

IDS PLUS BURN

Multi-Stage Programmable Burnout Furnaces EX-1000

Operating Instructions



- ◆ Make sure you carefully read this manual before using this product
- ◆ Product Warranty is included at the back of this manual



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1. Introduction

Thank you for purchasing ORIGIN DuoTron–Burn Furnace. DuoTron–Burn Furnace is subject to stringent quality control procedures and patiently follow standard procedure. As a results of our quality system, DuoTron–Burn Furnace has better performance.

Also, DuoTron–Burn has sturdily and gracefully designed and programmed as user friendly.

This Operators Manual will explain the installation and operation of the oven as well as help you get the most out of your new DuoTron–Burn Furnace. Please read carefully the instructions in this manual for the best user experience.

⦿ Attention

Please ensure that all safety information has been read by the operator before using the oven.

– The Safety information is divided into two sections: Warning and Caution as described below:

Warning

Violations of instructions may cause increased risk of serious injury or death.

Caution

Violations of instructions may cause increased chance of material waste or injuries.

Warning

1. Do not disassemble, repair or modify any part of the machine without prior approval from an authorized technician. It could be out of warranty and could cause damage, electric shock or fire.
 2. Ensure the oven is properly grounded to prohibit error or electrical hazard.
 3. Do not cut or modify the power cord. Do not stretch or bend the power cord that may cause electrical hazard.
 4. Keep flammable materials away from the oven at all time.
 5. Keep liquid away from the oven and avoid using the oven in damp environment to prevent electrical hazard.
 6. Ensure that the power plug is firmly plugged into the proper section. Unstable contact may cause a electric spark and a fire.
 7. Always wear heavy thermal insulated gloves when handling units with door open to avoid burns.
 8. Always ensure that the oven is completely stopped before working with the oven and only operate the door when the machine is not in a cycle.
 9. Do not touch or handling the power plug. It may cause a electric shock or a fire.
 10. Carefully use tongs without touching wires when takeout Casting Ring from inside of Furnace.
 11. Do not place flammable materials or body inside of Furnace. It may cause a burn or a fire.
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Caution

1. Keep away from Furnace during operation. While running, furnace generates high temperature.
2. Please handle the oven carefully to avoid damage. The furnace contain fragile parts.
3. Do not use in places with a lot of vibration.
4. Please read the manual and understand the instructions before using the oven.
5. Do not leave Furnace with a door open.
6. Keep away from flammable spray or materials from Furnace.
7. Do not install Furnace on place with gradient or rocking table
8. Do not pull a plug out with a strong force.
9. Keep temperature lower than 40 Celsius degree and sweep the dust out.
10. If detecting any defect during the operation, stop using and inquire manufacturer.
11. Use dry cloth and unplug power cords when cleaning Furnace. Do not use any detergent.
12. While operating and right after, do not touch Furnace. Especially, do not touch the upper part of furnace. It may cause a burn or a fire.
13. Keep away flammable materials from Furnace. It may cause a fire.
14. If Furnace is not in use, turn off switch to power off.
15. If Furnace is not in use for long term, pull out power plug.

Caution

16. Changing insulation : Contact particulate from insulator with the eyes or skin may cause irritation. Long term and inhaling a large quantity of the particulate from insulator may cause respiratory disorders. Try protect skin, eyes and respiratory organs with wearing safety glasses and mask.

<Compliance matters : wear long sleeves clothes, safety glasses, mask and using vacuum machine. After work, wash unprotected skin with fresh water.>

17. Cracks in insulator should occur by a high temperature or a rapidly changing temperature. However, cracks by thermal shock in insulator does not critically affect Firing result. (In case of cracks on Tray insulator may affect on temperature. In that case, need to change tray insulator through manufacturer or local distributor.)

18. Do not start firing schedule without tray insulator. Starting schedule without tray insulator may cause fire or damaging in furnace.

2. Product Information

(1) Characteristics

- ▶ Easy to operate and full set of features
- ▶ 7" TFT LCD High quality display
- ▶ Touch screen
- ▶ 15 custom temperature settings
- ▶ Maximum ramp up rate 25°C/min
- ▶ Capable of program 5 different stages in each schedule.
- ▶ Easy to use by set schedule
- ▶ Compact size.
- ▶ Capability of using USB mouse with plug in USB port.
- ▶ Applied platinum catalyst filter cut down most emitted harmful gases from Furnace.

(2) Main Functions

- ▶ User defined programs
- ▶ Progress graph
- ▶ Display remaining time.
- ▶ User can fine-tune temperature.
- ▶ Easy to upgrade software.

3. Technical Data

Temperature Sensor

Sensor Type	Thermocouple K-type
Sensor Range	0~1,200℃

Main Controller

Voltage	DC 5V
Display	7" TFT LCD (Touch screen capability)
Control(RS-232)	1 Ch. : Communicate with I/O Controller
USB	1 Ch. : USB port for updates

I/O Controller

Voltage	DC 12V
Output	2 Ch. : Transformer,, Fan
Input	2 Ch. : Door, Reserved
Control(RS-232)	1 Ch. : Communicate with Main Controller

General

Voltage	AC 230V, 50/60 Hz
Consumption	2 kW
Dimensions	385(W) x 440(D) x 520(H)<710(H) with filter>
Chamber	180(W) x 230(D) x 160(H)
Max. temp.	1,100℃ (Do not set temp. over 1,100℃)
Temp. range	+2℃ ~ +40℃
Working humidity	Lower than 80%
Working altitude	Lower than 3800m
Weight	35kg
Capacity of Schedule	Capacity of 15 programmable schedules
Stage	Can program 5 different stage in each schedule.

4. Install

(1) List of parts

After open a box, ensure there are every list of parts. Also, check any visual damage. If you find any damages and defects, contact seller.

< List of parts >

- Furnace housing 1 pc
- Instruction..... 1 pc
- CATALYST FILTER..... 1 pc (assembled in main body)
- Ceramic gas outlet 1 pc (assembled in main body)
- Ceramic tray 1 pc
- POWER CORD..... 1 pc

(2) Installation

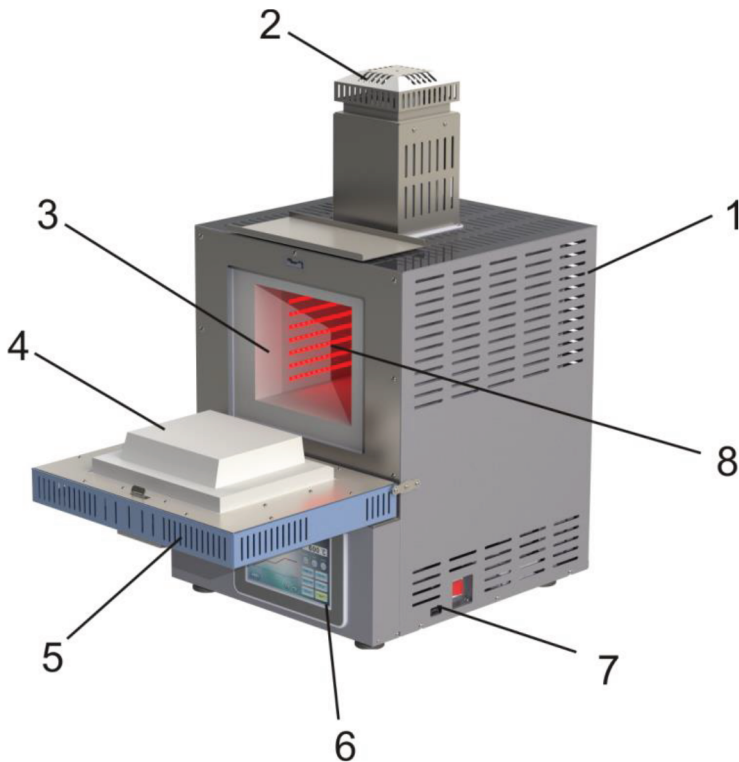
Avoid sunlight or moist when installing the product. Also, install on a level place. Dust could damage on heating elements, thus, install in clean environment. Place a furnace at least 30 cm apart from the wall and 1.5 m away from the ceiling. If too close to wall or ceiling, may cause a fire and damage on product. To protect from harmful materials during firing, install a ventilator on the ceiling or install CATALYST FILTER in product.

Do not discard packing box and pad for in case of return or move product.

5. Appearance and Name

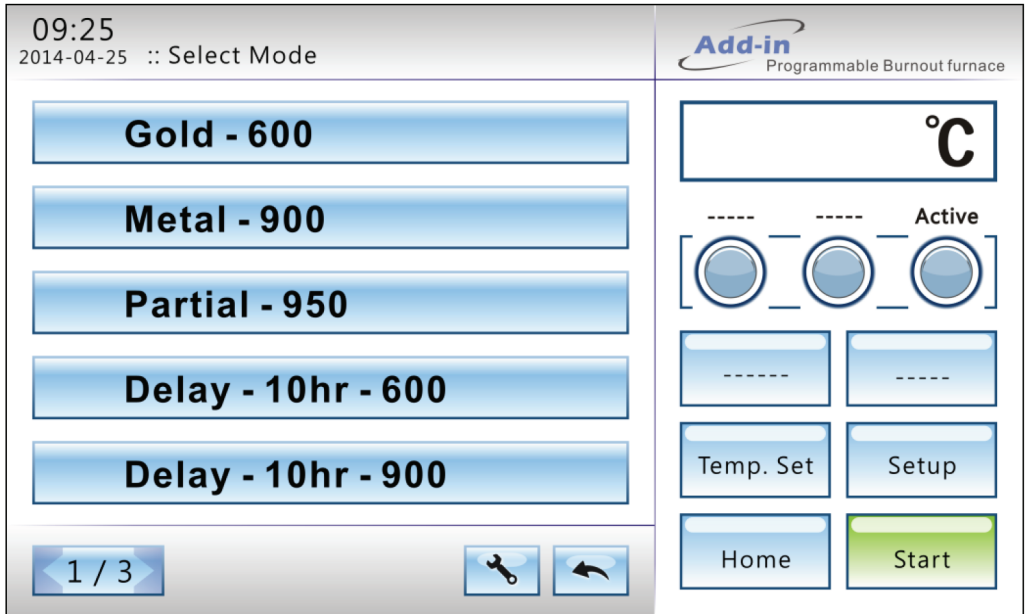
List of parts

- 1 Furnace Housing
- 2 CATALYST FILTER
- 3 Insulation – inner
- 4 Insulation – Door
- 5 Door Cover
- 6 Touch Screen Monitor
- 7 USB port for program upgrades
- 8 Nickle Chrome Heating Coil



6. Front Panel Information

(1) Display



<Information in picture is only for examples>

1) Time and Mode display





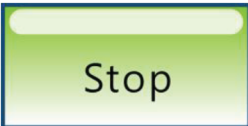






- ① Displays current time and date.
- ② Changing time or date : Double clicking time or date.
- ③ Displays the current mode.
Ex) Gold-600, Metal-900...

2) Current Temperature Display




(2) Button Explanation

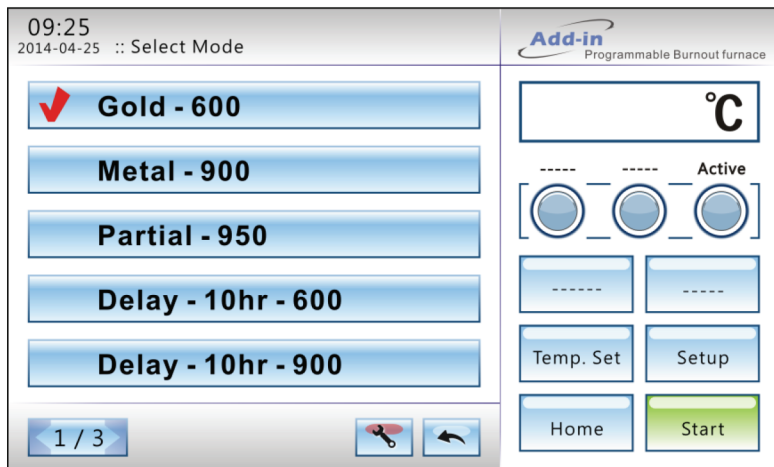
Button	Description
 A light blue rectangular button with rounded corners and a white highlight at the top. The text "Temp. Set" is centered in black.	Set the temperature for selected mode. < Reference-Section 8. Temperature setting, p-16 >
 A light blue rectangular button with rounded corners and a white highlight at the top. The text "Setup" is centered in black.	Setting additional functions
 A light blue rectangular button with rounded corners and a white highlight at the top. The text "Home" is centered in black.	<ul style="list-style-type: none">- Goes to main menu- Settings reset
 A light green rectangular button with rounded corners and a white highlight at the top. The text "Start" is centered in black.	Starts the current program. If no mode is selected the oven will not start
 A light green rectangular button with rounded corners and a white highlight at the top. The text "Stop" is centered in black.	Stops the current program during operation

Button	Description
<p>Active Active</p> 	<p>Displays if the power is going to the heating elements</p>
	<p>Move between pages. (Total 15 schedules can be saved)</p>
	<p>Change name of the schedule. (After clicking this button, click the schedule wanted to be changing name) <Reference-Section 7. Changing Name, p-15></p>
	<p>Returns to previous menu</p>

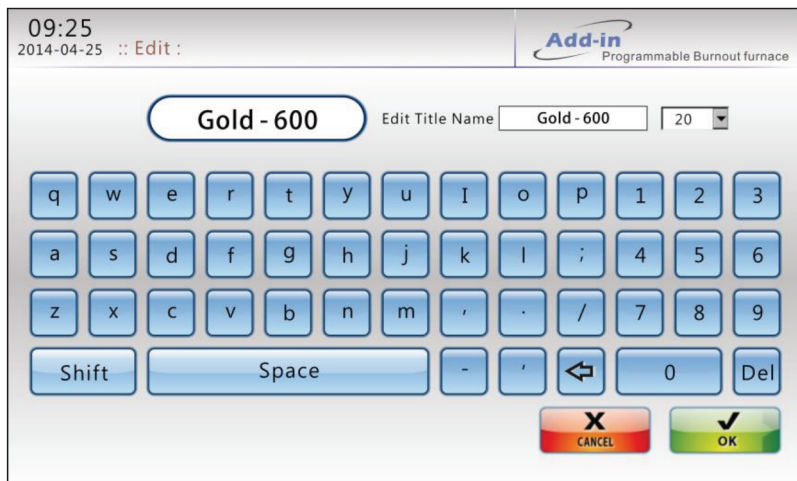
7. Changing Name


- ① To change the name of the program, press the tool button () then,

press the mode button ()



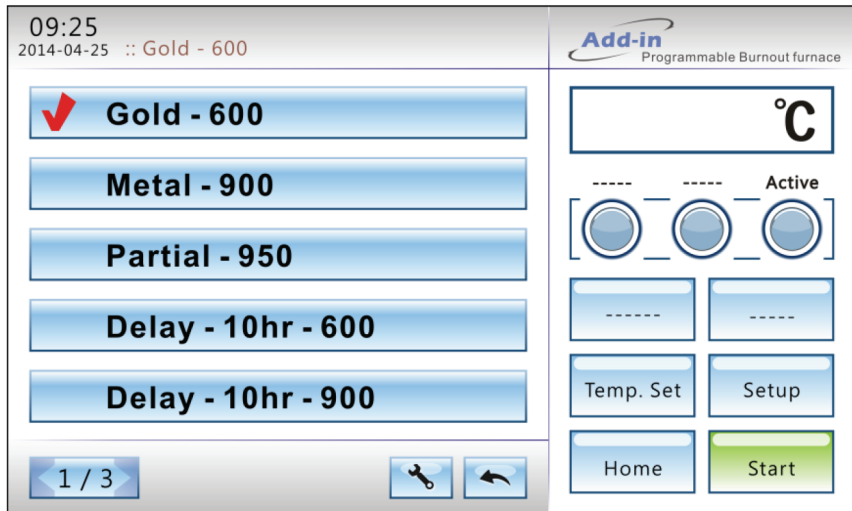
- ② Type the name of the new program then press the OK button.



*Change font size : Click this button () <This function apply to all letters>

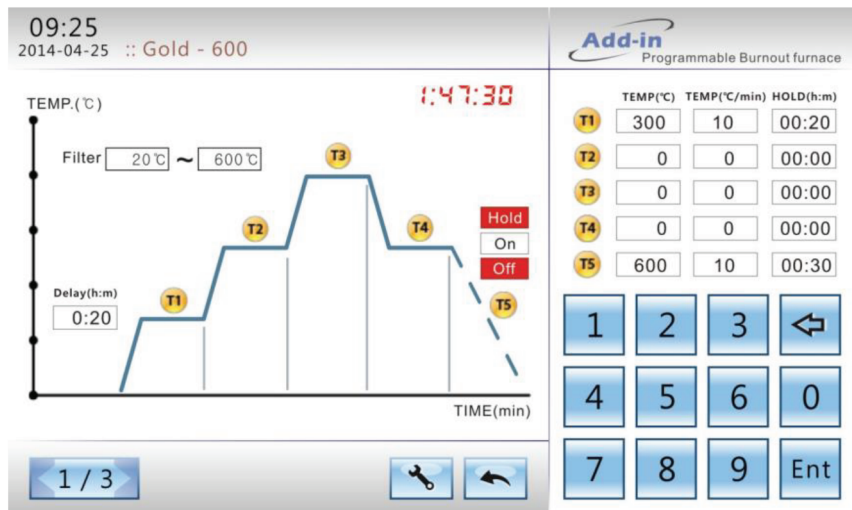
8. Temperature Setting

- ① Press the mode you want to modify. (ex : Select Gold - 600 button)



- ② Press the Temp Set button (Temp. Set)

- ③ The display will change to below



- ④ Change the Temp, time and hold time to desired settings and then press the Enter button (Ent).

To move back to the main menu press the back button (⏪)

09:25
2014-04-25 :: Gold - 600

TEMP.(°C) 1:47:30

Filter 20°C ~ 600°C

Delay(h:m) 0:20

TIME(min)

	TEMP(°C)	TEMP(°C/min)	HOLD(h:m)
T1	300	10	00:20
T2	0	0	00:00
T3	0	0	00:00
T4	0	0	00:00
T5	600	10	00:30

Hold

On

Off


1	2	3	⏪
4	5	6	0
7	8	9	Ent

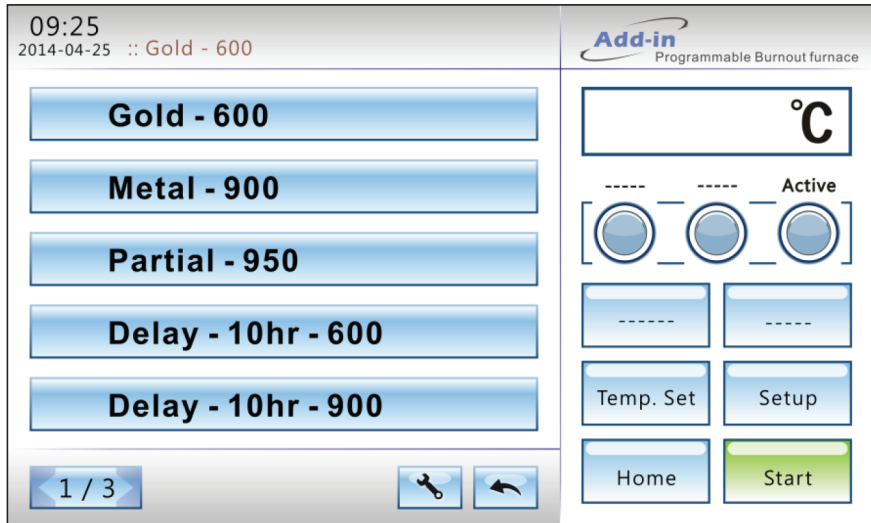
1 / 3


<Detail Information>

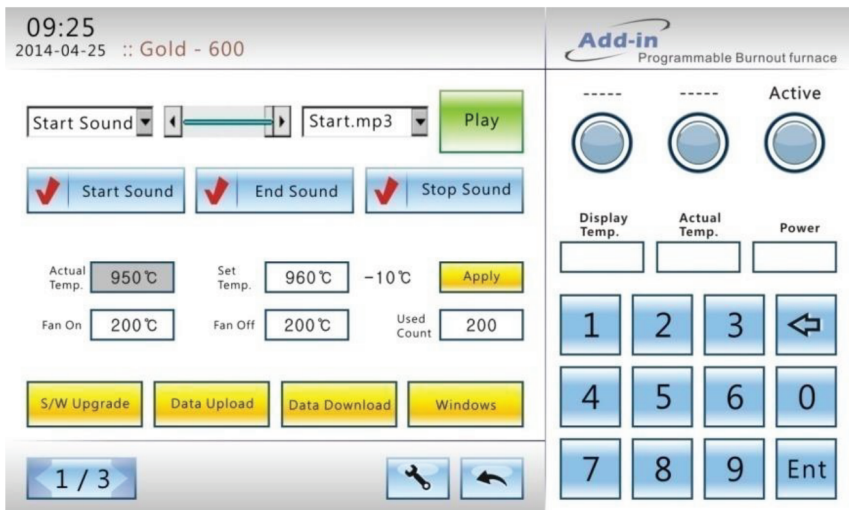
- Delay(h:m) : Setting delay starting of sintering time
 - TEMP(°C) :Setting set point temperature <Max : 1,100°C>
 - TEMP(°C/min) : Temperature ramp rate <Max : 25°C/min >
 - HOLD(h:m) : Setting holding time at given temperature <hour :min.>
<ex → 0:02 = 2 min., 0:20 = 20 min., 2:00 = 2 hour, 20:00 = 20 hour >
 - Setting T5 when temperature ramp down (Hold / On / Off)
 - Select Hold : Keep temperature at T5 after finish program.
 - Select On : Ramp up temperature at T5 then start cooling.
 - Select Off : Cooling till temperature at T5 with heater power off.
 - Filter ~
 - Setting temperature for filter : 20°C ~ 600°C
- **Do not change setting.<Contact manufacture or seller before change>
1. May occur an incomplete combustion gas if starting temperature is too high
 2. Ending temperature should lower than 600°C. Fire from a catalyst.

9. Setup

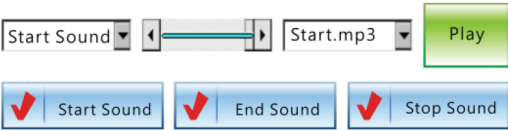






- ① Press the setup button to enter setup menu ().



- ② Press the setup to enter the screen below ().



Button Description

Button	Description
	<p>Change the alert sound for Start, End and Stop functions.</p>
	<p>Temperature Fine Tuning. Use caution when changing value as it may affect units.<Before use, contact manufacturer or seller> (ex)</p> <ol style="list-style-type: none"> 1. For lowering 10°C = Set Temp. 960 2. For increasing 10°C= Set Temp. 940 <p><Value after change will display right before Apply></p>
	<p>Setting Trans cooling fan working temp.</p>
	<p>Perform Software Upgrade</p>
	<p>Upload temperature date for program</p>
	<p>Download temperature date for program</p>
	<p>Exits to Windows CE menu (To restart the program please shut the oven off)</p>

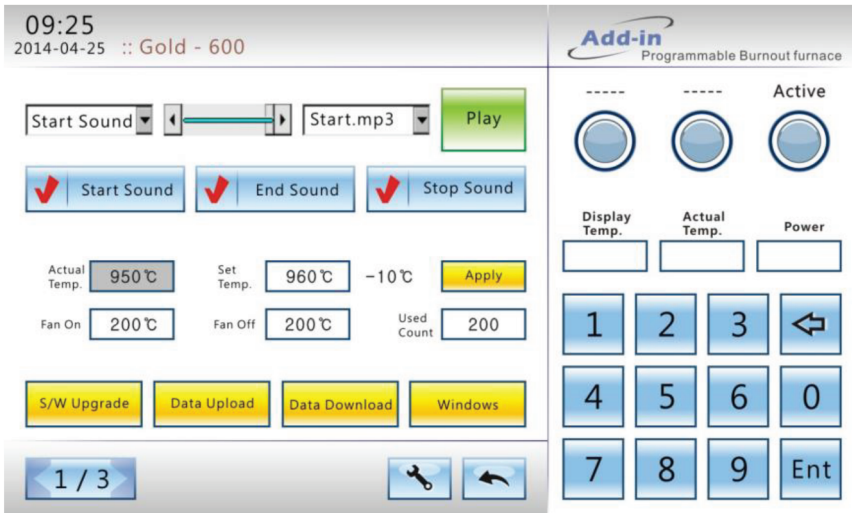
Software Upgrade



1. Create Run_V folder in USB drive, then copying a file want to upgrade.

2. Insert USB drive to USB port where right hand side of DuoTron Oven.

3. Click (**S/W Upgrade**) button will start upgrade and program will restart.



4. Upload and Download are following same steps as well.

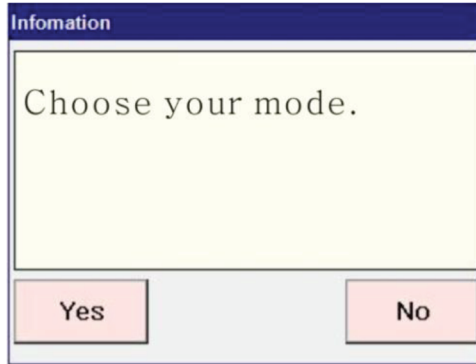


10. Troubleshooting

(1) Messages during programming

■ “Choose your mode.”

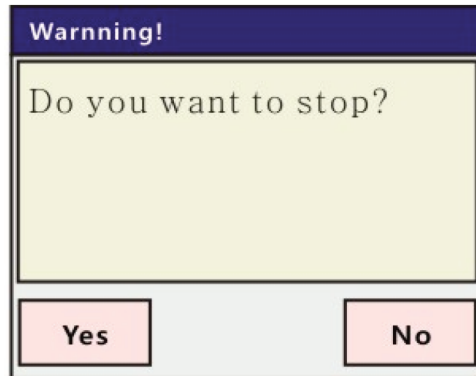
When a mode is not selected when trying to start the program this message will pop up.



☞ Solution → Press the desired mode.

■ “Do you want to stop?”

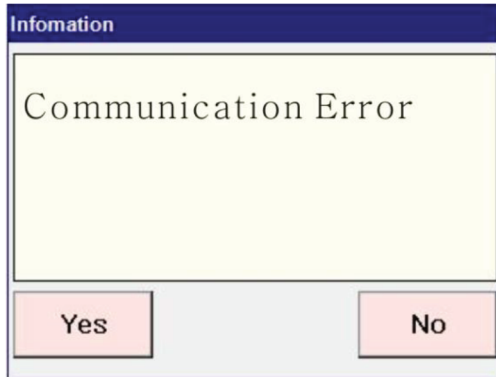
When you press the “Stop” button while the oven is running a cycle this will pop up.



☞ Solution → To stop the program press the yes button, if you want to keep running, press the no button. If there is no action performed for 5 sec. the program will continue.

■ **“Communication Error”**

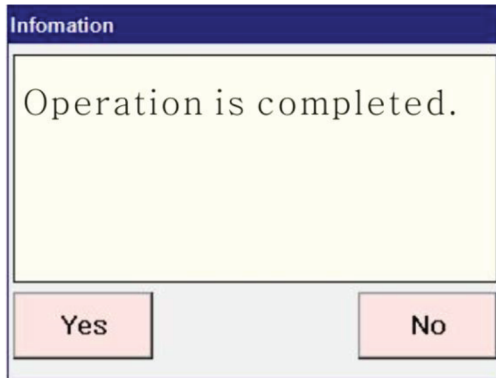
If there is no communication between the display controller and I/O controller for more than 10 seconds this message will pop up.



☞ Solution → Restart the oven. If the problem persists please contact a manufacturer for further troubleshooting.

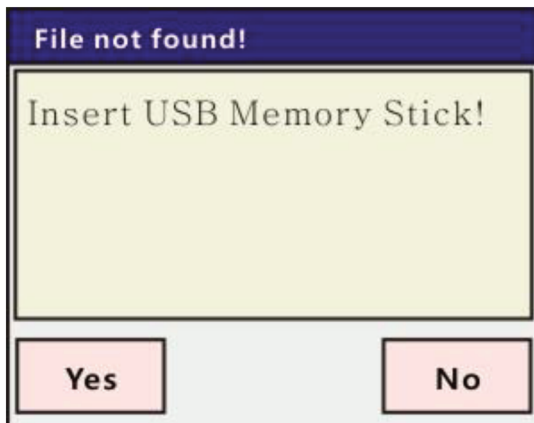
■ **“Completed.”**

When the program operation is completed this message pops up.



■ “Insert USB Memory Stick!”

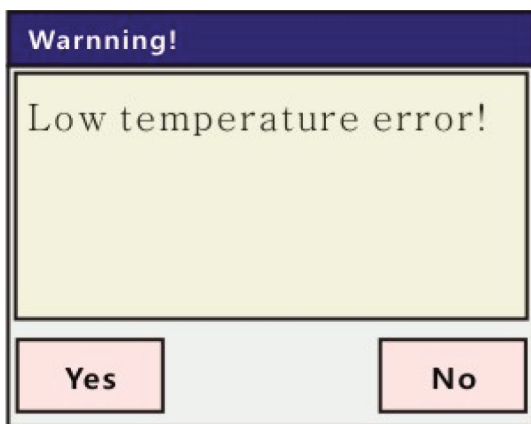
Have not insert USB drive or oven does not recognize USB drive.



☞ Solution → Insert USB drive to oven. If already connect USB drive to oven, wait for 5–10 sec. then click USB button on display. If Oven does not recognize, change USB drive.

■ “Low temperature error!”

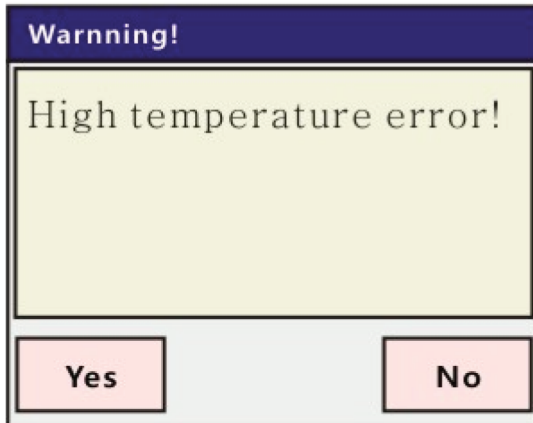
Temperature is not ramping up because of problem on Muffle.



☞ Solution → Restart oven. If there is same problem, contact a manufacturer.
(Muffle repair or change. Wire connected to Muffle repair)

■ “High temperature error!”

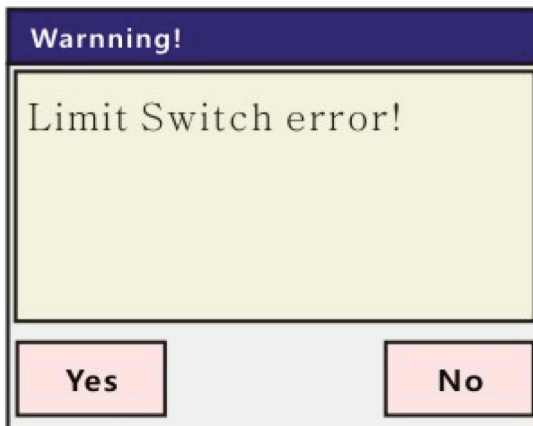
Temperature is not reading correctly because of trouble on thermocouple.



☞ Solution →Restart oven. If there is same problem, contact a manufacturer.
(Thermocouple repair /exchange)

■ “Limit Switch error!”

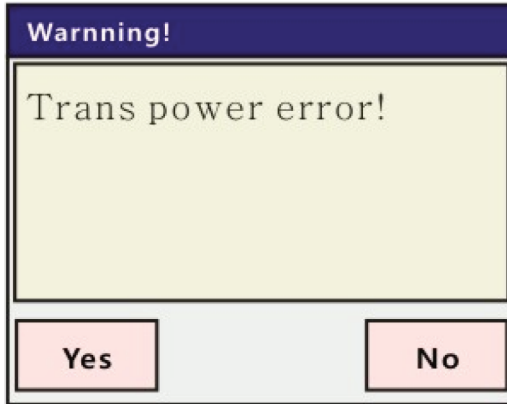
Schedule start without lift is not completely close.



☞ Solution →Restart oven. If there is same problem, contact a manufacturer.
(Limit motor repair or limit sensor repair)

■ **“Trans power error!”**

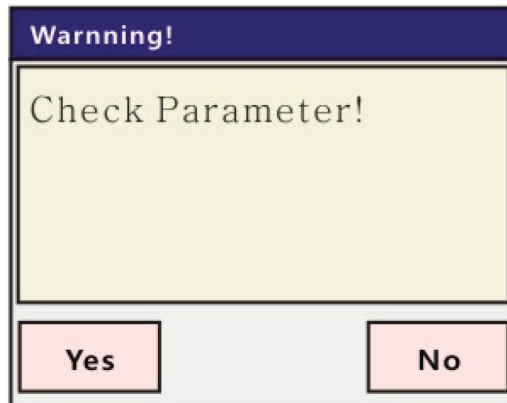
Power does not give to Muffle.



☞Solution →Restart oven. If there is same problem, contact a manufacturer.
(Control PCB repair/exchange)

■ **“Check Parameter!”**

Has a trouble in Control PCB. Oven is not working normally.



☞Solution →Restart oven. If there is same problem, contact a manufacturer.
(Control PCB repair/exchange)

11. Warranty

No.	Condition	Within warranty period	After warranty period
1	Within 10 days of purchase, require major repair by defect even though used in normal condition	Exchange or refund	
2	After 1 month of purchase, require major repair by defect even though used in normal condition	Exchange	
3	Manufacturer could not repair for a month from customer request to be fix	Exchange	Exchange + Charge for depreciation in price
4	Same problem occur 3 times	Free Repair	Repair + fee
5	Same problem occur 4 times	Exchange	Repair + fee
6	Within 6 month after repairing with charging fee, same problem occur	Repair without fee or refund repair fee	
7	5 times repaired by troubles in several parts, but detecting trouble again	Exchange	Repair + fee
8	Cannot be repaired although have the spare parts. (Within spare parts holding period)	Exchange	Exchange + Charge for depreciation in price
9	Cannot be repaired by out of parts (Within spare parts holding period)	Exchange	Exchange + Charge for depreciation in price
10	Incident due to operator error	Repair + fee	Repair + fee
11	Lost parts or products by manufacturer	Exchange	Exchange + Charge for depreciation in price
12	Damage in delivery	Exchange(Claim for damages to carrier)	
13	Lost or damaging parts during delivery from customer to manufacturer	Customer fault.	
14	Damage during the install by manufacturer	Exchange	Repair + fee
15	Any other quality issue	Additional progress	

♣ It is not manufacturer's responsibility that any loss of business while product is not working.

MEMO

MEMO

MEMO

MEMO

WARRANTY CARD

To protect benefit of customers and official dears, Addins inc. assure product quality as follow

Warranty is void under these circumstances

- Modification not approved by authorized support technician
- Incident due to operator error
- Sales performed by unauthorized persons
- Oven not operated as outlined in the manual
- Damage caused by external sources such as power outage, fire, act of God, etc.
- Without a warranty

Fill out this warranty card and send to e-mail (addins@korea.com) or fax to 031-848-2072. Without submitting this warranty card, warranty may not be covered.

Customer	Name	
	Phone	
	Address	
Seller	Company	
	Phone	
	Address	
Install date		
Serial No.		Warranty period
Product Name		



Warranty Info

1. Warranty Length

Warranty is good for 1 year after purchase for malfunctions due to manufacturer defects

2. Warranty Exclusions

Warranty is void under these circumstances

- Modification not approved by authorized support technician
- Incident due to operator error
- Sales performed by unauthorized persons
- Oven not operated as outlined in the manual
- Damage caused by external sources such as power outage, fire, act of God, etc.
- Without a warranty

3. Miscellaneous

Sales must be invoiced to be eligible for warranty

4. Caution at use

- Avoid places of sudden and/or drastic temperature changes
- Do not use flammable material for cleaning
- Do not install near high voltage usage or voltage fluctuations
- Avoid heavy shock to the machine
- Do not place oven in direct sunlight or in place with heavy dusts
- Store in dry places
- Do not use in area with vibrations

* For upgrade product, function can be changed without notice.<Updated 04. 30. 2014>

IDS PLUS BURN



IDS CAD is a distributor of ADDIN.

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