



User Manual of Low Temperature Flexing Tester



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-348



Catalog

I. Product introduction

II. Product illustration introduction

III. Product installation requirements

IV. Product fault description

V. Control system operating instructions

VI. Quality Assurance

广东纽格尔仪器有限公司
Guangdong Newgoer Instrument Co., Ltd



Add: NO.16, Shuijiao Gongye Road, Lichuan, Dongcheng,
Dongguan City 523000, Guangdong CHINA

I. Product introduction:

1. Product name: Low Temperature Flexing Tester

2. Application industry: photoelectricity, semiconductor industry, electronics-related parts industry, household appliances, electronic gifts, stationery gifts auto parts industry and computer-related industries, etc.

3. Product introduction:

1. Simulation of industrial parts, major accessories, semi-finished products, such as: electronic parts, automotive parts, notebook computers, etc. ... in the climate environment temperature and humidity combined conditions (high and low temperature operation, storage, temperature cycle, high temperature and high humidity, low temperature and low humidity, condensation test, etc.), test the product itself and the ability to adapt to the characteristics of whether the change and reliability and temperature and humidity environment test

2. Meet the requirements of international standards (IEC, JIS, GB, MIL ...) to achieve international consistency in measurement procedures (including test procedures, conditions, methods) to avoid cognitive differences and reduce the range of measurement uncertainty factors occur.

4. Product Model:

5. Machine dimensions:

1. Inner box size:400*500*550mm (W×H×D)

6. Temperature and humidity range:

1. Temperature range: RT~-40℃ (can be set arbitrarily)

7. Machine precision:

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1. Resolution accuracy:

Temperature: $\pm 0.1^{\circ}\text{C}$

2. Control Stability:

Temperature: $\pm 0.5^{\circ}\text{C}$

3. Distribution uniformity

Temperature: $\pm 2.0^{\circ}\text{C}$

4. Temperature limit

Maximum temperature: $+100^{\circ}\text{C}$

Minimum temperature: -40°C

8. Raising and lowering temperature speed:

Temperature rise rate : $3^{\circ}\text{C}/\text{min}$ (from 0°C to 30°C about 10 minutes)
non-linear no-load

Cooling speed: $1^{\circ}\text{C}/\text{min}$ (from 30°C to 0°C for about 30 minutes) non-linear
no-load

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II. Product illustration introduction





III. Product installation requirements:

The machine uses the power supply: single-phase three-wire 220V $\pm$ 10% 50HZ

Total power: 3.5KW

Equipment performance to ensure that the ambient temperature requirements:
0 °C ~ 30 °C

Humidifying water: Pure or distilled water must be used

***Note:** Try to ensure that this water source is as pure as possible! Groundwater is prohibited!

Fault 2	Temperature overtemperature	① Check if the fan in the box is running ② Check the alarm system
Fault 5	Class 1 compressor overload	① Stop the machine and check whether the condenser heat sink is blocked ② Whether the condenser fan is running well ③ Check if the ambient temperature is over 30°C
Fault 6	2-stage compressor overload	① Check whether the heat dissipation is good ② Whether the 1-stage cooling is good
Fault 7	Broken Phase and Inverted Phase	① Check whether the three phases are missing or the phase sequence is wrong

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IV. Fault description:

Troubleshooting	Cause	Treatment Method
Turn on the power machine does not move	Lack of phase; power supply is not normal	Check re-powering
	No output from controller	Check if the controller PC board is working
	Control power insurance burned out	Check the cause to replace the insurance
	False operation of safety protection device	Check safety protection measures and reset manually
Can't cool down or slow to cool down	Refrigeration compressor is broken	Renew or send for repair
	Snow leak	Notify our company or ask a professional to repair
	Wind motor does not rotate or reverses	Check the cause or update
	Compressor's electromagnetic switch is broken	Check the cause Update
	Condenser sticky dust	High-pressure air nozzle blow dry net
	Poor heat dissipation of the unit	Poor installation position, repositioning installation
Temperature can not do or out of control	Temperature over-temperature protection action	Reset
	Temperature SSR damage	Inspection and replacement
	Temperature electric heating tube bad	Inspection and replacement
	Bad temperature contactor	Inspection and replacement
	Refrigeration system failure	Notify our company or ask a professional to repair
Humidity can not do or out of control	Humidity SSR damage	Check for new
	Humidity heating tube bad	Check for new
	Wet cloth does not absorb water well	Get a new one
	Water pan water level too high or too low	Adjustment of water level
	Bad humidity contactor	Check the cause for a new one
	Temperature over humidity protection action	Reset

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Controller cannot be controlled	The button does not work	Notification to the Company
	No power input	Check re-powering
	I/O board does not work	Wiring row loose re-insert good
	No display on control panel	Check the power supply or notify the company

V. Control system operating instructions

1. fixed value (FIX) experiment

1.1 Introduction of main picture of the system

Boot into the main picture of the system as shown [2-1]。

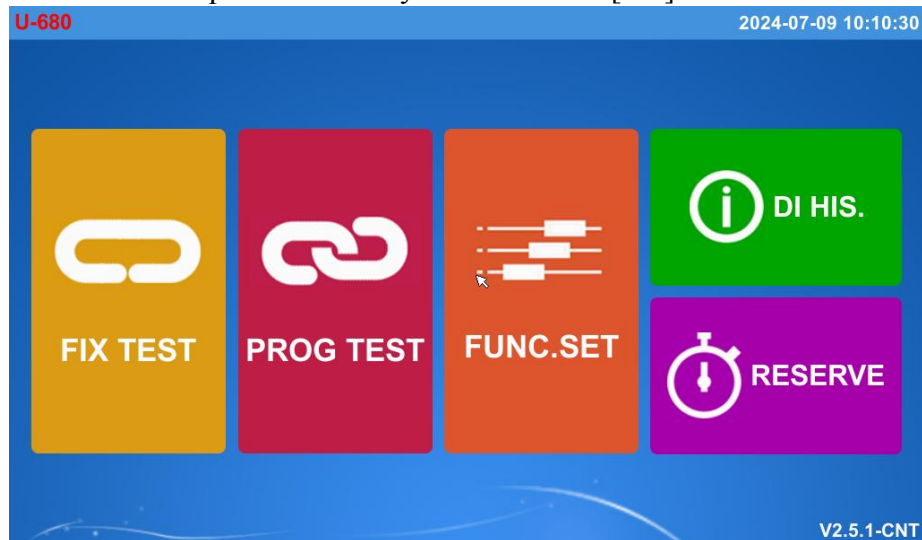


Fig. [2-1] main picture of system

The main screen of the system has five operations:

1. Setting experiment in this mode, the temperature and humidity can be set according to a certain time or proportion. Click on the fixed value experiment picture as shown in figure [2-2]
2. Program experiment this mode allows people to edit specific programs by



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themselves and adjust the temperature and humidity according to the program. Click enter the program experiment picture as shown in figure [3-1]

3. This function is set up by the operator to allow the operator to do the relevant settings. Click enter the operation settings screen as shown in figure [5-1]
4. The fault recording function allows the staff to view the DI fault record. Click enter the fault recording screen as shown in figure [7-1]
5. Setting up this function makes it convenient for the staff to start the fixed value task or program task at once. Click on the appointment settings screen as shown in figure [8-1]

1.2 Main screen of fixed value experiment

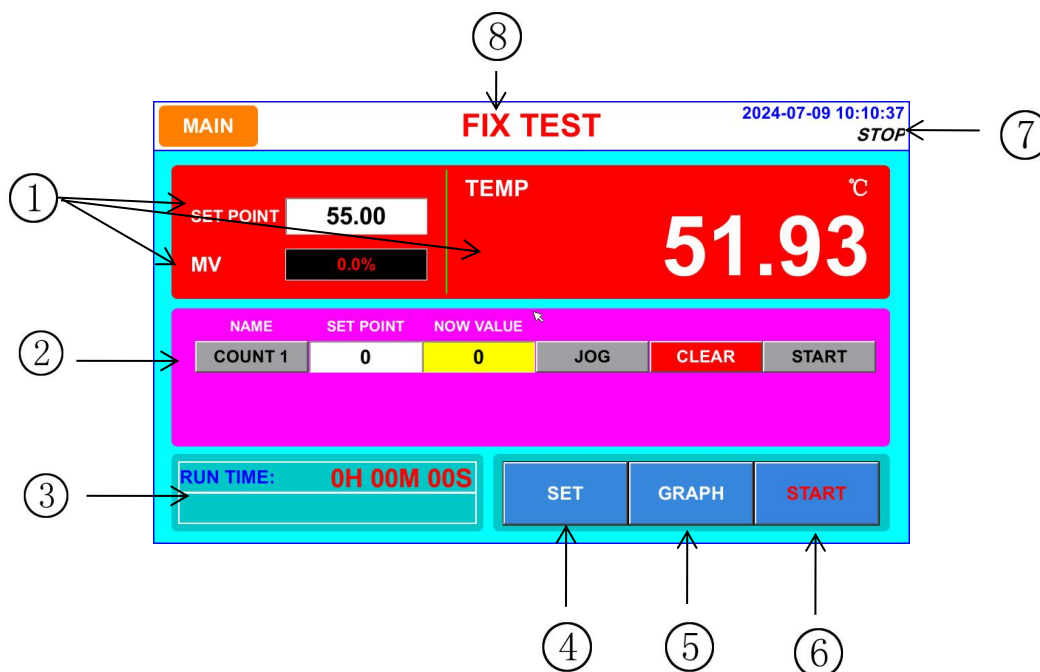


FIG. [2-2] Main screen of fixed-value experiment

1. Displays the current temperature setting value, output power value, and current temperature value.
2. One (two) way count: display the set number of times, display the current number, click to clear the count, start the count test.
3. Displays the current running time.
4. Settings: Opens the Settings button. For details, please refer to Figure [2-3].

5. Switch to the curve display screen。
- 6.Run button. Please refer to Figure [2-4] for details.
7. Display current status。
8. Display current location。

1.3 Set value setting screen

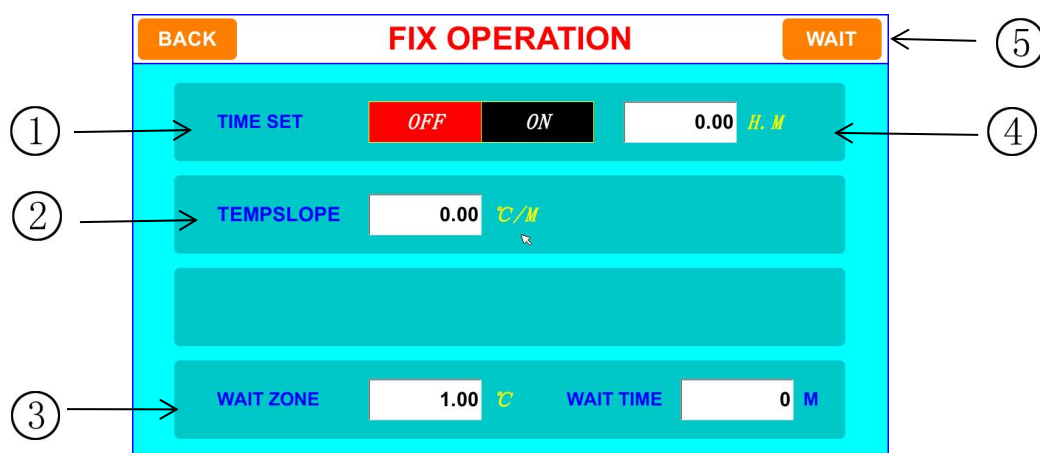


Figure [2-3] Value setting

1. Timing operation switch: OFF means OFF and ON means ON。
2. Temperature slope setting. Increase or decrease in temperature in a certain proportion。 (The range is 0.00 to 600)
3. Set the standby count range.
4. Enter the standby setting screen. Please refer to Figure [2-4] for specific Settings.

1.4 Standby set



Figure [2-4] Standby setting



1. Standby setting switch: OFF: OFF; ON: ON。
2. Set the temperature zone. (The range can be 0.00-600.00)
3. Set the standby time。

1.5 Fixed value experiment running screen

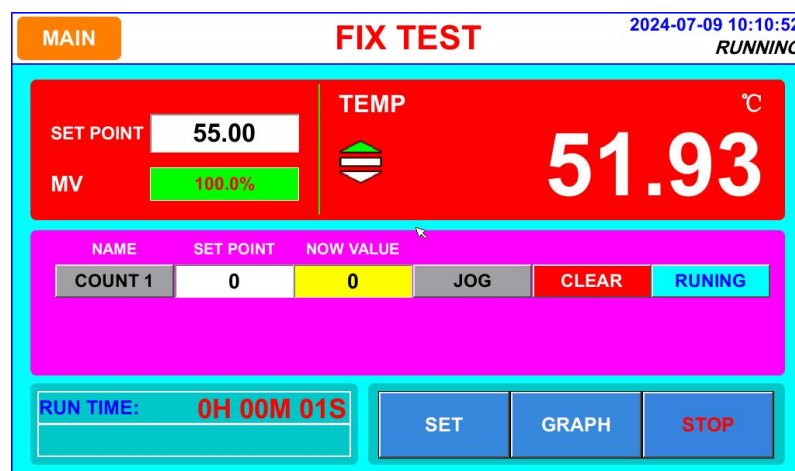


FIG. [2-5] Fixed value running screen

operation:

1. Set the running time and temperature slope in the value setting screen (FIG. [2-3]).
2. Click the run button in the main screen of the fixed-value experiment (FIG. [2-3]).

☞ After running, you can see that the screen information has been updated. In the upper right corner, the experiment state is experiment run, and in the lower left corner, the running time and remaining time are displayed。

☞ If you want to stop forcibly, click the stop button in the lower right corner to stop the operation。



2、PROGRAM experiment

2.1 Program experiment main screen

Click program experiment in the system main screen to enter。

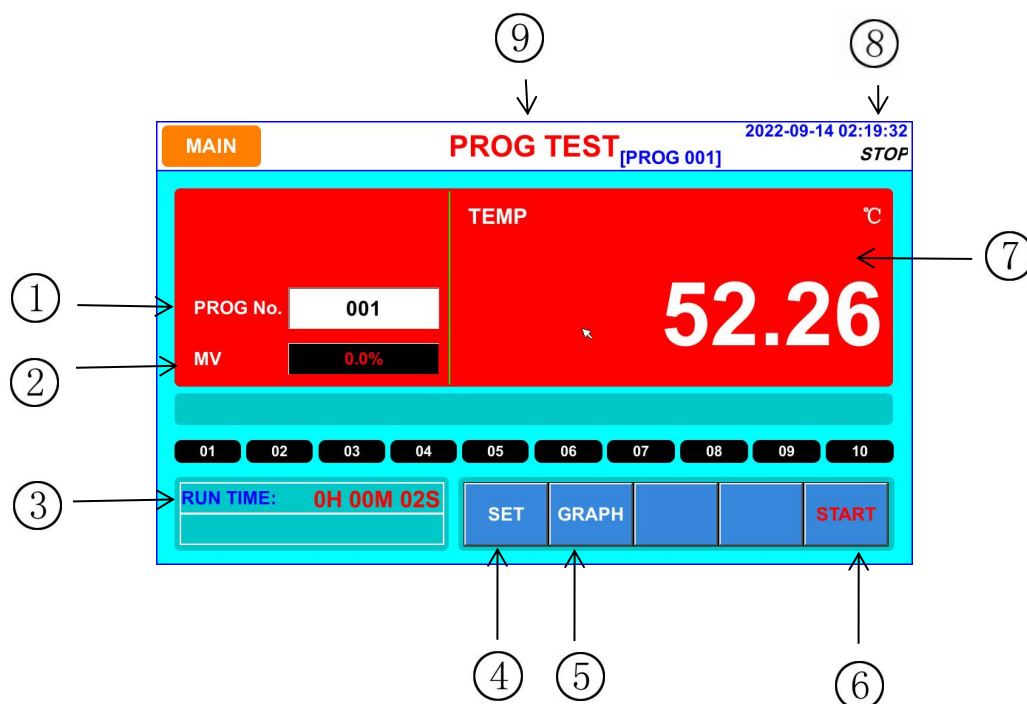


Figure [3-1] Program experiment

1. Displays the current program segment number。
2. Displays the percentage of the power value of the current temperature。
3. Displays the current running time。
4. Program editing. For specific editing methods, please refer to Figure [3-2].
5. Switch to the curve display screen。
6. Start button。
7. Display current temperature。
8. Display current status。
9. Display current location。

2.2 Program editing screen

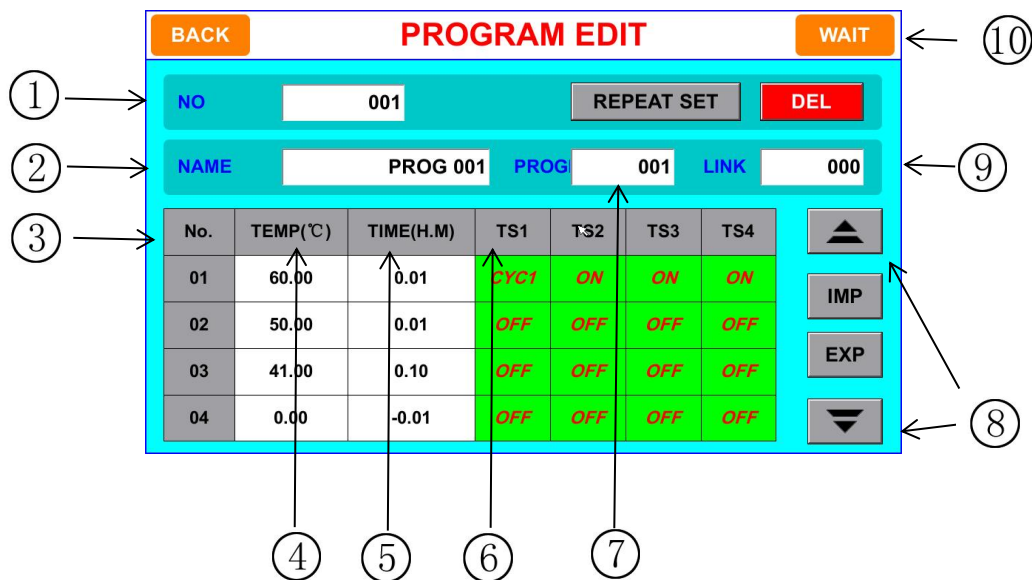


Figure [3-2] Program editing

1. Edit program number.
2. Edit program name.
3. Show program segment number.
4. Temperature of the current segment.
5. Current period of time.
6. Sets the time signal for the segment of the program to be run.
7. Set cycle number.
8. Page up and down operation.
9. Program connection. (The range is 0-120)
10. Enter the standby setting. Please refer to Figure [2-4] for specific Settings.



2.3 Program running screen

Program running procedure:

1. Edit a program in the program editing screen (Figure [3-2]).
2. Select the program number in the program experiment main screen (Figure [3-1]).
3. Click the Run button.

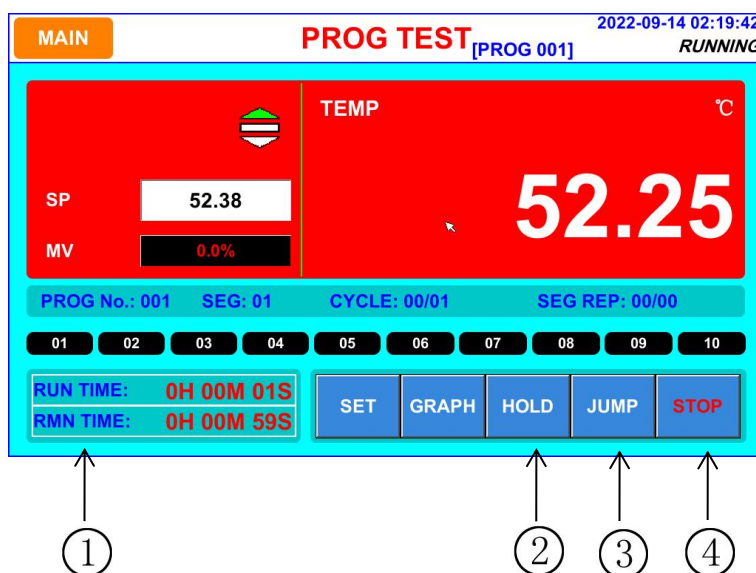


Figure [3-3] Program experiment

1. How long the program has been running and how long it has left.
2. When the program is running, click the Hold button to maintain the temperature of this state, click again to cancel the hold.
3. When the program is running, click the skip button to skip this section, directly into the next section of the run.
4. The stop button can force the current operation to stop.



2.4 PROGRAM (PROGRAM) running stop screen

- ▶ After the run of all segments stored in the mode terminates, the "trial is over" message will be displayed as shown in the diagram, and then the program will end.
- ▶ If you click the "Stop" button to terminate the operation, there will be no prompt information on the screen.
- ▶ If there is a message indicating the end of the run, touch this part of the screen and the message will disappear.

☞ The same is true when a value run terminates

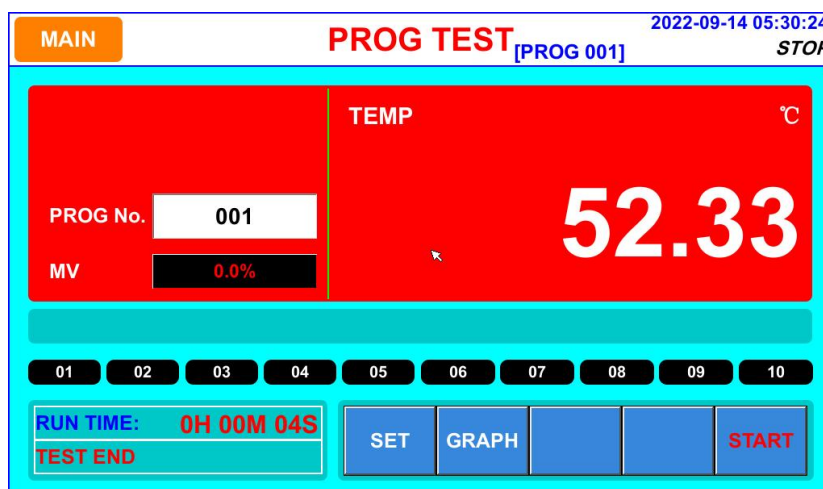


Figure 3-4 Program running stop screen



3、Curve shows

3.1 The curve shows the real-time picture

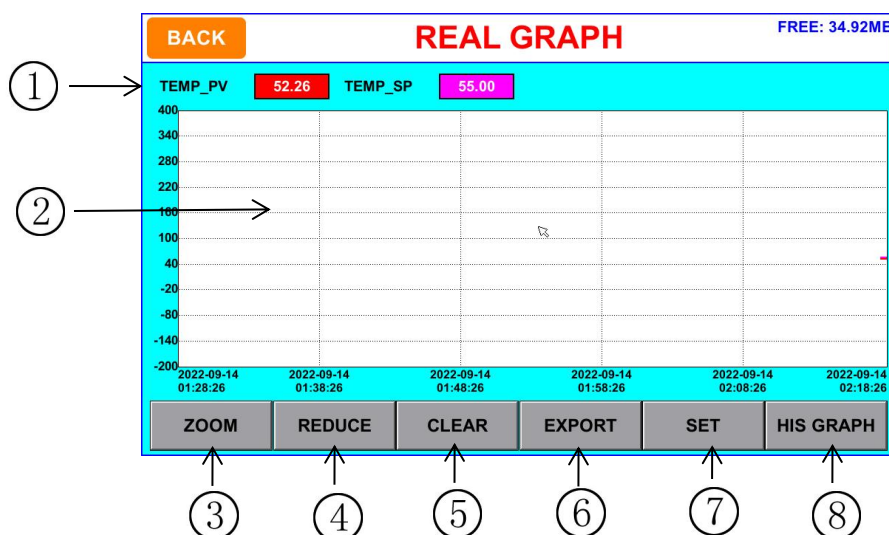


FIG. [4-1] Real-time curve

1. The current and set values of the temperature are represented by four different colored curves.
(Click the corresponding box to display and hide Settings)
2. The area shown by the curve.
3. An enlargement.
4. Reduce operation.
5. Cleaning operation.
6. Export the current curve screen. (Please connect the USB flash drive before operation)
7. Curve display Settings. For details, please refer to Figure [4-2].
8. Enter the history curve record.



3.2 The curve is set

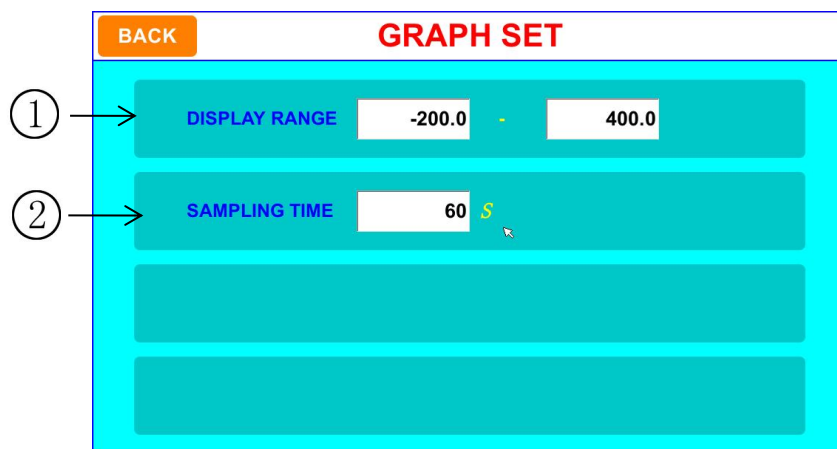


FIG. [4-2] Curve setting

1. Set the display range of the curve. (Available range: -100-400)
2. Set the time of the sampling cycle。



4、 The operation setting

4.1 Operation set the first screen

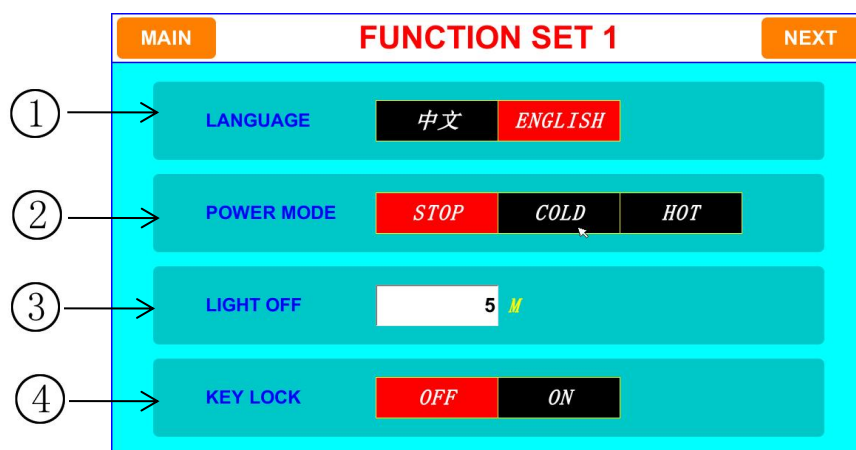


Figure [5-1] Operation Settings (1)

1. Language selection。
2. Set the power on operation after power failure。
 - ☞ Stop: The operation that restores the state to the stop state when the power is restored after the power is interrupted。
 - ☞ Cold start: The operation of restarting the operation when the power is restored after a power interruption。
 - ☞ Hot start: The operation of restoring the state to the state before the power failure when the power is restored after a power failure。
3. Set the backlight time, where set to 0 is never extinguished。
4. When the lock is on, all the PARAMETER Settings cannot be used。

4.2 Operation set the second screen

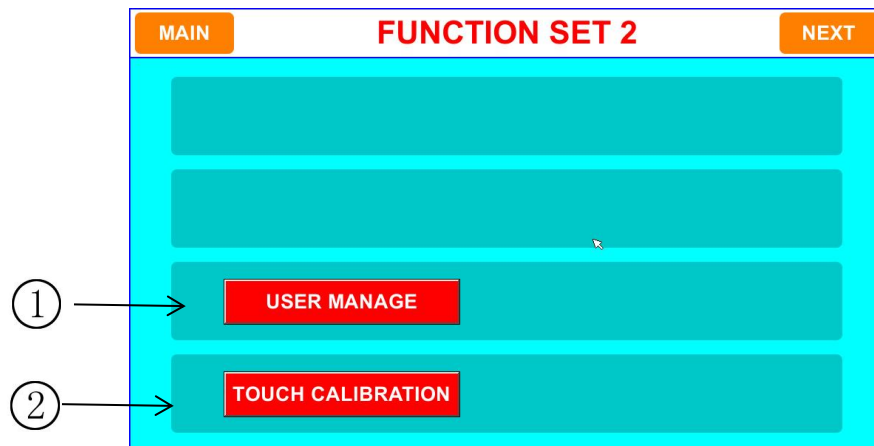


FIG. [5-2] Operation Settings (2)

1. User management: Click to set the user (see Figure [5-3]).
2. Touch screen calibration.

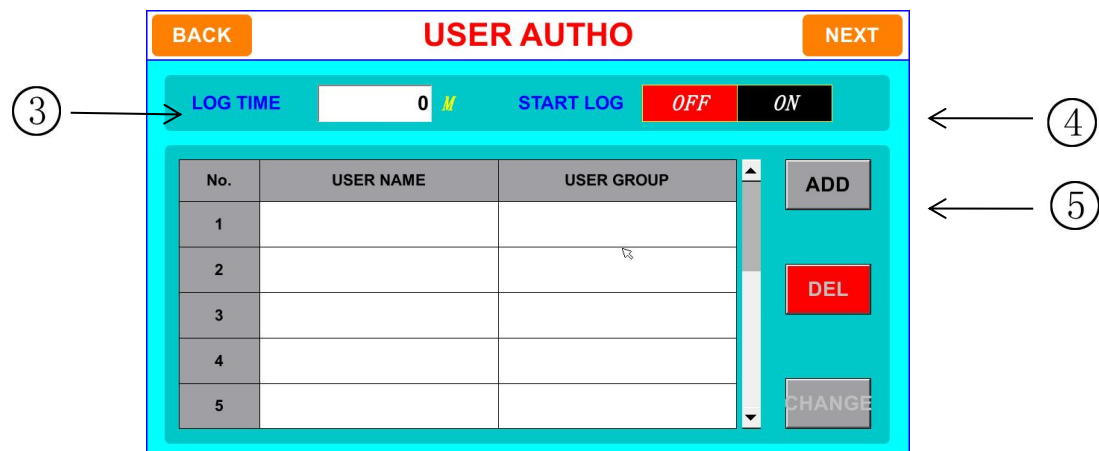


Figure [5-3]

3. Set the login operation duration.
4. Set whether login is allowed.
5. Click to add users: refer to the following figure for specific information.

5、 The historical data

5.1 Historical data show



The screenshot shows the 'SYSTEM LOG' screen. At the top are 'MAIN' and 'NEXT' buttons. Below is a table with columns: No., TIME, USER, EVENT, LAST PARA, and NOW PARA. To the right of the table is a sidebar with 'TOTAL: 91', 'FIND', 'EXP', and 'DEL' buttons. Numbered callouts point to: 1. The table area, 2. The 'FIND' button, 3. The 'EXP' button, and 4. The 'DEL' button.

No.	TIME	USER	EVENT	LAST PARA	NOW PARA
1	2022-09-14 02:19:41		改变运行状态	停止	运行
2	2022-09-14 02:19:28		改变运行状态	运行	停止
3	2022-09-14 02:19:25		改变运行状态	停止	运行
4	2022-09-14 02:19:16		改变运行状态	运行	停止
5	2022-09-14 02:16:56		改变运行状态	停止	运行
6	2022-09-14 02:16:41		上电		
7	2022-09-14 02:16:13		上电		
8	2022-09-09 02:17:42		上电		
9	2022-09-09 02:17:22		上电		
10	2022-07-14 23:40:24	系统	定值试验定时结束	停止	运行

FIG. [6-1] Main screen of historical data

1. A display area for data。
2. Click Search to view the data of historical segment number
3. You can choose whether to delete data。
4. You can export data using a USB flash drive。



5.2 History curve

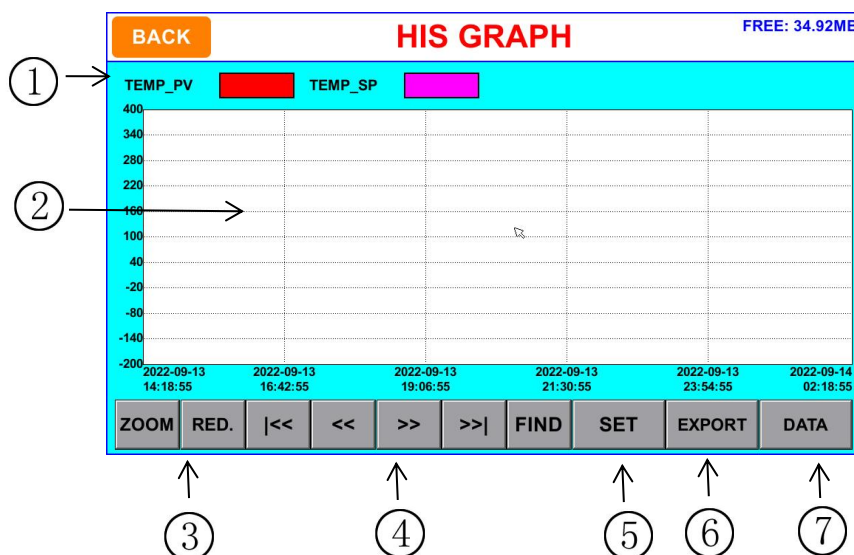


Figure [6-2] Historical curve

1. The current and set values of the temperature are represented by four different colored curves。
(Click the corresponding box to display and hide Settings)
2. The area shown by the curve。
3. Zoom in and out of the picture。
4. Screen left and right movement operation。
5. Curve display Settings. For details, please refer to Figure [4-2].
6. Export the current curve screen. (Please connect the USB flash drive before operation)
7. The historical data view is displayed。



6、 Alarm history record

6.1 Click the alarm record on the main screen to reach the second screen and view the DI history record.

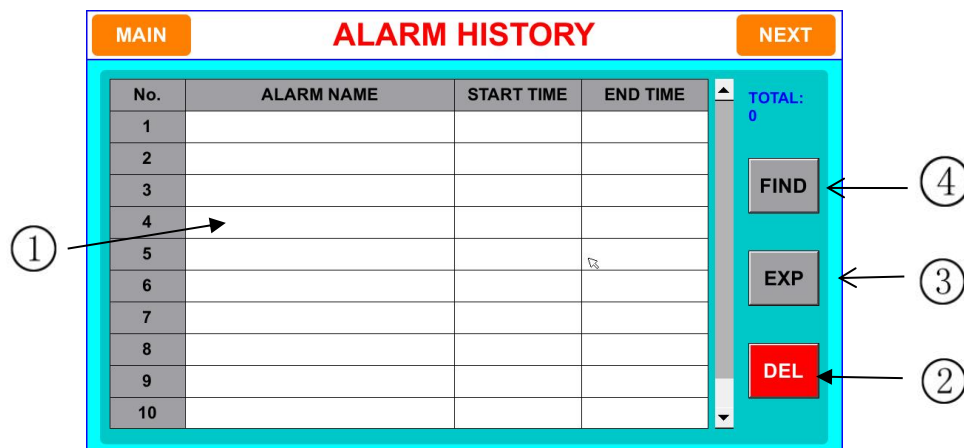


Figure [7-1] DI alarm history

1. This area displays the fault name。
2. You can delete one or all history records。
3. You can export one or all historical records。
4. Click "Search" to find the records of a certain time period. Please refer to Figure [7-2] for specific operation.。

7、Appointment setting



Figure [8-1] Reservation Settings

1. Setting the system time。
2. Set a time for the appointment。
3. Whether to use the reservation function。

☞ After making the reservation setting, the corresponding timing will be displayed in the program test as shown in the red selected part below。

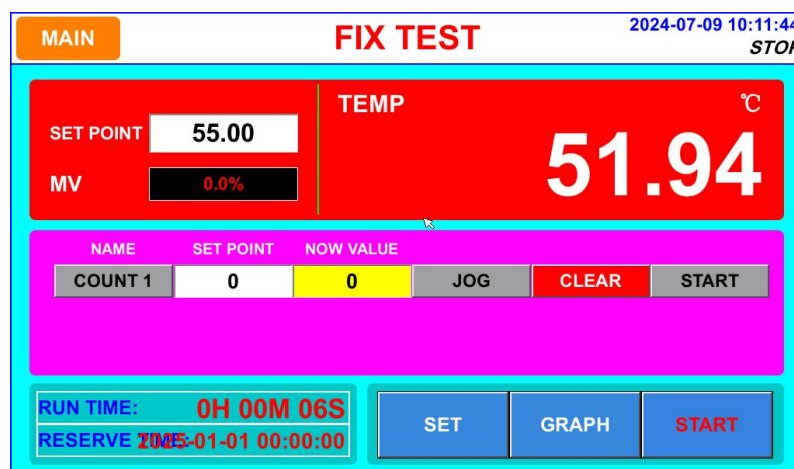


Figure [8-2] Reservation program test



8、Nine communication failure

- The "—————" screen will appear when the connection control panel is improperly connected。

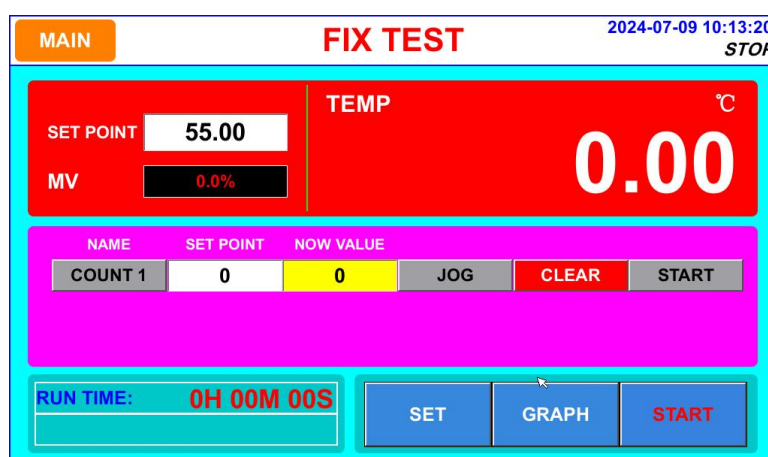


Figure [9-1] Communication fault screen

※ Cause of communication failure:

- ① Poor communication connection
- ② The communication cable is not properly connected



VI. 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.