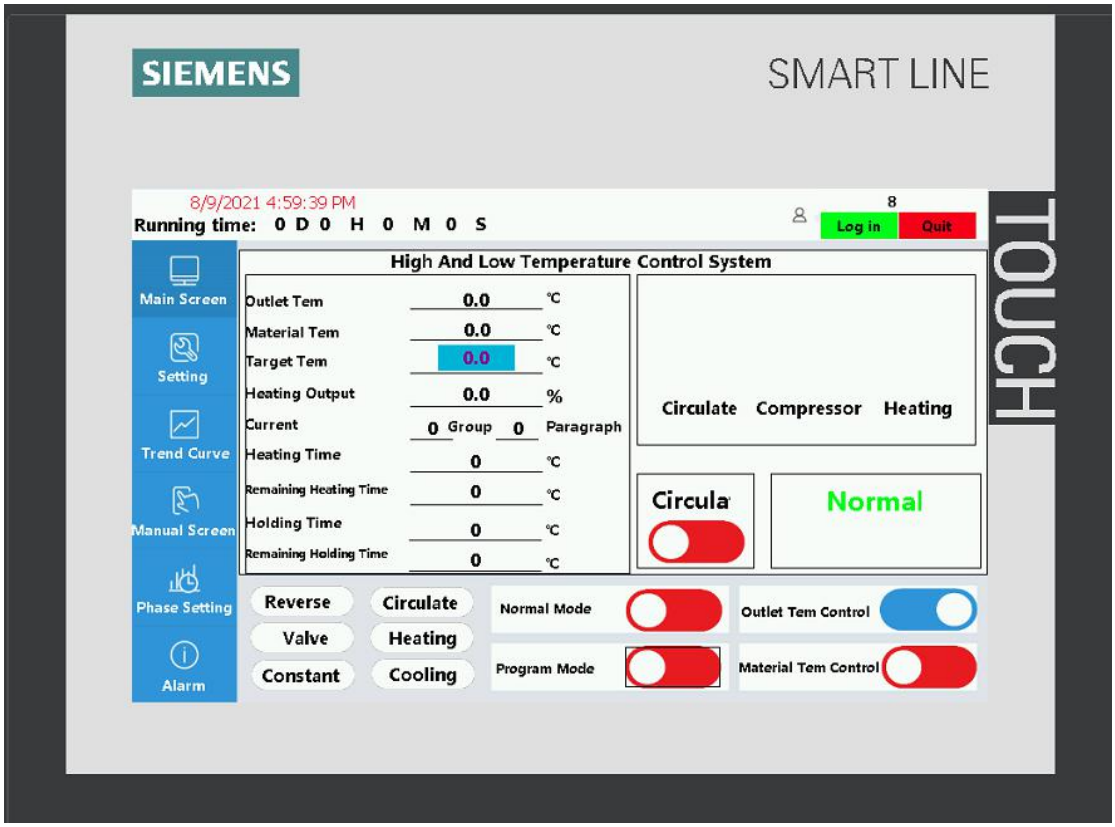
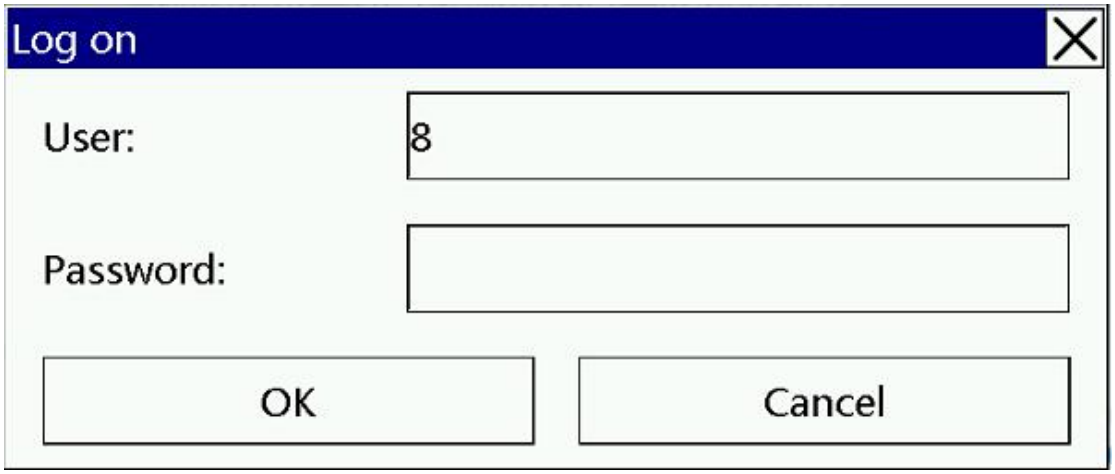
PLC-Heating Chiller Manual

I.Main screen





Log in:Click login in the upper right corner to pop up the user login interface. Only after the user logs in can you operate and modify the parameters. The system sets 8 users.

User name: 1, initial password: 111;

User name: 2, initial password: 222;

User name: 3, initial password: 333;

User name: 4, initial password: 444;

User name: 5, initial password: 555;

User name: 6, initial password: 666;

User name: 7, initial password: 777;

User name: 8, initial password: 12121;

The user name will be displayed if the user logs in successfully;

User 8 has the highest authority and can set all parameters;

Users 1-7 can set other parameters other than "Export High Temperature Protection", "Export Low Temperature Protection", "Export High Temperature Protection", "Heating P", "Heating I", and "Heating D";

You cannot enter the parameter setting interface without logging in.

Quit: Click”Quit” to exit interface

Running time: After the program mode is started, the user's running time will be displayed; each time it is started, the time will be restarted

Current stage: Display the current stage of the program mode

Keep warm time:Display the time that the current stage of the program mode has entered the heat preservation stage. Unit: minute

Remaining holding time: Display the remaining holding time of the current stage of the program mode. Unit: minute

Heating output: Display heating percentage, full power is 100%

Outlet temperature: The real-time temperature of the equipment outlet

Material temperature: The real-time temperature of the material in the reactor

Target temperature: The target temperature of the current control medium. If "Outlet temperature control" is selected, the set target temperature is the target temperature of the outlet;

If "material temperature control" is selected, the set target temperature is the target temperature of the material;

If it is in the program mode and the temperature rise time is set, the target temperature will automatically change once per minute

Reverse phase: white indicator light is normal, blue indicator light is phase loss or reverse phase failure

Valve: The white indicator light is normal, the blue indicator light is the valve has started

Constant temperature: The white indicator light is normal, the blue indicator light has entered the constant temperature, and the target temperature difference of ±0.2 degrees will enter the constant temperature

Circulation: The white indicator light is normal, the blue indicator light is the circulating pump has started

Heating: White indicator light is normal, blue indicator light is heating has started

Refrigeration: The white indicator light is normal, the blue indicator light is the compressor has started

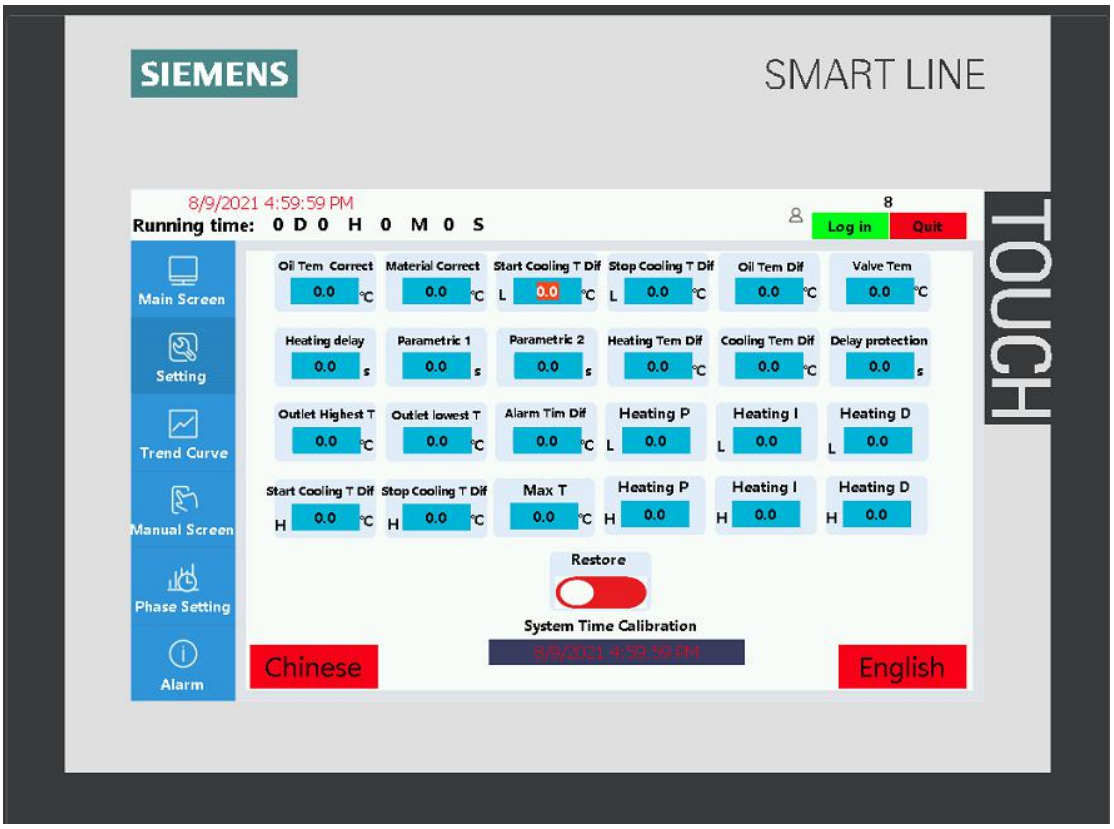
Program mode: This button is the automatic start button for stage heating. After starting, it will run according to the heating and holding time set by the user. When the program runs the current stage constant temperature time and detects that the next stage constant temperature time is 0, the program automatically stops

Stand-alone mode: This button does not execute the program to raise and lower the temperature, and it will keep the target temperature set by the user.

Outlet temperature control: select this button to set the outlet temperature as the target temperature

Material temperature control: Choose this button to set the material temperature as the target temperature

II. Parameter setting



1.Oil temperature correction: when the displayed oil temperature does not match the actual temperature, it can be corrected to the same

2.Material correction: when the displayed material temperature does not match the actual temperature, it can be corrected to the same

3.Start refrigeration temperature difference: when the actual temperature is higher than the target temperature, the system will automatically start the compressor refrigeration

4.Stop cooling temperature difference: when the actual temperature is lower than the target temperature, the system will automatically stop the compressor cooling

5.Oil temperature difference: When the system takes the material temperature as the control target, in order to reach the target temperature faster, the oil temperature will be lower or higher than the temperature difference value of the material temperature, but

when the oil temperature is higher or lower than the target temperature in the kettle When the temperature difference is set, it will stop heating or cooling until it returns to the temperature difference range to continue

6.Solenoid valve temperature: When the oil temperature is higher than this value, the solenoid valve will start, the initial value is 40 degrees, do not change at will

7.Heating delay: In order to reduce the system shock, the compressor will stop and the heating will not start within this time range

8.Temperature coefficient in the tank: the time it takes for the materials in the kettle to rise or drop by one degree when the oil temperature reaches the highest value, unit s

9.Early action coefficient: This coefficient divided by the temperature coefficient in the kettle is the temperature for heating or cooling in advance

10.Heating constant temperature difference: When the material is selected for temperature control and heating, the oil temperature in the constant temperature stage is greater than the value of the target temperature of the material

11.Refrigeration constant temperature difference: When the material is selected for temperature control and is cooling, the oil temperature in the constant temperature stage is lower than the value of the target temperature of the material

12.Delay protection: protect the compressor, prevent the compressor from starting frequently, the factory setting is 180s

14.Export high temperature protection: the highest value of oil temperature

15.Export low temperature protection: the lowest value of oil temperature

16.Constant temperature alarm temperature difference: when the temperature difference

in the constant temperature stage exceeds this value, it will alarm

17.Heating P: L factory value is 59.8, H factory value is 15.0, L is the low temperature section data, H is the high temperature section data

18.Heating I: L factory value is 3.67, H factory value is 3.67, L is the low temperature section data, H is the high temperature section data

19.Heating D: L factory value is 0, H factory value is 0, L is the low temperature section data, H is the high temperature section data

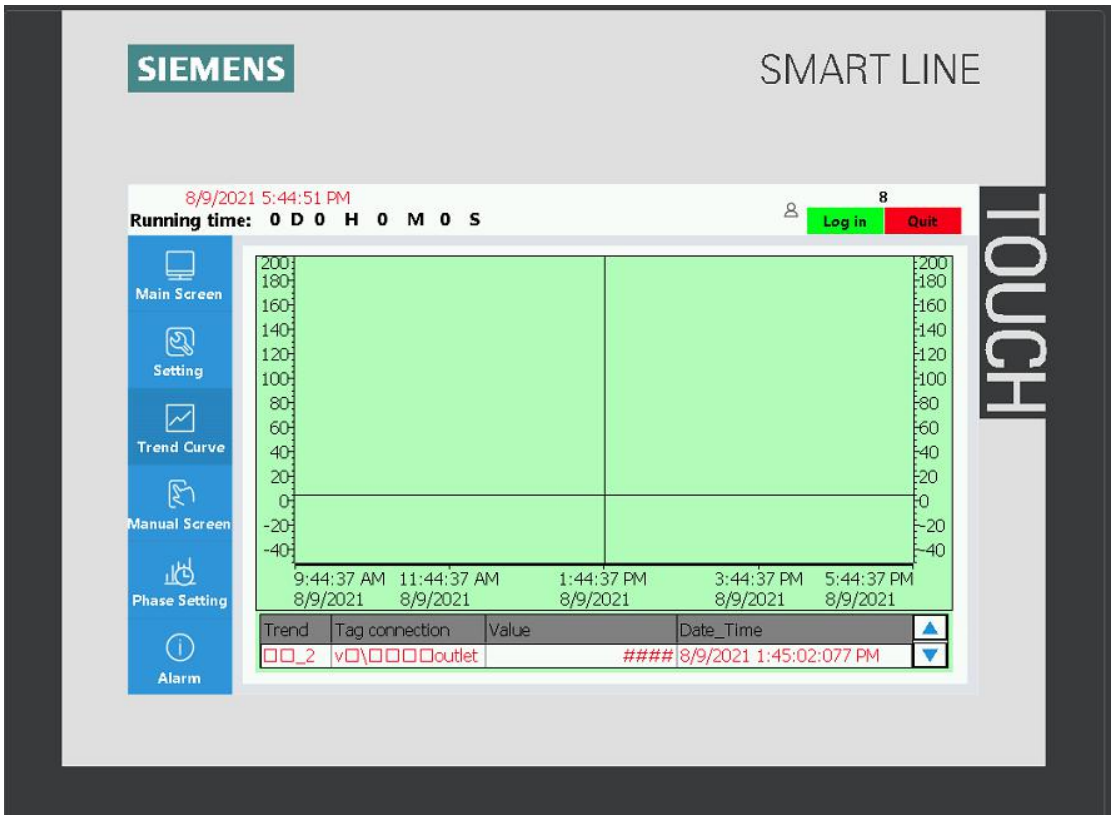
20.Restore factory settings: Click this button to restore all parameters to factory values

21.System time calibration: When the system time does not match the current time, you can click to calibrate, and the format must be the same, otherwise the calibration will fail

22.Chinese: switch the system display language to Chinese

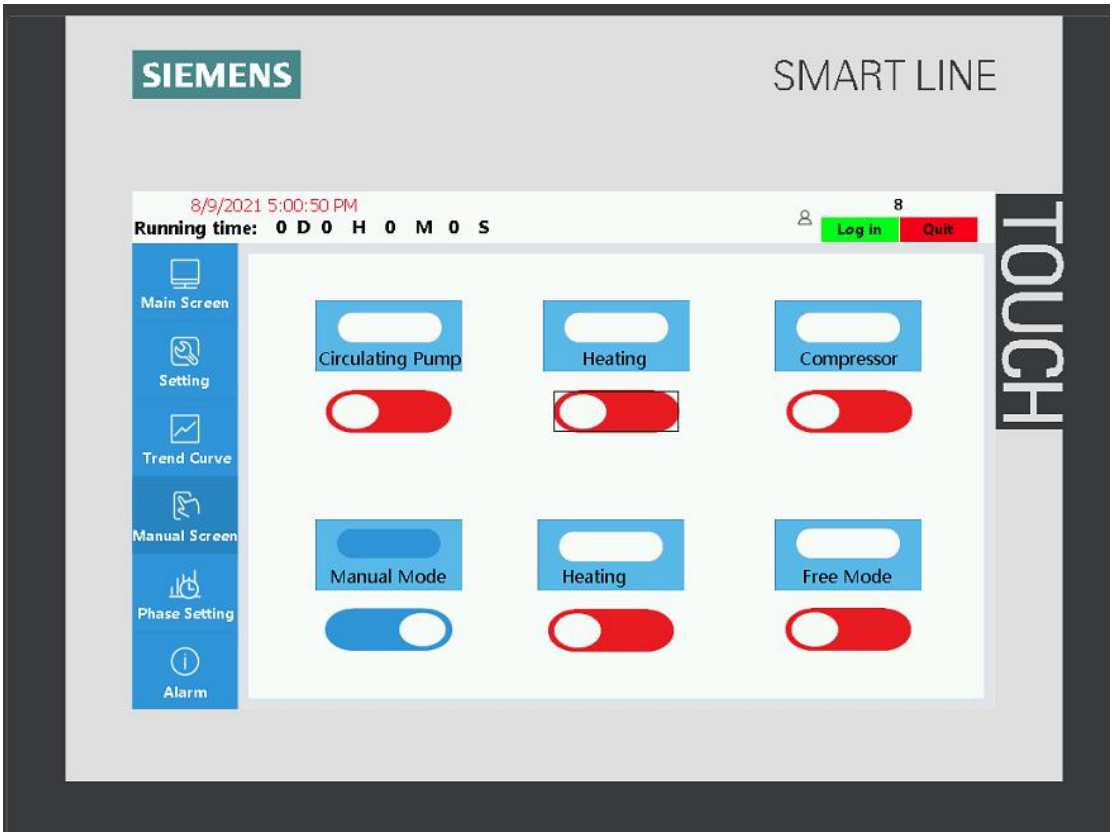
23.English: The system display language is switched to English

III.Trend curve



This interface displays the temperature curve and data of the last 8 hours, you can view the temperature value at a specific point in time, the up and down arrows can switch between the oil temperature and the material temperature

IV.Manual screen



Manual mode: When starting the heating or compressor in the secondary mode, you need to start the circulating pump first

Free mode: When starting heating or compressor in secondary mode, there is no need to start the circulating pump

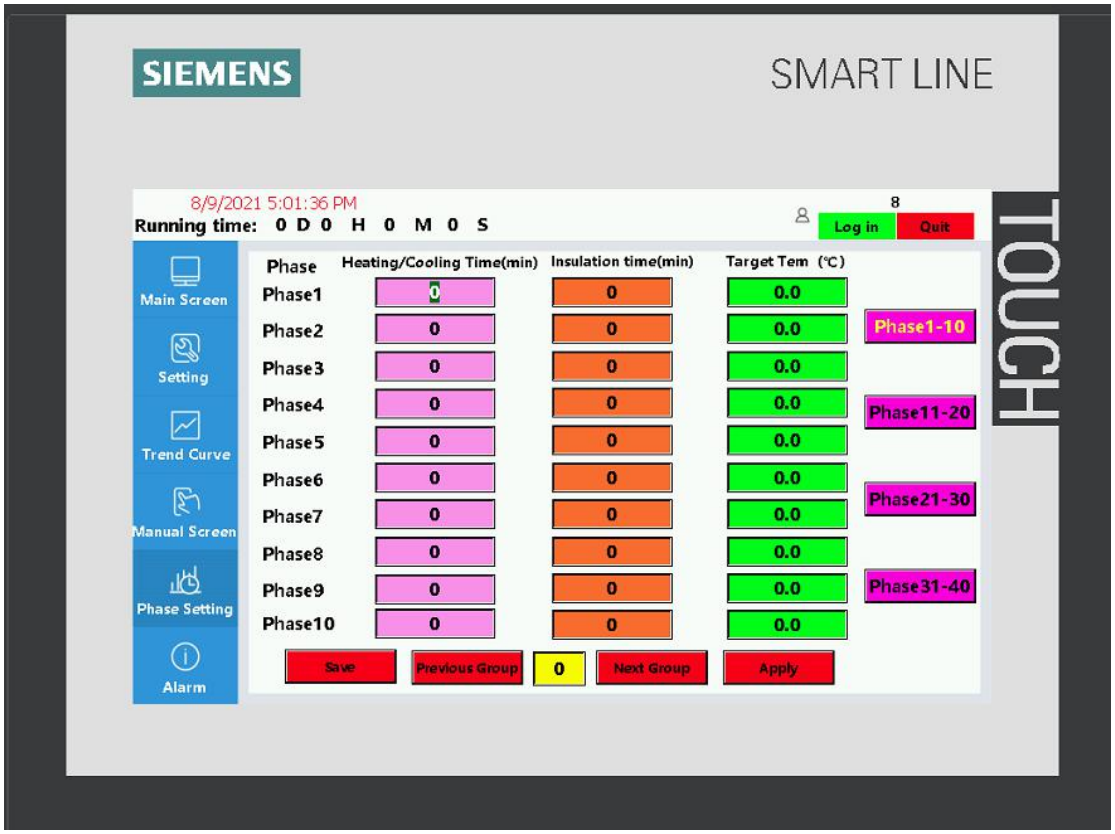
Circulating pump: Press this button to start the circulating pump, click again to stop the circulating pump

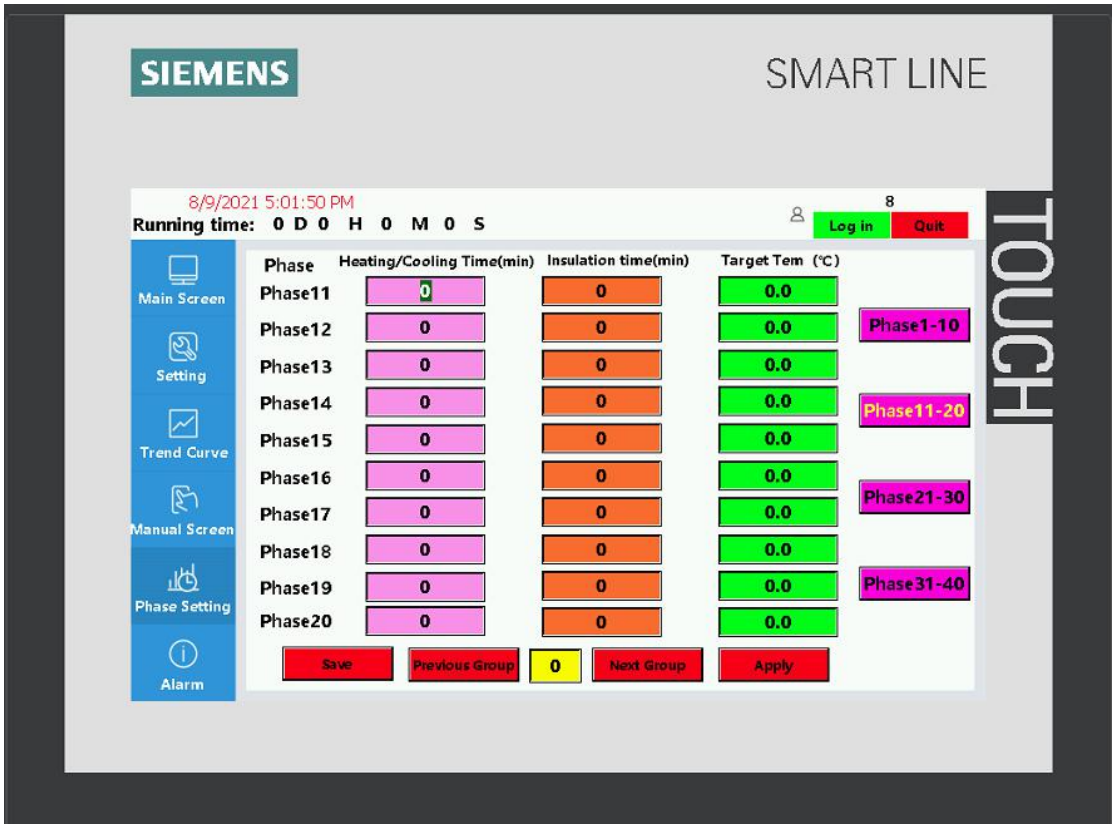
Heating: Press this button to start heating, click again to stop heating

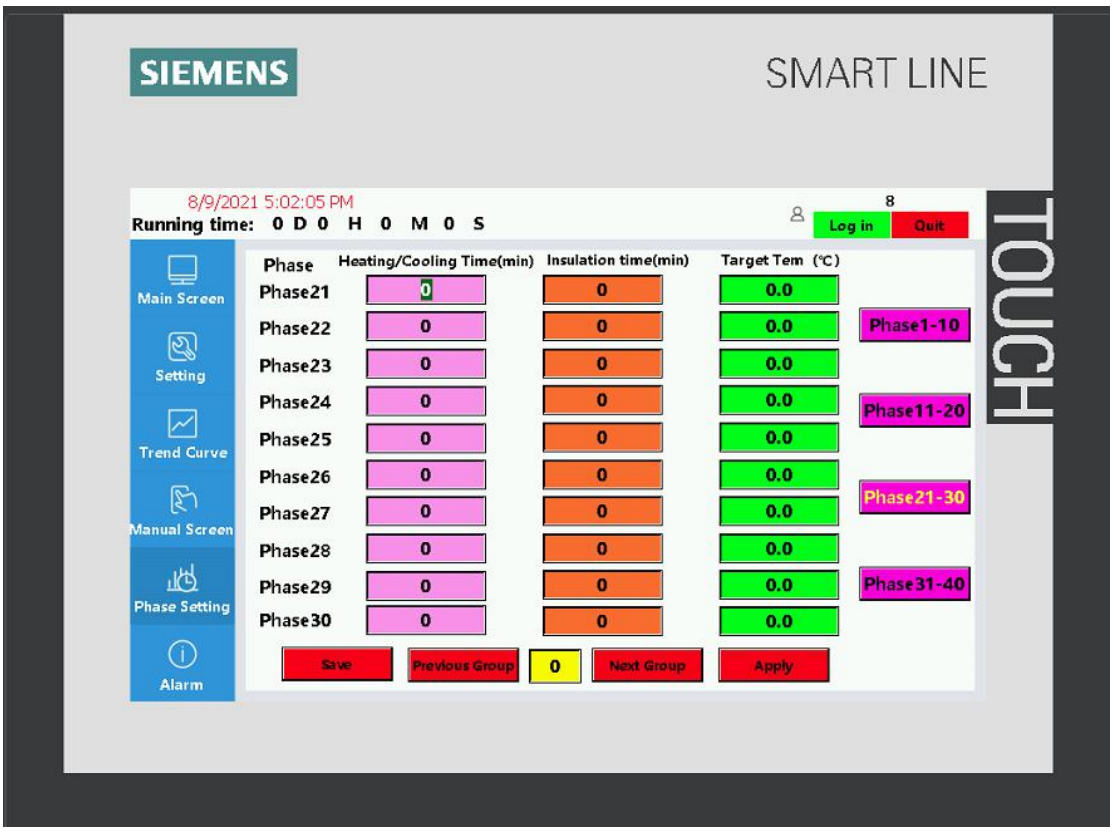
Compressor: Press this button to start the compressor, click again to stop the compressor

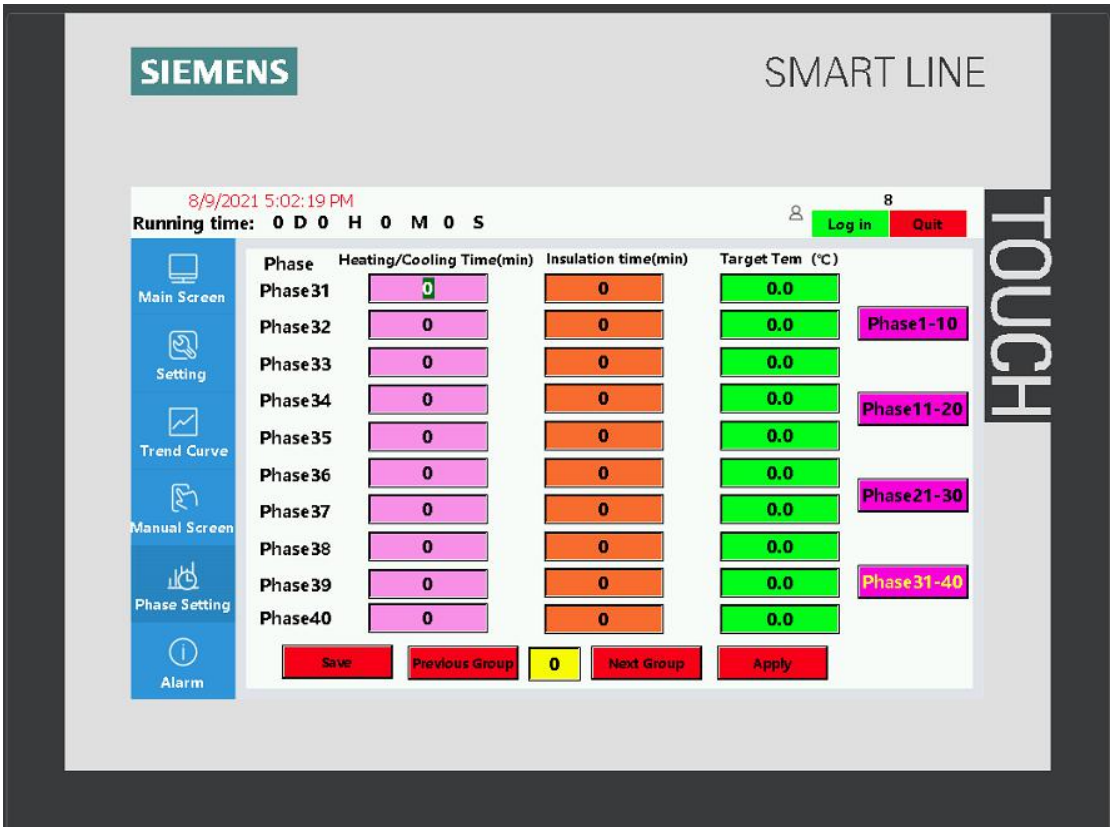
Manual trip: Press this button, the trip will start and cut off the system power

V.Stage setting









The system can set 40 sections of programs to raise and lower the temperature, and 6

groups of formulas can be set, which is convenient for users to call.

Temperature rise and fall time: This parameter sets the heating or cooling time of each stage. The system will change the target temperature every minute according to the current temperature difference. After the temperature rise and fall time, the system will move to the final target temperature of the stage. When the constant temperature time goes After the system has not reached the target temperature, the system will continue to the target temperature at this time. When it reaches the target temperature by 0.2 degrees, it will enter the constant temperature timer; when the temperature rise and fall time is not required, it can be set to 0, and the system directly rises and falls to the final target temperature.

Constant temperature time: This parameter sets the constant temperature time of each stage, and the constant temperature timer starts when the current temperature reaches the target temperature ± 0.2 degrees. After the current stage constant temperature time is over, continue to the next stage, when the system judges that the next stage constant temperature time is 0, it will automatically stop.

Save: After setting, click the save button to save the set parameters

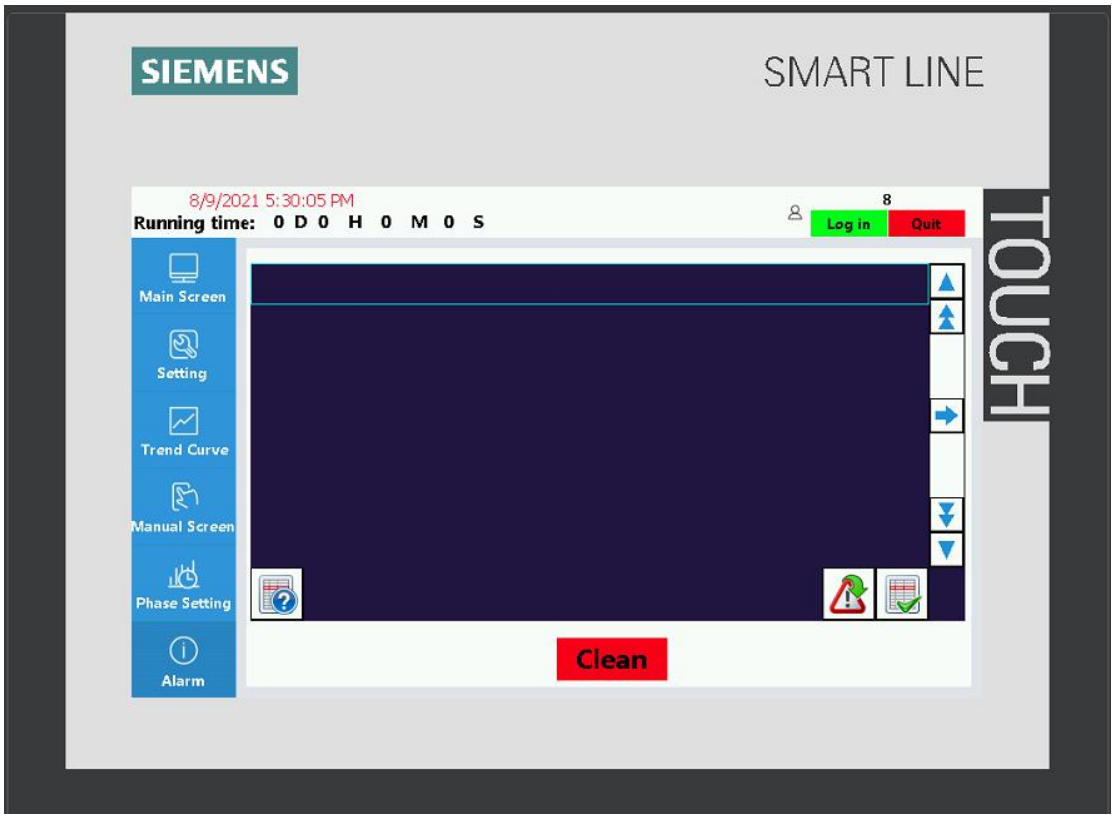
Previous Group: Click this button to call up the last set of formula parameters

 : You can also directly call up the corresponding formula group by directly inputting the value

Next group:Click this button to call up the next set of formula parameters

0: Click this button to clear the current formula parameters

VI.Alarm information



This interface will display current and historical alarm information, click 0 to clear the historical alarm information