User Manual

DRAWELL
Artist of Science

Please read operating manual before installation and operation.

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Contents

Thanks for purchasing the equipment, please carefully read the manual before operating.

I:Precautions

1) ⚠️After the equipment is in place, lock the front casters to make the chamber stable.

2) ⚠️To protect the compressor, pls turn on the instrument after 48 hours when placed.

3) ⚠️Connect the 220V / 50Hz power supply, and the power socket should be reliably grounded.

4) ⚠️The device should be placed in a place that is protected from sunlight, cool and ventilated. The distance between the device and the wall must be more than 10 cm. Handle with care, the angle with the ground level should not be less than 45 °.

5) ⚠️In order to maintain the good appearance of the equipment, pls do not wipe the machine surface with acid or alkali or corrosive substances.The inside and outside of the instrument can be regularly cleaned with dry cloth.

6) ⚠️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 ± 5) ℃.

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

8) ⚠️Fans are installed in the operation room. Don't insert your fingers or objects into the fan cover to avoid safety accidents and damage to the fan .Please cut off the power before changing the fan.

9) ⚠️Stop using ,please turn off the power switch.

10) ⚠️Do not store flammable or explosive materials or hazardous materials in the

instrument working room.

11) ⚠ 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.

12) ⚠ 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.
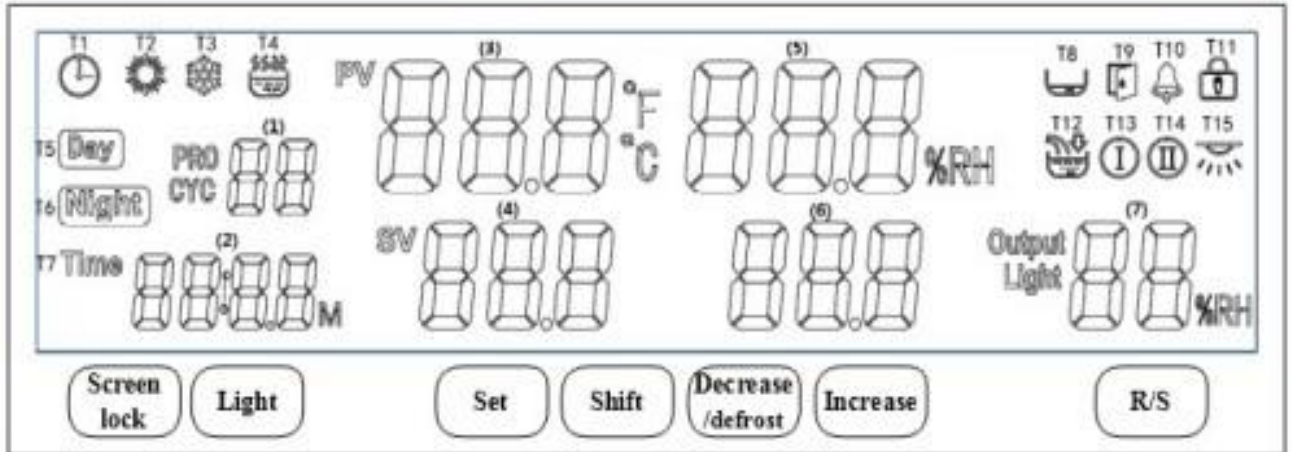
II: Application

The biochemical incubator has temperature adjustment function. it's widely used in low temperature, constant temperature test for scientific research and production departments such as environmental protection, medical treatment, health, epidemic prevention, drug , agricultural,livestock and aquatic products, etc. It is the ideal instrument for BOD analysis, bacteria culture, microorganisms, plant cultivation and breeding

III:Technical Specifications

Model	Temp. Range（℃）	Display Resolution	Temp. Fluctuation	Temp. Uniformity	Timing	Power (KW)	Chamber Size(W×D×H)cm	Exterior Size(W×D×H)cm
LBI-175A-N	A：-20~65 B：-40~65	0.1℃	±0.5℃	±1℃	1~9999 min	0.7	45×42×93	61×71×167
LBI-275A-N						0.8	58×51×93.5	70×90×170
LBI-375A-N						1.0	59×55×116	75×86×190
LBI-475A-N						1.2	70×55×125	86×86×199
LBI-175B-N						0.7	45×42×93	61×62×150
LBI-275B-N						0.8	58×51×93.5	74×71×157
LBI-375B-N						1.0	59×55×116	75×75×173
LBI-475B-N						1.2	70×55×125	86×75×182

IV:Instruction for controller

1. Definition for display window

(1) : Cycle or segment value;

(2) : timing or time setting value;

(3) :temperature measurement value;

(4) Display window: temperature setting value;

(5) : humidity measurement value;

(6) : humidity setting value;

(7) : Illumination set value or heating output

2．Key definition

Lock	Under normal display, long press the key for 2 seconds to manually lock or unlock the screen.
Light	Under normal display, press the key to turn on the light inside
Set	In the normal display, press the key to enter the modification interface of setting value , long press the key for 3 seconds to enter the parameter modification interface.
Shift	In the setting state, press the key to make the setting value shift and modify. If running mode, can switch the display for segments or cycle.
Increase	Press the key in the setting state to increase the setting value.

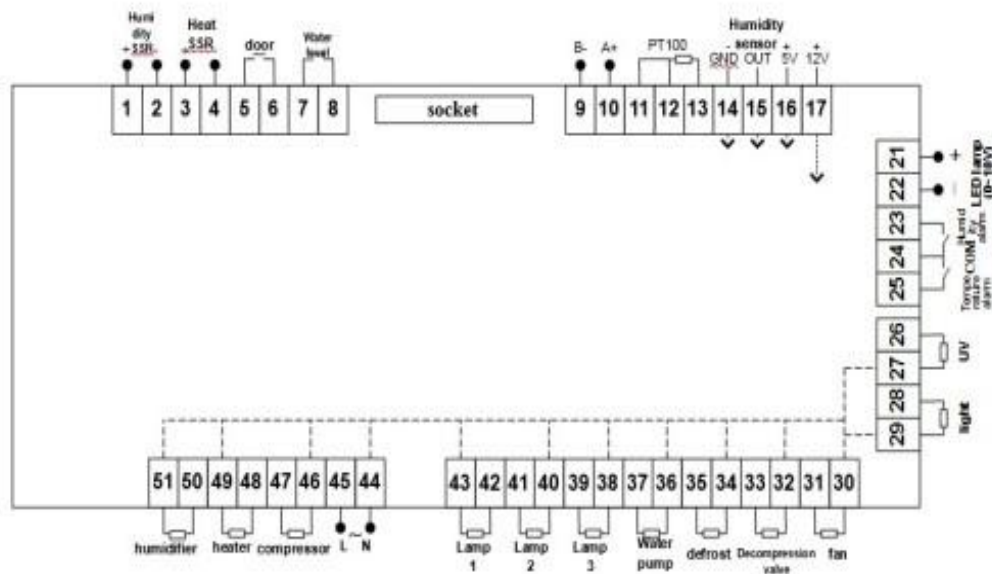| Decrease	Press the key in the setting state to decrease the setting value.
Run/Stop	In the normal display state, press this key to start or stop the operation

3．Temperature setting

Press the set key and the temperature setting number in the (4) display window will flash, can set the desired temperature by pressing the shift key, Increase key and decrease key.
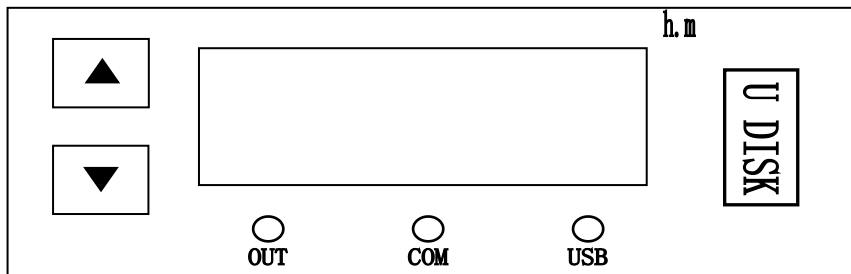
4.Temperature parameter table

Parameter indication	Parameter name	Description for parameter function	Factory default
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 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", there will be he lower deviation alarm.　　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

V: Wiring diagram

VI:Printer Instruction

1. Time display:in normal conditions,display the current time (hours and minutes)

2. OUT indicator: the light turned on, indicates that there is a printout or data is written to the U disk;

3. COM indicator: flashing light indicates the current communication is normal;

4. USB indicator: the light turned on means that the current U disk has been correctly inserted and data can be written;

5. ▲ Increase key: Under normal state, click or long press the key to increase the printing interval time setting value.Under parameter setting state, click or long press the

key to increase the parameter setting value, when the time setting value is the maximum,then press this key again will automatically flip to the minimum value;

6. [▼] Decrease key/OK key: Under normal state, click or long press the key to decrease the setting value of printing interval time.Under parameter setting state, click this key to switch the setting parameters, long press the key to exit the setting and save the set value;

7. [▲][▼] : Under normal status, long press two keys at the same time, after 3 seconds,enter the parameter setting state

Operation for printer

1)After powered on, the digital tube and the indicator light are all on for 3 **seconds and then enter the running state. PRT indicator lights on, time window displays the current time (hours and minutes), the printer prints "Print Test", "Current Date", "Current Data" in sequence, the OUT indicator lights up when printing out. The data is printed according to the printing interval. When the date changes, the date is printed.**

2) Under normal conditions, click [▲] or[▼] to set the printing interval. The setting range is from 1 to 9999 minutes; in normal status, long press the button [▲][▼]for 3 seconds at the same time to enter the password input state, enter the corresponding password to adjust the time and parameters.

Tips for abnormal phenomenon:

Time display shows TErr: communication error,

1) Check whether the instrument communication line is connected correctly;

2)Check whether the power of the instrument is turned on;

Time display shows UErr: U disk read and write error,

1)Check whether the U disk is inserted correctly;

2) Format the U disk or replace the U disk;

3) If don't need U disk storage, can enter the internal parameters to close the U disk

function;((if needed, pls contact supplier)

The time display shows PErr: the printer is wrong;

1)Check if the printer cable is connected correctly;

2) Check the indicator light on the printer, if it does not light, please confirm whether the printer power cord is connected correctly;

3)If do not need the printing function, can enter the internal parameters to close the printing function(if needed, pls contact supplier)

Printer indicator flashes: replace printing paper
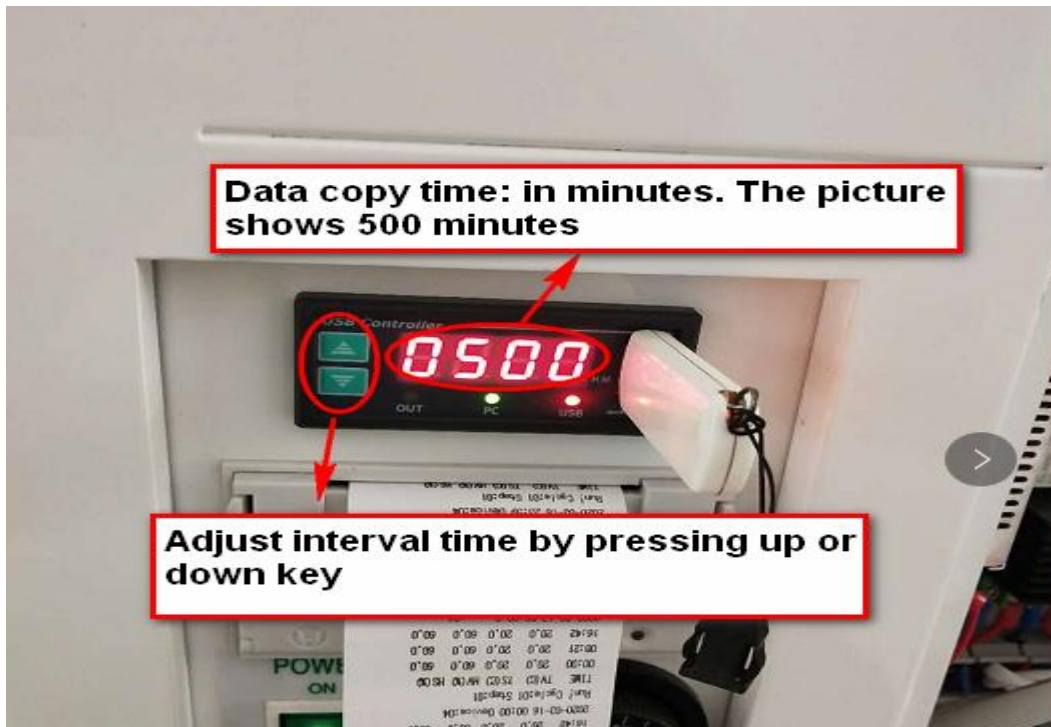
VII： USB Instruction

Step 1: Install software

Step 2: Copy data

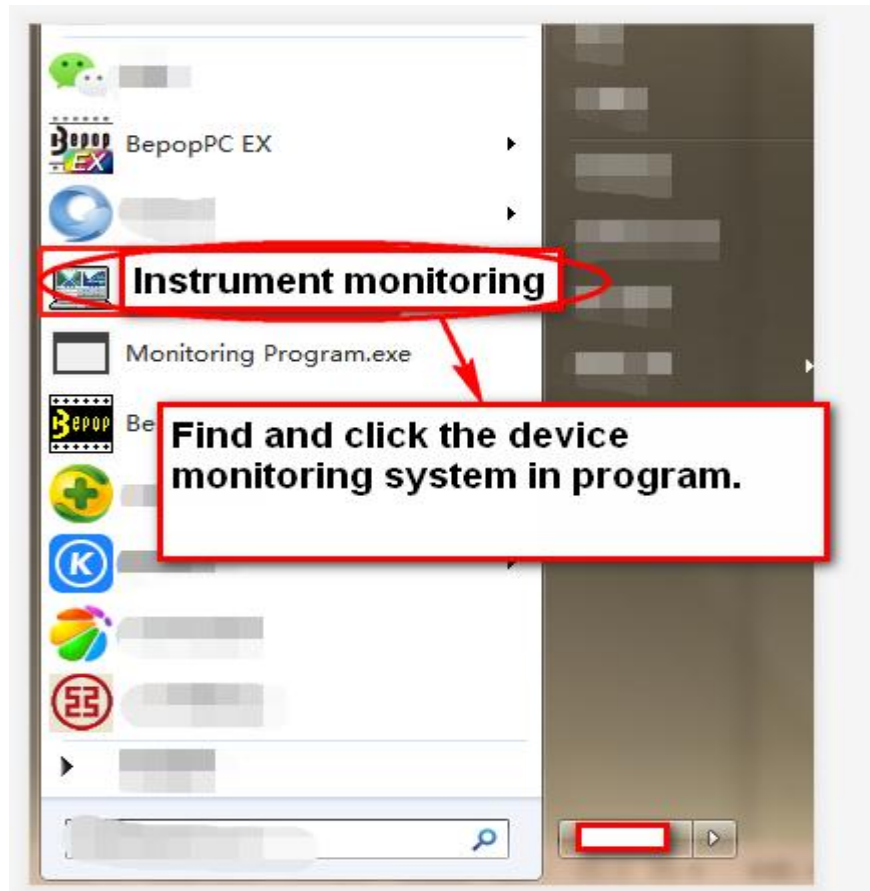（1）Find the USB interface on the lower right side of the instrument and plug in the USB disk.

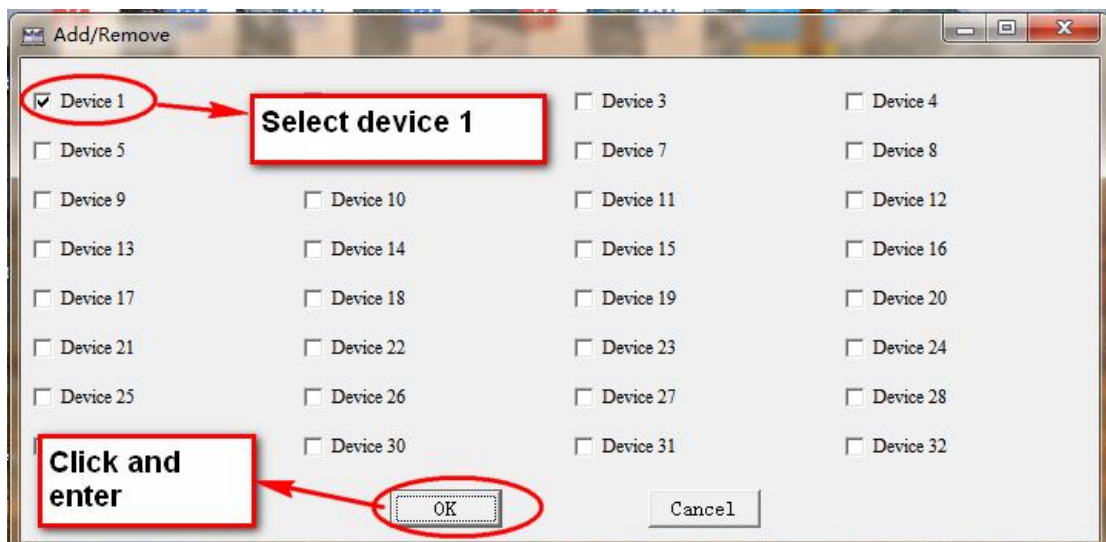（2）Adjust the interval time according to your experiment requirements.

（3）As picture shows: data exporting (printer and data export　normal).
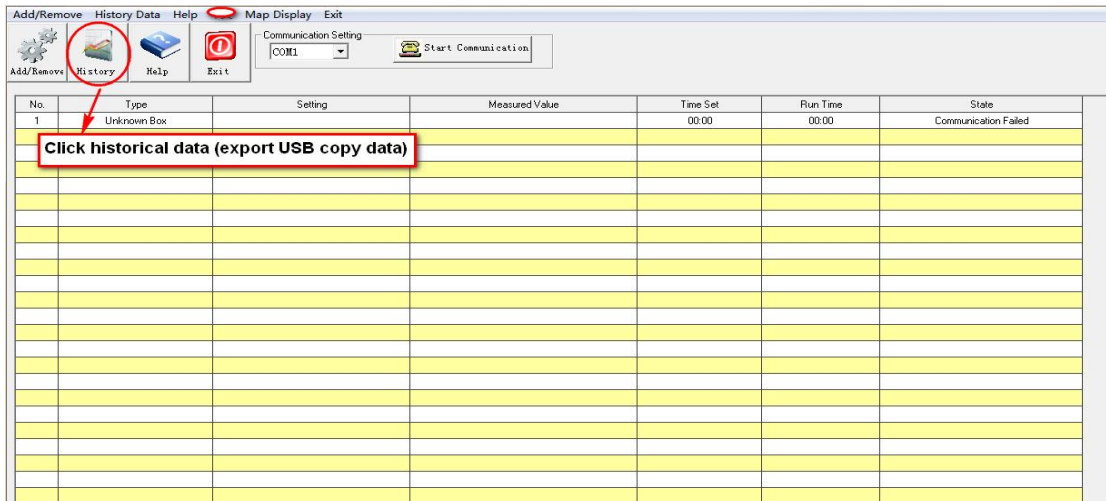
Step 3: Find and click the device monitoring system in program.
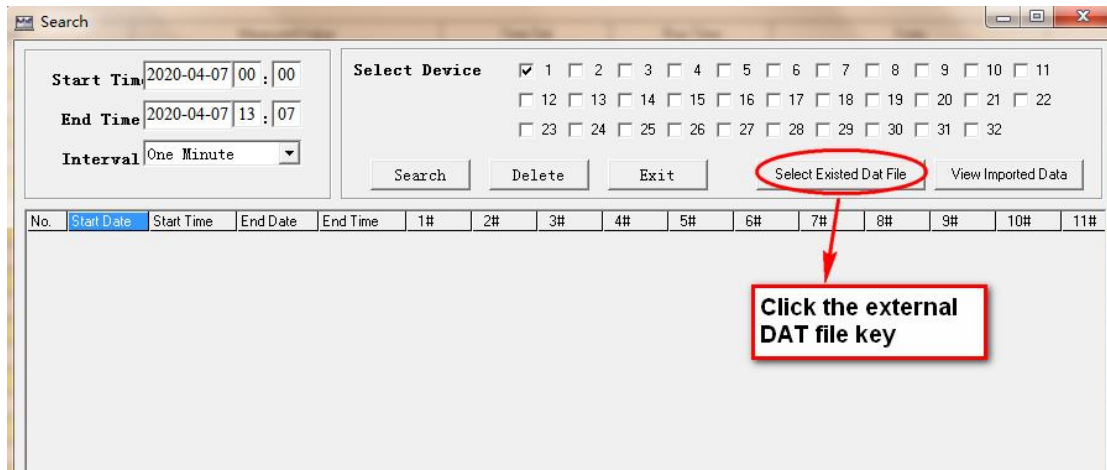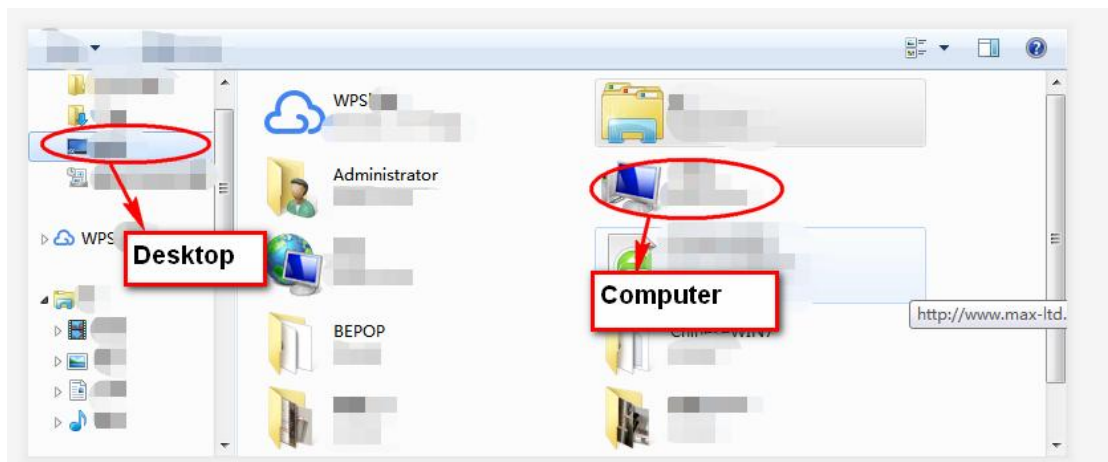

Step 4: Select device 1 and enter.
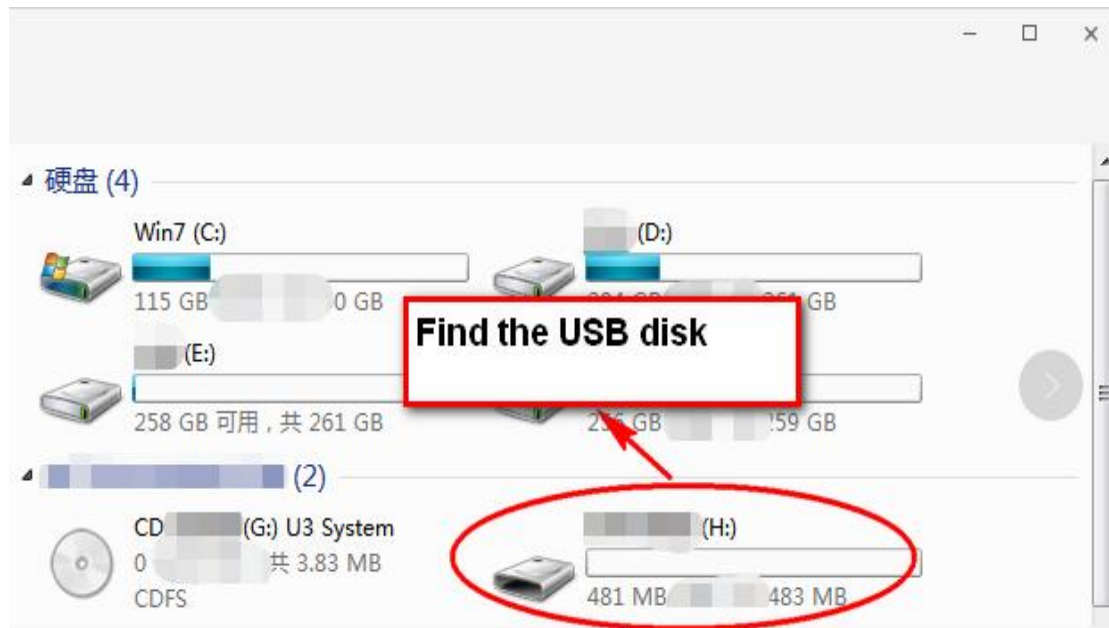
Step 5: Click to enter historical data.

Step 6: Click the external DAT file key (Insert the USB with data from instrument to the computer before this operation).
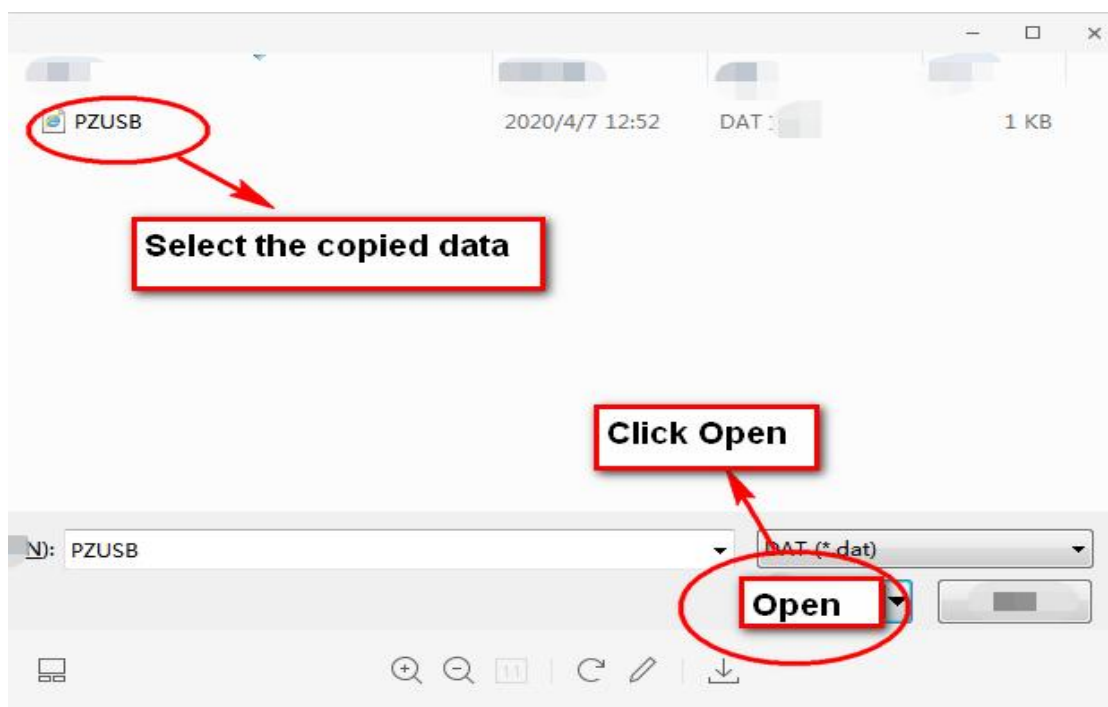

Step 7: Click on the desktop to find the computer and click to enter the computer.
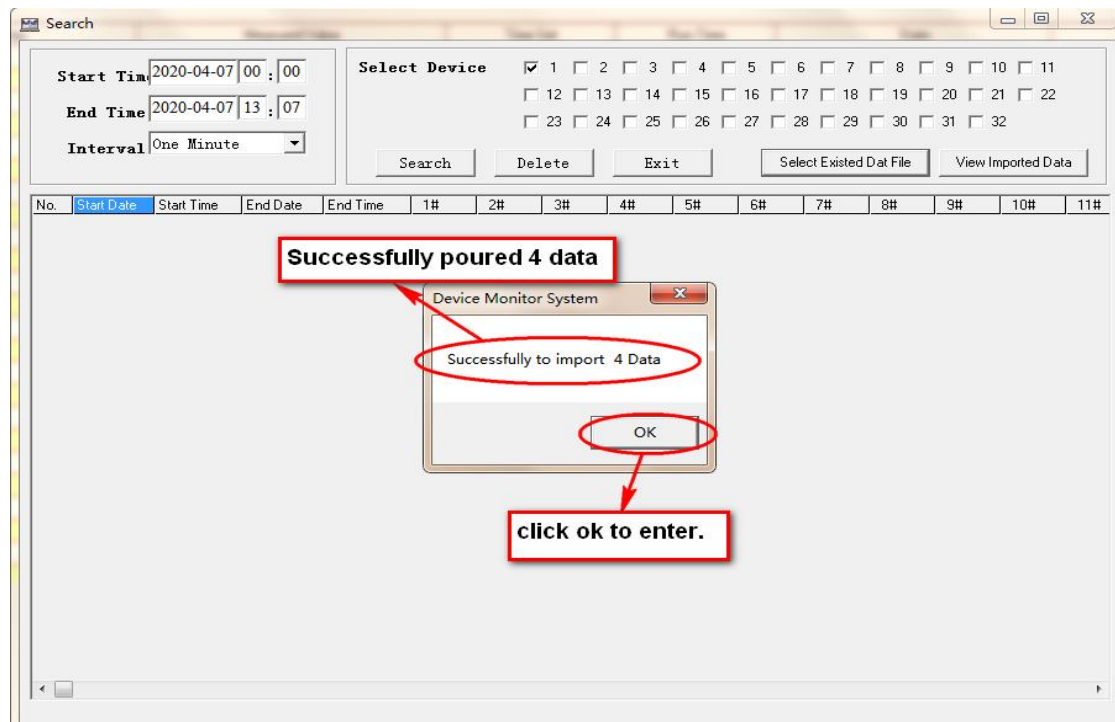
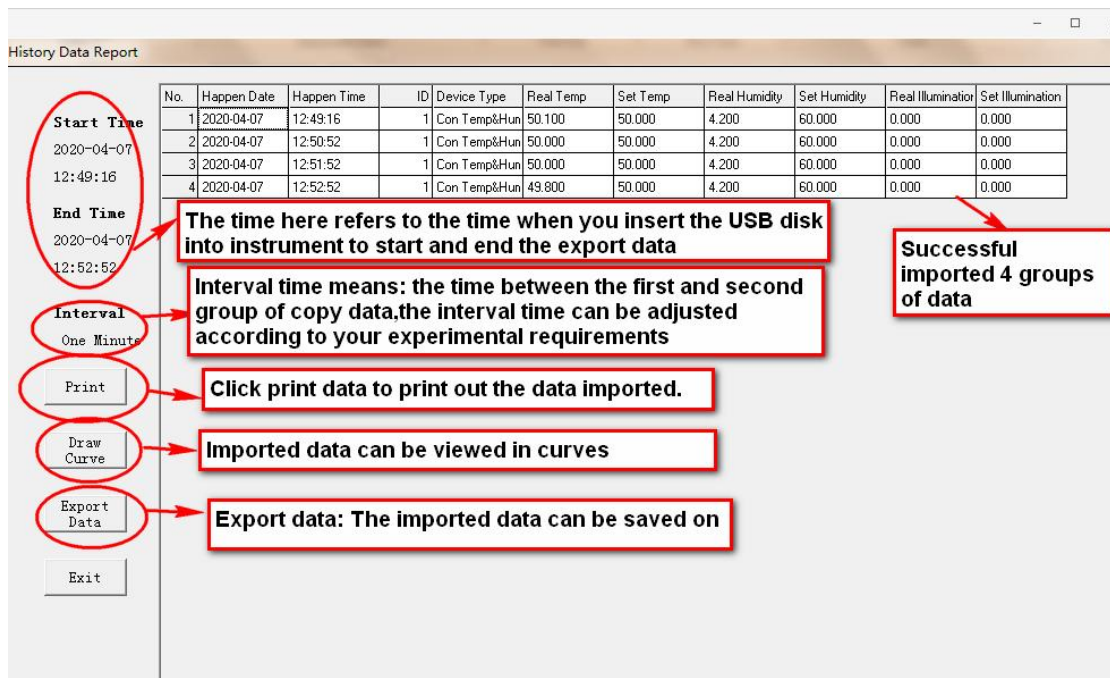Step 8: Find the USB disk with data and enter

Step 9: Find the copied data and click open to enter.

Step 10: After entering, it will show that XXX data has been successfully imported and click ok to enter.

Step 11: Enter this step, you can see all the data you imported successfully and storage status.

VIII:Transportation and storage

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

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

IX:After-sales service

The warranty for the instrument is 12 months from delivery (except for the heating elements). If damaged due to non-human factors or can not work normally during warranty period, our company is responsible for free repair or replacement of product parts. Beyond the warranty, we try our best to provide convenience for users.

X:Failure handling methods

Problems	Reasons	Solution
No power supply	Socket without power	Change socket
	Not plugged or wire broken	Plug well or connect wire well
	Fuse is open	Change fuse
	Power switch not on	Switch on.
The temperature inside the box does not rise or fall	Set temperature is incorrect	Adjust the set temperature
	Temperature controller is broken	Change the temperature controller
	Loose cable	Tighten the connection cable
Big deviation of temperature in chamber	The sensor is broken	Replace the sensor
	The fan is broken	Change the fan
	The instrument is not corrected	Refer to the Instrument operation instructions for correction

Note: Maintenance operations shall be carried out by qualified personnel. Please turn off the power supply before repairing.

XI:Packing List

Item	Name	Category	Quantity	Remark
1	Biochemical incubator	Machine	1 set	
2	Shelf(standard)	Accessories	3pcs	
3	Instruction manual	Document	1pc	
4	Fuse tube	spare parts	1pc	
5	This packing list	Document	1 pc	

We reserve the right to change the data in the manual without prior notice. The company has the final interpretation right.