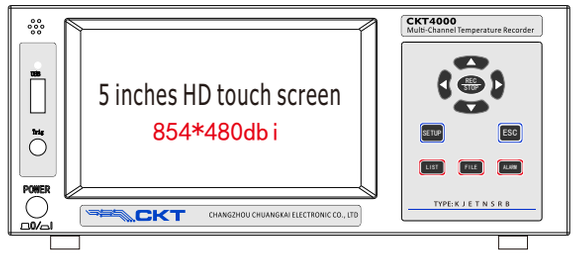
Instruction Manual

Multi-Channel Temperature Recorder

CKT4000



CHANGZHOU CHUANGKAI ELECTRONIC CO., LTD

Preface

Thank you for purchasing our products.In order that you can use it correctly,please read the instruction first and make sure the accessories are complete.Any questions please contact us or your local agentcy.

Attention

1.Use the instrument with the instruction. When we upgrade our product change the instruction, sorry about not telling.

2.The user's understanding of the manual has been expressed in the simplest way possible. Please contact our company or agentif 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 strictly observe 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 shell by yourself. There is high voltage in some parts of 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.Description

The machine use 32-bit cpu to collect data, 5 inch screen to display. Support K-type J-type E –type T-type N-type S-type R-type and B-type thermocouple. Multiple display modes, perfect functions, and simple operation suitable for production and R&D needs.

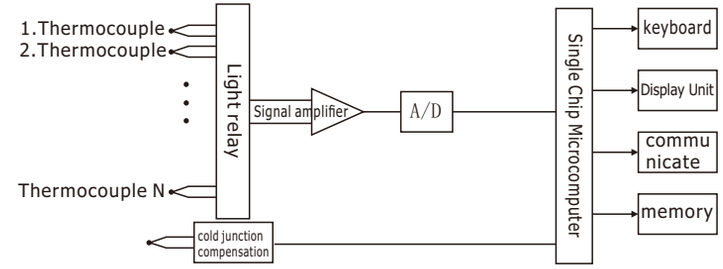
Widely used in lighting appliances, power tools, household appliances, motors, electric heating appliances, medical, petroleum, chemical, metallurgical and electric.

We can customize more functions for more applications according to your requirements.

CKT4000 Multiplex temperature recorder has the following characteristics:

- HD 5 inch IPS touch screen, 854X480 resolution.
- 32-bit high-speed MCU, 24-bit high-speed AD, fast response, high precision and stability.
- Support multi-interface display
- Support a variety of thermocouples : K-type J-type E –type T-type N-type S-type R-type and B-type
- The voltage between each channel can be as high as AC/DC 350V, Strong anti-interference ability.
- Each channel can set high and low alarm value with sound and light alarm function.
- Each channel can modify the error value according to the formula" Y=KX+B".
- 8G memory, file list display, up to 64 temperature data can be recorded at one time, each file can store 130,000 sets of data, record every 1 second can record up to 97 days.
- Export with U disk or PC, can export EXCEL files.
- Instrument seconds change U Disk, direct reading record files, manuals and software.
- With communication address code setting, machines can be connected to each other, we can provide communication protocol.
- Standard configuration is USB, you can choose RS232 or RS485.
- 8 channels per module, maximum support 64, identified by connecting.

2.Fundamental



Basic Block Diagram

As the picture shows, the instrument consists of thermocouple, Light relay, Signal amplifier, A/D, Single Chip Microcomputer, keyboard, screen, communication port, data storage, cold junction compensation.

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.

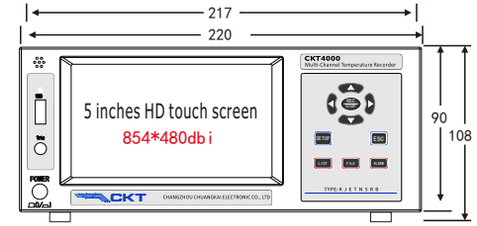
3.Technical index

3.1Technical index

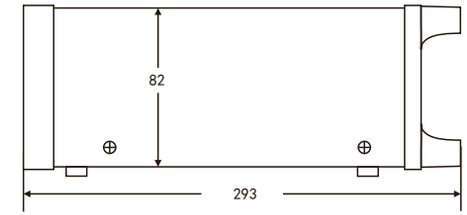
display	5 inches HD IPS touch screen 854*480 pixels
mode	Real time list, curve, bar chart, alarm function,file record list.
Record query	Curve record, alarm record, PC record.
channel	8 channels per module, 64 channels MAX
thermocouple	K J E T N S R B
accuracy	2 words at 0.2℃ (excluding thermocouple error)
Measuring range	−200～1820℃(Subject to the thermocouple range)
cold junction compensation	Precision:0.5℃
resolution	0. 1℃
correcting	Each channel can modify the error value according to the formula y=kx+b
file nums	64 circular records, FILE FORMAT: CSV opened directly with Excel
File capacity	each file can record 130,000 sets of data
USB interface	Export records, U disk function , get files and software directly.
Recording time	Recording interval of 1 second can record continuously for 97 days, total calculation time = recording interval * 97 days.
Sampling rate	each channel high speed 0.1S low speed 1S.
Allowable voltage between channels	AC / DC up to 350V, high voltage live measurement, super anti-interference ability
Control output	Two sets of relays,(H/L) and (HH/LL).
Alarm sound	All the way buzzer sound (any alarm when sounded, can be set to mute)
Recording interval	from 1 to 9999
Communication port	Standard USB, optional RS485, Rs232.
Power supply	AC85-265V±10%,50Hz/60Hz <10W
Thermocouple	2m long K-type thermocouple per channel
Product size	Width 220X depth 293X high foot 106mm
weight	About 3Kg (Different configurations are different)
environment	40℃,20%～80%RH(No condensation)

4.size (unit CM)

front



side

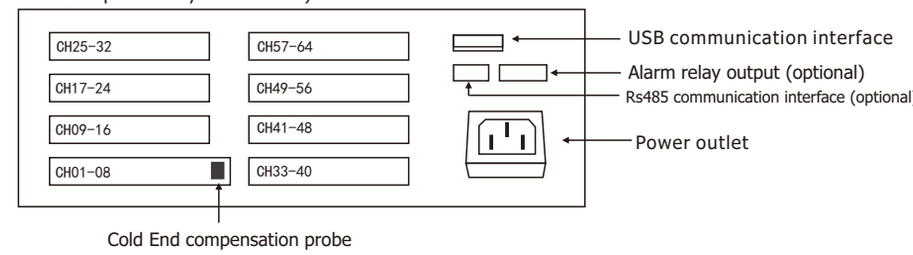


5.control panel

front panel



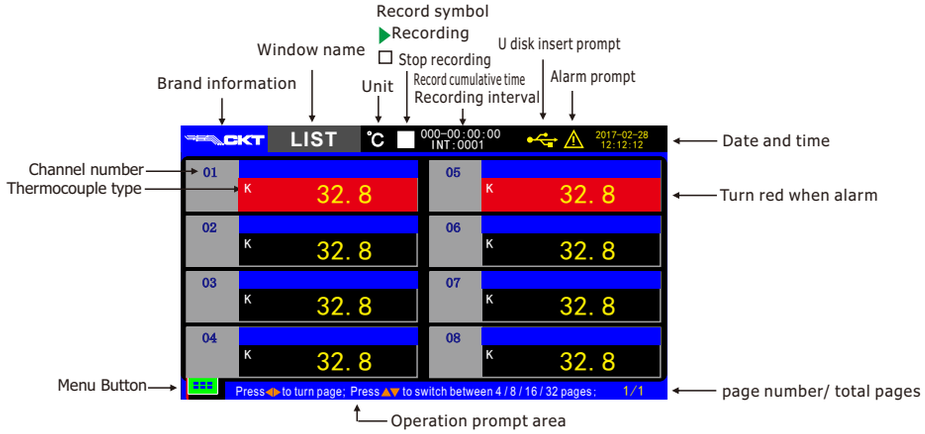
Back: (Below 48 channels, adopt three-layer structure, more than 48 channels, adopt four-layer structure)



6.Display and operation instructions

6.1Display Interface Description

6.1.1Interface icon description

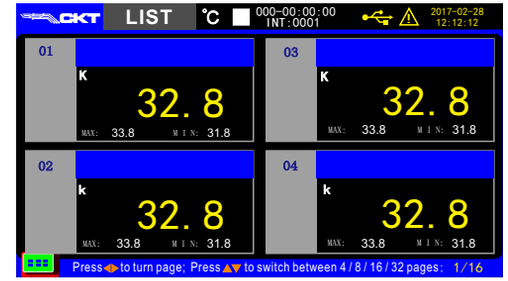


6.1.2Boot interface

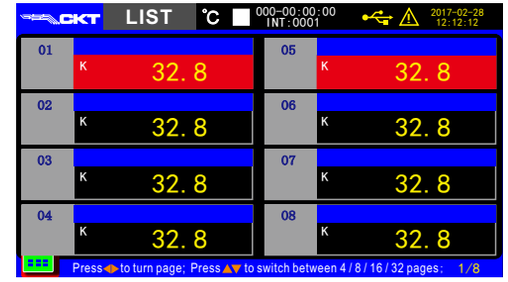


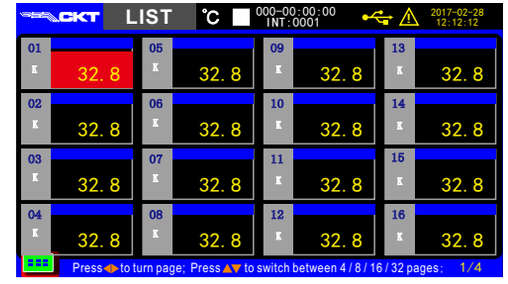
When the power is on, the boot interface is displayed, and the company LOGO, company name, and product model information are displayed.

6.1.3Real-time parameter list display

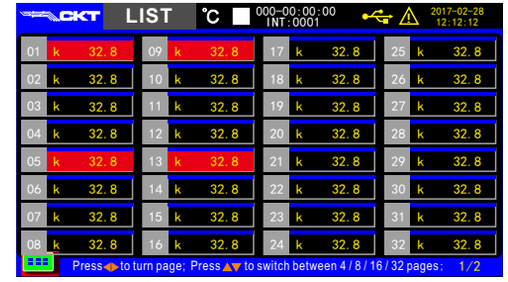


Display multiple measurement parameters simultaneously. Can be changed to 4. 8.16 or 32-channel interface display.

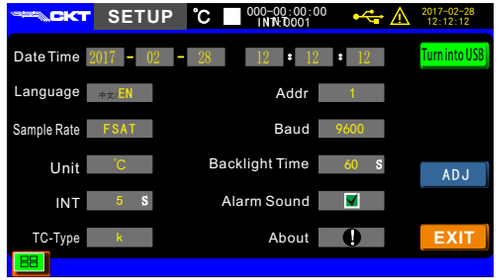


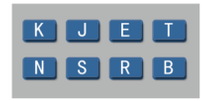


Use The up / down key to switch the 4 / 8 / 16 / 32 channel to display the page. Use The left / right key to turn the page display, where 4-channel page can display the maximum / minimum value, press the menu key to enter the menu settings, press the corresponding function key to quickly enter the corresponding display interface.



6.1.4 system settings





Select the type of thermocouple



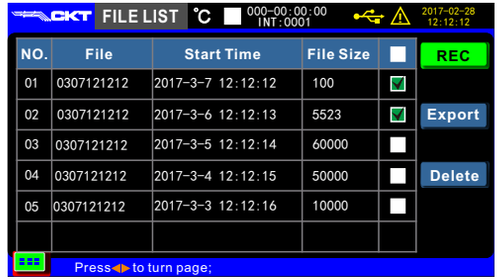
Numeric keypad

System setup

Direct contact to change the corresponding position of the opposite project, press the second change U Disk, the instrument is U Disk, directly connected to the USB interface in front of the instrument, connectedto the computer.

Note: Time and date, measurement speed, unit of measurement, and sensor can not be changed when recording is started. When switching between Chinese and English, press return to switch to other languages.

6.1.5 documentation

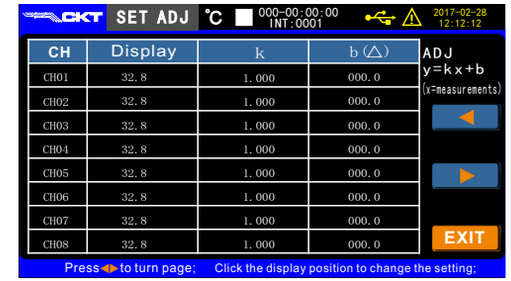


Can display records and records completed files, file size (this number of proxy records, no difference between the number of channels) , can be any single-or multi-election export and delete files. Can Record 64 files, each file can record up to 130,000 data (does not distinguish between the number of channels) , 64 files infinite loop record, 1 second interval can record 97 days.

Export, you can choose to export u disk or internal U Disk (CSV file) , export to the internal U Disk, you can use the second variable u disk directly connected to the computer to read data.

Humanized design, operation prompt function.

6.1.6 △ Delta correction settings

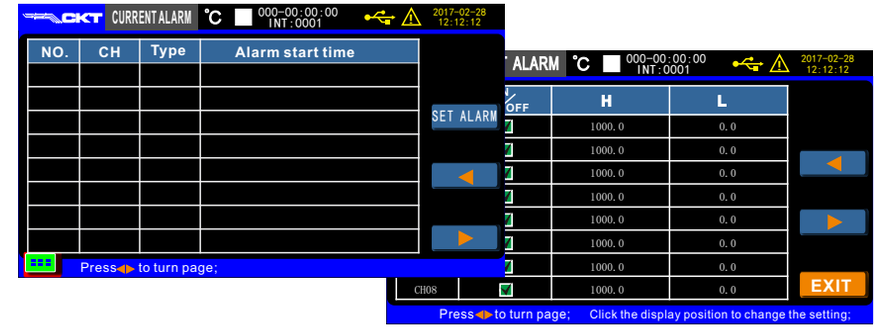


Correction Setting

This interface provides calibration settings for each channel, and can display the current temperature measurement for each channel. When you change the calibration value, you can see the change of the current value in real time, which can be corrected to the actual measurement value.

Need to change, directly click on the corresponding location to pop up the numeric keypad to change the settings

6.1.7 police



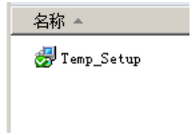
Can display the current alarm status, including channel number, alarm type, alarm time.

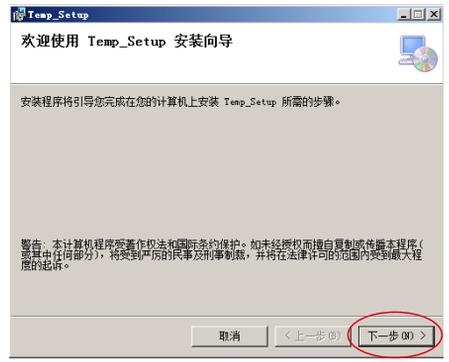
Setting this interface provides a set of alarm values for each channel, you can directly click the corresponding location to select the channel to change the limit value, check whether the alarm.

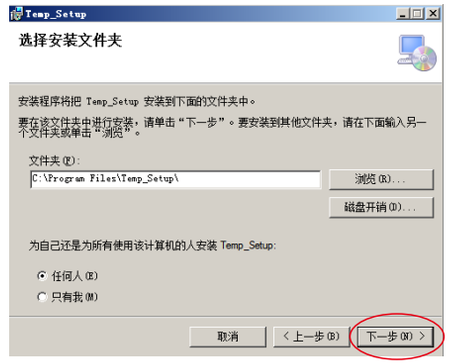
If the upper limit is exceeded, the bottom of the corresponding channel in the list will turn red, and an alarm indicator icon will be displayed at the top of the screen, accompanied by intermittent buzzer sounds.

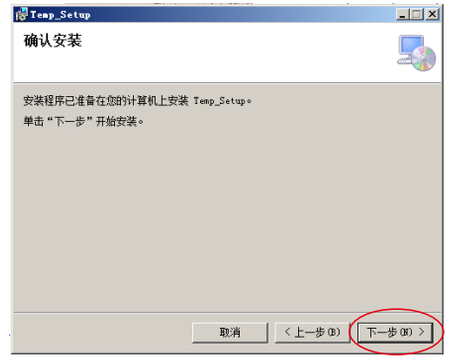
10. Software instructions

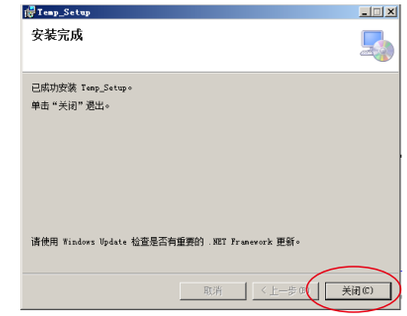
Find the file on the disc Temp_Setup Run the installation directly as follows.











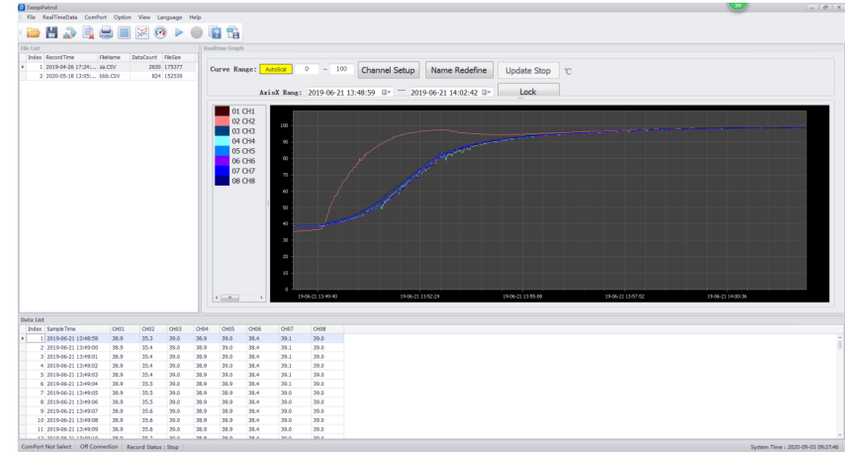
After the installation is complete, install the USB driver again.

Until after the installation, on the desktop to see A 

ICON, Click this icon to run the software program.

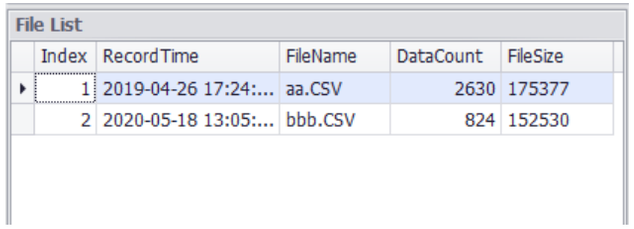


Go to the start screen

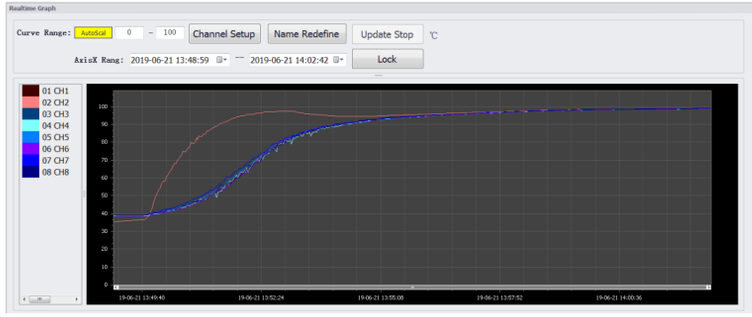


In this to first computer and instrument connection, in the file list after the installation of drivers, and then in the soft interface to select the correct COM port, in the lower left corner of the main interface display communication connection success.

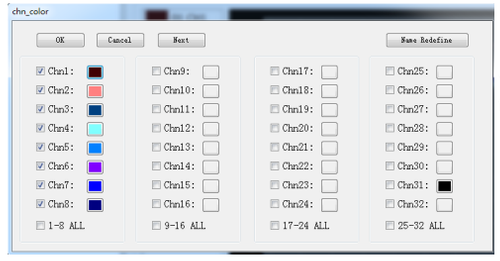
Computer interface provides a rich display and analysis functions, can display file list, curve analysis display, data list, real-time temperature list, instrument operation button function. It can also print graph and curve.



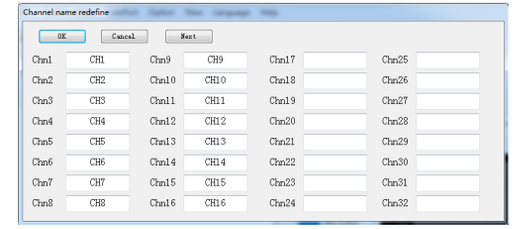
FILE LISTS ARE LISTED: Serial number, record time, file name, data number, file size. Directly Click on the file can open the corresponding file data.



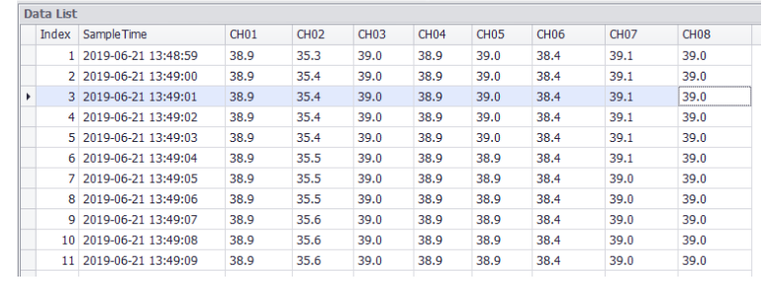
The curve label can analyze all the data in the file in detail, can directly use the mouse to zoom in and out of the curve and move left, right, up and down.



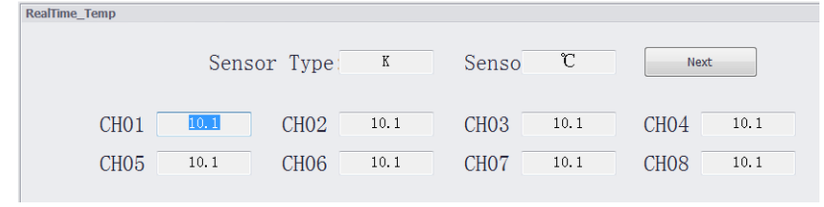
You can change the display color for each channel of the curve.



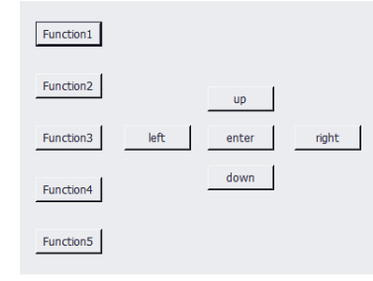
You can customize the name for each channel.



The data list can be displayed for each channel and each time interval. Users can directly in the installation file directly with EXCEL software open. The suffix is called * . CSV.



A real-time data list displays the current measurement in real time.



The instrument can be operated remotely directly by using the instrument key page.

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	220	±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	

Packing list

Temperature Recorder	1PCS
Power Cord	1PCS
User Manual	1PCS
Certificate of compliance / Warranty Card	1PCS
Thermocouple wire	1PCS/CH

Warranty

The instrument has a 2-year warranty from the date of purchase. If the instrument is damaged during the warranty period due to improper operation of the user, the user shall bear the maintenance fee and the expenses arising from the maintenance. The company shall be responsible for the lifetime paid maintenance of the instrument.

Without the written consent of the company, users are not allowed to open the instrument casing, which will affect the instrument warranty.

Instrument maintenance should be authorized by our professional and technical personnel; maintenance, please do not replace the instrument internal devices, instrument maintenance, the need to re-measurement calibration, so as not to affect the accuracy of testing. If the user
blindly maintenance, replacement of parts and equipment damage, not covered by the warranty, the user should bear the maintenance costs.

The company has the right to improve the appearance and function of the manual and theinstrument without notice.

Certificate of conformity

Product name: Multi-channel temperature recorder

Model number: CKT4000

Product Code: _____

Date: _____

Inspector: _____

Verification Conclusion: _____

Product Warranty Card

●Warranty:

1.The warranty period is within 24 months from the date of purchase.

2. Warranty equipment in the warranty period, in the normal useand maintenance of the case, the instrument problems, verified, the company will provide free repair and replacement parts.

●Maintenance is not free of charge in the following cases.

1. Products by the company's non-technical personnel repair, modification, modification, users to replace any internal parts.
2. The airframe number has been altered or does not conform to the information given in this certificate
3. Damage caused by water or other substances seeping into the machine.

●The company may also provide maintenance services for equipment exceeding the free warranty and not covered by the Free Warranty Ordinance, subject to the charging of accessories and maintenance fees as appropriate.

Name		Model number	
Telephone		Date of purchase	
Address		Serial number	
Maintenance date	Maintenance record		Maintenance man

CKT

CHANGZHOU CHUANGKAI ELECTRONIC CO., LTD

For sales service, please contact us at sales@cz-ckt.com