

DW-LAC-N

Artificial Climate Incubator

User Manual



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1. Application

The artificial climate incubator is suitable for plant growth and tissue culture, seed germination, seedling raising, and microbial cultivation tests; feeding of small insects; BOD measurement of water quality monitoring; aging and service life testing of medicinal materials, wood and building materials, etc. It is an ideal test equipment for light, constant temperature and constant humidity.

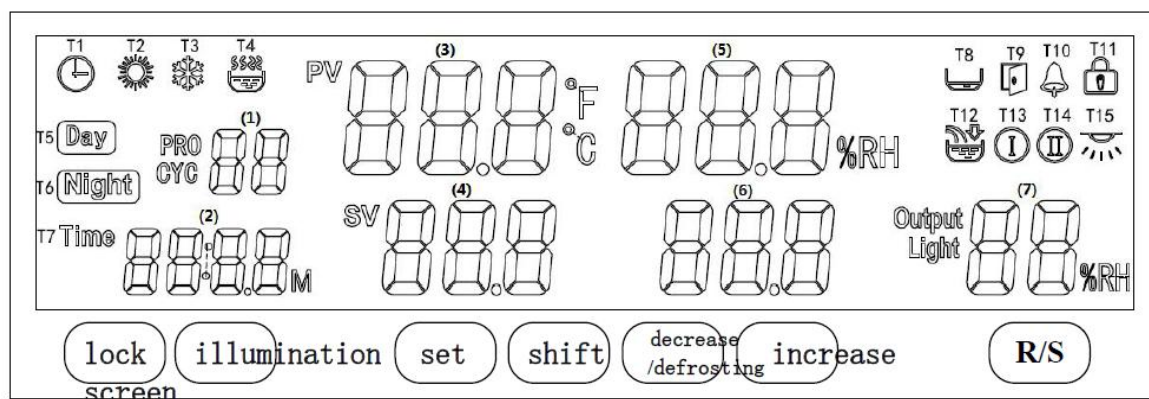
2. Characteristics

1. Artificial climate incubator is a high-precision hot and cold constant temperature equipment with light and humidification functions.
2. It adopts advanced microcomputer programmable technology control, and can set a variety of parameters of the climate incubator (including temperature, humidity and light) to simulate the natural climate.
3. Soft-touch adjustment switch, liquid crystal display. Multiple mode control is adjustable, easy to operate.
4. The climate incubator adopts outer door, left and right three-sided light boxes, and high-intensity fluorescent lamps with corresponding power are installed on the inside. The outer door and both sides are inlaid with multilayered glass with good moisture retention and light transmission. It can meet a variety of parameters of indoor samples, and it is also convenient to observe the changes of samples in the chamber.
5. In order to improve the reliability and stability of various indicators of the climate incubator, this machine uses high-performance heating tubes.
6. A fan is installed inside the chamber to form forced convection, which makes the average temperature of the working room better.
7. The chamber is made of high-quality steel plate with plastic-sprayed surface, and the inner tank is made of high-quality stainless steel plate.
8. The outer door adopts magnetic door seal, which has good sealing performance and easy to close.
9. The chamber has beautiful appearance, low noise and easy to maintain.
10. Equipped with earth leakage protector.
11. Equipped with auxiliary temperature controller, in order to perform secondary temperature control in case of failure of main temperature control.

3. Specifications

Model	DW-LAC-175-N	DW-LAC-275-N	DW-LAC-375-N	DW-LAC-475-N	DW-LAC-1075-N
Chamber Volume(L)	175	275	375	475	1075
Temperature range (°C)	With illumination:10~55°C Without illumination:0~55°C				
Temperature Stability	±1°C				
Display Resolution	0.1°C				
Temperature Uniformity	±1°C				
Humidity Range	30~95%RH				
Humidity Deviation	±3RH				
Illumination Intensity	0~12000LX	0~20000LX	0~25000LX	0~30000LX	0~30000LX
Program Control	Separately set for temperature and illuminance, can set 30-segment program , each section can be set from 1 to 99 hours.				
Power Rating	860W	1700W	2100W	4000W	5000W
Power Supply	AC220V, 50HZ				
Ambient Temperature	+5~35°C				
Working	Long continuous operation				
Chamber Size(W×D×H)cm	45*42*93	58*51*93.5	59*55*116	70*55*125	95*70*160
Exterior Size(W×D×H)cm	61*62*150	74*71*157	75*75*173	86*75*182	101*90*224
Shelf (Standard)	3pcs				

4. Instrument panel instructions



1) Identifier definition

- T1** reservation: When entering the appointment timing state, T1 flashes, 【(2) display window】 displays the scheduled countdown time;
- T2** heating: When heating has an output, T2 lights up;
- T3** compressor: When the compressor starts, T3 lights up; when the compressor is waiting for the start delay, T3 flashes;
- T4** humidification: When humidification has output, T4 lights up;
- T5** Day: When entering day mode, T5 lights up;
- T6** Night: When entering the night mode, T6 lights up;
- T7** timing: When entering the running timing state, T7 flashes, 【(2) display window】 displays the timing countdown time;
- T8** water shortage: When there is water shortage signal, T8 lights up; when there is water shortage alarm, T8 flashes;
- T9** opens the door: When the door is open, T9 lights up;
- T10** alarm: When there is temperature and humidity alarm, T10 lights up; when entering low temperature or high temperature protection state, T10 flashes;
- T11** lock screen: When entering the lock screen state, T11 lights up;
- T12** Add water: When the pump has output, T12 lights up;
- T13** defrosting: When the defrosting has an output, T13 lights up;
- T14** Solenoid valve: When the solenoid valve has output, T14 lights up;
- T15** Illumination/Sterilization: T15 lights up when there is output from the light; T15 flashes when sterilization has output (high priority for sterilization)

2) Display window

- 【(1) Display window】 Display: period or segment value;
- 【(2) Display window】 Display: timing or time setting value;
- 【(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: illuminance setting value or heating output power.

3) Button definition

【Lock screen】 key	In the normal display state, press and hold this key for 2 seconds to manually lock or unlock the screen.
【illumination】 key	In the normal display state, click this button to switch on and off the lighting.
【illumination】 key	In the normal display state, click this button to enter the setting value modification interface. Press and hold this button for 3 seconds to enter the parameter table modification interface.
【shift】 key	In the setting state, click this key to make the setting value shift blinking and modify. Under normal display status, if running in 【Day / Night】mode,

	you can switch between day and night running status; if running in program mode, you can switch the number of display segments or cycles.
【increase】 key	Click this key in the setting state to increase the setting value.
【decrease/defrosting】 key	In the setting state, click this button to decrease the setting value; Under normal display status, press and hold this key to enable the defrost function manually.
【R/S】 key	In the normal display state, click or long press this key to start or stop the operation of the controller.

5. Operation and use

1) The controller is powered on, **【(3) display window】** displays "PS", **【(5) display window】** displays "V02", the buzzer beeps briefly, and enters the normal display state after about 2 seconds.

2) Set value modification

In the normal display state, click the **【Set】** key, and the "TIME" and "SV" identifiers will flash at the same time. At this time, the numeric value of the cursor blinking can be modified by the **【Shift】**, **【Increase】**, and **【decrease】** keys. Click **【Set】** key again to switch to the next set of values. After the modification is completed, press and hold the **【Set】** key for 1 second to exit the setting state, or in the setting mode, click the **【Set】** key continuously to modify a group of data and exit. The buzzer beeps once and enters the normal display interface, parameters are automatically saved.

When the controller is running in the program mode, click the **【Set】** key, and the segment number display value starts to flash. At this time, you can modify the value of the segment by using the **【Increase】** and **【Decrease】** keys. You can view the time, temperature, humidity, and light setting values for the corresponding number of segments. Click the **【Set】** key again to modify the setting parameters under the current segment in turn. When the cursor returns to the segment value blinking, modify the segment value again to carry out the modification of the next segment.

When the controller is running in **【Day / Night】** mode, click the **【Set】** button, and the "DAY" identifier will blink. By clicking the **【Increase】** and **【Decrease】** buttons, you can switch the "NIGHT" identifier to blink, view the setting parameters of day and night, and click the **【Set】** button to modify the setting parameters in day or night mode.

3) Number of segments or cycles setting

In non-constant mode (see User parameter table -1-U1 for details), when the controller stops running, press and hold the **【SET】** key for 3 seconds, **【(1) display window】** displays the "Lc" prompt, **【(2) Display window】** The password value is displayed. Change the password value to 3 by **【Increase】** **【Decrease】** to enter the cycle and segment number settings.

In the program mode, if the "PRO" prompt flashes, you can set the value of the total running

segment; click the **【Set】** key, and when the “CYC” prompt flashes, you can set the total number of running cycles (when the number of cycles is set to 0, The controller is always running). After the setting is completed, press and hold the **【Set】** key for 3 seconds to exit the setting and the parameters are automatically saved.

In the day and night mode, there isn't setting of the total number of running segments, only the period can be set.

4) Start and stop

Long press the **【R / S】** key U7 (see user parameter table-1 for details) to start the controller. The **【(2) display window】** displays the remaining running time during running; when the running time is reached, the controller stops running and beeps. The device tweets U9 (see user parameter table-1 for details) seconds, **【(2) display window】** displays "End", or long press the **【R / S】** key U7 seconds to stop the controller operation, **【(2) display window】** "OFF" is displayed.

When the controller is running in the program mode and the total number of segments is greater than 1, if the constant temperature and humidity conditions (see parameter table 1-U5, U6) are not turned on, you need to set the time to turn on the operation and set the time to 0 start invalid.

5) Appointment function

When the value of the reservation function (Appointment setting -7) is set to 1, click the **【Set】** key again to set the reservation time, the unit is minute, otherwise exit directly to enter the normal display interface.

After setting the preset timing, you need to click the **【R / S】** key to activate the operation. In the timing of the reservation, you can enter the parameter table again to modify the reservation time, or click the **【R / S】** key to stop the controller operation. The running setting time is automatically cleared and is only valid once.

6) Fault prompt

Temperature alarm: “°C” flashes quickly when there is a temperature upper deviation alarm, and “°C” flashes slowly when the temperature lower deviation alarm;

Humidity alarm: "% RH" flashes quickly when there is a upper deviation alarm on humidity, and "% RH" flashes slowly when there is a lower deviation alarm on humidity;

If **【(3) display window】** shows "---", it means that the temperature sensor or controller itself is faulty. Please check the temperature sensor and its wiring carefully.

7) Defrosting function

The defrost function can be turned on automatically or manually. Automatic start (see internal parameter table-5). Defrost interval and defrost time are set by the user. Manual start means that in the main interface, manually click the **【defrosting】** button to start the defrost manually. The manual defrost time still uses the time set in the parameter table. When the delay time expires, the defrost automatically ends.

8) Power-down memory function

By modifying the power-down memory parameter value (see "U2" parameter: User parameter table -1 for details), you can choose whether to have power-down memory function.

6. Viewing and setting of internal parameters

In the normal display state, press and hold the **【Set】** key for 3 seconds, **【(1) Display window】** displays the password prompt "Lc", **【(2) Display window】** displays the password value. Enter a different password value to enter the internal parameter setting state. , And then click the **【Set】** button to modify each parameter. Press and hold the **【Set】** key for 3 seconds again, the buzzer will beep once, exit this state, and the parameter value is automatically saved.

User parameter table -1

Parameter indicating	Name of parameter	Parameter function description	(Range) Factory value
Lc	password	When "Lc = 9", you can view and modify the parameter value.	0
U1	Operating mode	0: fixed value operation mode; 1: day and night mode, 0 ~ 99 cycle; 2: Program mode, programmable 1 ~ 30 segments, 0 ~ 99 cycles.	(0~2) 0
U2	Power down Operation mode	0: Not running; 1: Run from the first section (daytime); 2: Run from power off time.	(0~2) 0
U3	Timing correction	Correct the total timing error, Correction value = 【running time (seconds)-actual time (seconds)】 * 10 ÷ actual time (minutes).	(-999~999) 0
U4	Timing unit	1: minute 0 ~ 9999; 2: hour 0 ~ 9999	(1~2) 1
U5	Constant temperature timer deviation	The temperature measurement value is within U5 of the set value, and the timer starts. Note: 0 means there is no need to judge the temperature when timing.	(0~10.0°C) 0
U6	Humidity timer deviation	The humidity measurement value is within U6 of the set value, and the timer starts. Note: 0 means no need to judge humidity when timing.	(0~50.0%) 0
U7	【R / S】 key Effective time	After long pressing U7, the 【R / S】 function key becomes effective.	(0~10s) 0
U8	Lock screen time	Automatic screen lock time, no automatic screen lock at 0.	(0~300s) 0
U9	End of operation Prompt time	After the operation is finished, the beep will prompt the time. Note: 0 means continuous tweet.	(0~300s)0
UA	lighting time	After the lighting is turned on, the lighting time is automatically turned off. Note: 0 means the lighting must be turned off manually.	(0~9999min)0

Ub	mailing address	Local communication address.	(1~16)1
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Temperature parameter table -2

Parameter indication	parameter name	Parameter function description	(Range) Factory value
Lc	password	When "Lc = 103", you can view and modify the parameter value.	0
TH	Upper deviation Over temperature alarm	If "Measured value > Set value + TH", upper deviation alarm will be turned on and temperature and humidity output will be turned off. During the alarm, the temperature alarm relay has output, the buzzer beeps, the alarm indicator lights up, the temperature unit flashes quickly, click any key to cancel the beep, and the relay turns off the output.	(0~20.0℃) 5.0
TL	Lower deviation Over temperature alarm	If "measured value < set value + TL", the lower deviation alarm is issued. During the alarm, the temperature alarm relay has an output, the buzzer beeps, and the temperature unit flashes slowly. Click any key to cancel the beep. Note: When "TL = 0", this function is invalid.	(-50.0~0℃) 0
Tb	Deviation correction	Correct the error caused by sensor (low temperature) measurement; Tb = actual temperature value - meter measurement value.	(-99.9~99.9℃) 0
TA	Slope correction	Correct the error caused by sensor (high temperature) measurement; TA = 1000 * (actual temperature value - instrument measurement value) ÷ instrument measurement value.	(-999~999) 0
TP	Heating ratio	Time proportional effect adjustment.	(0.1~50.0)8.0
TI	Heating integral	Integration action regulation.	(1~2000s) 500
TD	Heating differential	Differential action regulation.	(0~2000s) 200
TT	Heating cycle	Heating control cycle.	(1~60s) 5
Tc	Low temperature control Heating off	The non-heating point during low temperature control is valid only when the temperature setting is lower than the ambient temperature.	(-2.0~0℃) -0.5
To	heating power	Percentage of maximum power output from heating.	(0~100%) 100
Tu	Refrigeration on	When the compressor is in manual start-stop mode and the compressor is in off-type control, if "Measured	(-10.0~10.0℃) 0.6

		temperature \geq set temperature + Tu", turn on the compressor.	
Tn	Cooling off	When the compressor is in manual start-stop mode and the compressor is in disconnected control, if "Measured temperature \leq set temperature + Tn", turn off the compressor.	(-10.0~uP) 0.6

Humidity parameter table -3

Parameter indication	parameter name	Parameter function description	(Range) Factory value
Lc	password	When "Lc = 203", you can view and modify the parameter value.	0
HH	Upper deviation Super Humidity Alarm	If "humidity measurement value > set value + HH", the upper deviation alarm is turned on, the super-humidity alarm relay is turned off and the humidity output is turned off. The humidity alarm relay has an output when the alarm occurs, the alarm indicator lights up, the humidity unit flashes quickly, and the relay turns off the output.	(0~50.0%) 20.0
HL	Lower deviation Super Humidity Alarm	If "humidity measurement value < set value + HL", the lower deviation alarm is issued. The humidity alarm relay has an output when the alarm occurs, the alarm indicator lights up, and the humidity unit flashes quickly. Note: This function is invalid when "HL = 0".	(-50.0~0%) 0
Hb	Deviation correction	Correct the error caused by the sensor (low humidity) measurement; Hb = Actual Humidity Value-Meter measurement Value.	(-99.9~99.9%) 0
HA	Slope correction	Correct the error caused by the sensor (high humidity) measurement; HA = 1000 * (actual humidity value-instrument measurement value) ÷ instrument measurement value.	(-999~999) 0
HP	Humidification ratio	Time proportional effect adjustment	(0.0~90.0) 10.0
HI	Humidification	Integration action regulation	(1~999s) 200

	Points		
Hd	Humidification differential	Differential action regulation.	(0~999s) 30
HT	Humidification cycle	Humidification control cycle	(0~60s) 5
Hc	Low humidity control Humidification shutdown	No humidification point during low humidity control	(-50.0~50.0%) 0.0
Ho	Humidification power	Humidification output maximum power percentage	(0~100%)100
Hu	Dehumidification on	When the compressor is in the manual start-stop mode and the compressor is in the off-type control, if "Measurement Humidity \geq Set Humidity + Hu", turn on the compressor.	(Hn~20.0%) 3.0
Hn	Dehumidification off	When the compressor is in the manual start-stop mode and the compressor is in the off-type control, if "Measurement humidity \leq set humidity + Hn", turn off the compressor.	(-20.0%~Hu) 3.0
HE	No humidification point	When the compressor works in intermittent mode, if the set value meets the conditions, you can modify this value and turn off humidification in advance.	(0.0~10.0) 2.0

Compressor Parameter Table -4

Parameter indication	parameter name	Parameter function description	(Range) Factory value
Lc	password	When "Lc = 109", you can view and modify the parameter value.	0
C1	Ban compressor Operating temperature	When "temperature measurement value \geq C1", the compressor is absolutely prohibited to work.	(0~100.0°C)80.0
C2	Without compressor Operating temperature	When "temperature set value \geq C2", only start the compressor once the temperature measurement value is higher than the temperature set value.	(0~100.0°C) 42.0
C3	Normally open temperature point	When "temperature set value \leq C3", the compressor works in a balanced manner.	(-15.0~100.0°C) 0.0
C4	Normally open humidity point	When the "humidity setpoint \leq C4", the compressor works in a balanced manner. (If one of the conditions that	(0~100.0%) 10.0

		normally open temperature point and normally open humidity point is met, the compressor will work in a balanced manner)	
C5	Way of working	0: Automatically obtain refrigeration and automatic dehumidification thresholds; 1: Set refrigeration manually and obtain dehumidification threshold automatically; 2: Obtain refrigeration automatically and set dehumidification threshold manually; 3: Set refrigeration manually and set dehumidification threshold manually. Note: Only valid when the compressor is in disconnected operation	(0~3) 3
C6	compressor Start delay	Compressor startup delay protection time, the minimum time interval from compressor stop to restart.	(0~600s) 180
C7	Defrosting method	0: No defrost function; 1: Solenoid valve defrost method; 2: Defrosting method of heating tube.	(0~2) 0
C8	Defrosting interval 1	Defrost time interval when "temperature setting value \leq 8.0 °C". Note: 0 means that there is no automatic defrost in this section, which can be turned on manually.	(0~9999min) 0
C9	Defrosting interval 2	Defrosting time interval when "8.0 °C <temperature set value \leq 16.0 °C". Note: 0 means that there is no automatic defrost in this section, which can be turned on manually.	(0~9999min) 0
CA	Defrosting interval 3	Defrost time interval when "16.0 °C <temperature set value \leq 24.0 °C". Note: 0 means that there is no automatic defrost in this section, which can be turned on manually.	(0~9999min) 0
Cb	Defrosting time 1	Defrost opening time when "temperature setting value \leq 8.0 °C". Note: 0 means no defrost in this section.	(0~200s) 0
Cc	Defrosting time 2	Defrost opening time when "8.0 °C <temperature set value	(0~200s) 0

		≤16.0 °C". Note: 0 means no defrost in this section.	
Cd	Defrosting time 3	Defrost opening time when "16.0 °C <temperature set value ≤24.0 °C". Note: 0 means no defrost in this section.	(0~200s) 0
CE	Solenoid valve function	-2: No solenoid valve function; -1: When the compressor needs to be turned on, if the turn-on delay time is up, the solenoid valve is turned on first, and the compressor is turned on after 10 seconds; 0: Normally open solenoid valve mode; 1: See CF parameters for details.	(-2~1) -2
CF	Solenoid valve open	If CE = 0, when "temperature measurement value <temperature set value-CF", the solenoid valve opens; when "temperature measurement value > temperature set value + CF", the solenoid valve closes; If CE = 1, when "temperature set value ≥ CF", the solenoid valve opens; when "temperature set value <CF", the solenoid valve closes.	(0~50.0°C) 0

Internal parameter table -5

Parameter indication	parameter name	Parameter function description	(Range) Factory value
Lc	password	When "Lc = 209", you can view and modify the parameter value.	0
P1	Illumination selection	0: no light; 1: 3 levels in total; 2: 4 levels in total; 3: 5 levels in total; 4: 6 levels in total; 5: 10 levels in total (cold light source 0 ~ 10V output).	(0~5) 4
P2	Humidity selection	0: No humidity; 1: Display humidity only; 2: Controllable humidity.	(0~2) 2
P3	Internal parameter	Reservation can be set	(0~9999) 0
P4	temperature Set upper limit	Maximum temperature setpoint	(P5~99.9°C)

			60.0
P5	temperature Set lower limit	Minimum temperature setpoint	(-19.9~P4℃) 0.0
P6	Humidity input Upper voltage limit	Input voltage corresponding to 100% humidity	(P7~5000mV) 3000
P7	Humidity input Lower voltage lower limit	Input voltage corresponding to 0% humidity	(0~P6mV) 0
P8	Low temperature protection	When the "temperature measurement value or temperature setting value \leq P8", the humidity is not controlled, only the temperature is controlled, and the alarm light flashes slowly.	(-25.0~30.0℃) 0
P9	High temperature protection	When the "temperature measurement value \geq P9", the operation stops, all outputs are turned off, and the alarm lamp flashes quickly.	(0~105.0℃)100.0
PA	temperature Filter coefficient	Adjusting temperature sensitivity	(1~200) 20
Pb	humidity Filter coefficient	Adjust humidity sensitivity	(1~200) 20
PC	Input selection	0: Gated closed door open, water level closed and water shortage; 1: Gated disconnect door open, water level closed and water shortage; 2: Gated closed door open, water level disconnected and lack of water; 3: The door is disconnected, the door is opened, and the water level is disconnected.	(0~3) 0
Pd	Water level delay Water time	If Pd> 0, extend the Pd time after the water is full and turn off the water; If Pd <0, water shortage is detected, and water is added after delaying Pd time.	(-20~20s) 5
PE	humidity Decimal place selection	0: No decimal; 1: Decimal displayed.	(0~1) 0
PF	temperature display Insensitive zone	Insensitive area for temperature display	(0~10.0℃) 0.1
PH	Humidity display	Humidity display insensitive area	(0~50.0%)

	Insensitive zone		1.0
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Ambient temperature -6

Parameter indication	parameter name	Parameter function description	(Range) Factory value
Lc	password	When "Lc = 18", you can view and modify the parameter value.	0
nH	Ambient temperature	Controller's ambient temperature, and the value after bH, oH correction.	Unchangeable
bH	Ambient temperature correction	Correct the error caused by the ambient temperature measurement. bH = actual ambient temperature value-nH	(-20.0~20.0℃) 0.0
oH	Illumination correction	When there is light output, the first-level light corresponds to the ambient temperature change value. Setting to 0 means no thermal light source temperature compensation.	(0~10.0℃) 0.0

Appointment setting -7

Parameter indication	parameter name	Parameter function description	(Range) Factory value
Lc	password	When "Lc = 36", you can view and modify the parameter value.	0
AP	Appointment setting	0: Disable the appointment function; 1: Turn on the appointment function.	(0~1) 0
T_	appointment time	When the AP value is selected to be 1 on, click the setting button again to set the reservation time.	0~9999min 0

Sterilization On -8

Parameter indicating	parameter name	Parameter function description	(Range) Factory value
Lc	password	When "Lc = 72", you can	0

		view and modify the parameter value.	
Sr	Sterilization open	0: Off; 1: On.	(0~1)0
ST	Sterilization time	After sterilization is turned on, the sterilization time is automatically turned off. Note: 0 means sterilization must be turned off manually.	(0~9999min)0

Restore factory value -9

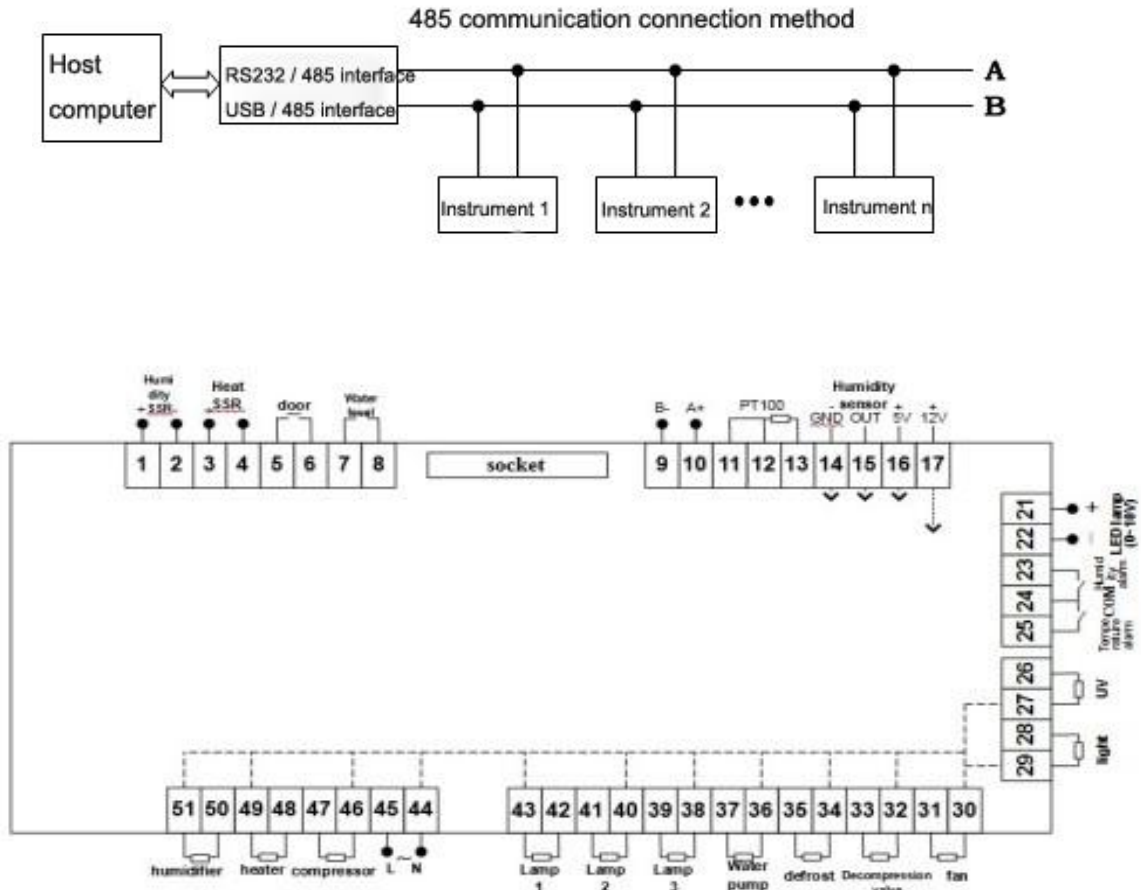
Parameter indication	parameter name	Parameter function description	(Range) Factory value
Lc	password	When "Lc = 567", you can view and modify the parameter value.	0
rST	Restore factory value	0: Do not restore the factory value; 1: Restore factory value; 2: Save the factory value.	(0~2) 0

Dual compressor switching -10

Parameter indicating	parameter name	Parameter function description	(Range) Factory value
Lc	password	When "Lc = 54", you can view and modify the parameter value.	0
F1	Switching interval time	1: Use only compressor 1; 2: Use only compressor 2; > 2: When using dual compressors, alternate operation time interval.	(1~999h) 1
F2	Compressor status during switching	Compressor operation switching time is up, if this value: ≥0: the time of double compressors running simultaneously; <0: The time when the compressor currently running is off, and the	(-20~20s) 5

		other compressor is waiting to be turned on	
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7. Wiring diagram




8. Instructions


- 1) After the equipment is in place, lock the front casters to make the chamber stable.
- 2) Connect the 220V / 50Hz power supply, and the power socket should be reliably grounded.
- 3) There is a water inlet port on the back of the device. When using it, use a leather tube to connect the water source port to the water inlet port. Finely adjust the inlet valve to maintain a small amount of water inlet (the water pressure must be lower).
- 4) There is an overflow pipe on the back of this device. A small amount of water will be discharged during use. Please use a leather pipe to connect to the container or the sewer.

5) There is a drain pipe at the back of the device. When the device is not in use, water is drained from the inside of the chamber.

6) Set the temperature, humidity and various parameters according to the use method of the instrument operating instructions.


9. Precautions


1)  When sterilization is not required in the chamber, please turn off the germicidal lamp to avoid affecting the culture, please turn off the power when changing.


2)  The shell of the equipment should be reliably grounded, and it should be placed in a place that is protected from sunlight, cool and ventilated. The distance between the equipment and the wall must be more than 10 cm. Handle with care, and the horizontal angle with the ground must not be less than 45 °.

3) In order to maintain the beauty of the equipment, please do not use acid or alkali and other corrosive materials to wipe the surface. The box can be cleaned regularly with a dry cloth.

4) In order to obtain good working performance of the equipment, the difference between the working temperature and the environment should not be too large, and the ambient temperature should preferably be $(20 \pm 5) ^\circ\text{C}$.

5)  A fuse is installed at the back of the control box of this equipment. If the equipment is not powered, please check whether the fuse tube is intact. When checking and replacing the fuse tube, please cut off the power and replace the same type and specifications!

6)  Fans are installed in the operation room. Be careful not to insert your fingers or foreign objects into the cover to avoid damage to the fan and safety accidents. When replacing, please cut off the power.

7)  For details on the nameplate, please refer to "3.Specifications" in this manual.

8) Stop using please turn off the power switch.

9) Do not store flammable or explosive materials or hazardous materials in the instrument working room.

10. Transportation and storage

1. Care must be taken during transportation. The tilt should not exceed 45 ° and it should be transported upside down. Handle it carefully.

2. Store in a relative humidity not exceeding 80%, non-corrosive gas and well-ventilated room.

11. After sales service

Our company guarantees the incubator for one year (except heating elements). During the warranty period, if any damage is caused by non-human factors or it does not work properly, our company is responsible for repairing or replacing product parts for free; after one year, we will try our best to provide convenience for users.

12. Troubleshooting

Phenomenon	Reason	Solution
1. No power	1.Outlet without power	1.Check socket
	2. The plug is not inserted or disconnected	2. Insert the plug or wire
	3. Broken fuse	3. Replace the fuse tube of the same model
	4. The power switch is not closed	4. Close the power switch
2. Large temperature error in the chamber	1.Sensor is broken	1. Replace the sensor
	2.Fan is broken	2.Change the fan
	3. Instrument is not corrected	3.Refer to the Instrument operation instructions
3. The temperature inside the box does not rise or fall	1. Set temperature is incorrect	1. Adjust the set temperature
	2. Temperature controller is broken	2. Change the temperature controller
	3. Loose cable	3. Tighten the connection cable
4. No humidification in the box	Internal humidifier is broken	1. repair the humidifier
5. without illumination	1. The lamp pin is loose or the lamp is broken	1. Eliminate loose or replace the lamp
	2. No power	2. Check the power
	3. If the lighting setting reasonable	3. Set the meter reasonably according to the instructions



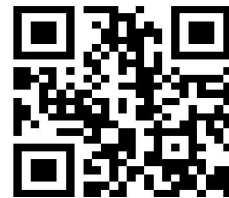
Note: The above maintenance operations should be performed by qualified personnel.

Please turn off the power during maintenance!!

Packing list

NO.	Name	Category	Quantity	Remark
1	Artificial climate incubator	Host	1 set	
2	Shelf(standard)	Accessories	3pcs	
3	Instruction manual	Document	1pc	
4	Warranty card	Document	1pc	
5	Fuse tube	spare parts	1pc	
6	stopper	spare parts	1pc	

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