WASITES

Instruction Manual

WT200 multi-channel temperature recorder

Foshan Huazhike Electronic Technology Co. , Ltd.

Foreword

Thank you for choosing our products. Please read the instruction manual carefully before using this product. And check the packing list of this manual to confirm the products and accessories. Please contact our company or agent if there is any discrepancy.

Points to note

1. The contents of this manual can be used together with the instrument without notice.
2. The user's understanding of the manual has been expressed in the simplest way possible. Please contact our company or agent if you find any inaccuracy or unclear explanation.

Version: V1.0

Warning

For your personal safety and proper use of the instrument, please follow the instructions. And pay close attention to the following safety regulations.

1. Power Supply and earthing protection, this product work power supply for AC86-265V power supply, before turning on the power supply should ensure that the power supply is matched with the rated voltage, and ensure that the power supply has been connected to the protective ground to prevent electric shock, this instrument shell has been connected to the ground terminal of the power socket.
2. Do not operate in explosive environment to avoid personal injury caused by explosion.
3. Please do not open the instrument by yourself. There is high voltage inside the instrument to prevent electric shock.
4. It is not allowed to plug and unplug the terminal in case of electric shock.
5. The company shall not be liable for instrument damage due to violation of safety regulations.

1. Overviews

The multi-channel temperature collector adopts 32-bit high-speed CPU for data processing, adopts 7-inch industrial display capacitive touch screen, supports K J E T N S R B type thermocouple input, various display modes, and independently developed operating system, the instrument has perfect function, superior performance and simple operation, and can meet the needs of production, laboratory and R & D measurement.

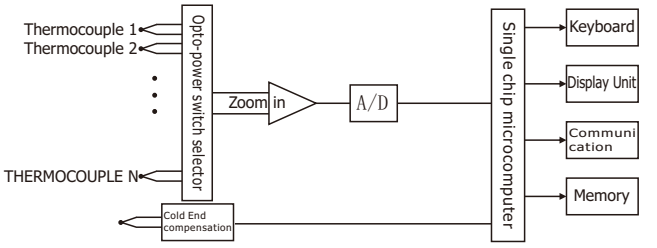
Widely used in lighting appliances, electric tools, household appliances, electrical machinery, electric appliances medicine, petroleum, chemical industry, metallurgy, electric power and other industries and scientific research units production lines, laboratories, quality inspection departments.

According to the real demand can also customize a variety of measurement functions to meet thehigher application.

WT200 multi-channel temperature recorder has the following characteristics:

- High-definition 7-inch IPS INDUSTRIAL-GRADE LCD touch screen, 1024 x 600 resolution.
- It adopts 32-bit high-speed MCU data processing + 24-bit high-speed AD measurement chip, which has high response speed, high precision, stability and reliability.
- Multi-interface display, file list, real-time list display, column Chart (temperature rise) display, real-time/record/analysis curve, display, alarm list, system settings, etc. .
- Operating Tips, user-friendly design, easy to understand and easy to operate.
- Support for Multiple Sensor Inputs: K J E T N S R B.
- Measurement accuracy: 0.2 °C + 2 words (without Sensor) , cold end compensation accuracy: 0.5 °C
- Each channel independent error correction Y=KX B
- Each channel can be set to use a different thermocouple type.
- You can customize the name of each channel and export the name out of Excel.
- The voltage difference between channels can be as high as AC/DC 350V (can be customized higher voltage value) , super anti-interference ability.
- File list, maximum support 64 files, each file 130,000 sets of data, 1 second interval can connect records as long as 97 days. Arbitrary adjustment of record interval (hh: mm: SS).
- Record files can be single-or multi-choice to delete and export, U Disk and Pu directly export EXCEL files.
- Standard 4 kinds of communication interface USB, RS 485, RS 232, Lan (network) .
- Can Be detailed document curve analysis, x Axis Y axis coordinates set, the curve can be up and down, left and right translation to zoom in and out, the time line moves left and right, and can display the corresponding temperature value, can also be set at any time for analysis.
- Modular design, each module 8 channels, maximum support 64 channels, users can expand capacity, automatic identification.

2. Fundamentals



Basic Block Diagram

As shown in figure, the instrument consists of thermocouple, photoelectric switch selector, amplifier, a/d, single chip microcomputer, keyboard, display, communication, data storage, cold-end compensation and other parts.

The corresponding channel signal is selected by the photoelectric switch selector, amplified by the signal amplifier, and then converted into data signal by the analog signal through the AD converter to the single chip microcomputer for data processing, the temperature of the cold end is measured by the compensation circuit of the Cold End, and the measured signal and the temperature of the cold end are processed by the single chip microcomputer.

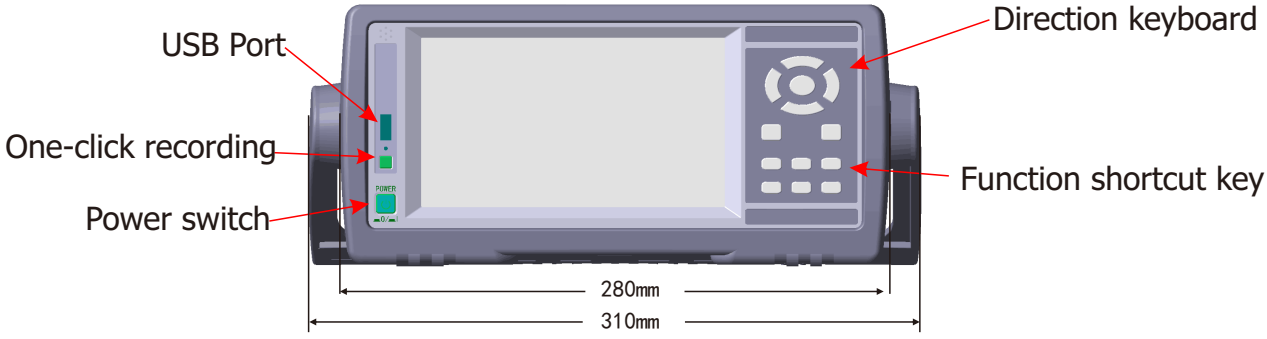
The keyboard, communication and data storage can set and store the data on the display screen. Data analysis can also be performed directly from the computer through a communication interface to the computer.

3. Technical indicators

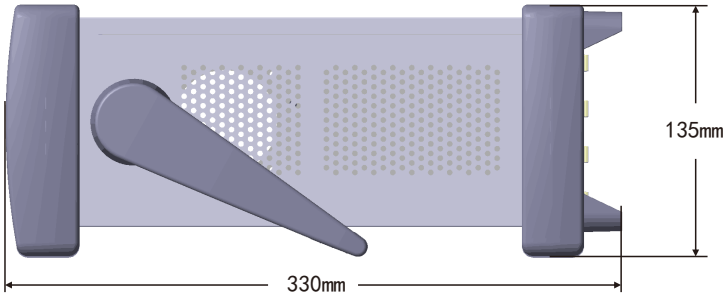
Display mode	7-inch TFT true color LCD industrial touch screen
Display form	Real-time tabulated values, real-time bar graphs, real-time curve graphs
Record Query	Can Query history curve, history alarm record on this machine.
Number of channels	Each module has 8 channels and supports up to 64 channels
Thermocouple	K J E T N S R B
Basic accuracy	2 words at 0.2℃ (excluding thermocouple error)
Measuring range	- 200 ~ 1820 °C (depending on the scale of thermocouple)
Cold End compensation	ACCURACY: 0.5℃
Resolution	0.1℃
Calibration	Independent error correction for each channel Y= Kx B (x= measured value)
Number of files	64(circular record)
File capacity	A file can record 130,000 sets of numbers (channel numbers are not distinguished)
USB Port	Export record file, can also read the built-in memory storage software files
Record time	1-second recording interval allows continuous recording of 97 days, calculation = recording interval x 97 days.
Sampling speed	Speed per channel: 0.1 S, medium speed: 0.5 S, slow speed: 1s
Interchannel isolation	AC / DC up to 350V, high voltage live measurement, super anti-interference ability
Control output	Standard 2-way relay output (return difference and delay can be set)
Alarm sounds	All the way buzzer sound (any alarm when sounded, can be set to mute)
Record interval	HH: MM: SS, arbitrary adjustment of time and seconds (1s ~ 24H: 60M: 60S)
Communication interface	USB, RS485, RS232, Lan Standard four interfaces.
Power supply	AC85-265V ± 10% , frequency 50Hz/60Hz & LT; 10w
Thermocouple	Each channel is equipped with a standard 2M K type thermocouple
Dimensions	Width 310 x depth 330 x height 135 mm
Weight	About 5 kg (configuration is different)
Environmental conditions	5 ~ 40 °C, 20% ~ 80% rh (no condensation)

4. Dimensions and instructions

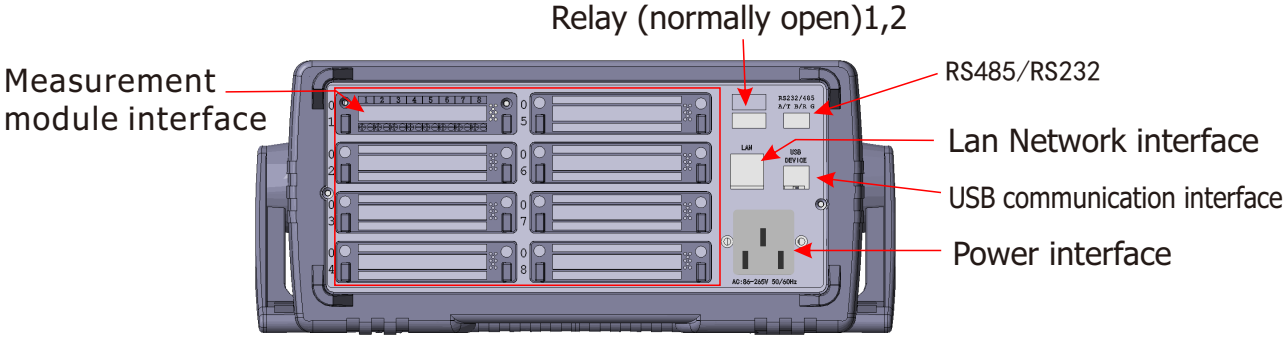
Heads

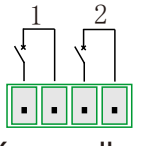


Side face

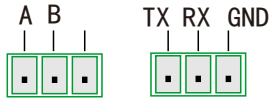


Back Panel





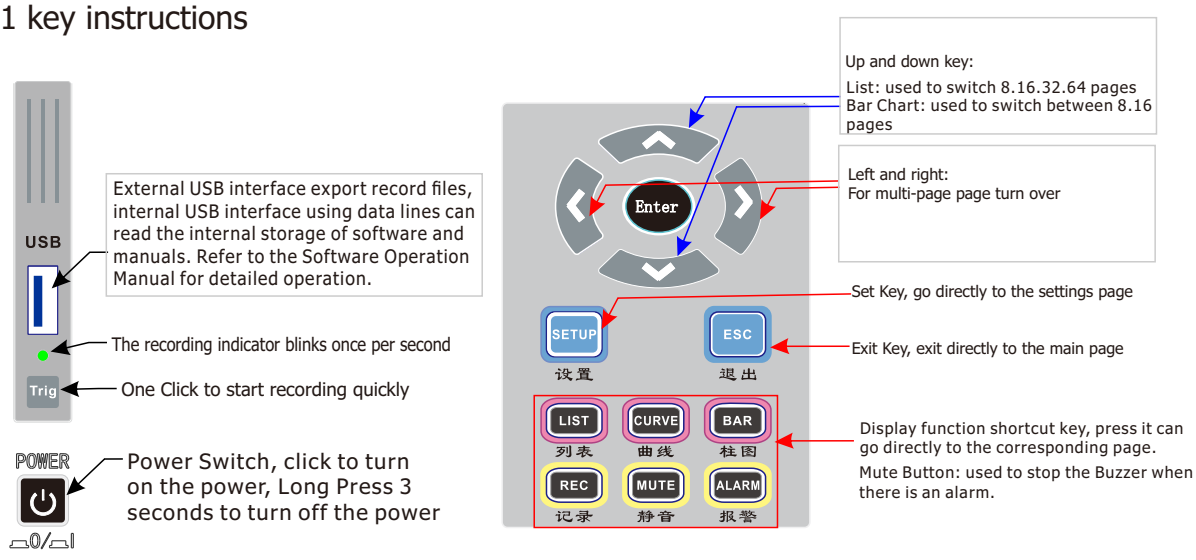
Relay (normally open)



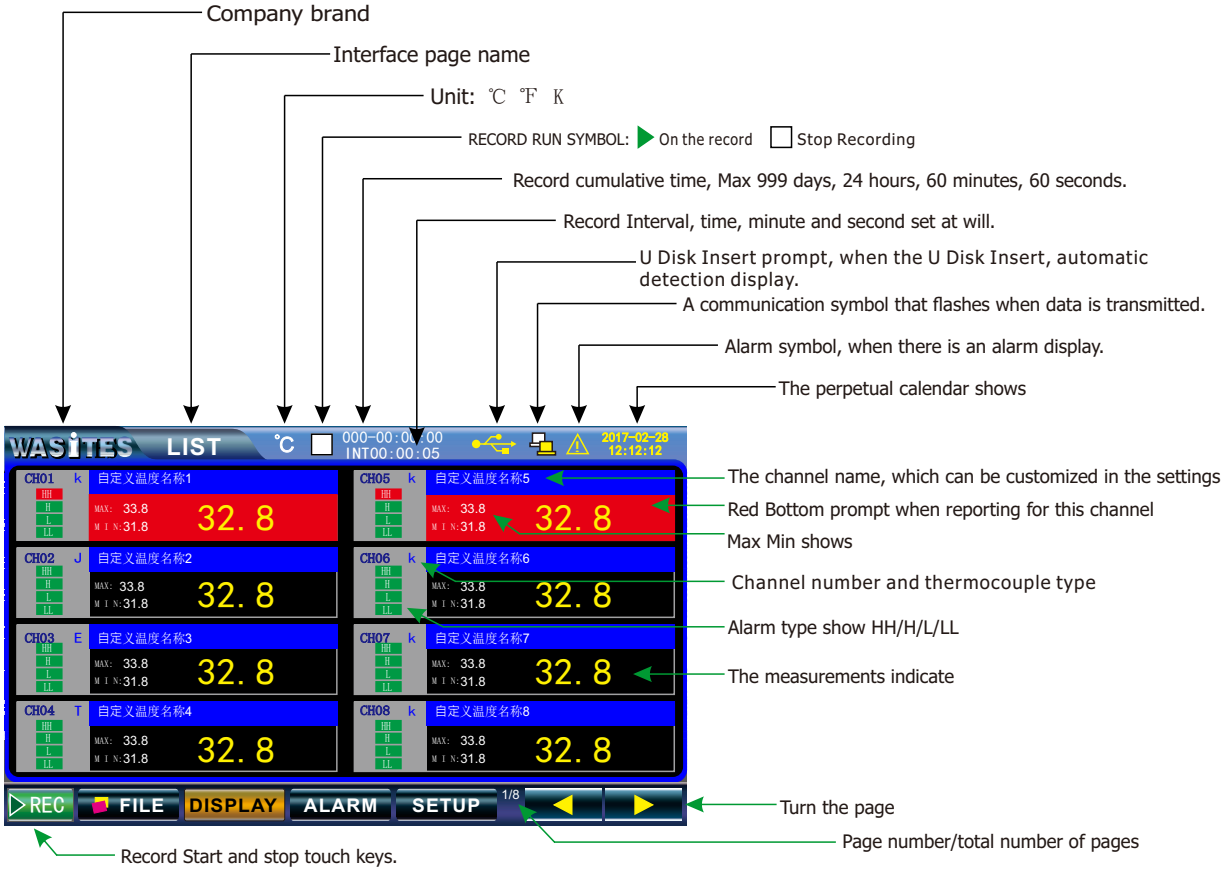
RS485 RS232

5. Display and instructions

5.1 key instructions



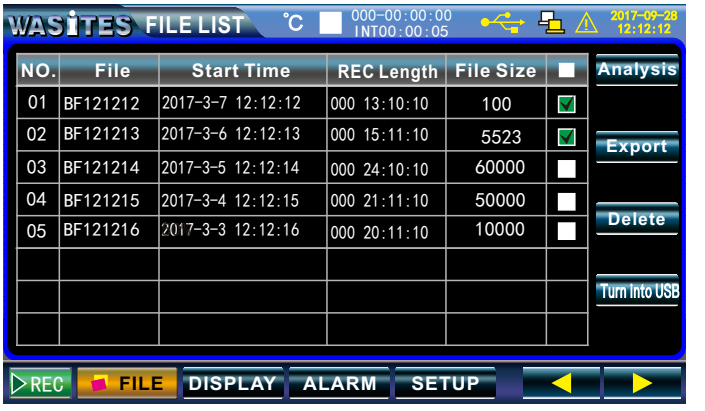
5.2 interface icons



5.3.1 BOOT interface

5.3.1 file list

File list



The file list records all the recorded data, a total of 64 files can be recorded, each file can record 130,000 data (regardless of the number of channels) , file cycle records, can achieve continuous record of unattended. Nearly1 second recording interval can be linked to record 97 days.

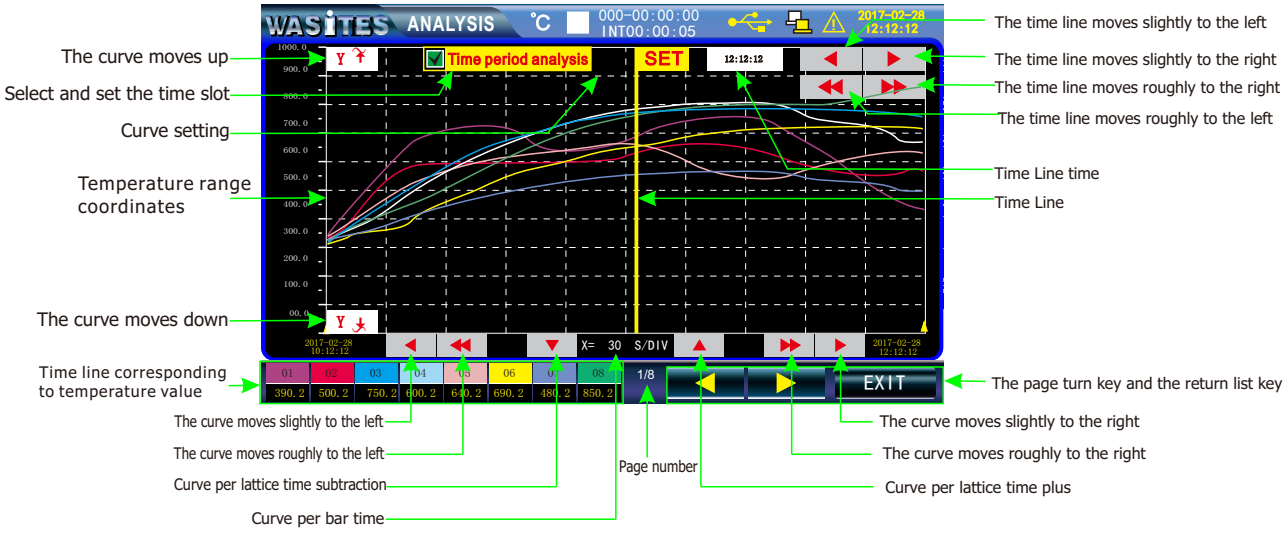
Can be a single file curve change analysis. If multiple choice or no choice can be intelligent prompt.

You can select a single, multiple files, or the entire page to export.

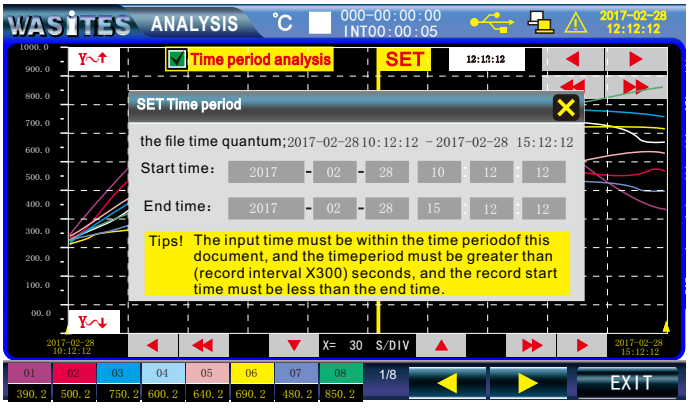
You can select a single, multiple files or the whole page to delete.

Note: FILES CAN NOT BE PARSED while recording.

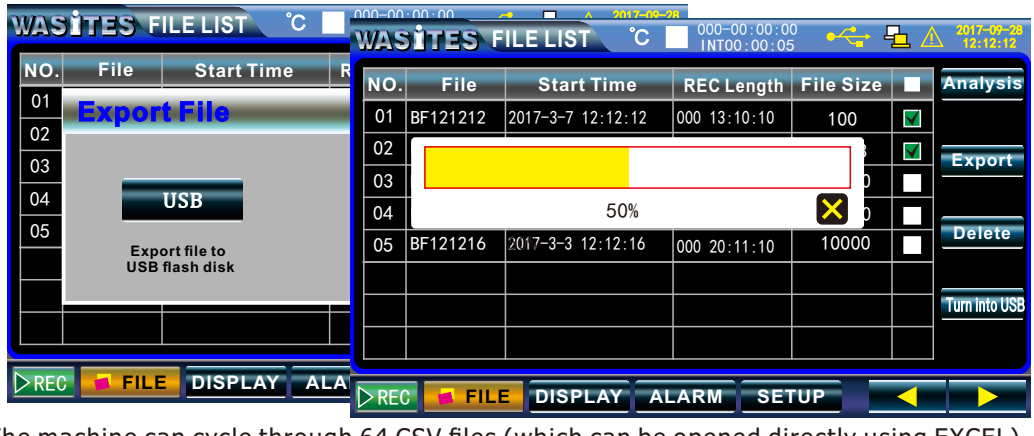
File analysis interface



Time period selection

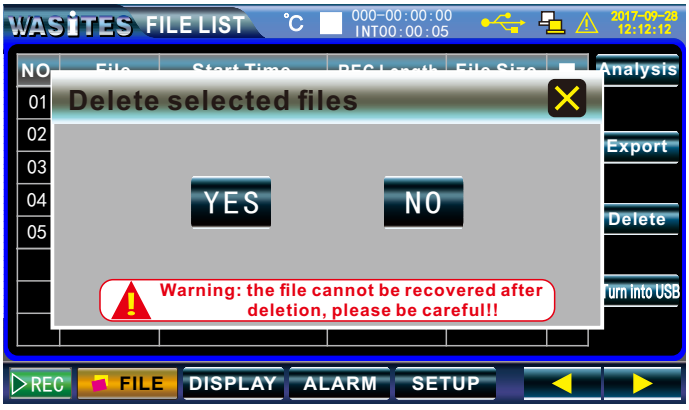


File export prompt



The machine can cycle through 64 CSV files (which can be opened directly using EXCEL) , and each file can record up to 130000 pieces of data (regardless of the number of channels) . Files can be directly exported to the U Disk (support only under 32 g/FAT32) , or transferred to the internal U Disk space, using the "second variable U Disk" function (set page) , PC connected to the front panel u disk interface, directly read the recorded files.

File deletion interface

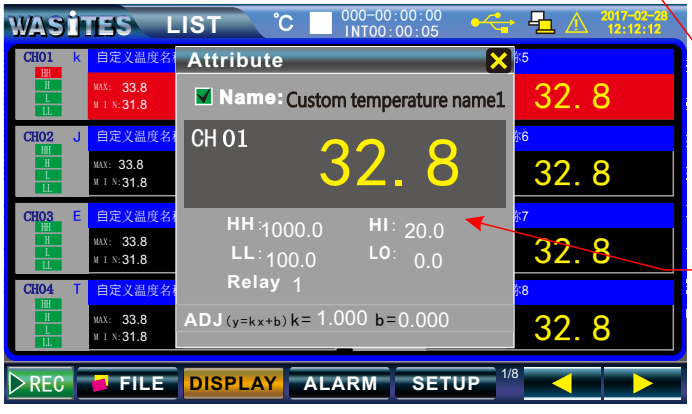


5.3.2 list interface

1. The list interface includes 8-way/16-way/32-way/64-way pages with different number of channels and different display contents.

2. At the same time display channel number, thermocouple type, maximum and minimum value, alarm status, record status and other information.

3. Channel Properties Query.



8-way page and property display

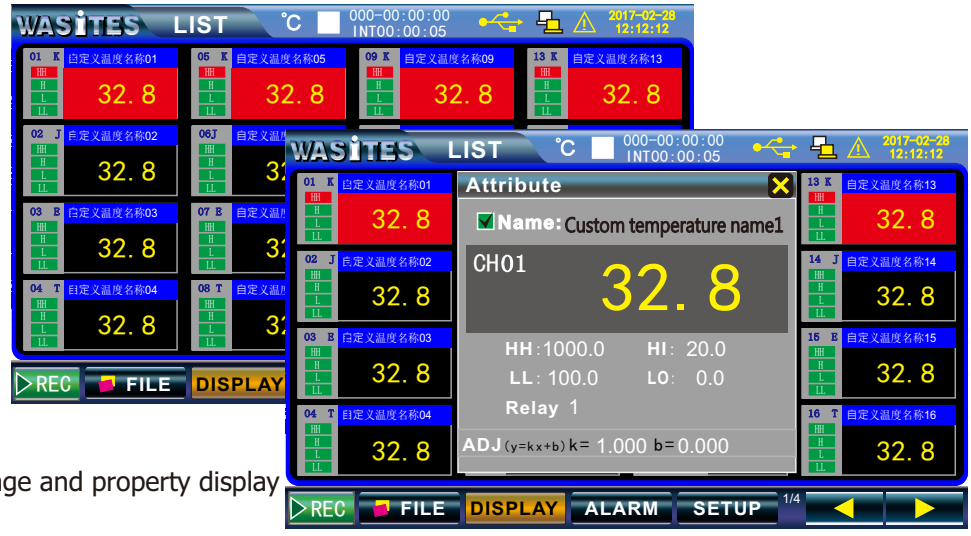
Up and down key:
used to switch 8.16.32.64 pages.

Around key:
for multi-page page turning switch

Double-click on the corresponding temperature display position to display the corresponding channel property information.

Property Window provides multiple pieces of information

1.Whether this channel is open
2. Custom names
3. Access number
4. Temperature value
5. Alarm settings are off limits
6. Alarm output corresponding relay.
7.Compensation value



16-way page and property display

Page 32

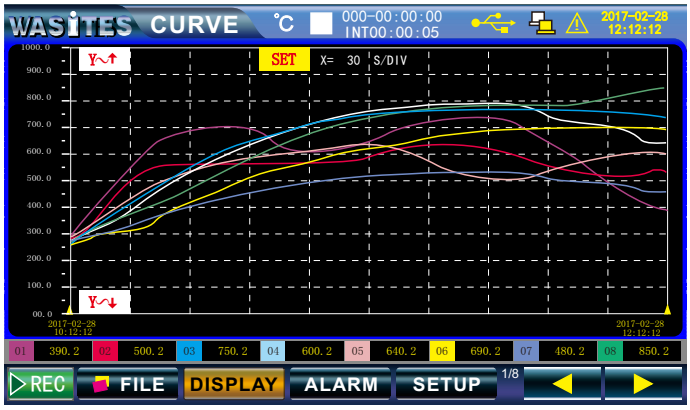
Up and down key:
used to switch 8.16.32.64 pages.

Around key:
for multi-page page turning switch.

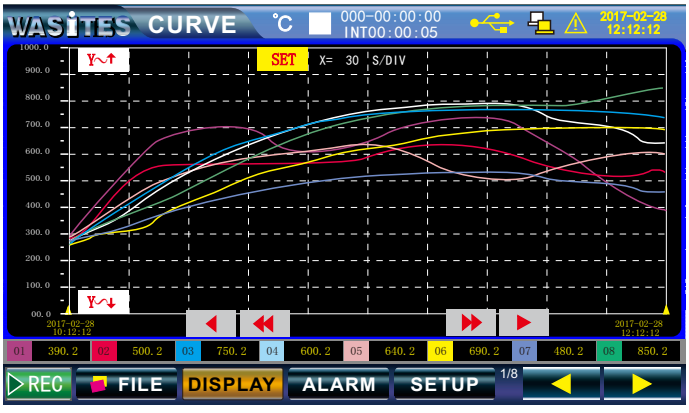
Page 64

The 64 channel temperature and the corresponding thermocouple type can be displayed at the same time.

5.3.3 curved interfaces

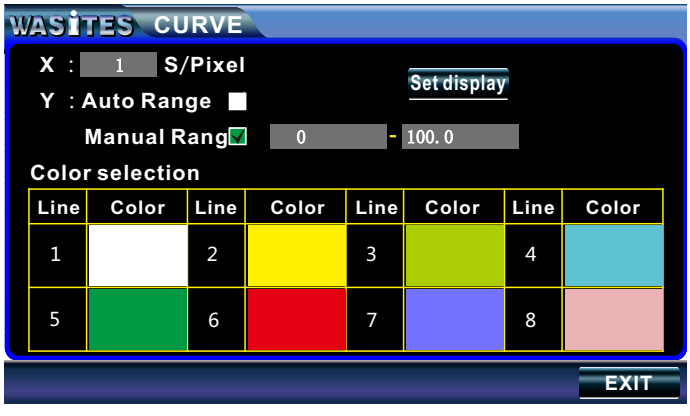


Real-time curve



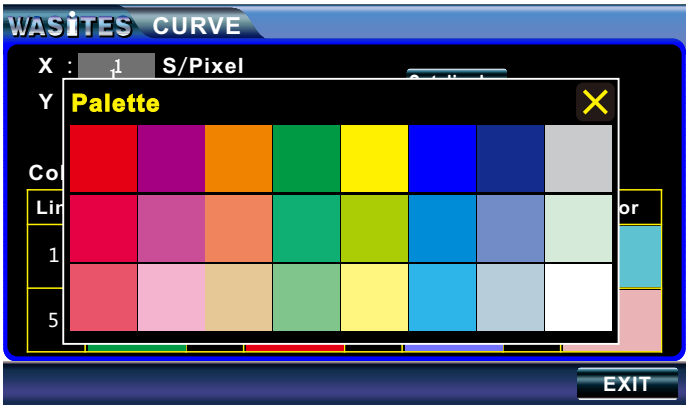
Recording curve

Real-time curve is a real-time display graph which is not saved as a record. It can move the curve up and down and display the real-time temperature value at the same time. You can click the "settings" button on this page to enter the settings interface, the temperature trace point speed, temperature range, whether the curve display, color settings.

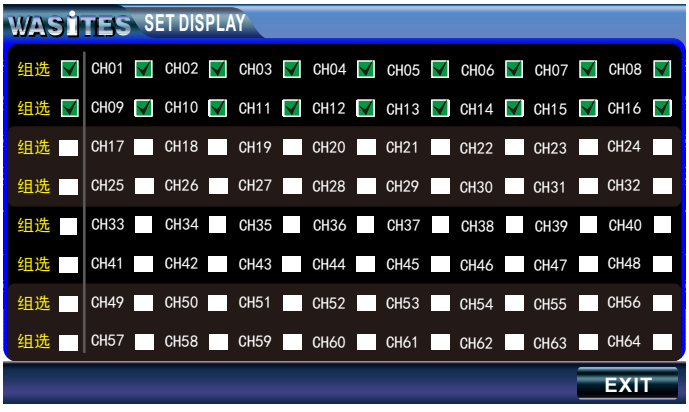


Curve setting

Click on the corresponding location to change the settings

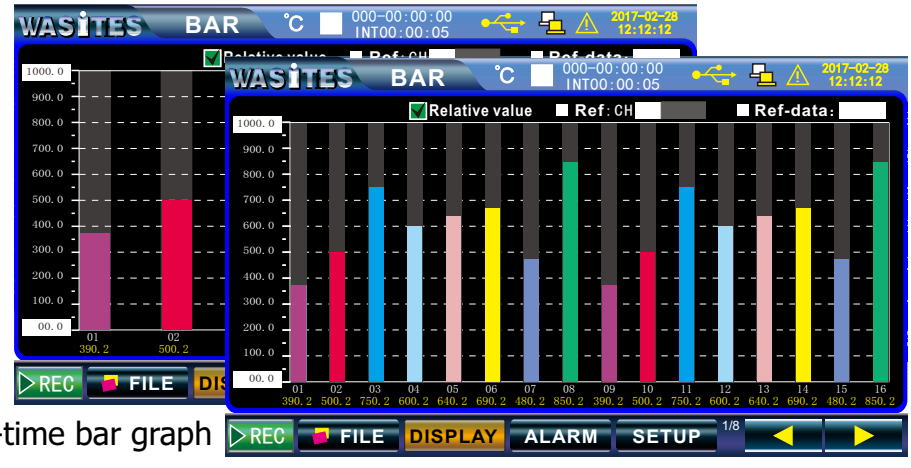


Curve Color Selection, click the corresponding display box to select the curve color.



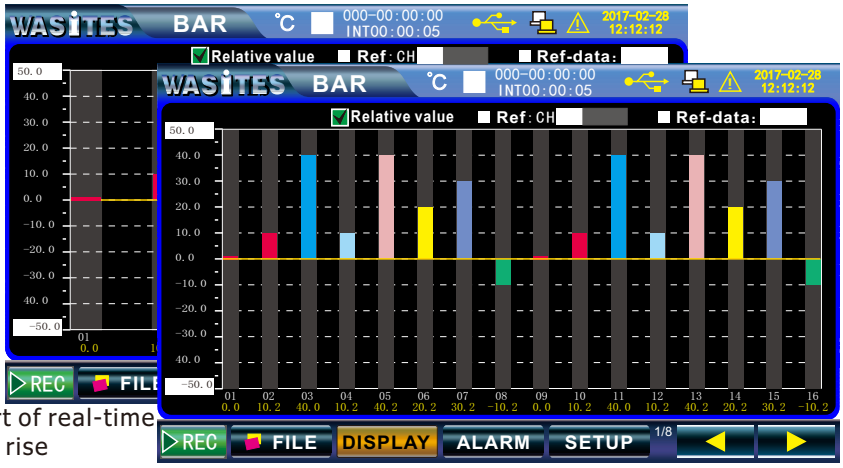
Curve display selection, click the corresponding location check, or click group selection for quick batch selection.

5.3.4 bar interface



Real-time bar graph

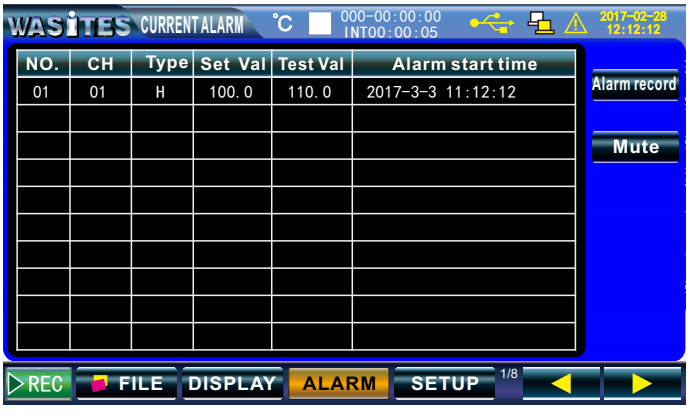
Real-time column chart is divided into 8-way and 16-way pages, you can directly click the y coordinate superscript position and subscript position to change the temperature value directly. Click on the "temperature rise" position candirectly enter the temperature rise contrast bar chart interface.



Column Chart of real-time temperature rise

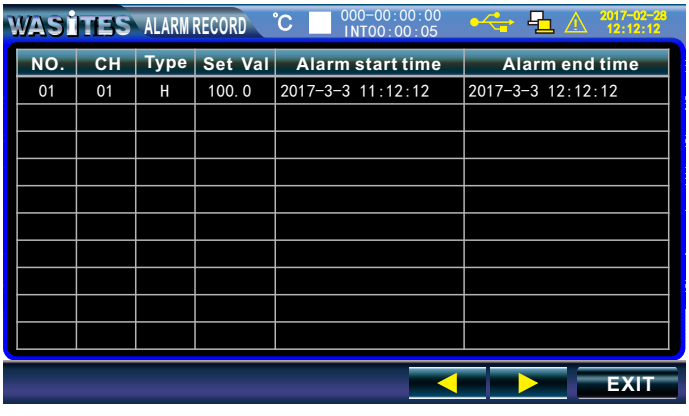
Real-time temperature rise column chart is divided into 8-way and 16-way pages, you can choose any channel, or manually enter a fixed value as a reference value.

5.3.5 current alarm interface



Call the police now

When the measured value exceeds the corresponding preset value, the current alarm list can show the current limit of the channel, type, set value, the current measurement value, alarm start time. When the alarm resume will automatically recorded in the history of the alarm list, you can also press the mute button on the current alarm noise, when another alarm occurs, will ring again.



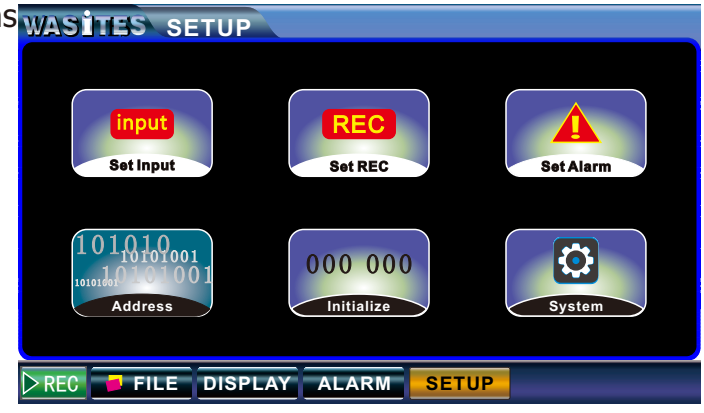
History alert

5.3.6 settings

5.3.6.1 system login

When the password is set, the user will be prompted to enter the correct password to enter the settings. Factory default is no password, you can "initialization" page set enable password.

5.3.6.2 setting options



After entering the setting, you can select the corresponding setting function and provide detailed classification setting, including input setting, record setting, alarm setting, communication setting, initialization setting and system basic setting.

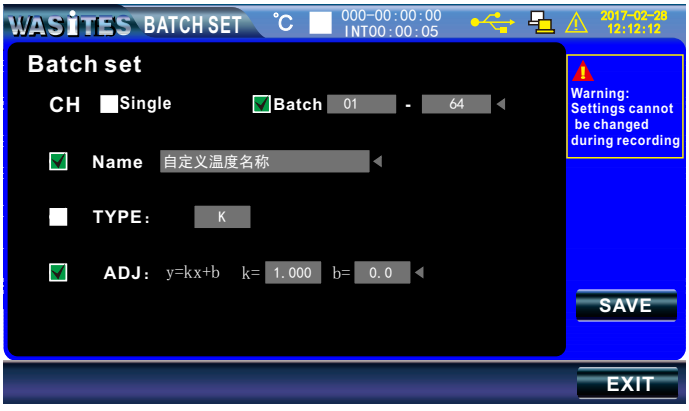
5.3.6.3 input settings

Cue!

Click on the corresponding location to change the settings directly, in the recording process input type, correction, speed, unit, batch settings invalid.

Input settings include whether the channel is open to use function, channel automatic definition name, independent thermocouple type selection, current display value, error correction, measurement speed, unit selection. Quick batch setup is also available.

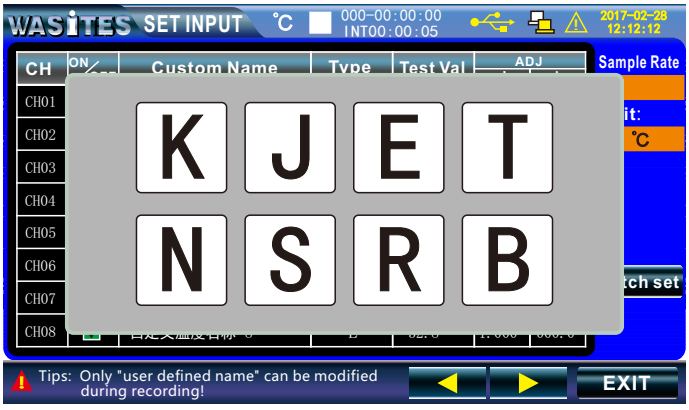
Batch setup



Input batch settings provide a quick and convenient set-up function, can arbitrarily define the single-way or multi-way range with the same set, the custom name provides the whole Chinese pinyin input method, can arbitrarily set up a function in batches.

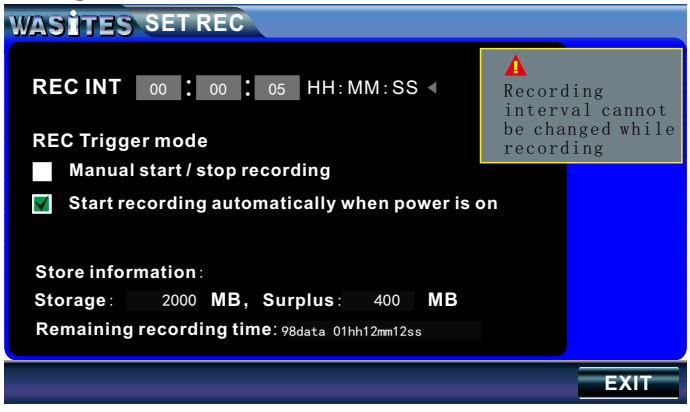
Chinese/english full keyboard input

Numeric keypad input



Type selection of thermocouple

5.3.6.4 record settings

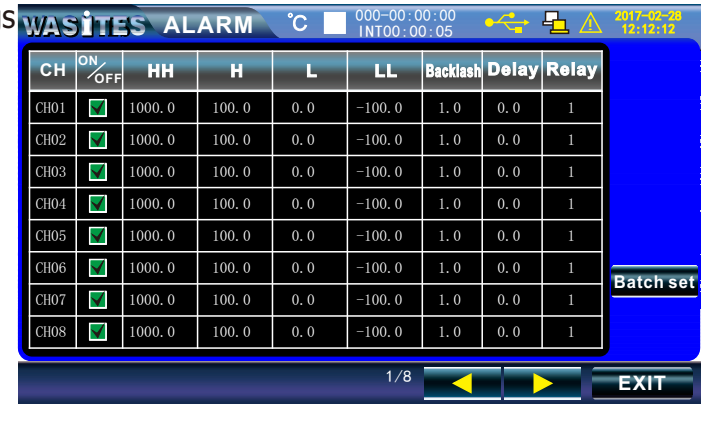


Cue!

The record interval can not be modified during recording.

Record setting provides a record interval time setting, to time and minutes and seconds display, can be arbitrarily set from 1 second to 24:60:60:60, more intuitive. You can choose to start the record trigger mode, you can choose to start the record manually or automatically when power on. Also provided is a record of memory information, including total memory capacity, remaining capacity, and the amount of time (days, hours, minutes, seconds) that can still be recorded. Memory total design can record 64files, each file 130,000 sets of data, 1 second interval can continuously record as long as 97 days do not distinguish between the number of channels, that is, 1-64 the same)

5.3.6.5 alarm settings

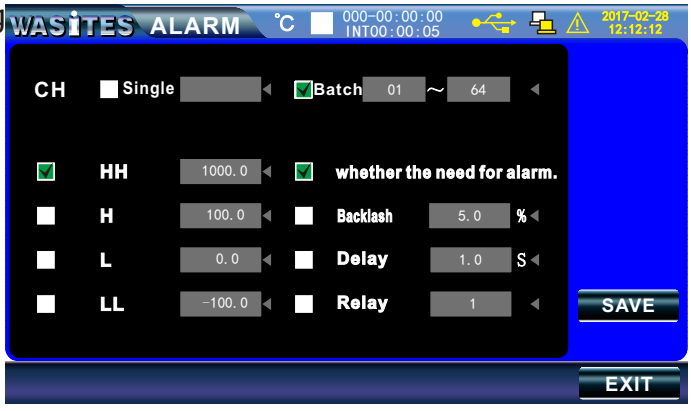


Cue!

Click on the corresponding location on the list to make changes directly, you can also use the correction, you can also use batch settings.

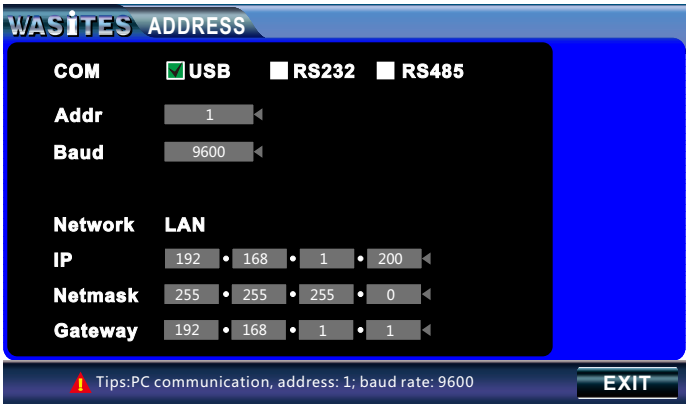
Alarm setting can be set on whether each channel participates in alarm, over-limit value (upper limit, upper limit, lower limit, lower limit) , return difference value, alarm delay, relay contacts, or in batches.

Alarm batch setting



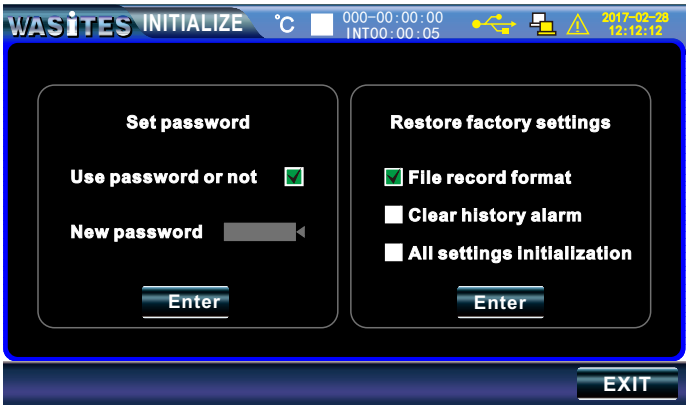
Input Batch setting provides a quick and convenient setting function. You can define single-way or multi-way setting at will. You can set any function in batch setting.

5.3.6.6 communication settings



This machine also provides USB, RS485, RS232, Lan (network) four kinds of communication interface, can satisfy the different application demand, according to the demand direct choice corresponding serial port carries on the communication, the choice switch completes the communication port to need to switch the page again to be able to take effect. When communicating with the configuration suite, the default address is 1 and the Baud rate is 9600.

5.3.6.7 initialization settings



The initialization settings provide password settings and factory formatting. When setting the password, check to use the password. Enter the same password in the new password and the confirmation password. The password can only be set in 4 digits. Click the confirmation key to enter the password again. After setting the password successfully, the page will prompt "operation successful" , otherwise, it will prompt "operation failure" , in setting the clear password, directly remove the check box, click the confirmation key, enter the normal password, prompt "operation successful" otherwise it will prompt "operation failure" .

5.3.6.8 system settings

Cue!

Click on the corresponding location on the list to make the change.

System settings interface provides the date, time, language (in English and Chinese) , button sound, alarm sound, backlight time, backlight brightness, screen saver brightness settings.

The name, model number, channel number, version number and factory number of the instrument are also provided.

6. Verification Conditions

Projects	Reference value or range	Reference value or range
Ambient temperature ℃	20	±5
Ambient humidity %RH	45～75	
Atmospheric pressure KPa	86～106	
AC supply voltage V	86-265Vac	±2%
AC Supply Voltage Hz	50	±1%
AC power supply waveform	Sine wave	ß=0. 05
External electromagnetic interference	Should be avoided	
Ventilate	Good	
Sunlight	Avoid direct fire	

7. Packing list

Name	Quantity
Main engine	1PCS
Power Cord	1PCS
User Manual	1PCS
Certificate of compliance / Warranty Card	1PCS
Quality Inspection Report	1PCS
Thermocouple wire	1PCS/CH
Communication Line	1PCS

Manufacturers of measuring instruments

Focus on technology · Serve with heart

WASITES

Foshan Huazhike Electronic Technology Co. , Ltd.

For Sales Service, please contact your local distributor