ 32) 1
F-S	Fan selection	0: no fan; 1: with fan	(0 ~ 1) 0
p-t	Print interval	If p-t=0, no print is displayed	(0 ~ 9999) 0s

## intrinsic parameter 5:(It's in the program sheet)

Parameter indication	name of parameter	Parameter function description	(Fan Wai) Factory value
Lc-	password	You can view and modify parameter values when Lc=121 is displayed	0
H-	mode selection	0: indicates the common mode 1: Program segment mode	(0 ~ 1) 0

## intrinsic parameter 6:(Only independent temperature limiters)

Parameter indication	name of parameter	Parameter function description	(Fan Wai) Factory value
Lc-	password	You can view and modify parameter values when Lc=14 is displayed	0



Pb-A	zero adjustment	Fixed errors in sensor (low temperature) measurements. Pb= Actual temperature value - instrument measurement value	(-50 ~ 50°C)0
PK-A	Full adjustment	Fixed errors in sensor (high temperature) measurements. PK=1000* (actual temperature value - instrument measurement)/instrument measurement value	(-999 ~ 999) 0
SP-A	Independent temperature limit setting temperature	Independent temperature limit setting temperature	0~420.0 (°C)

## 06. Routine using and maintenance

⊘	Do not capsize when moving.
⊘	Do not change the settings frequently during process, it may affect the control accuracy and the life of use.
⚠	The machine is equipped power switch and circuit breaker, if failure occurs during operation, please cut off the power and check the control circuit if it's intact, and then check the other parts. (See wiring diagram)
⚠	Make sure the door is shut. If the door is not closed properly, the device may not be able to reach maximum performance. When closing the door, do not slam the door to avoid damage of the locking system.
⚠	Do not use corrosive solution to wipe the exterior in order to maintain the appearance of the device. Please use dry cloth or alcohol wipe to keep the inner chamber clean.
⚠	When the device is not in use, keep the chamber dry, and cut off the power supply.
⚠	In order to keep temperature evenly inside the chamber, always check the axial

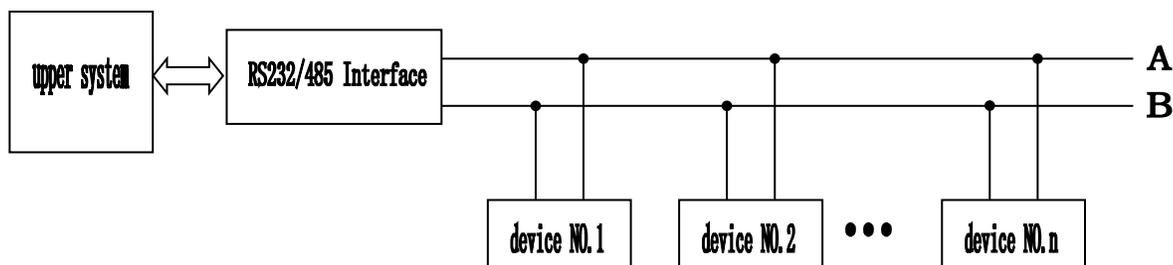


	<p>fan in the chamber if it is functioning properly. During the experiment, in order to allow air circulation, objects inside the chamber should not be placed too close and blocking the vent.</p> <p>Do not touch and collide the temperature probe inside, it may cause failure of temperature control.</p>
⚠	Secure the shelf. Otherwise it may damage the cultures.
⊘	Do not lean against the glass or apply pressure on the glass, it might cause injury.
⊘	Do not lean against the door of the device. To prevent tipping of the equipments or equipment damage, personal injury by the damaged door.
⚠	When failure occurs, please arrange professionals or contact with the factory sales department. User should not attempt to repair or fix it.
⚠	Our company products have “Three Guarantees”. Two years warranty, free to repair (exclude mis-operation and consumable items) when equipment <b>has</b> failure since the purchase day.

## 07. Assistant Configuration connection

RS-232/RS-485 Instructions for use of the converter

- In order to receive remote data between the different standard serial interface computer, external device or intelligent instrument. Must provide conversion of standard serial interface. The converter is compatible with RS-232, RS-485 standard, capable of converting single-ended RS-232 signal to a balanced differential RS-485 signals. (It can connect 16 controller of this series together at the same time)





### Trouble shooting

#### 1. Data communication failure

(1) Check RS-232 port connection whether is correct.

(2) Check RS-485 port output connection whether is correct.

(3) Check port whether is connected.

#### 2. Data missing or fault

Please check data communication equipment rate and format is in accordance.

### (1) Trouble shooting

Trouble	handling
Sensor failure display (- - -)	Temperature sensor abnormal, please check temperature sensor (model:PT100)
Temp. can't reach of setting value	·Check screen if it displays heating, If it's heating, heating tube damage or control panel failure or circuit failure.
Temp. rises too slow	Check fan whether is working properly (Open the door). If it's not running, check according to the wiring layout
Screen can not display	·Please check if the power socket is ~220V ·Please check if the power switch is on ·Please check power switch, if it is tripping operation, please check wiring layout.

### Specification

Name	temperature control Drying oven
Model	OVE13-040
External Dimension	570×580×593
Internal Dimension	350×350×350
Effective volume	40L
Power input	770W
Case Shell	Cold-roll steel sheets with spraying treatment
Inner hull	mirror surface SUS304 stainless steel
Door	With original heat insulation design
Shelf	High quality carbon steel and surface is chrome plating, adjustable space
Heat insulation system	Polystyrene foam
Temp. control system	PID system auto-setting program
Heating system	Electric tube heating element

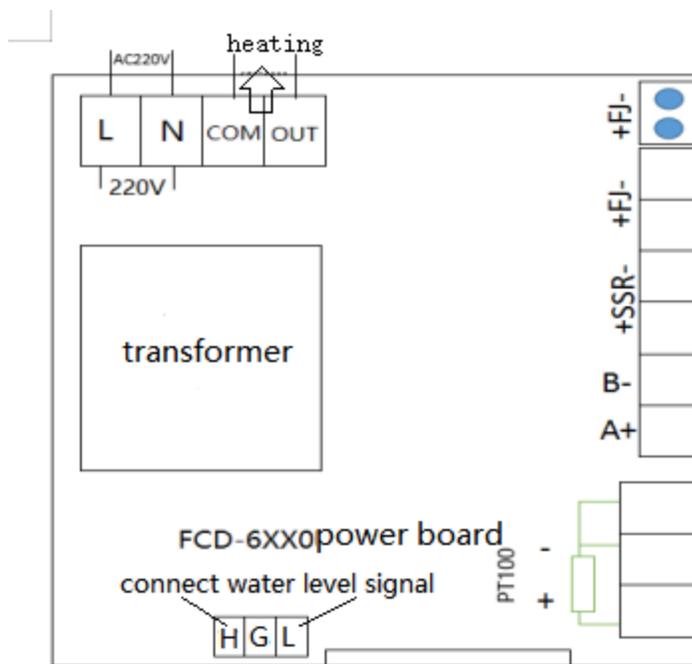


# Drying Oven

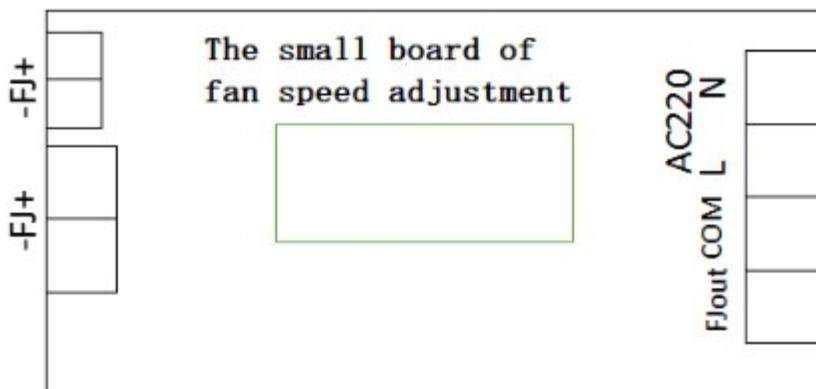
Fan	Centrifugal fan
Temp. sensor	Sum sung Temp. sensor PT100
Screen	LCD(Liquid Crystal Display),English/Chinese Display
Warning system	Temp. upper limit warning ; Temp. sensor failure warning with sound/light
Weight	40kg
shelves(Standard)	2
Optional Accessories	Port converter, portable printer,

Note: May change product design and specification without notice.

## wiring diagram



+,Pt-,GND Connection sensor, A+, B- Connect 485 communication, +SSR-Connect Heated solid, +FJ- Connecting fan plate  
L,N Connect AC220V alternating current,COM, Out ConnectHeating pipe





The +FJ- of the fan panel is separately connected to the +FJ- of the power supply panel ,FJout and COM connect fan  
L,N connect AC220 Valternating current

### Packing List

No.	Name	Quantity	Note
1	Finish product	1	
2	User manual	1	
3	shelf	2	



**LABSTAC**

Email: [contact@labstac.com](mailto:contact@labstac.com)

Website: [www.labstac.com](http://www.labstac.com)