Ibx instruments INC-H Refrigerated Incubator with Humidity Control User Manual

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Contents

Preface

Thank you for purchasing our product. Users should read this manual carefully, follow the instructions and procedures, and be aware of all the preventive measures when using this instrument.

Service

If help is needed, you can always contact your dealer or Labbox via www.labbox.com.

Please provide the customer service representative with the following information:

- **Serial number**
- **Description of the problem**
- **Your contact information**

Warranty

This instrument is guaranteed to be free from defects in materials and workmanship under normal use and service for a period of 24 months from the date of invoice. The warranty is extended only to the original purchaser and shall not apply to any product or parts that have been damaged due to improper installation, improper connections, misuse, accident, or abnormal conditions of operation.

For claims under the warranty, please contact your supplier.

Introduction

The INC-H Refrigerated Incubator with Humidity Control is the ideal testing equipment for simulating natural environments. It comes with 30 segments of program memory and functions such as constant temperature, auto humidity control, day/night cycle, and over-temperature protection. This equipment can be used for a wide range of applications, including seed germination, seedling raising, plant growth, microorganism cell culturing, insect rearing, commercial medicinal testing, building and timber material performance testing, industrial product quality inspection, and constant temperature and humidity experiments.

Characteristics

1. **The high-brightness large screen liquid crystal display panel and light-touch operational keys allow for easy viewing of cycle period, segments, time, temperature, and humidity. The device can be connected to a computer through a USB interface, ensuring that the entire experimental process is controlled safely. (The USB interface and software are optional accessories and must be purchased separately.)**

2. **The instrument has various anti-jamming measures and includes functions such as over-temperature protection, thermal resistor short-circuit protection, and delay protection to ensure reliable security during use.**

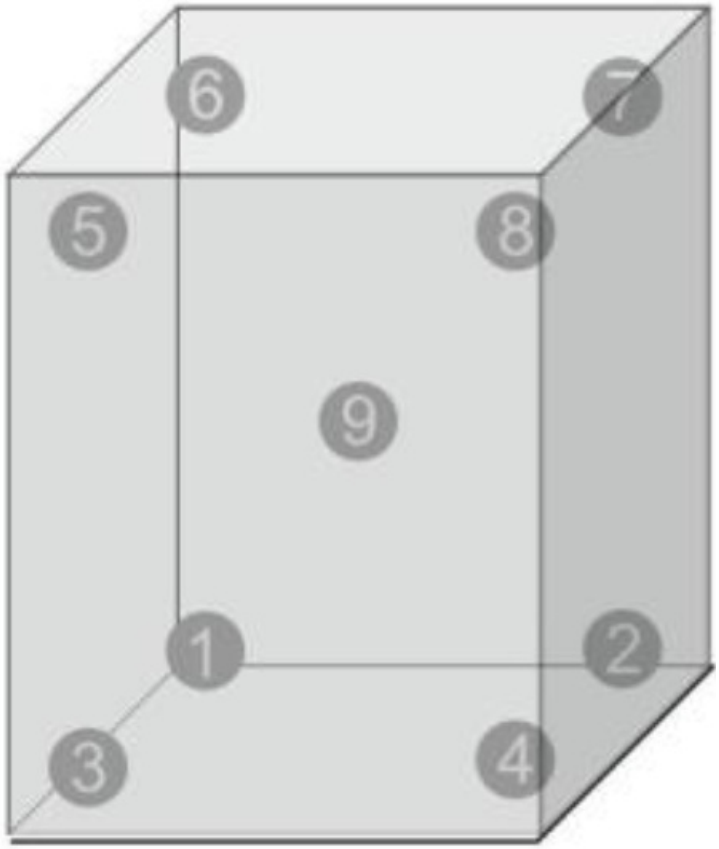
3. **The entire structure is made using advanced techniques, including a cold-rolled steel surface with electrostatic spraying for an attractive and durable finish.**

4. **The advanced air flue circulate mode ensures a balanced flow rate in the working room, preventing powdery substances and young plants from blowing away. The device includes a world-famous brand compressor and uses environmental protection refrigerant R134a to ensure safe and effective experiments.**

Main Technical Parameters

Model	INCH-070-001	INCH-150-001
Supply Power	220/50Hz	
Temperature Range	With humidification 10-65 ºC; without humidification: 0-65 ºC	
TemperatureDistinguishability	0.1 ºC	
Temperature Fluctuation	High temperature ±1 ºC; low temperature ±0.5 ºC	
Humidity Range	45 % ~ 90 % RH	
Humidity Error	±5 % RH	
Heating Power	1800W	2000W
Interior Dimensions (mm)	415*350*500	490*400*750
Exterior Dimensions (mm)	571*591*1051	646*641*1301
Packaging Dimensions (mm)	676*680*1235	751*730*1490
N.W. (kg)	69	86
G.W. (kg)	92	114

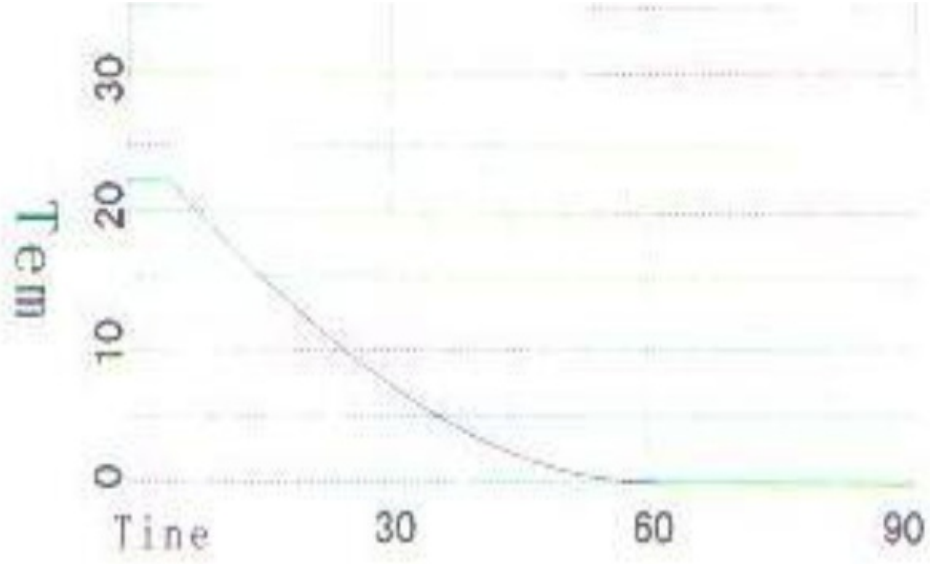
Working Room Temperature Profile



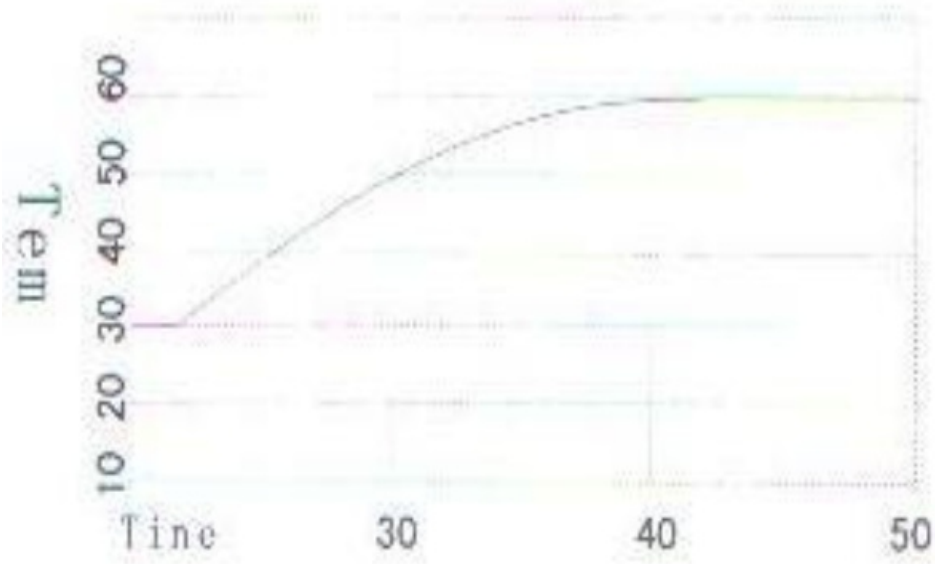
Temp.Spot	Temp.(ºC)	Temp.Spot	Temp.(ºC)
①	36.63	⑤	36.91
②	36.98	⑥	36.86
③	37.5	⑦	36.88
④	37.33	⑧	36.64
⑨	37.15		

Diagram

Cooling Down Speed (SPC-250)

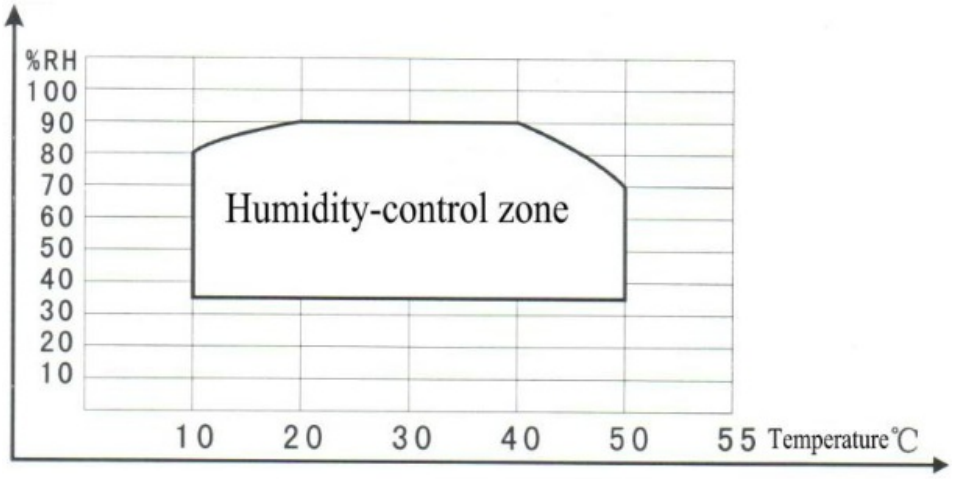


Heating Up Speed (SPX-250)



Note: The above specifications are tested with a chamber temperature of ≤25 ºC and are only applicable to our products.

Temperature and Humidity Diagram



Working Conditions

1. Ambient Temperature: 5 ºC ~ 32 ºC (e.g., if the set temperature is ≤10 ºC, the ambient temperature should be ≤28 ºC).
2. Relative Humidity: ≤80 % RH.
3. Air Pressure: 86 – 10 Kpa.
4. Keep the climate chamber away from vibrations and corrosive gases.
5. Keep the container away from direct sunlight and other cooling and heating sources.
6. Keep it away from high concentrations of heat sources; install it horizontally and leave some space between the machine and wall.
7. Install it in a room with good ventilation.

Precautions

Safety

1. The device should be connected to an earthed power supply to ensure the safety of the machine and the experiment. Connect the power as required by the machine.
2. This equipment should not be used for inflammable and explosive, poisonous, or highly corrosive experiments.
3. Ensure that the machine is installed horizontally. If the machine is newly installed, let it stand for 24 hours before using it for the first time.
4. Non-professionals are not allowed to disassemble or repair this machine.
5. Do not set the temperature too low when the temperature inside the container is ≥ 50 ºC to ensure the long service life of the compressor.
6. When an alarm is triggered, do not force start the machine until the problem is identified.
7. Read the instruction manual carefully before operating the machine

Operation

1. If starting up the machine for the first time, do not change any parameters unless allowed in the operation manual.
2. Turn off any unnecessary lights or humidifiers.
3. During testing, if the temperature or humidifier is shut off for protection, set the humidifying parameters to 0 when not necessary.
4. The working room uses a vertical ventilation circulation mode, so do not overload the trays with too many items. The total burden area load should not exceed one third of the tray.
5. If the testing environment temperature is over 35 ºC, or if the working room temperature is over 50 ºC, do not set a low temperature.
6. Do not use acids or alkalis to clean the inner and outer surface of the machine. Periodically clean it with neutral detergent and wipe it with a dry cloth.
7. Turn off the power when finished using the machine and keep the interior and exterior of the chamber dry and clean.

Operation Instructions

Instructions for Use

- Before turning on the power for the first time, let the humidifier stand at room temperature for half an hour.
- The recommended working environment for the humidifier is between 5 ºC and 40 ºC, with a relative humidity of less than 80% RH.
- Use clean water at temperatures below 40 ºC.
- If the humidifier has not been used for a long time, the water tank and sink must be cleaned before use

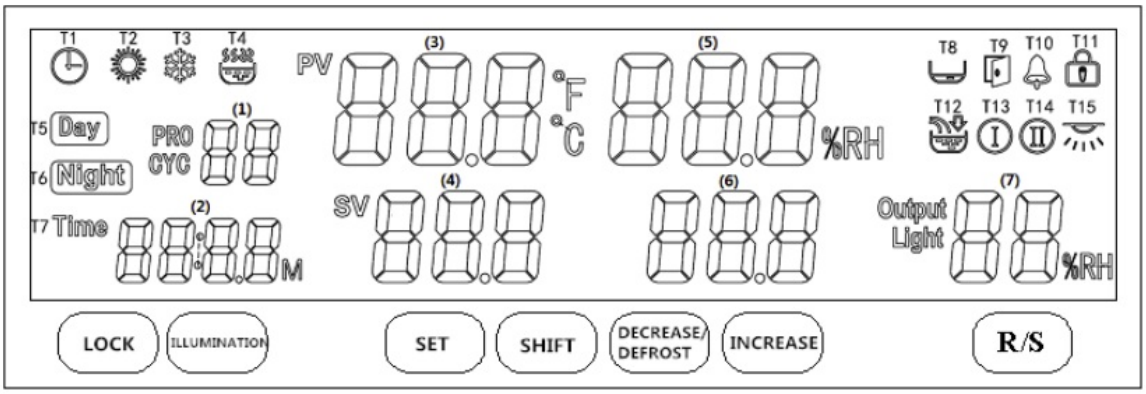
Installation and Operation Steps

- Remove the two water boxes from the incubator chamber.
- The smaller plastic tub is for wastewater and should be placed under the water valve. (In case the

incubator will not be used for a long time, please open the water valve, and let all the water out.)

- The bigger water reservoir with a cover is for pure water and should be positioned under the suction hole.
- Open it and connect the two tubes.
- Connect one tube from the suction hole through the hole in the cover and install the water filter at the end.
- Connect the second tube from the drain hole to the water reservoir if your circulating water is pure and can be recycled.
- However, if the water from the drain hole cannot be recycled, please connect it to the wastewater tub.
- Connect the power supply and turn on the power switch (make sure it is dry and not turned on yet). The power LED light will turn on.
- Adjust the fog volume control knob to select the appropriate fog volume.

Operation and Display Instructions of the Meter



Definition

T1 Reservation: T1 flashes when entering the reservation timing. The (2) display window shows the reservation countdown.
T2 Heating: 12 lights up when heating is output.
T3 Compressor: T3 lights up when the compressor starts up, and flashes when the compressor is waiting for the start-up delay.
T4 Humidification: T4 lights up when humidification is output.
T5 Daytime: T5 lights up when in daytime mode.
T6 Night: Tó lights up when in night mode..
T7 Timer: T7 flashes when the timer is running, and the (2) display window shows the timing countdown time of the timer.
T8 Water shortage: T8 lights up when there is a water shortage, and flashes when there is a water shortage alarm.
T9 Open the door: 19 flashes when the door is open.
T10 Alarm: T10 lights up when there is an alarm of temperature and humidity, and flashes when entering the low temperature or high temperature protection state.
T11 Lock the screen: T11 lights up when the screen is locked.
T12 Addition of water: T12 lights up when the water pump is output.
T13 Defrost: T13 lights up when defrost is activated.
T14 Magnetic valve: T14 lights up when magnetic output is activated.
T15 Illumination/sterilization: T15 lights up when illumination is output, and flashes when sterilization is activated.

Display Window

1 display window display: Period or segment values.
2 display window display: Timing or time setting.
3 display window display: Temperature measurement value.

4 display window display: Temperature setting value.
5 display window display: Humidity measurement value.
6 display window display: Humidity setting value.
7 display window display: Illumination value or heating output power

Definition of Keys

LOCK key	Under normal display, press and hold this button for 2 seconds to manually lock o r unlock the screen.
ILLUMINATION key	Under normal display, clicking this button switches the illumination.
Steaky	Under normal display, clicking the button enters the setting value modification inte rface. Press and hold this button for 3 seconds to enter the parametertable modifi cation interface.
SwiftKey	In the setting state, clicking this key shifts the set value, causing it to flicker and al lowing for modification.Under normal display, if running in [day/night] mode, this k ey switches therunning state of day and night. If running in program mode, this k ey shifts the segments or cycles displayed.
INCREASE key	In the setting state, clicking this button increases the setting value. Under normal display, if there is a water shortage alarm, long-pressing this button cancels the al arm and continues to add water.
DECREASE/DEFROST ke y	In setting state, clicking this button decreases the setting value. Under normaldisplay, long-pressing this button turns on the defrost function manually.
R/Skye	In normal displaying state, clicking or pressing this button for a long time turns th e controller on or off.

Operation and Use

When the controller is powered on, the 3 display window will show “PS” and the 5 display window will show “V06”. There will be a short alarm, and after 2 seconds, the controller will enter the normal display mode.

Modification of Setting Value

In the normal display mode, press the SET button. The “TIME” and “SV” will flash at the same time. You can change the flashing value using the SHIFT , INCREASE , and DECREASE buttons. Press the SET button again to shift to the next value. After finishing the modification, press and hold the SET button for 1 second to exit the setting mode. In constant value mode, you can continuously press the SET button to change a set of data and then exit. After a short alarm, the controller will enter the normal display interface and keep the data automatically.

When the controller is running in program mode, press the SET button. The data of the segment will start flashing. At this time, use the INCREASE and DECREASE buttons to change the segment, where you can see the time, temperature, humidity, and illumination. Press the SET button again to change the data in the present segment. When the cursor returns to the segment value and flashes, modify the next segment value again.

When the controller is running in DAY/NIGHT mode, press the SET button, and “DAY” will flash. You can shift to “NIGHT” using the INCREASE and DECREASE buttons, and then “NIGHT” will flash. You can press the SET button to check the setting value and modify the setting value in DAY/NIGHT mode.

Set Segment Number or Cycles

In the no constant mode (see parameter list -1-U1 for details), when the controller is stopped, press the SET button for 3 seconds. The (1) display window will then show “Lc,” and the (2) display window will display the password number. Change the password number to 3 using the INCREASE and DECREASE buttons, and enter the mode of segment and cycle

In the programmable mode, if the “PRO” prompt flashes, you can set the total segment number of running. Click SET , and the “CYC” prompt will flash. You can then set the total cycle number of running (when the cycle number is 0, the controller will run all the time). After finishing the setting, press the SET button for 3 seconds to exit, and the parameters will be stored.

In the DAY/NIGHT mode, the total segment number cannot be set; only the cycle number can be set.

Start and Stop

To start the controller, press the R/S button U7 second (see user parameters table -1 for details). The (2) display window will show the remaining time during operation. When the time is up, the controller will stop and the buzzer will sound, U9 (see user parameters table -1 for details). The (2) display window will display “End”. Alternatively, to stop the controller, pressure/S U7 second for a long time and the (2) display window will display “OFF”.

In programmable mode, if the total segment number is more than 1, and in the mode of constant temperature and humidity (see parameter table -1-U5 and U6 for details), it is required to set each period of time before starting the operation. Note that starting the operation with a setting time of 0 is not possible

Reservation Function

f the reservation function AP is enabled (refer to the user parameters table -7 for details), press SET again to set the reservation time in minutes. Otherwise, exit directly to the normal display interface. After setting the reservation time, press R/S to start. When the reservation time is counting down, you can enter the parameter table again to modify the reservation time. Or press R/S to stop the controller, which will automatically reset the reservation time to 0 and make it valid only once.

Fault Prompt

Temperature alarm: If there is an upper temperature deviation alarm, the unit “ºC” will flash quickly. If there is a lower temperature deviation alarm, the unit “ºC” will flash slowly.

Humidity alarm: If there is an upper humidity deviation alarm, the unit “%RH” will flash quickly. If there is a lower humidity deviation alarm, the unit “%RH” will flash slowly.

If the display window labeled 3 shows “—”, it means that either the temperature sensor or the controller is faulty. Please carefully check the temperature sensor and its wiring.

Defrost Function

The defrost function can be turned on either automatically or manually. If you want to turn it on automatically (check the parameters in table-4 for details) and then set the interval time and duration of the defrost cycle. On the other hand, if you want to turn it on manually, click the DEFROST button in the main interface. Note that the duration of the manual defrosting time still depends on the time set in the parameter table, and the defrost function will end once the delay time has elapsed.

Power-off Memory Function

You can choose whether to enable the power-off memory function by modifying the power-off memory parameters (check “U2” parameters: internal parameters table-1).

Check and Set the Internal Parameters

In the normal display state, press SET for 3 seconds, and the (1) display window will display the password prompt “Lc”, and the (2) display window will display the password value. Input the correct password to enter the setting mode of internal parameters, and then click SET to modify each parameter. After that, press SET for 3 seconds, and the buzzer will give a short blast and exit. The parameters will be stored automatically.

Note: All internal parameters have been adjusted during factory testing. It is forbidden to modify them except for the Sensor Correction parameter

Parameters Table

User Parameters Table -1

Parameter Indication	Parameter Name	Parameter Function Description	(Range) Factory Value
Lc	Password	When "**Lc=9**", you can check and modify the parameters.	0
U1	Running mode	0: Fixed value running mode.1: Day or night mode, 0 ~ 99 cycles.2: Program mode, programmable 1 ~ 30 period,0 ~ 99 cycle.	(0 2) 0
U2	Power off running mode	0: No run.1: Running from the first paragraph (day) . 2: Running from outage time.	(0 2) 2
U3	Timing correction	Correction of the total timing error, corrected value = (running time in seconds – actual time in seconds) * 10 ÷ actual time in minutes.	(-999 999) 0
U4	Time unit	1: minutes 0 ~ 9999; 2: hours 0 ~ 9999	(1 2) 1
U5	Timing deviation of constant temperature	When starting the timing function, the difference between the measured temperature and the set value should be within **U5.Note: 0** means timing doesn't need to judge the temperature.	(0 10.0ºC) 0
U6	Timing deviation of constant humidity	Start timing if the humidity measurement value is within U6 of the set value. **Note:** 0 means timing doesn't need to judge the humidity**.**	(0 50.0%) 0
U7	**R**/**Available** time	After pressing **U7** for a long time, **R**/**S** is available .	(0 10s) 0
U8	Lock screen time	Auto-lock screen time. 0 means no auto-lock screen time.	(0 300s) 0
U9	Prompt time of end of the running	When the running finishes, the buzzer beeps. **Note:** 0 means beep all the way.	(0 300s) 0
UA	Illumination time	When the lighting is turned on, the lighting time is automatically turned off.**Note: 0 means** that the light must be turned off manually.	(0 9999min) 0
Ub	Temperature of starting sterilizing	If the setting temperature is ≤ Up, the sterilization function is turned on. If the setting temperature is > **Up**, the sterilization function is turned off.**Note:Accord**ing to Parameters-8, you can turn on or off the sterilization function.-0.1 alarm of output humidity for sterilization relay.	(-0.1 50.0ºC) 0
Up	IP	IP of this machine	(1 16) 1

Temperature Parameter Table -2

Parameter Indication	Parameter Name	Parameter Function Description	(Range) Factory Value
Lc	Password	"**Lc=103**", allows you to check and modify the parameters.	0
TH	Upper deviation Over temperature alarm	If the "measured value > setting value + **TH**", then the upper deviation alarm will sound, and the temperature and humidity output will be turned off. When the alarm is triggered, the temperature alarm relay will activate, the buzzer will sound, the alarm indicator will light up, the temperature unit will flash rapidly, and any button can be pressed to cancel the buzzer.	(0 20.0ºC) 5.0
TL	Lower deviation Over temperature alarm	If the "measured value < set value + TL", the lower deviation alarm will sound. When the alarm is triggered, the temperature alarm relay will activate, the buzzer will sound, the temperature unit will flash slowly, and any button can be pressed to cancel the buzzer. **Note:** this function is invalid when "TL=0".	(-50.0 0ºC) 0
Tb	Deviation correction	Correct the error generated by the sensor when measuring low temperature;**Tb** = actual temperature value – meter measurement value.	(-99.9 99.9ºC) 0
TA	Slope correction	Correct the error caused by the sensor when measuring high temperature. A **= 1000 *** (actual temperature value – meter measurement value) / meter measurement value.	(-999 999) 0
TP	Heating ratio	Adjust the time proportionally.	(0.1 50.0) 8.0
TI	Heating integral	Adjust the integral action.	(1 2000s) 500
TD	Heating differential	Adjust the differential action.	(0 2000s) 200
TT	Heating cycle	Adjust the heating control cycle.	(1 60s) 5
Tc	Low temperature control Heat off	Non-heating point during low temperature control, only valid when the temperature setting is lower than the ambient temperature.	(-2.0 0ºC)-0.5
To	Heating power	Maximum percentage of the heating output power.	(0 100%) 100
Tu	Cooling on	When the compressor is in the manual start/stop mode and in the off-type control, if the "measuring temperature ≥ set temperature + Tu", the compressor is turned on.	(-10.0 10.0ºC) 0.6
Tn	Cooling off	When the compressor is in the manual start-stop mode and in the off-type control, if the "measuring temperature ≤ set temperature + Tn", turn off the compressor.	(-10.0 **uP**) 0.6
TE	High temperature control Heat off	Heat off: Non-heating point during high temperature control, only valid when the temperature setting is higher than the ambient temperature.	(-10.0 10.0ºC) 5.0

Humidity Parameter Table -3

Parameter Indication	Parameter Name	Parameter Function Description	(Range) Factory Value
Lc	Password	To view and modify parameter values, enter **“LLC=203”.**	0
HH	Upper deviation Over humidity alarm	If the “humidity measurement value > set value + **HH**”, an upper deviation alarm is triggered, and the super-wet alarm relay and humidity output are turned off. When the alarm is triggered, the humidity alarm relay has an output, the alarm indicator is on, and the humidity unit flashes rapidly.	(0 50.0%) 20.0
HL	Lower deviation Over humidity alarm	If the “humidity measurement value < set value + HL”, a lower deviation alarm is triggered. The humidity alarm relay has an output when the alarm is triggered, the alarm indicator is on, and the humidity unit flashes rapidly. **Note:** thisfunctionisinvalidwhen“HL=0”**.**	(-50.0 0%) 0
Hb	Deviation correction	Correct the error generated when measuring the sensor for low humidity. **Hob** = actual humidity value – meter measured value.	(-99.9 99.9%) 0
HA	Slope correction	Correct the error generated when measuring the sensor for high humidity. HA = 1000 * (actual humidity value – meter measurement value) ÷ meter measurement value.	(-999 999) 0
HP	Humidification ratio	Time proportional adjustment.	(0.0 90.0) 10
HI	Humidification integral	Integral action adjustment.	(1 999s) 200
Hd	Humidification differential	Differential action regulation.	(0 999s) 30
HT	Humidification cycle	Humidification control cycle.	(0 60s) 3
Hc	Low humidity control Humidification off	Non-humidification point during low humidity control.	(-50.0 50.0%) 0.0
Ho	Humidification power	Maximum power percentage of humidified output.	(0 100%) 100
Hu	Dehumidification off	When the compressor is in manual start/stop mode and the compressor is in off-type control, if “measuring humidity ≥ set humidity + **Hu**”, turn on the compressor.	(**Hn** 20.0%)-5.0
Hn	Dehumidification on	When the compressor is in manual start/stop mode and the compressor is in off-type control, if “measuring humidity ≤ set humidity + **Hn**”, turn off the compressor.	(-20.0% **Hu**) 3.0
HE	No humidification point	When the compressor is working in the intermittent mode, the humidification can be stopped in advance by modifying the set value if the conditions are met.	(0.0 10.0) 2.0

HF	Low humidity humidification point	When controlling for low humidity, if the humidity measurement value is ≥ humidity set value + HF, the controller will prevent humidification.	(-10.0 10.0%)-5.0

Compressor Parameter Table -4

Parameter Indication	**Parameter Name**	**Parameter Function Description**	**(Range) Factory Value**
Lc	Password	View and modify parameter values when “LLC=109”.	0
C1	Prohibit compressor Working temperature point	The compressor operation is absolutely prohibited when “temperature measurement ≥ C1”	(0 100.0ºC) 42.0
C2	Do not open the compressorWorking temperature point	When “temperature set value ≥ C2”, the compressor is turned on only when the temperature measurement value is higher than the temperature set value.	(0 100.0ºC) 42.0
C3	Normally open temperature point	When “temperature set value ≤ C3”, the compressor operates in a balanced manner.	(-15.0 100.0ºC) 40.0
C4	Normally open humidity point	When the “humidity set value ≤ C4”, the compressor operates in a balanced manner.(The normal open temperature point and the normally open humidity point have one condition, and the compressor works in a balanced manner.)	(0 100.0%) 10.0
C5	Way of working	0: Automatically obtain refrigeration and automatically obtain the dehumidification threshold.1: Manually set the cooling and automatically obtain the dehumidification threshold. **Note:** Only valid when the compressor is working in disconnected mode**.**	(0 3) 3
C6	Compressor start delay	Compressor start delay protection time, the minimum time interval from compressor stop to restart.	(0 600s) 180
C7	Defrosting method	0: No defrosting function.1: Electromagnetic valve defrosting. 2: Heating tube defrosting.3: Independent heating tube defrosting.	(0 3) 1
C8	Defrost interval 1	Defrost time interval when “temperature set value ≤ 10.0 ° C”. **Note:** 0 means there is no automatic cream in this section, it can be opened manually.	(0 9999min) 180

C9	Defrost interval 2	Defrost time interval when “10.0 ºC <temperature set value ≤ 20.0 ºC”. Note: 0 means there is no automatic defrosting in this section and it can be done manually.	(0 9999min) 240
CA	Defrost interval 3	Defrost time interval when “20.0 ºC <temperature set value ≤ 30.0 ºC”. Note: 0 means there is no automatic defrosting in this section and it can be done manually.	**(**0 9999min) 480
Cb	Defrost interval 1	Defrost on time when “temperature set value ≤ 10.0 ºC” **Note**: 0 means no defrosting in this section.	(0 200s) 120
Cc	Defrost time 2	Defrost opening time when “10.0 ºC < temperature set value ≤ 20.0 ºC”.Note: 0 means no defrosting in this section.	(0 200s) 120
Cd	Defrost time 3	Defrost opening time when “20.0 °C <temperature set value ≤ 30.0 °C”. Note: 0 means no defrosting in this section.	(0 200s) 15
CE	Solenoid valve function	-2: No Solenoid valve function.-1: When the compressor needs to be turned on and the opening delay time is over, the solenoid valve is opened first, then the compressor is turned on again after 10 seconds.0: Normally open solenoid valve mode. 1, 2: See CF parameters below for details.	(-2 2)-2
CF	Solenoid valve on	If CE=0, when the “temperature measurement value <temperature set value-CF”, the solenoid valve is opened; when “temperature measurement value>temperature setting value+CF”, the solenoid valve is closed. If CE=1, the solenoid valve is opened when “temperature set value ≥CF”, and the solenoid valve is closed when “temperature set value <CF”.If CE=2, when the “temperature measurement value>temperature setting value+CF”, the solenoid valve is opened; otherwise, the solenoid valve is closed.	(-20.0 50.0ºC) 0

Internal Parameter Table -5

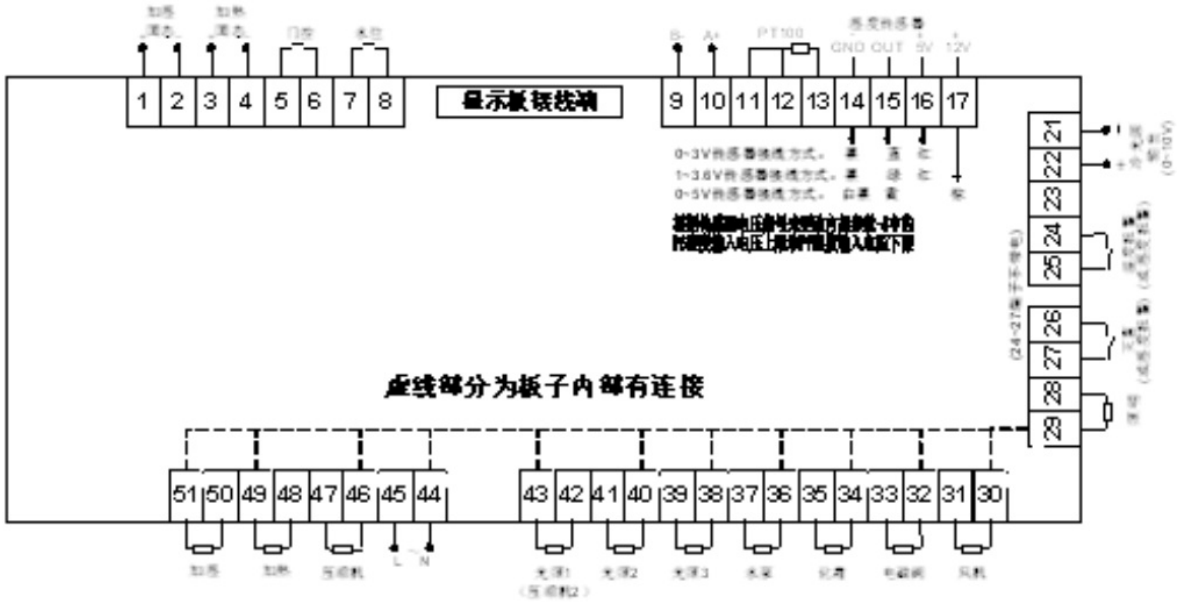
Parameter Indication	**Parameter Name**	**Parameter Function Description**	**(Range)Factory Value**
Lc	Password	The parameter values can be viewed and modified when **“Lc=209”.**	0
P1	Illuminance selection	0: no light; 1: total 3 levels.2: total of 4; 3: total of 5.4: total of 6 levels.5: total of 10 levels (cold light source 0~10V output).	(0 5) 0

P2	Humidity selection	0: no humidity; 1: only displays humidity; 2: humidity i s controllable.	(0 2) 2
P3	Internal parameters	The reserved can be set.	(0 9999) 0
P4	Temperature Upper li mit setting	Maximum temperature setting.	(P5 99.9ºC) 65 .0
P5	Lower limit temperat ure setting	Minimum temperature set point value.	(- 19.9 P4ºC)0. 0
P6	Voltage upper limit of humidity input	Corresponding input voltage value when humidity is 1 00%.	(P7~5000mV) 3600
P7	Lower voltage limit of humidity input	Corresponding input voltage value when humidity is 0 %.	(0~P6 mV) 10 00
P8	Low temperature pr otection	When “temperature measurement value or temperatu re setting value ≤ P8”, humidity is not controlled, only temperature is controlled, and the alarm light flashes slowly.	(- 25.0 30.0º C)0
P9	High temperature pro tection	When “temperature measurement value ≥ P9”, the op eration stops, all outputs are turned off, and the alarm light flashes quickly.	(0 105.0ºC) 10 0.0
PA	Temperature filter co efficient	Adjust the temperature sensitivity.	(1 200) 20
Pb	Humidity filter coefficient	Adjust the humidity sensitivity.	(1 200) 20
PC	Input selection	0: If the door controller is connected, the door will ope n. If the water controller is connected, there will be a water shortage.1: If the door controller is disconnected, the door will open. If the water controlle r is closed, there will be a water shortage.2: If the door controller is connected, the door will be open. If the w ater level controller is disconnected, there will be a wa ter shortage.3: If the door controller is disconnected, t he door will be open. If the water level controller is dis connected, there will be a water shortage.	(0 3) 0
Pd	Water level delay Ad ding water time	If Pd>0, extend the Pd time and close the water after adding water.If Pad < 0, water shortage is detected, a nd water is added after a delay of Pd time**.**	(-20 20s) 5
PE	Humidity Decimal pla ce selection	0: No decimals.1: Decimal display.	(0 1) 0
PF	Temperature display i nsensitive area	Temperature display insensitive area.	(0 10.0ºC) 0.1
PH	Humidity display Inse nsitive area	Humidity display insensitive area.	(0 50.0%) 1.0

Reservation Settings -7

Parameter Indication	Parameter Name	Parameter Function Description	(Range) Factory Value
Lc	Password	The parameter values can be viewed and modified whence**=36**".	0
AP	Reservation setting	0: reservation setting function off. 1: reservation setting function on.	(0 1) 0
T_	Reservation time	When the AP value is set to 1, to be turned on, click the Set button again to set the appointment time.	(0 9999min) 0

Wiring Diagram



General Faults and Troubleshooting

Fault Phenomenon	Failure Analysis	Troubleshooting
Temperature control instrument displays 0000 or ——	1. The sensor is broken. 2. The sensor wiring is off. 3. The controller is broken	1. Replace the sensor. 2. Check wiring and connect securely 3. Replace the controller.
Temperature has been risingwithout control	1. Controller wiring board is bad.	1. Replace the controller wiring board.

The circulating fan does not work or has abnormal noise	1. The motor is faulty. 2. The motor capacitor is faulty. 3. The wiring board of the controller is faulty. 4. The blades of the motor fan are damaged.	1. Replace the motor. 2. Replace the motor capacitor. 3. Replace the wiring board of the controller. 4. Replace the blades of the motor fan.
The temperature does not rise when the set temperature is higher than the measured temperature	1. The heater is faulty.	1. Replace the heater.
Poor cooling after long-term use	1. The instrument's condenser is too dusty. 2. There is not enough refrigerant, and it needs to be refilled.	1. Clean the dust on and below the condenser.2. Add refrigerant.
No refrigeration or temperature can not be lowered	1. Check whether the compressor is running or damaged. 2. Check whether the internal fan of the chamber is running or damaged. 3. The compressor is running normally but there is no cooling effect. 4. Confusion in instrument parameters. 5. Poor ventilation in the lower part of the instrument.	1. Replace the compressor if it is damaged. 2. Replace the motor and fan blades if they are damaged. 3. Check for refrigerant leaks. 4. Adjust all meter parameters to factory values. 5. Leave a gap of 10 cm or more at the back and around the instrument for better ventilation.
Temperature overshoots too much	1. The instrument's parameter settings are incorrect.	1. Refer to the instructions and readjust the parameters.
Inconsistent sample culturing effect	1. Placing an excessive amount of sample in the work chamber can result in poor uniformity.	1. Do not place more than 80% of the volume with sample.

Documents / Resources

	lbx instruments INC-H Refrigerated Incubator with Humidity Control [pdf] User Manual INC-H Refrigerated Incubator with Humidity Control, INC-H, Refrigerated Incubator with Humidity Control, Incubator with Humidity Control, Humidity Control

References

- Lab supplies - Labbox Export
- Lab supplies - Labbox Export
- User Manual