



User Manual of Temperature and Humidity Test Chamber



Read before Operation

Before operation this machine, please read this manual thoroughly, and keep a copy with the machine for future reference. This manual is to be considered part of your machine.

Model: NG-TH1000



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1. Summary

[Safety instructions (note)]

Note for this operation manual

(A) Please provide this operation manual to the final user and place it in a readily accessible place for use.

(B) Please read the operating instructions carefully before using the product.

(C) This operation instruction manual details the various functions of the product, and does not guarantee the matters other than the operation instruction manual.

(D) Some, or all, the contents of the operating instructions shall not be edited, copied or used without permission.

(E) The contents of this operation instruction manual may be arbitrarily changed arbitrarily without prior notice or advance notice.

(F) Although this operation manual has been tried to be complete, there will be poor parts or wrong words or missing parts in the content. If you have any findings, please contact the purchasing office or the company.

Safety and modification (change) of this product

(A) In order to ensure the maintenance and safety of the product and the connected product system, please be sure to read the safety precautions (instructions) carefully before using the product.

(B) The Company shall not be responsible for any loss caused by the use, placement or inattention to the contents as instructed in the Operating Instructions.

(C) In order to ensure the maintenance and safety of the product and the system used by the product, additional protection devices or safety circuits should be installed must be installed on the outside of the product. It is strictly prohibited to transform (change) or add the product.

(D) Please do not dismantle, repair or transform without authorization, which may lead to electric shock, fire or work failure.

(E) Please contact the parts or consumables of the business department of the company.

(F) Please do not make the water flow into this product, which may cause the failure.

(G) Please do not impact the product, which may cause damage or failure of the product.

This product is exempt from liability matters
--

(A) The Company shall not guarantee or bear any responsibility except for the contents specified in the quality assurance conditions of the Company.

(B) In the process of using the product, the Company shall not be responsible for any direct or indirect damage caused to defects or natural disasters of the Company.

[Summary]

This test chamber provides high temperature, low temperature, high humidity, low humidity simulation environment to detect rubber, plastic, electronic products before and after the test of material and strength decay degree. The machine can also simulate the container environment to detect the fading and shrinking of rubber and plastic under high temperature and humidity. Test the heat resistance, cold resistance, dry resistance and moisture resistance of various materials. Suitable for electronics, electrical appliances, batteries, universities, research institutes, inspection and quarantine Bureau, paper products, food, vehicles, auto parts, metal, chemical, building materials and other industries factory unit quality control testing.

[Technical Parameters]

Item	Temperature and Humidity Test Chamber
Inner Size	100*100*100cm
Volume	1000L
Temp. Range	-70℃ ~ +150℃
Humidity Range	20~98% R•H adjustable
Control Stability	Temperature $\leq \pm 0.5^{\circ}\text{C}$; Humidity $\leq \pm 2\%$
Uniformity	Temperature $\leq \pm 2^{\circ}\text{C}$; Humidity $\leq \pm 3.0\%$
Heating Speed	Average $2.5^{\circ}\text{C}/\text{min}$
Cooling Speed	Average $1^{\circ}\text{C}/\text{min}$
Power	380V,50HZ

2. The Main Picture

2.1 Introduction to the main screen

The main screen of the boot and entry system is shown in the figure.



Figure [2-1] Boot-up screen



Figure [2-2] The system main screen

name	explain
FIX TEST	Monitoring screen and test setting of fixed value test.
PROG TEST	Program test monitoring screen and program test setting.
FUNC.SET	It includes six parts: language selection, startup mode, backlight time, lock button, user password, and touch screen calibration.
RESERVE	System time setting and reservation time setting.
DI HIS.	View the historical fault information.
System time	Displays the time of the current system (👉 can be modified at the reservation setting).
Version number	Version number shows.

3. Fixed Value (FIX) Test

3.1 Main screen of fixed value test

Fixed value test: During the test, the set temperature and humidity will not change after the target reaches.

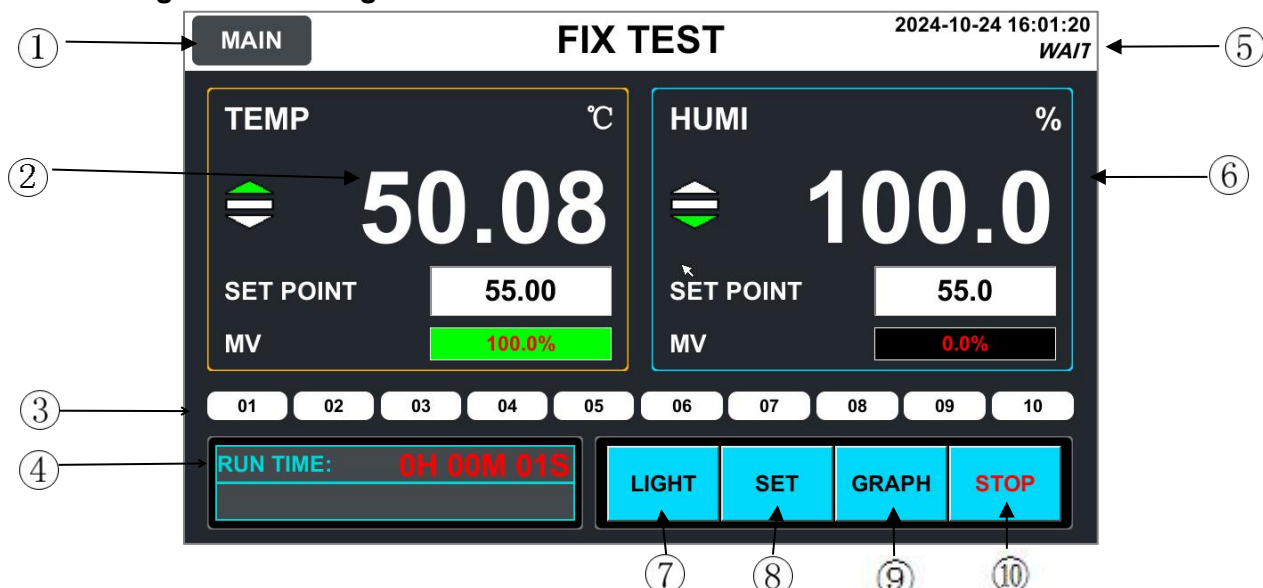


Figure [3-1] Main screen of constant test

number	Indicate the content	Content description
①	Catalogue	Switch to the main screen.
②	Temperature	Temperature: Display the current temperature value. Set point: Temperature Set point (setting). Power value: displays the output power of the current temperature.
③	Actuating signal	Display the current test run signal. If the number turns red indicates the running signal (corresponding relay action)
④	Run time	Displays the running time of the current trial.
⑤	System time	Show the current system date and time.
⑥	Humidity	Humidity: Display the current humidity value. Set point: Humidity Set point (setting). Power value: displays the output power of the current humidity.
⑦	Light	Light buttons. Click the (lighting) key, the set relay will act.
⑧	Set	Click to enter the fixed value setting screen. See the [3-2] for specific settings
⑨	Graph	Click to enter the curve setting screen. See the [3-3] for specific settings
⑩	Run/Stop	Stop / run the key.

3.2 Fixed value setting screen

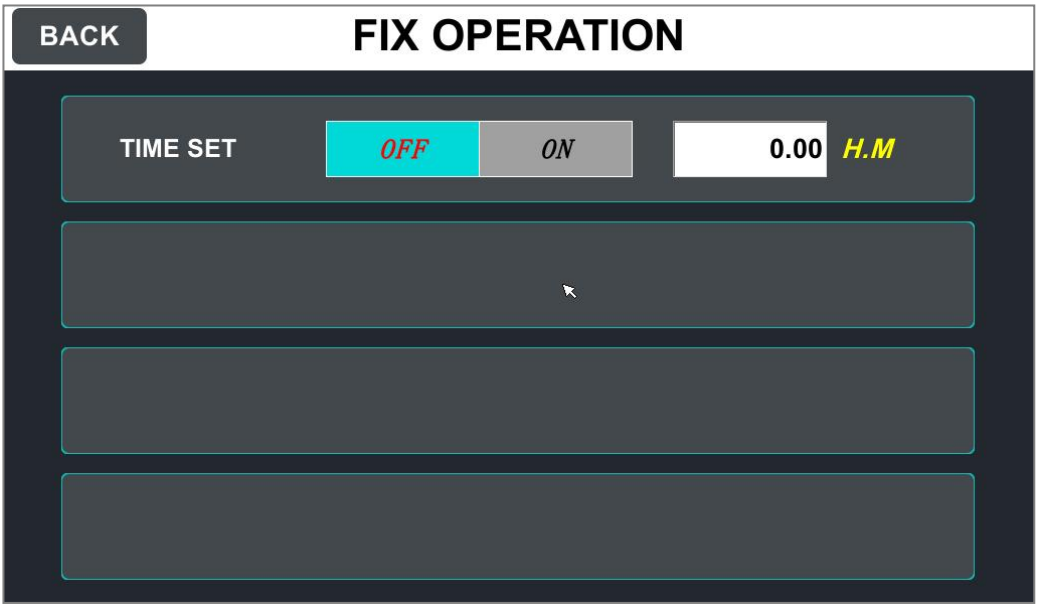


Figure [3-2] Fixed value setting

name	explain
Time set	The closed state value test is always running, click the test to stop to finish the value test; The open state must be set time, if the set time is "4.00", the fixed value test will be completed after 4 hours of the fixed value test run.

3.3 Fixed value test curve screen

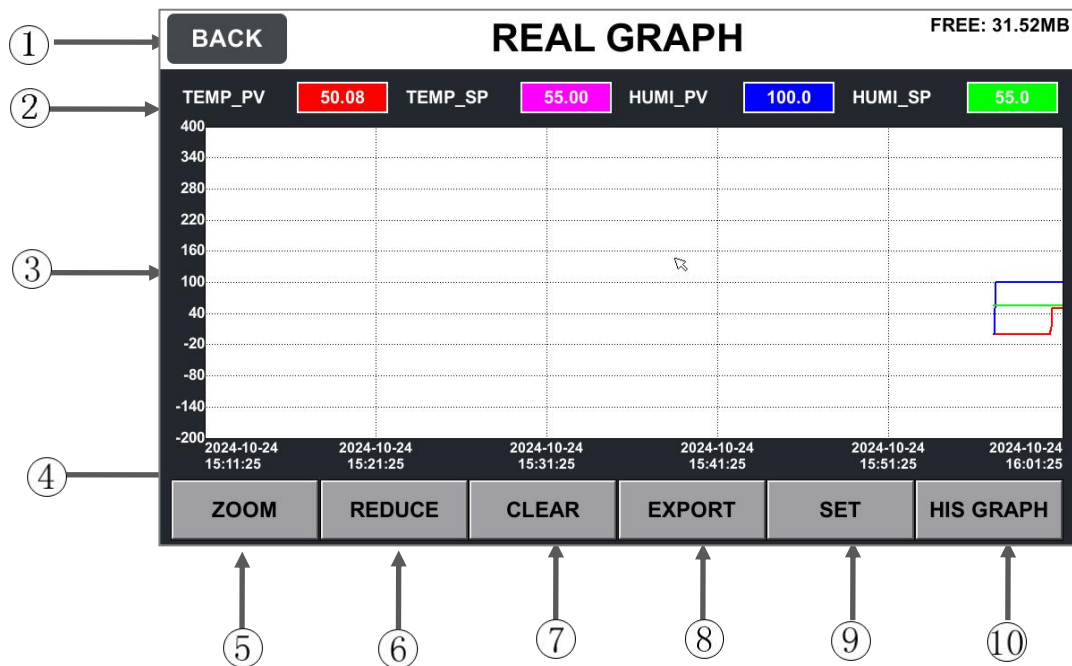


Figure [3-4] Value test curve screen

number	name	explain
①	Back	Return to the test screen.
②	Temperature Humidity	Display the temperature measurement value, and the temperature setting value. Display the humidity measurement value and the humidity setting value. Note: The color of the displayed values is consistent with the color of the curve.
③	Curve scale	Display the temperature and humidity curve scale. (The scale range can be set in the ⑨)
④	Time scale	Temperature and humidity time scale is displayed.
⑤	Amplify	Click to enlarge the curve.
⑥	Reduce	Click to shrink the curve.
⑦	Clear	Click to clear the current curve.
⑧	Derived curve	derived curve.(This function is be operated after U disk) 📁 Export the data as an EXCEL document.
⑨	Set	Click to enter the curve setting screen. See [2.2.1] for specific settings
⑩	Historical curve	Click to enter the History curve screen.

3.3.1 Curve setting screen

BACK

GRAPH SET

DISPLAY RANGE

-200.0

-

400.0

SAMPLING TIME

60

S

Figure [3-5] Fixed value test curve setting screen

name	explain
Back	Return the value test curve screen.
Display range	The curve scale range can be set.
Sampling time	Set the sampling time of the test data sampler in seconds.

4. Program (PROGRAM) Test

4.1 Main screen of program test

Program test: Change the target setting temperature and humidity for each stage during the test.

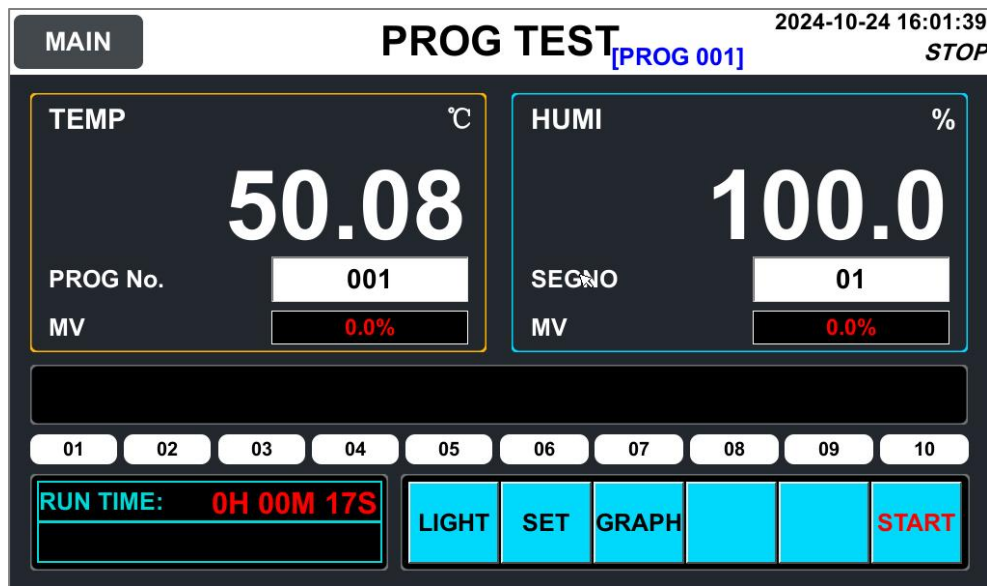


Figure [4-1] Program stop picture

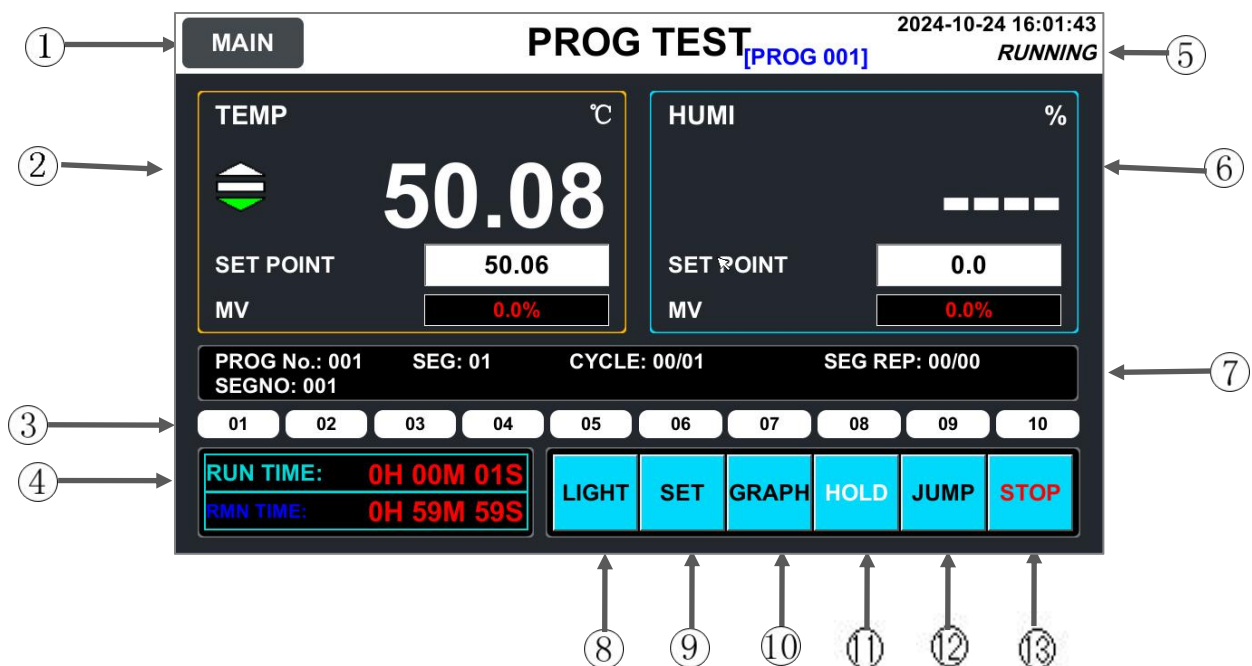


Fig. [4-2] Program running picture

number	name	explain
①	Catalogue	Switch to the main screen.
②	Temperature	Temperature: displays the current temperature measurement value. Set point: displays the current temperature settings. Power value: displays the output power of the current temperature.
③	Run the signal	Display the current test run signal. ☞ If the number turns red indicates the running signal (corresponding relay action)
④	Run time Remaining time	Displays the running time of the current trial. Shows the time remaining for the current trial period.
⑤	System time	Show the current system date and time. Test run: It means that the current test is in operation. Trial stop: indicates that the current trial is being stopped.
⑥	Humidity	Humidity: Display the current humidity value. Set point: displays the current humidity settings. Power value: displays the output power of the current humidity.
⑦	Program status is shown	Program number: It displays the currently selected program number. Segment number: displays the number of the current segment. Number of cycles: displays the number of current cycles. Number of segments cycles: displays the number of cycles of the current segment.
⑧	Light	Light buttons. ☞ Click the lighting key and the window light is on (the status font is red).
⑨	Edit	Click to enter the edit screen. See [3.1] for specific settings
⑩	Curve	Click to enter the curve screen. See [3.2] for specific settings
⑪	Hold	Maintain the current program status.
⑫	Jump	Jump to the next routine.
⑬	Run / Stop	White font shows the run- -indicates the trial stop state. Red font shows the stop- -indicates the test run state.

4.2 program editing



Figure [4-3] program editing screen

project	name	explain
①	Back	Return to the program test screen.
②	Program number	Program Number: Enter the number of the setup group.(120 maximum support groups) Partial Cycle Settings: Click to enter Partial Cycle Settings. ☞ Refer to [3-2-1] for specific settings Delete: Delete the segment. (Please select a segment before the operation, and after the execution, the selection segment will be deleted)
③	Program name	Program Name: Edit the program name. Cycle: Set the total cycle. Connection: You can set the connector program number. (If the connection is set to 003, indicating that after the current 001 program operation is completed, connect to the 003 program operation)
④	Program editor	No. No: segment number. Temperature: Target temperature setting value for the segment. Time: the execution time of the period.(☞ Settings-0.01 does not run this segment) TS: Set the time signal of the program period to be run.
⑤	Await the opportune moment	Click on Enter "Standby Settings".☞ Refer to [3-2-1] for specific settings
⑥		Click up to turn the page.
⑦		Click to turn the page.

4.2.1 Section cycle setting

BACK

PROG REPEAT SET

No.	No.1	No.2	No.3	No.4
START SEGMENT	0	0	0	0
END SEGMENT	0	0	0	0
REPEAT	0	0	0	0

Figure [4-4] Section loop setting

content	Content description
Set the program number	Set the program number required to perform the cycle run.
Start the number of segments	Set the programmed segment that starts a partial loop running.
End section number	Set the segment in the programmed program.
Cycle index	Set the number of cycles in the program.

Note when setting up the partial cycles:

- (1) Start, the end segment number cannot exceed the maximum segment number in the current program.
- (2) The start segment number cannot be greater than or equal to the end segment number.
- (3) If the end segment number is not 0, the start segment number cannot be set to 0.
- (4) If this loop is not used, set the start and end segment number to 0 and the number of cycles is 0.
- (5) If this part cycle is used, the start and end number is not 0, and the minimum number is set to 1

give an example:

1. If the partial cycle is set as follows:

Partial cycle (No.1): Start: 02, end: 03, cycle: 02

Partial cycle (No.2): Start: 01, end: 04, cycle: 02

Partial cycle execution effect: 0102030203010202030401020304...

2. If partial cycles is set as follows:

Partial cycle (No.1): Start: 01, end: 04, cycle: 02

Partial cycle (No.2): start: 02, end: 03, cycle: 02

Effect of partial cycle execution: 01 02 03 04 01 02 03 04 02 03 02 03.....

3. If partial cycles is set as follows:

Part cycle (1): start: 01, end: 03, cycle: 02

Part cycle (2): start: 02, end: 06, cycle: 02

Part of the cycle execution effect: 01 02 03 01 02 03 02 03 04 05 06 02 03
04 05 06.....

4.2.2 Program curve setting

☞ Refer to 3.3 value curve

5. Operation Settings

5.1 Operation setting screen

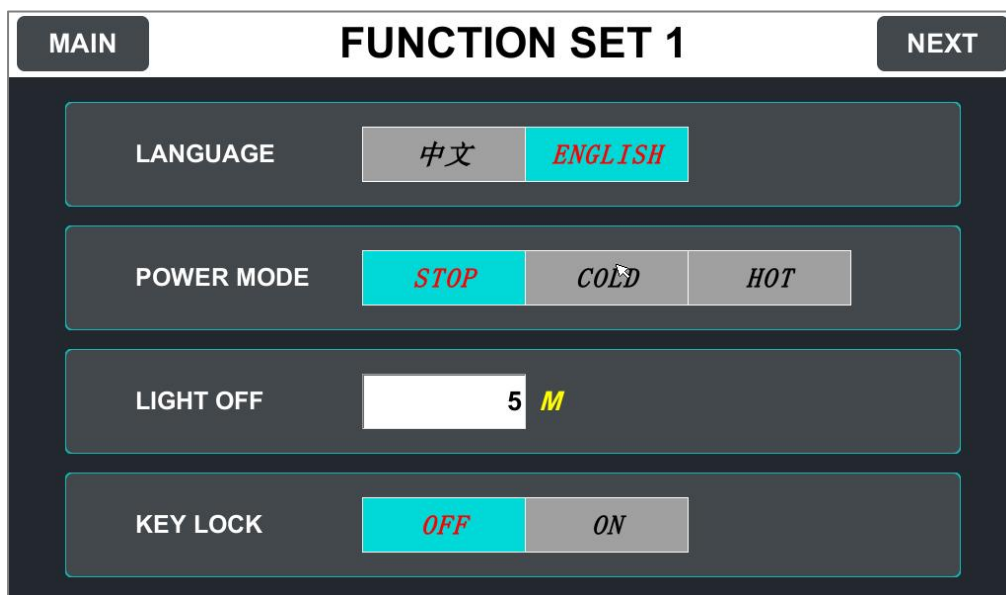


Figure [5-1] Operation Settings 1

content	Content description
Language selection	Choose from Chinese or English.
Power mode	Set the power-on operation after the power failure. ☞ Stop: the operation to restore the state to the operation stop state when the power supply is restored. ☞ Cold start: restart the operation when the power supply is restored. ☞ Hot start: after the operation is interrupted, restore the power supply to restore the state to the state before the power failure.
Light off	Light off time is set, where 0 is never extinguished.
Lock the button	When locked on, all parameters (PARAMETER) settings are not available.

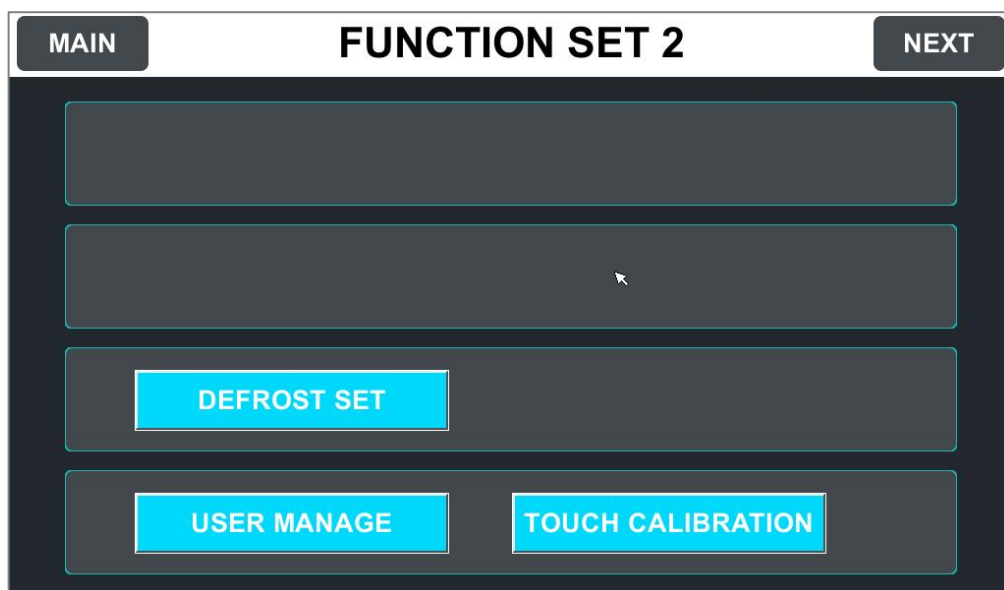


Figure [5-2] Operation Settings 2

content	Content description
Removal frost setting	Click to enter the defrosting setting interface.
user management	Click to enter the password to enter the user management interface.
Touch screen calibration	Click to enter the touch screen calibration.

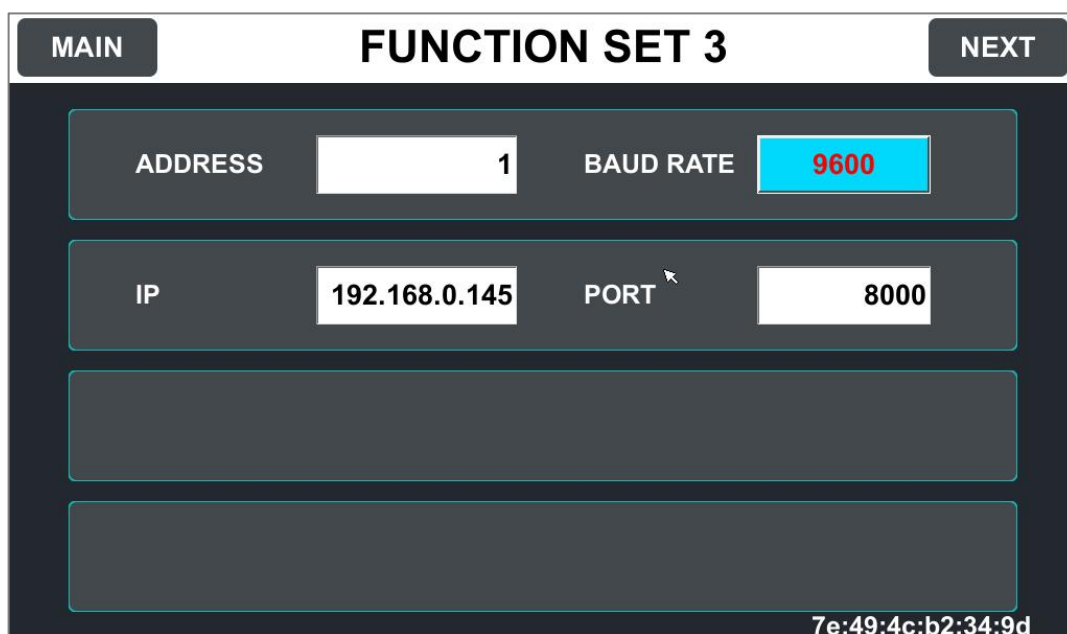


Figure [5-3] Operation Settings 3

6. Historical Curve

6.1 Historical Curve

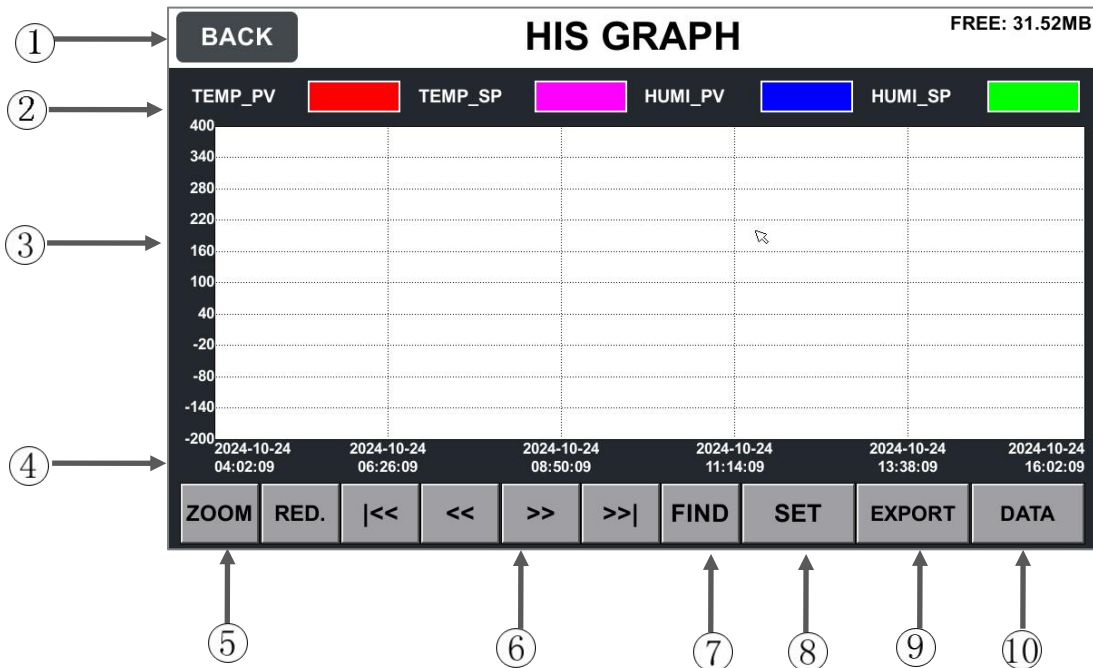
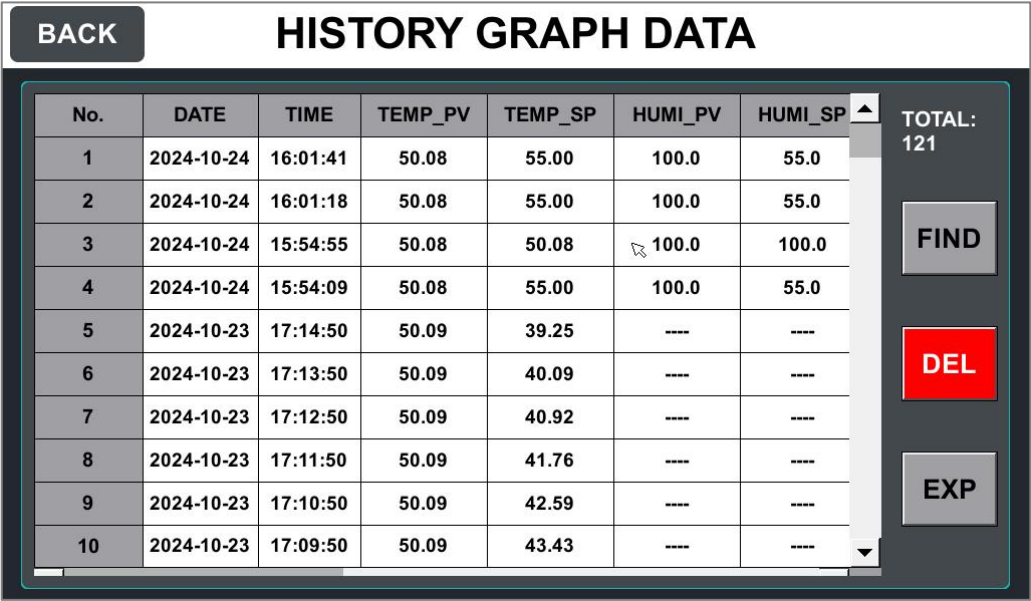


Figure [6-1] History curve

project	name	explain
①	Back	Return to the test screen.
②	Temperature Humidity	Display the temperature measurement value, and the temperature setting value. Display the humidity measurement value and the humidity setting value. Note: The color of the displayed values is consistent with the color of the curve.
③	Curve scale	Display the temperature and humidity curve scale. (The scale range can be set in the ⑨)
④	Time scale	Temperature and humidity time scale is displayed.
⑤	Amplify	Click to zoom in on / out of the curve.
⑥	Shuffling	The left and right movement operation of the picture is made.
⑦	Find	Find the curve.
⑧	Set	Click to enter the curve setting screen.
⑨	Export	derived curve.(This function is be operated after U disk) 👉 Export the data as an EXCEL document.
⑩	Data view	Click to enter the data view screen.

6.2 Data display



The Figure [6-2] data are shown

content	Content description
Table	Display area of the data.
Find	Look for a certain history.
Leading-out	Export a certain history record.
Delete	Delete the history.

7. Fault Record

Click the fault record in the main screen to reach the second screen and view the DI history record.

MAIN

ALARM HISTORY

NEXT

No.	ALARM NAME	START TIME	END TIME	TOTAL: 1 FIND EXP DEL
1	TROUBLE 1	2024-10-18 10:24:04	2024-10-18 10:26:59	
2				
3				
4				
5				
6				
7				
8				
9				
10				

Figure [7-1] DI fault record

content	Content description
No	Fault record number.
The name of the alarm	Displays the fault name.
Start time	Displays the time when the failure was started.
Terminal time	Displays the time when the failure has ended.
Find	Look for a certain history.
Leading-out	Export a certain history record.
Delete	Delete the history.

8. Appointment Settings

MAIN

RESERVE

SYSTEM TIME

2024

Y

10

M

24

D

16

H

02

M

31

S

RESERVE TIME

2025

Y

01

M

01

D

00

H

00

M

00

S

RESERVE MODE

OFF

ON

Figure [8-1] Appointment setting

content	Content description
System time	Set the system time.
Reserve time	Appointment time setting
Reserve mode	Whether to use the reservation function setting.

MAIN

FIX TEST

2024-10-24 16:02:36
STOP

TEMP

°C

50.08

SET POINT

55.00

MV

0.0%

HUMI

%

100.0

SET POINT

55.0

MV

0.0%

01

02

03

04

05

06

07

08

09

10

RUN TIME: 0H 00M 05S

RESERVE TIME: 2025-01-01 00:00:00

LIGHT

SET

GRAPH

START

Figure [8-2] Appointment display screen

9. Communication Failure

- ▶ The "—————" screen will appear when the connection control board is abnormal.

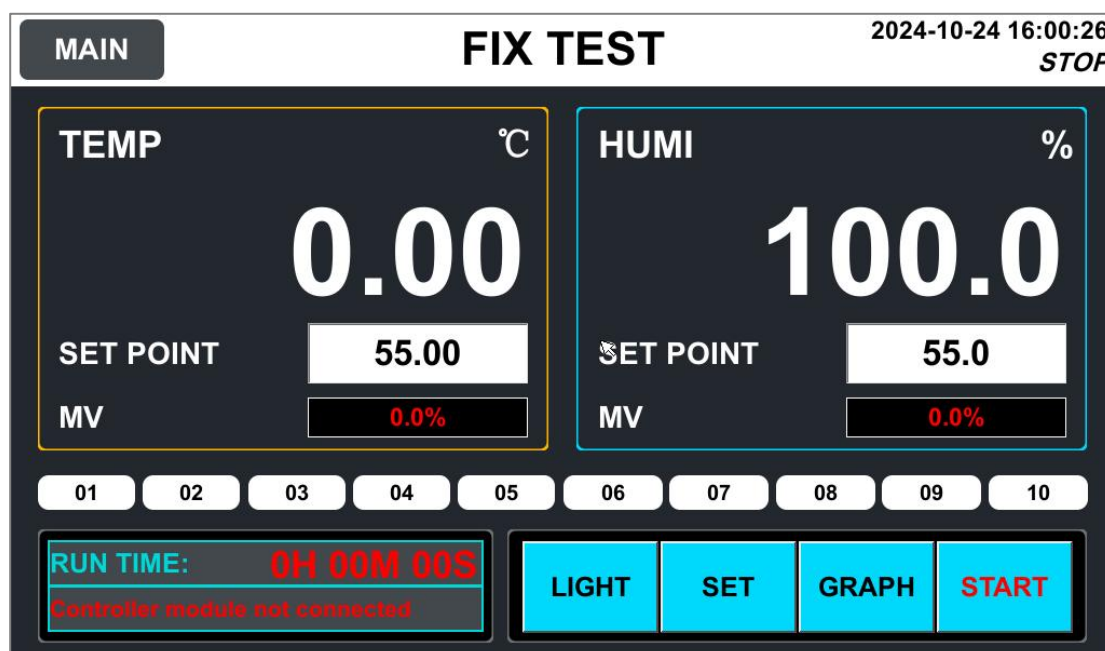


Figure [9-1] Communication failure screen

※ Cause of communication interruption phenomenon:

- ① Poor communication connection
- ② The connection status of the communication line is bad

10. Appendix

① Digital input dedicated box

PROG No. [1 - 120]							
0	1	2	3	4	+/-	←	ESC
5	6	7	8	9	.	CLR	ENT

② Set the input box of the program experiment name and the DI fault name

NAME									
PROG 001									
q	w	e	r	t	y	u	i	o	p
	a	s	d	f	g	h	j	k	l
Caps	z	x	c	v	b	n	m	←	
123/SYM	EN	,		.	ESC	OK			

③ When when beyond the set range

PROG No. [1 - 200]								INPUT ERROR	
0	1	2	3	4	+/-	←	ESC		
5	6	7	8	9	.	CLR	ENT		

④ Pop-up box

START	
NO	YES

Constant temperature and humidity chamber

The solutions for 6 alarms are as follows:

Trouble 2	Temperature overtemperature	① Check whether the fan in the box is running ② Check the alarm system
Trouble 3	Humidity and overtemperature	① Stop the machine, open the control panel and check whether there is water in the humidification cylinder ② Check if there is water in the cup ③ Check if the waterway is blocked
Trouble 5	1st stage compressor overload	① Stop the machine and check whether the condenser fins are blocked ② Check whether the condensing fan is running well ③ Check whether the ambient temperature exceeds 30°C
Trouble 6	2nd stage compressor overload	① Check whether the heat dissipation is good ② Check if the first stage of cooling is in good condition
Trouble 7	Panel over temperature	① Check whether the panel over-temperature protection is set too low
Trouble 8	lack of water	① Check if there is water in the water tank ② Check whether the water pump is working properly

11. Quality Assurance

I 、 The guarantee period is 12 months (consumer goods and travel cost are not included).

II 、 The main quality warranty maintenance certificate.

- (1) Please keep this guarantee letter, if you lost it, please connect with us in a month.
- (2) If this guarantee letter has been altered or it has no our stamp, it is useless.

III、 The following conditions need to pay reasonably even in the assurance period.

- (1) Natural reasons
- (2) Operating mistakes
- (3) Voltage is not fit for our operation instruction
- (4) Repack it without our guides
- (5) Damaged for borrowing to others
- (6) Damaged for authorized machine modification
- (7) Damaged for authorized calibration
- (8) Authorized transshipment mistake
- (9) Serve for long distance area

IV、 Notes:

- (1) Where the original in Guangdong province installation of our products, if the product moved to outside Guangdong-area use, whether or not within the effective warranty period, the transportation and travel expenses of the service personnel should be paid by the client.
- (2) All customers outside of Guangdong province, whether or not in the warranty period, the service of transportation and travel expenses paid by the customer.