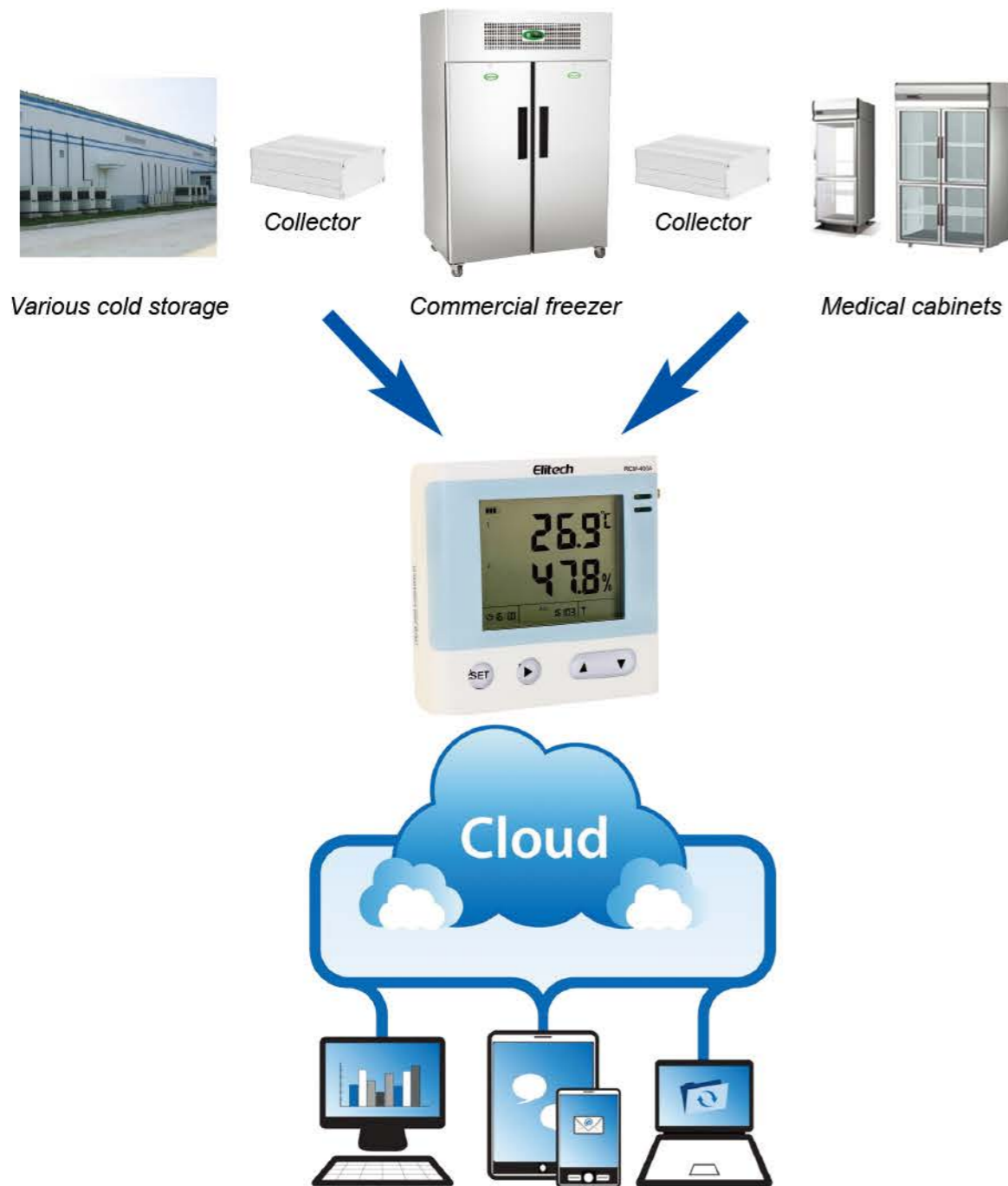


## Intelligent Solutions for Cold Chain Network



- ◆ Data collector will send the status information, alarm information and services information.

## RCW-400A



### Main features:

- ◆ RCW-400A is a data logger with four channels of temperature or humidity detectors (more details in specification), It has the advantages of wide temperature measuring range and high measuring precision. RCW-400A communicates with Cold-Chain Cloud on Internet. The LCD screen displays current working state, the recording capacity and the recording data. It can alarm by buzzer or by the SMS. Users can view and download data of temperature and humidity through cloud anywhere and anytime. Users can also view data by smart phones (Support iOS and Android only).

### Specification:

- ◆ Product size: 133\*128\*34 (mm)

### Technical parameters:

- ◆ Power supply: 12V AC / DC~24V AC / DC.  
It could connect with power supply of 100~264VAC, 50/60HZ by external power adaptor;
- ◆ Temperature measuring range: -40°C~70°C;
- ◆ Temperature accuracy:  
± 0.5°C (0°C~40°C);  
± 1°C (-25°C~0°C);  
± 2°C (others) (If sensor wire is longer than 50 M, accuracy deviates 1%);
- ◆ Humidity measuring range: 10~90%RH;
- ◆ Display resolution: 0.1;
- ◆ Humidity accuracy:  
(@10°C, 25°C, 40°C): ±5%(30-80%);
- ◆ Temperature sensor type: NTC;
- ◆ Humidity sensor type: SHT21;
- ◆ Record cycle: 1 min to 24 hours continuously set;
- ◆ Record capacity: each channel 20000 points (MAX);
- ◆ Applicable environment: temperature -20°C~50°C; humidity 0%~95%;
- ◆ External alarm relay: 10A/220VAC;
- ◆ Communication interface: WCDMA(3G).

## Coldwatch RCW-200/RCW-600A



The product is widely used in storage and transportation of foodstuff, medicine, fresh and alive commodities. It is suitable for temperature and humidity monitoring, recording and remote alarm of places such as cold storage, refrigerators, garden houses, vegetable greenhouses, hatching houses, laboratories, etc.

**Specification:**

- ◆Product size: 110 \* 80 \* 30 (mm)

**Features and functions:**

- ◆2.4 inch color LCD display, touch buttons, delicate in shape and artistic in design;
- ◆Query of real-time data for various devices and places, such as cold storage, refrigerators, etc. through short message; real-time data push according to the time client has set;
- ◆Short message alarm or cellphone call alarm in case of ambient temperature abnormality or device breakdown;
- ◆Keep working for more than 12 hours after power outage;
- ◆Temperature record 200,000 points; data can be downloaded via USB and is convenient to trace, query and analyze in maintenance. (RCW-200)

**Technical parameters:**

- ◆Power supply: 5V/1A (DC). It could connect with power supply of 220V, 50/60HZ by external power adapter.
- ◆Ambient temperature: -10°C~45°C;
- ◆Temperature measuring range: -40°C~70°C;
- ◆Temperature accuracy: ±1°C(-25°C~40°C); ±2°C(others)  
(If the length of probe wire is longer than 50m, the accuracy will deviate 1%.);
- ◆Humidity measuring range: 10~90%RH;
- ◆Humidity accuracy: ±5%RH;
- ◆Temperature sensor: NTC;
- ◆Humidity sensor: Honeywell;
- ◆Calibration range: -9.9°C~9.9°C(temperature), -9.9%RH~9.9%RH (humidity);
- ◆Record cycle: 1 sec ~ 24 hour adjustable;
- ◆Record capacity: 20000 points;
- ◆Number of cellphones bound: 5 (Max, including administrator);
- ◆Communication interface: WCDMA(3G);
- ◆Running time after power outage: 12 hours;
- ◆Battery: 3.7V 1100mAH lithium battery.

## RCW-800A

**General descriptions:**

RCW-800A is an intelligent temperature&humidity remote monitor, widely used in medical cold rooms.

**Main features:**

- ◆ In complete conformity with GSP standard;
- ◆ 2.4 inch color LCD display, touch buttons;
- ◆ Query real-time data of cold storage through short message or cellphone app;
- ◆ Short message alarm or cellphone call alarm in case of cold storage abnormality or unit breakdown;
- ◆ Visit cloud management platform via webpage or smart phone (support Apple iOS and Android system);
- ◆ Upload all data wirelessly and store it in the cloud server;
- ◆ Keep working for more than 12 hours after power outage;
- ◆ Temperature / humidity sensor optional;
- ◆ Program version can be upgraded.

**Technical parameters:**

- ◆Temperature measuring range: -50°C~99°C;
- ◆Temperature display resolution: 0.1°C;
- ◆Temperature accuracy: ±1°C(-25°C~0°C); ±0.5°C(0~40°C); ±2°C(others);
- ◆Humidity measuring range: 5%RH~99%RH;
- ◆Humidity display resolution: 0.1%RH;
- ◆Humidity accuracy: ±5%RH;
- ◆Communication interface: WCDMA(3G).

## TI-10

The product is applied to temperature measuring in transportation of blood, vaccine, etc.



### Features and functions:

- ◆ Clear and direct perception of over temperature limit circumstances can ensure blood and vaccine safety;
- ◆ Real and reliable detection of the actual and non-ambient temperature of blood and vaccine;
- ◆ More convenient and with higher economic benefit compared with traditional chemical reagents;
- ◆ The attached barcode is easy to track and query for users;
- ◆ Waterproof level: IP68.

### Technical parameters:

- ◆ Power supply: built-in CR2032 battery;
- ◆ Temperature measuring range: -10°C~30°C;
- ◆ Temperature accuracy:  $\pm 0.5^{\circ}\text{C}$ (1~8°C), others,  $\pm 1^{\circ}\text{C}$ ;
- ◆ Resolution: 0.1°C;
- ◆ Record cycle: 180 days at least;
- ◆ Alarm type: cumulative;
- ◆ Temperature unit: °C;
- ◆ Alarm mode: LED alarm;
- ◆ Operation mode: multifunction keyboard;
- ◆ Water-proof level: IP68;
- ◆ Use type: disposable.

The product is widely used in global medical market.

## RC-61



### Features and functions:

- ◆ In complete conformity with GSP standard of new edition;
- ◆ Brand new appearance, large LED screen with clear view, single button operation, easy for use;
- ◆ Over limit sound-light alarm ensures product safety and users are easy to find over-temperature status;
- ◆ Imported sensor of temperature and humidity integrated type, more accurate and stable.

### Technical parameters:

- ◆ Storage capacity: 16000 points for temperature / humidity;
- ◆ Temperature measuring range and accuracy: with certificate of inspection, in conformity with GSP standard;
- ◆ With battery display; battery life is more than one year in typical running status without buzzer alarm;
- ◆ Control mode: one button operation; buttons with start / stop function; shortly press buttons to show max / min parameters alternately;
- ◆ Alarm types: over-temperature indicator flash alarm, buzzer alarm, display screen alarm icon flashing, over-temperature record interval shortened (in conformity with GSP standard);
- ◆ With data management software, disk optional;
- ◆ Communication interface: cellphone USB connected to computer via cellphone data cable; external temperature / humidity probe connected via headphone jack;
- ◆ Display type: large screen display, fixed by magnet or velcro.

## EASYLOG---Disposable Data Logger

### RC-12



#### General descriptions:

- ◆ Automatic processing software, no complication;  
One time installation, permanent usage. Auto-run, auto-upload, auto-report, auto-save;
- ◆ Support the comparison of multiple data from different devices;
- ◆ Auto-save Function  
Easy-tracking has the function of only show Over Temperature Device, which makes the quick lookup of large quantity data logger possible.

#### Application:

EASYLOG series label is one kind of Elitech cold chain data logger, especially for temperature monitoring during the distribution and storage of food, pharmaceuticals, chemicals and other perishable products. EASYLOG was born for users of disposable data logger, offering a more convenient and rapid operating experience.

#### Main features:

- ◆ Record the temperature of overall process of cold chain transport.
- ◆ MKT/Mean Kinetic Temperature.
- ◆ PC software: One iCon, one function, no more menu operation.
- ◆ Both EASYLOG itself and Easy-tracking software has the function of indicating over temperature by lights.
- ◆ Double bar code label for further use.

#### Technical parameters:

Recording Options	Single Use
Temperature Measurement Range	-30°C~70°C
Temperature Accuracy	±0.5°C(-20~40°C); ±1°C(others).
Temperature Resolution	0.1°C
Data Storage Capacity	14400(MAX)
Shelf Life/Battery	1 year/3.0v lithium battery
Recording interval	1, 2, 3, 5, 6(min) selectable
Recording Duration	6, 15, 30, 45, 60(days) selectable
Alarm type	Consecutive or cumulative
Water proof level	IP67
Size	79.9* 47*4.4 (mm)

## RC-5 RC-51

The product is widely used in food and pharmaceutical, cold chain transportation and other industries which conform to HACCP system.

It is smart, compact, with beautiful design; LCD display for convenient data/status checking; large record capacity 32000 points; data exchange with computer by USB; export data in PDF; with powerful and visualized data processing software; the software supports the system of WinXP, Win7, Win8, Mac; with button battery, easy to replace.

#### Specification:

- ◆ Product size: 80\*25\*12 (mm)

#### Technical parameters:

- ◆ Power supply: inner CR2032 battery or power supply via USB interface;
- ◆ Temperature measuring range: -30°C~70°C;
- ◆ Temperature accuracy: ±0.5°C (-20~40°C), ±1°C (others);
- ◆ Resolution: 0.1°C;
- ◆ Sensor: NTC;
- ◆ Record capacity: 32000points (MAX);
- ◆ Record cycle: 10sec~24hour adjustable;
- ◆ Communication interface: USB;
- ◆ Waterproof level: IP65.



RC-5

### RC-51 AI Reusable Temperature Recorder

The product is mainly used for repeated temperature monitoring and recording in storage and transportation environment of foodstuff and medicine, such as refrigeration packages, refrigerator cars, containers, etc.

It can be connected to a computer as a USB flash disk and outputs record data in AI report. It can also be connected to a computer via USB interface for data communication. It is equipped with built-in temperature probe. On the back of the recorder is pasted serial number and barcode, convenient to be scanned.

#### Technical parameters:

- ◆ Power supply: ER14250 (Typically one year. It can be replaced by 3.6V lithium battery.);
- ◆ Temperature measuring range: -30°C~70°C/22°F~158°F;
- ◆ Temperature accuracy: ±0.5°C/0.9°F(-20°C~40°C), ±1°C/1.8°F (others);
- ◆ Resolution: 0.1°C;
- ◆ Sensor: built-in NTC;
- ◆ Record capacity: 32000 points (Max), support data cycle and cover;
- ◆ Display type: multifunction LCD, status indicator;
- ◆ Operation mode: multifunction keyboard;
- ◆ Alarm range: high/low temperature alarm setting / multiple alarm setting (5 wire 6 area);
- ◆ Alarm type: unitary/cumulative;
- ◆ Communication type: USB2.0;
- ◆ Operating system: WIN XP/VISTA/7/8/MAC (It does not support upper computer operation but only AI report view in MAC system);
- ◆ Water-proof level: IP65.



RC-51

## RC-4 RC-4H

The product is applied to various industries that require conformity to HACCP system, such as foodstuff, medicine, cold chain transportation, etc.

### Features and functions

It is compact in size and graceful in design. The LCD display is convenient for users to view data and running status of the recorder. It has an external probe and large record capacity of 16000 points. Direct data exchange with computer can be realized by USB cable. It is equipped with user-friendly and powerful data visualization management and analysis software, which can automatically unload data or send email and support WinXP, Win7, Win8 and Mac (available soon). Button battery is easy to replace.

### Technical parameters:

- ◆ Power supply: built-in CR2450 battery or power supply via USB interface;
- ◆ Temperature measuring range: -30°C~60°C; for external probe (optional), -40°C~85°C;
- ◆ Temperature accuracy: ±0.5°C(-20°C~20°C); ±1°C(others);
- ◆ Humidity measuring range: 0~99%RH;
- ◆ Humidity accuracy: ±3%RH (25°C, 20~90%RH); ±5%RH (others);
- ◆ Sensor: thermistor;
- ◆ Display resolution: temperature 0.1°C; humidity 0.1%RH;
- ◆ Record cycle: 10 sec~24 hour adjustable;
- ◆ Record capacity: RC-4HA: 8000 points (MAX); RC-4HC: 16000 points (MAX).



RC-4

### Specification:

- ◆ Product size: 84\* 44\* 20 (mm)

### Technical parameters:

- ◆ Temperature record capacity:
  - RC-4 16000 (MAX)
  - RC-4HA 8000 (MAX)
  - RC-4HC 16000 (MAX)
- ◆ Humidity record capacity:
  - RC-4HA 8000 (MAX)
  - RC-4HC 16000 (MAX)
- ◆ Record cycle: 10s~24hour adjustable;
- ◆ Sensor: Internal NTC thermal resistor;
- ◆ Communication: USB interface;
- ◆ Power supply: CR2450 battery or power supply via USB interface;
- ◆ Battery life: in normal temperature, if the record interval sets as 15 min, it could be used above one year.



RC-4HC

## DR-210A

It is a two-way temperature and humidity recorder with one way temperature and one way humidity. Products of this series are widely used in industries of foodstuff, medicine and cold chain transportation and other industries in conformity with HACCP system certification.

### Features and functions:

- ◆ One way temperature and one way humidity measurement and record, with a wide temperature range and wide application.
- ◆ Reserved RS485 interface and mini printer interface, with flexible expansion, meet the customers demand on local or long distance data management.
- ◆ Matched with host data-processing software, for customers' convenience to set, view or print the data.
- ◆ USB port.
- ◆ Accordance with HACCP System Certification and related medical industry standard.

### Specification:

- ◆ Mounting size: 131.5\*131.5 (mm)
- ◆ Product size: 144\*144 \*83 (mm)

### Technical parameters:

- ◆ Power supply: 12VAC/DC or 24VAC/DC, 220VAC optional; with rechargeable backup batteries;
- ◆ Temperature measuring range: -50°C~120°C;
- ◆ Temperature accuracy: ±0.5°C(-30°C~20°C); ±1°C(-40°C~-30°C or 20°C~70°C); ±2°C(others);
- ◆ Humidity measuring range: 0~95%RH;
- ◆ Humidity accuracy: (@25°C): ±5%RH; (@10°C~40°C): 0~59%RH: ±6%RH (MAX); 60~95%RH: ±8%RH (MAX);
- ◆ Display Resolution: 0.1°C;
- ◆ Recording cycle: 1min~24hours continuously set;
- ◆ Recording capacity: each 13,000 points (MAX);
- ◆ Alarm relay output contact capacity: 10A/220VAC.





# EK Touch Series

## Completely into the Era of Touch

No menu needed! What you see is what you get!



### Touch Screen Temperature Controller VS Traditional Temperature Controller

 <b>Touch technology</b>	<ul style="list-style-type: none"> <li>◆ Touch keys, without mechanical movement, with longer lifetime.</li> <li>◆ Full-sealing touch key design, dust proof, moisture proof, more reliable performance.</li> <li>◆ Touch technology brings customers a new experience.</li> </ul>	 <b>Mechanical keys</b>
 <b>Six keys</b>	<ul style="list-style-type: none"> <li>◆ 6 function keys, what you see is what you get!</li> <li>◆ Directly set parameters by function keys, no menu needed, easy operation</li> </ul>	 <b>Four keys</b>
 <b>Waterproof IP65</b>	<ul style="list-style-type: none"> <li>◆ Effectively prevent water, dust and moisture</li> </ul>	 <b>Non Water-proof</b>
 <b>Highlighted digital tube, with large display area</b>	<ul style="list-style-type: none"> <li>◆ Highlighted digital tube, display area increase by 40% compared with traditional products, clear display of work status and temperature</li> </ul>	 <b>The display area of ordinary digital tube is small</b>



## The First Temperature Controller of Touch Type Made in China!

EK-3010/3020/3021/3030

The product is suitable for middle and low temperature cold storage, air-cooled cabinets, kitchen cabinets, operational consoles, refrigerating display cabinets.



### Main features:

- ◆ Touch temperature controller - using precise digital capacitive touch buttons, responsive without mechanical movement, higher reliability, longer life;
- ◆ No menu keys, simple operation - user can set directly through the "boot temperature", "shutdown temperature" and other key parameters, without entering the menu, touch control, no complication;
- ◆ Integrated design, waterproof and dustproof;
- ◆ Colorful slim, stylish novel - can be customized according to the user's needs, a variety of color options to meet customer needs;
- ◆ Defrost cycle, unique defrost cycle poweroff memory function. even if the device loses power unexpectedly, it can still start working properly defrost function to protect and improve the cooling efficiency of the unit;
- ◆ Full-featured—has the function of Cooling/Heating, Defrost, Fan control, Temperature sensor and Defrost sensor(optional). it can be used in majority of the refrigeration equipment control.



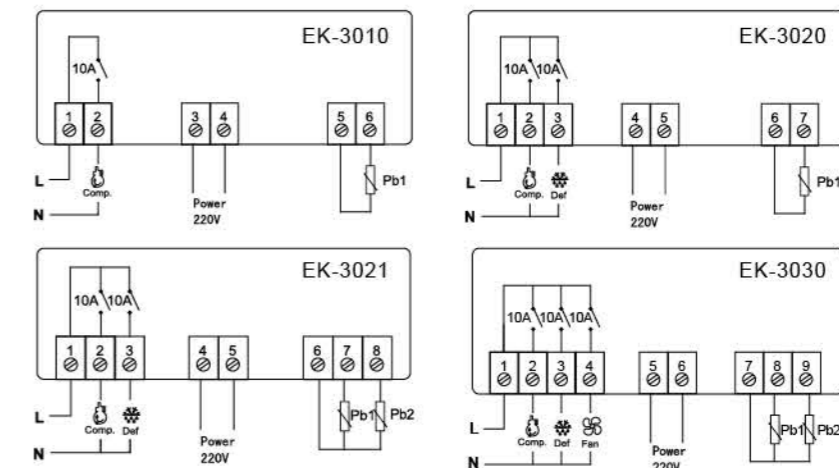
### Specification:

- ◆ Product size: 78.5\*34.5\*82(mm)
- ◆ Mounting size: 71\*29 (mm)

### Technical parameters:

- ◆ Power supply: 220VAC±10%, 50/60HZ;
- ◆ Temperature measuring range: -40°C~99°C;
- ◆ Temperature control range: -40°C~85°C;
- ◆ Temperature accuracy: ±1°C ±0.5 digits (-30°C~50°C); ±2°C ±0.5 digits (others);
- ◆ Temperature resolution: 0.1°C / 1°C;
- ◆ Ambient temperature: -5°C~55°C;
- ◆ Relative humidity: 10%~90% (non-condensing);
- ◆ Storage temperature: -25°C~75°C;
- ◆ Waterproof level: IP67

### Wiring diagram:



## EK-3030E



The product is mainly used for centralized monitoring of cold storage and cold storage groups.

### Main features:

- ◆ Easy centralized monitoring solution: without connection with router or other network devices, the controller can directly connect with computer USB interface via RS-485 to realize centralized monitoring of cold storage groups and numerous refrigerating devices.
- ◆ Transmission distance is up to 500m. Users can analyze and process temperature data, alarm information, etc in duty room or monitor room via upper computer software. Therefore, it is more simple and orderly for cold storage management.
- ◆ Special design of six independent buttons on the panel allows users to directly operate and set the controller without entering menu or referring to user manual. No menu, simple operation!
- ◆ It adopts touch buttons and unibody front panel of injection moulding. It is waterproof and dustproof with more stable and reliable performance.
- ◆ RS-485 is optional. Conversion interface from RS-485 to USB is optional. It can communicate with devices, such as PLC, etc. via MODBUS communication protocol.

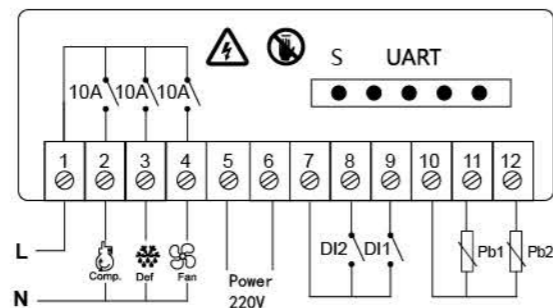
### Specification:

- ◆ Product size: 85.0 \* 35.0 \* 63.8 (mm)
- ◆ Mounting size: 71 \* 29 (mm)
- ◆ Sensor wire length: 2m (including the probe length)

### Technical parameters:

- ◆ Temperature control range: -40°C~85°C;
- ◆ Temperature measuring range: -40°C~99°C;
- ◆ Resolution: 1°C/0.1°C (with integral / decimal mode);
- ◆ Temperature accuracy: ±1°C±0.5 digit (-30°C~50°C); ±2°C±0.5 digit (others);
- ◆ Sensor: NTC (10KΩ/25°C, B value 3435K).

### Wiring diagram:



## MTC-5060/MTC-5080

### Main features:

- MTC-5060: 2 sensor input, compressor and defrosting relay output, buzzer alarm output.
- MTC-5080: 2 sensor input, compressor, defrosting and fan relay output, buzzer alarm output.
- MTC-6000: 2 sensor input, compressor, defrosting, fan and alarm relay output, buzzer alarm output.

### Technical parameters:

- ◆ Power supply: 220VAC±10%, 50/60Hz
- ◆ Temperature measuring and controlling range: -50~50°C
- ◆ Resolution: 0.1
- ◆ Accuracy: ±1°C
- ◆ Relay capacity of compressor, defrost: 3A/220VAC
- ◆ Sensor type: NTC (2M)
- ◆ Shell: gray ABS flame retardant material

### Specification:

- ◆ Mounting size: 92 \* 44 (mm)
- ◆ Product size: 100 \* 51 \* 82.5 (mm)

### User menu:

Indicator light Code	Set range	Default	Representative meaning
Off temp.	Stop temp. ~ 50.0°C	10.0°C	Compressor starts up when temperature reaches the set value
On temp	50.0°C~Start-up temp.	-10.0°C	Compressor stops when temperature reaches the set value
Comp. delay	1~120min	3 min	The minimum interval time between two start-up time
Def. cycle	0~120 hours	6 hour	The minimum interval time between two defrosting
Def. time	0~120min	30 min	The defrosting duration
Max evap. temp.	-50.0°C ~ 50.0°C	10.0°C	Defrosting is not allowed when defrost sensor is higher than set termination temperature

### Administrator menu:

Code	Function	Setting range	Default
F1	Temperature calibration	-10.0°C ~ 10.0°C	0°C
F2	Alarm when exceeding temp. limit value	0°C ~ 50.0°C	5.0°C
F3	Defrosting type	0: Electric heating defrosting 1: Thermal defrosting	0
F4	Defrosting cycle time calculation	0: Cumulative running time of the controller after power on 1: Cumulative running time of the compressor after power on	1
F5	Dripping time after defrosting	0 ~ 120min	3 min
F6	Fan running mode	-1: The fan runs continuously 0: Fan and compressor run and stop synchronously 1~5: Fan starts up when compressor starts for 1~5 min	1
F7	Alarm delay when temp. exceed set limit value	0 ~ 120 min	30 min
F8	Alarm delay time after power on for the first time	0 ~ 120 hours	2 hour

### Product features table:

	Feature	MTC-5060	MTC-5080
output	refrigeration	●	●
	defrost	●	●
	fan		●
	alarm	buzzer	buzzer
	pump		
input	sensor	2	2



MTC-5060



MTC-5080



## MTC-2120S

The product is a universal single sensor temperature controller and suitable for cold storage, freezers, refrigerators, etc.



### Features and functions:

- ◆ Control temperature according to compressor start-up temperature and shutdown temperature, and manually forced refrigeration is available.
- ◆ It could preset four group parameters according to different goods. When replace the goods, it could directly adjust to the corresponding parameter setting.
- ◆ Compressor protection delay 3 minutes; when sensor fails, compressor will run and stop according to the set proportional time; with buzzer alarm and buzzer cancel function.

### Specification:

- ◆ Product size: 100 \* 51 \* 65 (mm)
- ◆ Mounting-hole size: 92 \* 44 (mm)
- ◆ Front panel size: 100 \* 51 (mm)
- ◆ Sensor wire length: 2m (including the probe length)

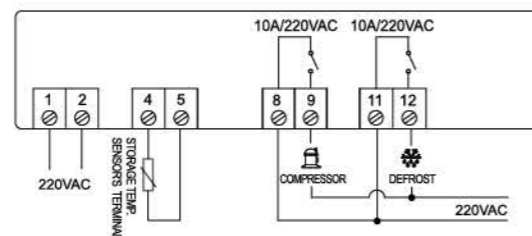
### Technical parameters:

- ◆ Power supply: 220VAC±10%/-15%, 50/60HZ;
- ◆ Compressor output: 10A/220VAC, directly drive single phase 0.5HP/220VAC load and below;
- ◆ Defrosting output: 10A/220VAC;
- ◆ Defrosting: 10A/220VAC; Fan: 10A/220VAC;
- ◆ Overall power consumption: <3w;
- ◆ Temperature measuring range: -50℃~120℃;
- ◆ Temperature control range: -40℃~50℃;
- ◆ Temperature resolution: 0.1℃ (<100℃); 1℃ (others);
- ◆ Temperature accuracy: ±1℃ ±1 digits (-40℃~50℃); ±2℃ ±0.5 digits (others);
- ◆ Sensor failure delay: 10 sec;
- ◆ Sensor: NTC;
- ◆ Ambient temperature: 0℃~60℃;
- ◆ Storage temperature: -30℃~75℃;
- ◆ Relative humidity: 20%~85% (non-condensing).

### Accessories:

1 probe, 1operation instruction, 2 elastic tabs

### Wiring diagram:



## Compressor Racks Control System Solution

Elitech compressor racks control system is an highly efficient, energy-saving and easy-to-use solution specially developed for refrigeration and freezing systems. The system provides user friendly interface, which is simple and visual. Dedicated products are specially designed for different parallel units. No programming is needed. Local and remote monitoring and administration can be realized though easy operation so that users can set and operate the system anywhere at any time.



- Two parallel piston/scroll control system ECM-200
- Four parallel piston/scroll control system ECM-400
- Single screw control system ECM-1000
- Double screw control system ECM-2000

### Features and functions:

- ◆ Specially designed for parallel units control system. No PLC programming or debugging is needed to control parallel units, just set parameters. It saves R&D cost, purchase cost and construction cost for wholesalers and unit manufacturers.
- ◆ Dedicated products are designed for different parallel units—ECM-200:2 parallel piston units and ECM-400:4 parallel piston units. Special parameters has been preset basically, so there is no need to redefine compressor quantity, type, input/output, etc. It is simpler to set parameters and more convenient to operate.
- ◆ Multiple cooling modes—air-cooled, water-cooled and evaporation-cooled—can meet various needs of refrigerating systems.
- ◆ When inner fans of all the cold storage are detected not running, the parallel units will stop running to avoid frequent start-up caused by inside magnetic valve weeping and no-load of cold storage, thus extending units' service life and reducing energy consumption.
- ◆ It has passed anti-interference tests of thunder-strike surge, group pulse, electrostatic discharge, etc., so it can work stably under harsh operating conditions for a long period.
- ◆ 7 inch touch LCD can clearly display various running status and alarm information. It is convenient to view, install and debug.

### ECM-200—Two parallel piston/scroll control system

Five-way analog input  
Four-way system input switch  
Every compressor has four-way protection switches.  
Nine-way output

### ECM-400—Four parallel piston/scroll control system

Five-way analog input  
Four-way system input switch  
Every compressor has four-way protection switches.  
Thirteen-way output

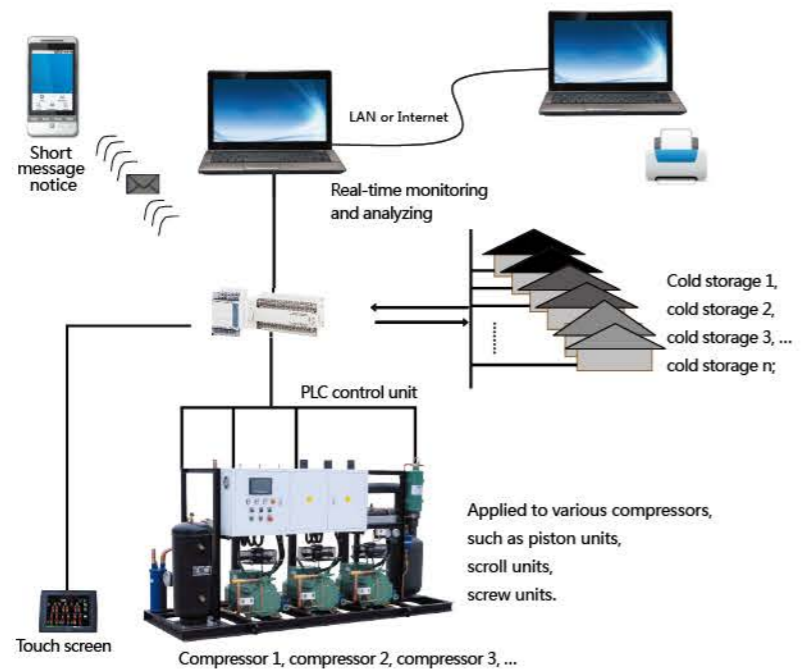
### ECM-1000—Two parallel piston/scroll control system

Five-way analog input  
Six-way system input switch  
Every compressor has four-way protection switches.  
Twelve-way output

### ECM-2000—Four parallel piston/scroll control system

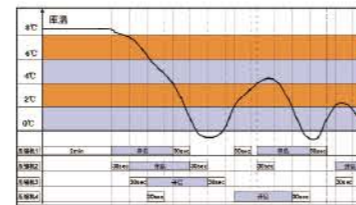
Five-way analog input  
Four-way system input switch  
Every compressor has four-way protection switches.  
Eighteen-way output

## Parallel Units PLC Control System



### Features and functions:

- ◆ **Modularized system, flexible extension.**  
The control system can be expanded to include related additional functions anytime, so it is highly cost effective and can practically protect customer investment and meet their different needs.
- ◆ **Comprehensive control**  
The system is suitable for various refrigerating and freezing equipment.
- ◆ **Easy maintenance**  
User friendly interface can visually display running information, so it is convenient for engineers to examine and maintain.
- ◆ **Conform to HACCP**  
The system ensures the recorded data conform to HACCP requirements in case of inspection.
- ◆ **Convenient to manage**  
The system can realize hierarchical management according to different users' operating authorization.
- ◆ **Alarm management**  
The main control unit keeps reading running status information of each device. Once abnormal status is detected, device drive unit reports the read information to alarm unit, which informs administrators or maintainers. Various alarm types are optional based on client needs.
- ◆ **Data record and print**  
The data record unit can reflect preservative status of goods according to data record intervals set by the client, and simultaneously record the data in the memory cell so that administrators can recall and print data of different types anytime.
- ◆ **Real-time status display**  
The operation interface can provide real-time display of main information of all the devices for site administrator to check and operate.



Touch screen main menu

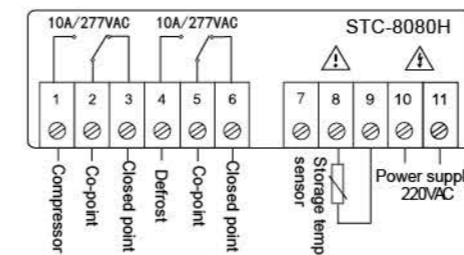


Touch screen menu 1

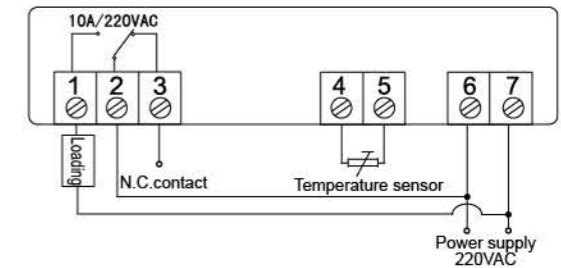


Touch screen menu 2

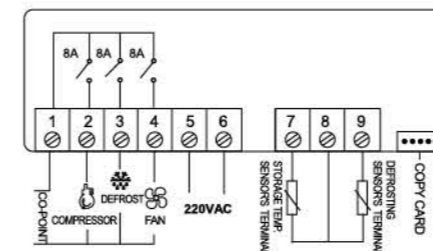
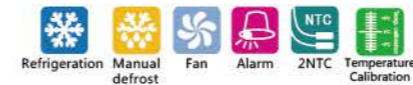
## STC-8080H



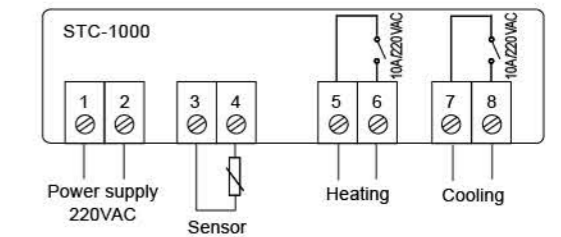
## STC-200+



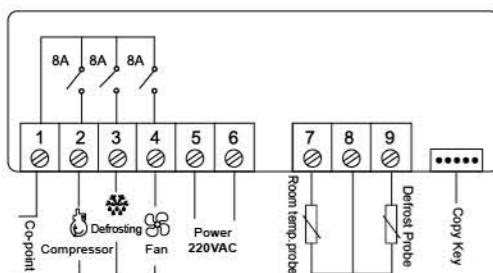
## STC-9200



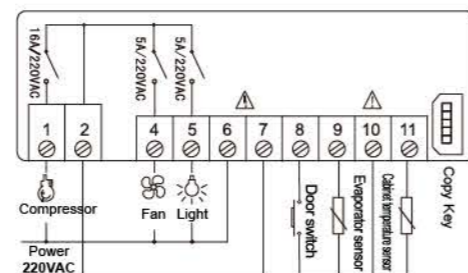
## STC-1000



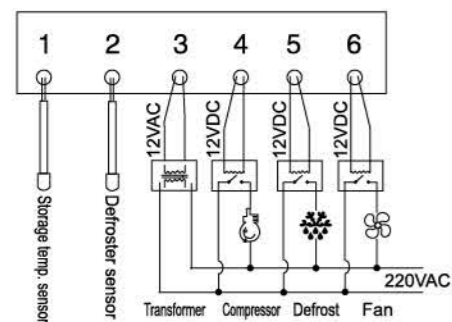
ETC-3000



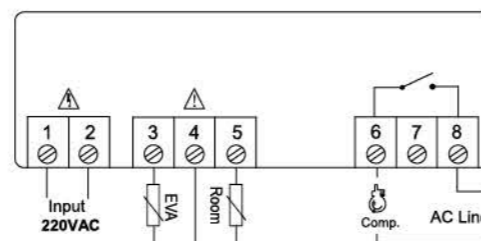
ETC-66



STC-600



ETC-60HT



DHC-100+



The product is widely used for humidifier, dehumidifier, air humidity controller and relative humidity measuring and display devices.

**Main features:**

- ◆ Humidification, dehumidification modes optional
- ◆ Advanced humidity sensor, fast response, anti-interference
- ◆ Key lock function
- ◆ Humidity value calibration

**Specification:**

- ◆ Mounting size: 71\* 29 (mm)
- ◆ Product size: 75\* 34.5 \* 85 (mm)

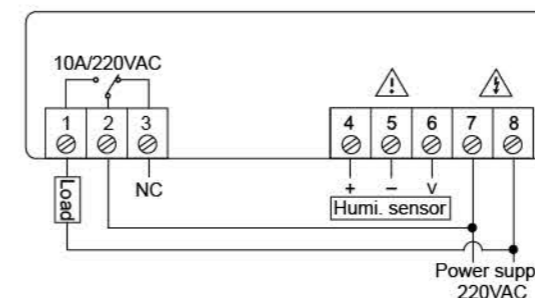
**Technical parameters:**

- ◆ Power supply: 220VAC+10%/-15%, 50/60HZ;
- ◆ Humidity measuring range: 0%RH~99%RH;
- ◆ Humidity controlling range: 10%RH~99%RH;
- ◆ Resolution: 1%RH;
- ◆ Accuracy: ± (5%RH+0.5digit) at 25°C;  
± (6%RH+0.5digit) at 0%RH~59%RH;  
± (8%RH+0.5digit) at others, when +10°C~40°C;
- ◆ Relay output contact capacity: 10A/220VAC;  
(single phase load is 0.5HP/220VAC);
- ◆ Sensor type: humidity sensor, 2M;
- ◆ Temperature annual drift: ±0.5%RH;
- ◆ Shell: gray ABS flame retardant material.

**Accessories:**

1 probe, 1 operation instruction, 2 elastic tabs

**Wiring diagram:**



# MTC-6040



The product is widely used in cool cabinets, medicine cabinets, foodstuff freezers, agricultural greenhouses, medicine refrigerators, etc.

### Main features:

- ◆ Equipped with Honeywell sensors of high accuracy—5%RH (Max), the controller can accurately control humidity;
- ◆ Door switch alarm; temperature / humidity over limit alarm; in complete conformity with GSP medical standard;
- ◆ Double screens to display temperature and humidity information; simple operation, no menus!

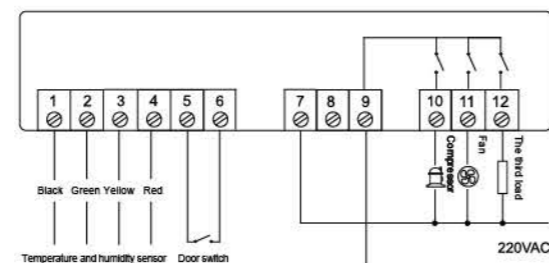
### Specification:

- ◆ Product size: 100 \* 51.5 \* 73.5 (mm)
- ◆ Mounting size: 92.5 \* 43 (mm)

### Technical parameters:

- ◆ Power supply: 230VAC±10%, 50/60HZ;
- ◆ Temperature measuring range: -40℃ ~80℃  
(Only when sensor calibration value is set as 0.);
- ◆ Temperature control range: -50℃ ~50℃ ;
- ◆ Temperature accuracy: ±0.5℃ (0℃ ~40℃ ); 1℃ (others);
- ◆ Humidity measuring range: 0~100%, ±3%RH;
- ◆ Humidity accuracy: 1%RH;
- ◆ Temperature resolution: 0.1℃;
- ◆ Terminal output capacity: 16A/250VAC for cooling; 7A/250VAC for fan;  
7A/250VAC for the third relay;
- ◆ Front panel waterproof level: IP65;
- ◆ Rear shell waterproof level: no;
- ◆ Ambient temperature: 0℃ ~55℃;
- ◆ Storage temperature: -25℃ ~75℃;
- ◆ Storage humidity: 20%~85% (non-condensing).

### Wiring diagram:



# Refulgence Series

### Structure and design:

Colorful front panel can match gray, yellow, green panels, etc. Stronger artistry in wholeness!



CPK-20 Card



CPK-30 Waterproof Back Shell

- ◆ Novel design, elegant appearance, more focus on green and ease of use;
- ◆ Large light inlet window and LED display, 50% increase of display area;
- ◆ Fast connectors are used to connect power wire, sensor, load, etc., which highly improves production efficiency and avoids the disadvantages of traditional ways of installation by screw terminals.



It adopts more convenient quick connectors.

The traditional ways of installation are often accompanied by such phenomena as screw slip, insecure connection fracture, and internal short circuit caused by condensation in the rear of controller.

### Design and functions:

Modular design, more flexible configuration options.

Model (common)	Relay contact capacity (A)				Sensor configuration				Buzzer beep	Outage detection	Serial Code
	Cooling	Defrosting (optional)	Fan (optional)	Light (optional)	Temperature adjustment	Defrosting (optional)	Condensing (optional)	Door switch (optional)	(optional)	(optional)	
ECS-15	30	●	×	●	√	×	×	×	●	×	A(30.00.00)S
ECS-100	30	5	5	●	√	√	√	√	●	×	A(30.05.05.00)S234.B
ECS-180 (A)	30	5	5	●	√	√	√	√	●	●	A(30.05.05.00)S234.B
ECS-180 (B)	5	10	10	5	√	√	√	√	●	√	A(05.10.10.05)S234.B.V
ECS-180 (C)	17	10	10	●	√	√	√	√	●	●	A(17.10.10.00)S234.B

Note: the figure represents relay contact capacity.

Unit: A.

×: no such function

●: optional

## Refulgence Series ECS-180neo



Copy Card



The product is widely used in mid-and-high-end medium and low temperature medicine cabinets, kitchen cabinets, split cabinets for supermarket, open display cases, island cases, convenience cabinets, wine cabinets, etc.

### Main features:

- ◆ It adopts modular design. Defrosting, fan, light and external alarm are optional based on actual demand.
- ◆ Refrigeration relay can reach 30A/240VAC output in maximum and directly drive a 1.5HP single phase compressor.
- ◆ Colored digital display; running status indicator display.
- ◆ Copy card provides more convenience for professional equipment manufacturers' production and after-sales service.
- ◆ Compressor delay start-up during hot air defrosting lengthens compressor life.

### Specification:

- ◆ Mounting size: 71\*29 (mm)
- ◆ Product size: 78.5\*34.5\*82(mm)

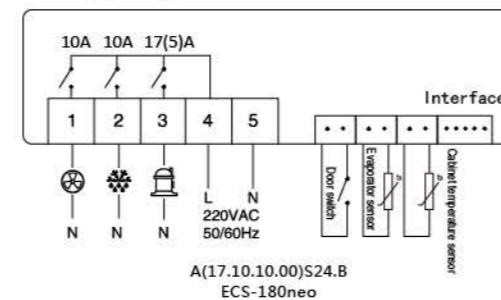
### Technical parameters:

- ◆ Power supply: (220±10%)VAC, 50/60Hz;
- ◆ Temperature measuring range: -50℃~90℃ or -58°F~194°F  
(Only when sensor calibration value is set as 0.)
- ◆ Temperature control range: -50℃~85℃ or -58°F~185°F
- ◆ Resolution: 0.1℃ or 1°F
- ◆ Accuracy: ±1℃ (-40℃~50℃); ±2℃ (51℃~70℃); ±3℃ (others)  
or ±2°F (-40°F~122°F); ±4°F (123°F~158°F); ±6°F (others)
- ◆ Overall power consumption: <3w
- ◆ Input terminals: cabinet temperature sensor, evaporator sensor, condenser sensor, door switch  
(When the door is open, sensor outputs normal open signal.)
- ◆ Front panel waterproof level: IP65
- ◆ Ambient temperature: 0°F~55°F
- ◆ Storage temperature: -25°F~75°F
- ◆ Relative humidity: 20%~85% (non-condensing)

### Accessories:

3 probe, 1operation instruction, 2 elastic tabs

### Wiring diagram:



## Refulgence Series ECS-180A/B

The product is widely used in middle and high-end air-cooled beverage cabinets, display cases, kitchen cabinets, etc

### Main features:

- ◆ Big light inlet window, LED display, display area increases 50%; wear-proof key design, front panel multiple color optional.
- ◆ It adopts modular design; users could combine according to their demand, very flexible.
- ◆ With the function of one key recovery, which could recover parameter setting directly, convenient for production and after-sale maintenance.
- ◆ With internal transformer, which could simplify the wiring operation, saving labor cost.
- ◆ °C/°F optional.

### Specification:

- ◆ Mounting size: 71\*29 (mm)
- ◆ Product size: 78.5\*34.5\*82(mm)

### Technical parameters:

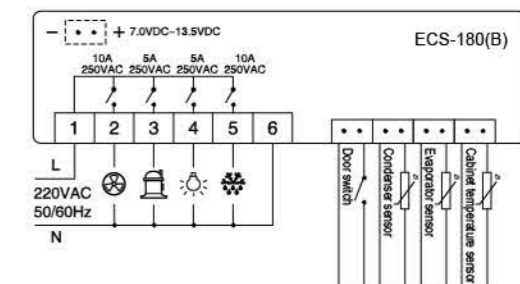
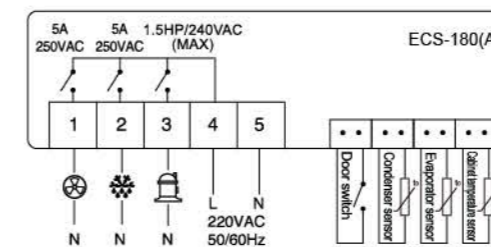
ECS-180(B):

- ◆ Measuring range: -50℃~90℃ (when the sensor calibration value is 0);
- ◆ Accuracy: -40℃~50℃, ±1℃, 50℃~70℃, ±2℃, others, ±3℃;
- ◆ Resolution: 0.1℃;
- ◆ Temperature control range: -50℃~50℃;
- ◆ Power supply: (220±10%)VAC, 50/60Hz;  
external standby power supply: 7VDC~13.5VDC;
- ◆ Power consumption: < 3W;
- ◆ Output capacity:  
Refrigeration: 5A/250VAC  
Defrost: 10A/250VAC  
Fan: 10A/250VAC  
Lighting: 5A/250VAC
- ◆ Front panel waterproof level: IP65;
- ◆ Working environment temperature: 0℃~55℃;
- ◆ Storage temperature: -25℃~75℃;
- ◆ Relative humidity: 20%~85% (non-condensing).

### Accessories:

3 probes, 1operation instruction, 2 elastic tabs

### Wiring diagrams:



ECS-180(A):

- ◆ Measuring range: -50℃~90℃ or -58°F~194°F  
(only when sensor calibration is set as 0)
- ◆ Resolution: 0.1℃ or 1°F
- ◆ Accuracy: -40℃~50℃, ±1℃, 51℃~70℃, ±2℃,  
others, ±3℃  
or -40°F~122°F, ±2℃, 123°F~158°F,  
±4°F, others, ±6°F
- ◆ Controlling range: -50℃~85℃ or -58°F~185°F
- ◆ Power supply: 220±10 % (VAC)
- ◆ Power consumption: <3W
- ◆ External standby power voltage: 7.0VDC~13.5VDC
- ◆ Input: Cabinet sensor, evaporator sensor,  
condenser sensor, door switch  
(When door is open, sensor signal: normal open)
- ◆ Output capacity:

Serial code	A(30.05.05.00)S234.B	A(05.10.10.05)S234.B.V
Refrigeration	30A/240VAC, directly drive 1.5HP compressor	5A/250VAC
Defrost	5A/250VAC	10A/250VAC
Fan	5A/250VAC	5A/250VAC
Light/external alarm	None	10A/250VAC

## Refulgence Series ECS-02CX / ECS-04CX



The product is widely used in beverage cabinets, showcases, kitchen cabinets, etc.

**Main features:**

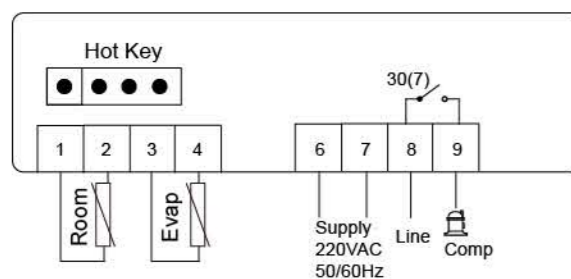
- ◆ Novel design and elegant appearance; 50% display area increase; more modern, visual and easy to view;
- ◆ One-key recovery helps to recover valid setting immediately and provides convenience for production and after-sales service;
- ◆ User password protection function prevents users from misoperation;
- ◆ Double ways of controlling defrosting by cooling, temperature and time.

**Specification:**

- ◆ ECS-04CX (plug-in terminal): 78.5 \* 34.5\* 82 (mm)
- ◆ ECS-02CX (screw terminal): 78.5 \* 34.5\* 74 (mm)
- ◆ Mounting size: 71 \* 29 (mm)

**Technical parameters:**

- ◆ Operating voltage: (220±10%)VAC, 50/60Hz;
- ◆ Total power consumption: <3W;
- ◆ Operating temperature: 0~55℃;
- ◆ Storage temperature: -25℃~75℃;
- ◆ Relative Humidity: 20%~85% (non-condensing);
- ◆ Resolution: 1℃ or 1°F;
- ◆ Front panel protection: IP65;
- ◆ Real shell waterproof level: no.

**Wiring diagrams:**

## Refulgence Series ECS-11 ECS-16



The product is widely used in the beverage cabinets, display cases, kitchen cabinets, etc

**Main features:**

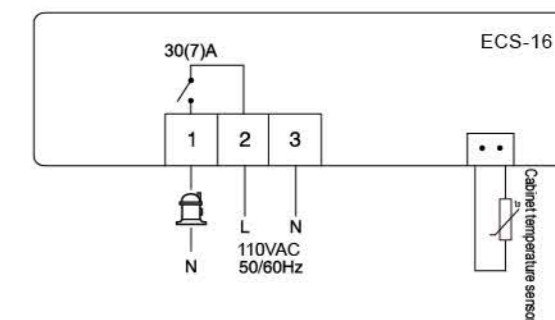
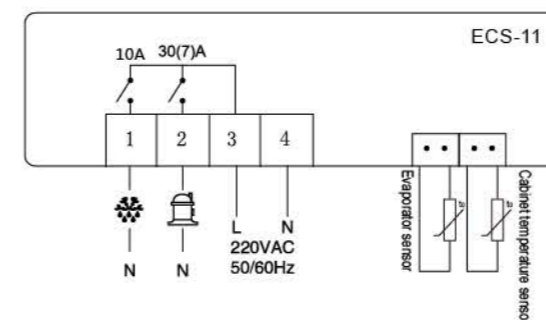
- ◆ Big light inlet window, LED display, 50% increase of display area, more fashionable, intuitive and easily readable;
- ◆ The front panel adopts color design, more artistic;
- ◆ With the function of one key recovery, multiple parameter menus optional;
- ◆ It adopt 30A big relay and could directly drive 1.5HP single phase compressor, reducing the material cost for customers.

**Specification:**

- ◆ Mounting size: 71\*29 (mm)
- ◆ Product size: 78.5\*34.5\*82 (mm)

**Technical parameters:**

- ◆ Measuring range: -50℃~90℃;
- ◆ Resolution: -50℃~50℃, 1℃, others 2℃;
- ◆ Temperature control range: -40℃~85℃;
- ◆ Power supply: (220±10%)VAC,50/60Hz;
- ◆ Output capacity:
  - Refrigeration: 30A/240VAC;
  - Defrosting: natural defrosting or electric defrosting;
  - defrosting relay is optional in electric defrosting.

**Wiring diagrams:**

## Refulgence Series ECS-100 ECS-1100

The product is widely used in middle and high-end air-cooled beverage cabinets, display cases, kitchen cabinets, etc

### Main features:

- ◆ Appearance design innovative and beautiful, display area increases 50%, the character indicates work status, front panel waterproof level IP65. Easier installation: with the plug-in terminal, more reliable and higher efficiency.
- ◆ Adopt 30A big relay, could directly drive 1.5HP single phase compressor, reducing the material cost for customers.
- ◆ It abandons the screw slot design at the rear of the shell, avoiding the loss caused by the condensing dripping to the circuit board.



### Specification:

ECS-100:

- ◆ Mounting size: 71\*29 (mm)
- ◆ Product size: 78.5\*34.5\*82 (mm)

ECS-1100:

- ◆ Mounting size: 71\*29 (mm)
- ◆ Product size: 78.5\*34.5\*35.7 (mm)
- ◆ The panel thickness ≤3mm

### Technical parameters:

- ◆ Measuring range: -50℃~+90℃ (when the sensor calibration value is 0)
- ◆ Accuracy: -40℃~50℃, ±1℃, 50℃~70℃, ±2℃, others, ±3℃
- ◆ Resolution: 0.1℃
- ◆ Temperature control range: -50℃~50℃
- ◆ Power supply: (220±10%)VAC, 50/60Hz
- ◆ Power consumption: < 3W
- ◆ Output capacity

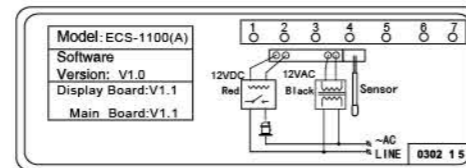
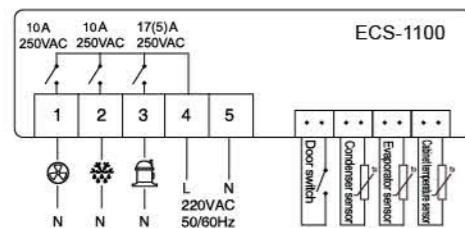
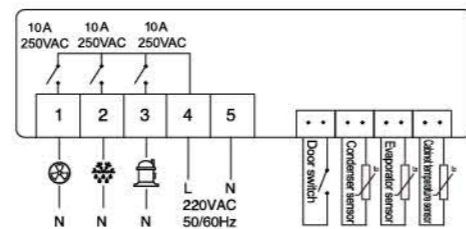
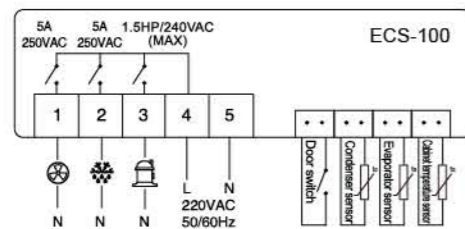
ECS-100:  
Refrigeration: 30A/240VAC,  
directly drive load of 1.5HP(240VAC)  
Defrost: 5A/250VAC  
Fan: 5A/250VAC

- ◆ Front panel protection level: IP65
- ◆ Working environment temperature:  
ECS-100: 0℃~55℃ ECS-1100: -10~55℃
- ◆ Storage temperature: -25℃~75℃
- ◆ Relative humidity: 20%~85% (non-condensing)

### Accessories:

3 probes, 1 operation instruction, 2 elastic tabs

### Wiring diagrams:



ECS-100



ECS-1100

## ALL IN ONE Commercial Refrigerator Integrated Solution:



◆ We are always dedicated to be an integrated resolution provider of commercial cooling / heating cabinet control systems.

◆ Over the last 20 years, we have developed a large number of various commercial cooling / heating cabinet control systems, and provided convenience for commercial refrigerator manufacturers to take overall intensive purchase, sharply simplifying their delivery period management.

◆ We always adhere to the four quality control systems of ISO9001, ISO14001, OHSAS18001 and ISO/TS16949. Being simple in design and reliable in quality, our products can ensure commercial refrigerators to run stably.

## Refulgence Series ECS-R12F12 / ECS-RF10

The product is applied to the double-door freezers, refrigeration kitchen cabinets, display cabinets and other devices which need to control dual-way temperature.



### Main features:

- ◆ Setting temperature by one key cycle operation and light indication, more convenient.
- ◆ Power could be switched on or off;
- ◆ Wider voltage range: under the voltage 110VAC or 220VAC, it will automatically adapt without switching;
- ◆ Unique rear protection design, plug-in connections, convenient and reliable;
- ◆ 30A relays which could separately drive up to 1.5HP single phase compressor for the freezer or refrigerator, saving middle driver costs and installation labor cost, more convenient for installation.

### Specification:

- ◆ Product size: 210 \* 57 \* 84.2 (mm) (ECS-RF10)
- ◆ Product size: 180 \* 60.14 \* 84.2 (mm) (ECS-R12F12)
- ◆ Mounting size: 157 \* 39 (mm)

### Technical parameters:

- ◆ Power supply: (220±10%)VAC, 50/60Hz;
- ◆ Temperature measuring range: -50℃~90℃ (ECS-RF10);  
-40℃~70℃ (ECS-R12F12);  
ECS-R12F12
- ◆ Temperature accuracy: ±1℃ (-40℃~50℃);  
±2℃ (50℃~70℃), ±3℃ (others);
- ◆ Resolution: 1℃;
- ◆ Accuracy: -40℃~50℃, ±1℃, 50℃~70℃, ±2℃;
- ◆ Relay output for refrigerating: 30A/240VAC;
- ◆ Relay output for freezing: 30A/240VAC;
- ◆ Sensor type: NTC;
- ◆ Shell material: ABS Flame retardant plastic shell;
- ◆ Panel waterproof IP65.



ECS-R12F12



ECS-RF10

### Product naming regulations:

Model	Refrigerating cabinet							Freezing cabinet								
	Stalls and corresponding temperature							Temp. hysteresis	Stalls and corresponding temperature							Temp. hysteresis
	1	2	3	4	5	6	7		1	2	3	4	5	6	7	
ECS-R12F12	12	9	6	3	0	-3	-6	±2℃	-10	-12	-13	-14	-16	-18	-20	±2℃
ECS-R22F22	6	4	2	0	-1	-3	-6	±2℃	-12	-15	-17	-19	-21	-22	-23	±2℃
ECS-R32F32	6	5	4	3	2	1	0	±2℃	-6	-8	-10	-12	-14	-16	-18	±2℃
ECS-R42F42	6	4	2	0	-1	-3	-5	±2℃	-9	-10	-11	-13	-14	-16	-18	±2℃
ECS-R52F52	3	2	1	0	-1	-2	-4	±2℃	-10	-11	-12	-13	-14	-15	-16	±2℃

## Refulgence Series ECS-500



The product is widely used in beverage cabinets, showcases and kitchen cabinets.

### Main features:

- ◆ Copy card helps recover to valid setting immediately, which is convenient for production and after-sales maintenance.
- ◆ Menu can be hidden, which helps avoid misoperation.
- ◆ Double control of defrosting by refrigeration, temperature and time.
- ◆ Split design of display and control parts provides convenience for disassembly, maintenance and replacement.

### Technical parameters:

- ◆ Power supply: (220±10%)VAC, 50/60Hz;
- ◆ Overall power consumption: <3w;
- ◆ Temperature display and control range: -45~45℃;
- ◆ Temperature accuracy: ±1℃(±2°F);
- ◆ Ambient temperature: 0℃~55℃;
- ◆ Temperature resolution: 0.1℃/1℃;
- ◆ Relay output capacity:
- ◆ Compressor: > 30A/240V~, 50/60Hz (normal open);
- ◆ Defrosting: 10A/250V~, 50/60Hz (normal open);
- ◆ Fan: 10A/250V~, 50/60Hz (normal open);
- ◆ Light: 17A/250V~, 50/60Hz (normal open);
- ◆ Storage temperature: -25℃~75℃;
- ◆ Relative humidity: 20%~85% (non-condensing);
- ◆ Temperature resolution: 0.1℃/°F(-9.9~9.9); 1℃/2°F(others);
- ◆ Front panel waterproof level: IP65.

## LTC-15



The product is suitable for various direct cooling kitchen refrigerators, horizontal cabinets and freezers.

**Features and functions:**

- ◆ The temperature display panel is specially developed for machinery temperature controller refrigerators. Space is reserved for installing machinery temperature controllers. Quick installation with energy saving.
- ◆ It adopts temperature sensors of international famous brand with accurate resolution.
- ◆ Simple and elegant Integrated front panel.
- ◆ It has passed anti-interference tests of thunderstrike surge, electrostatic discharge, cyclic wave drop, etc. Its anti-interference level reaches industry standard level four.
- ◆ ABS flame retardant material is used for the shell and reaches the highest flame retardant rating V0.

**Specification:**

- ◆ Product size: 147.8 \* 39.8 \* 20.7 (mm)
- ◆ Mounting size: 137.8 \* 34.8 (mm)

**Technical parameters:**

- ◆ Power supply: (220±10%)VAC, 50/60Hz;
- ◆ Temperature measuring range: -50°C~99°C (default);
- ◆ Accuracy: ±1°C (-40°C~50°C); ±2°C (51°C~70°C); ±3°C (others);
- ◆ Resolution: 1°C;
- ◆ Overall power consumption: <3w;
- ◆ Ambient temperature: 0°C~55°C;
- ◆ Storage temperature: -25°C~75°C;
- ◆ Storage humidity: 20%~85% (non-condensing).

## LTC-2X+



The product is especially designed for refrigerant kitchen refrigerators, Refrigerant cabinets, direct-cooled and air-cooled kitchen cabinets, cake cabinets with stainless panel.

**Features and functions:**

- ◆ Temperature setting by wave-band switch knob, visual panel display, easy to operate;
- ◆ Flame retardant material, fully sealed rear shell, the front panel with polycarbonate material, water-proof level up to IP65;
- ◆ Relay output 30A, could drive single-phase compressor 1.5HP or lower, internal placed, convenient for user to install.

**Specification:**

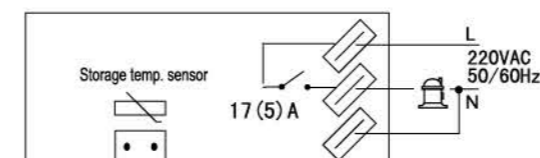
- ◆ Mounting size: 112 \* 39 (mm)
- ◆ Product size: 137 \* 56 \* 69 (mm)

**Technical parameters:**

- ◆ Power supply: (220±10%)VAC, 50/60Hz;
- ◆ Temperature measuring range: -40°C~90°C;  
(Different specification and series of controllers have different temperature controlling range);
- ◆ Resolution: 1°C;
- ◆ Accuracy: ±1°C;
- ◆ Compressor, off cycle defrost output contact capacity: 30A/240VAC (the max load can drive is 1.5HP);
- ◆ Sensor type: NTC, 2M;
- ◆ Temperature controlling level: 0-7 level (OFF means to switch off the controller);
- ◆ Shell: gray ABS flame retardant material.

**Accessories:**

1 probe, 1 operation instruction

**Wiring diagram:****Product naming regulations:**

	Digit 1	Digit 2
LTC	2:Non-defrosting function	0 10°C --5°C
		1 0°C --10°C
	3:Defrosting starts when compressor stops to work	2 4°C --15°C
		3 -2°C --18°C
		4 -8°C --25°C
		5 10°C --0°C
6 -6°C --16°C		

## “Integrated” Electronic Temperature Control Unit STC-1

As a breakthrough product, it can totally replace machinery temperature control products.



**It pushes digitization of the control system of beverage cabinets and horizontal cabinets. Foodstuff quality can be clearly shown.**

### Comparison of functions:



- **Higher accuracy of temperature control ( $\pm 1^{\circ}\text{C}$ );**
  - LED display, with clear view;
  - Automatic timing defrosting, more convenient;
  - Electronic temperature control system saves 20% energy;
  - Over-temperature alarm.

- **Lower accuracy of temperature control ( $\pm 3^{\circ}\text{C}$ );**
  - No display, or external display needs to be connected. Effect of display is not good.
  - Manual stop of compressor during defrosting;
    - Larger energy consumption;
    - Without any alarm indication.

**STC-1** Function > Machinery temperature control + Digital display  
Price < Machinery temperature control + Digital display

## Disinfection Cabinet Controller LTC-2000



LTC-2000

### Technical parameters:

- ◆ Power supply: (220 $\pm$ 10%)VAC, 50/60Hz;
- ◆ Temperature measuring range: -30 $^{\circ}\text{C}$ ~200 $^{\circ}\text{C}$ ;
- ◆ Temperature resolution: 1 $^{\circ}\text{C}$ ;
- ◆ Temperature accuracy:  $\pm 1^{\circ}\text{C}$ (0~150 $^{\circ}\text{C}$ );  $\pm 2^{\circ}\text{C}$ (others);
- ◆ Overall power consumption: <3w;
- ◆ Load output: 10A/240VAC;
- ◆ Ambient temperature: 0 $^{\circ}\text{C}$ ~55 $^{\circ}\text{C}$ ;
- ◆ Relative humidity: 20%~85% (non-condensing);
- ◆ Storage temperature: -25 $^{\circ}\text{C}$ ~75 $^{\circ}\text{C}$ .

### Features and functions:

Double screens that can display the set temperature and running time of disinfection cabinets; touch buttons; working mode set by one button; visual and simple operation.

## Milk Container Controller TC-08

### Features and functions:

The product is specially designed for milk containers to control compressor, stirring pump, cleaning pump and draining pump in temperature control mode of setting hysteresis error value. It has functions of adjustable compressor delay time, alarm, temperature calibration, etc.



TC-08

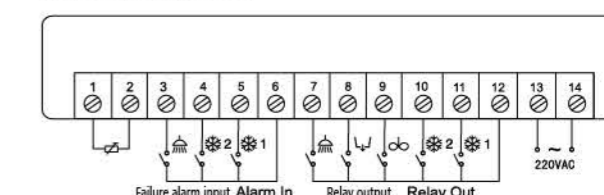
### Features and functions:

- ◆ Power supply: (220 $\pm$ 10%)VAC, 50/60Hz;
- ◆ Temperature measuring range: -10.0 $^{\circ}\text{C}$ ~70.0 $^{\circ}\text{C}$ ;
- ◆ Temperature resolution: 0.1 $^{\circ}\text{C}$ ;
- ◆ Temperature accuracy:  $\pm 1^{\circ}\text{C}$ (-10 $^{\circ}\text{C}$ ~50 $^{\circ}\text{C}$ );  $\pm 2^{\circ}\text{C}$ (50 $^{\circ}\text{C}$ ~70 $^{\circ}\text{C}$ );
- ◆ Temperature setting range: 0 $^{\circ}\text{C}$ ~25.0 $^{\circ}\text{C}$ ;
- ◆ Overall power consumption:  $\leq 4\text{W}$ ;
- ◆ Relay output (at most):
- ◆ Compressor 1: 10A/240VAC;
- ◆ Compressor 2: 10A/240VAC;
- ◆ Stirring: 10A/240VAC;
- ◆ Cleaning: 10A/240VAC;
- ◆ Draining: 10A/240VAC;
- ◆ Ambient temperature: 0 $^{\circ}\text{C}$ ~60 $^{\circ}\text{C}$ ;
- ◆ Ambient humidity: 20%~85% (non-condensing).

### Specification:

- ◆ Product size: 180.0 \* 100.0 \* 54.0 (mm)
- ◆ Mounting size: 169.5 \* 89.5 (mm)

### Wiring diagram:



# ETC-974

# ETC-961



The product is widely used in all kinds of cold storage, low-temperature freezers, and kitchen refrigerators.



### Main features:

- ◆ User friendly operation mode, convenient for customer to use or replace.
- ◆ Copy card helps users set the parameters quickly during batch production or after-sale service and highly saves time and cost.
- ◆ Flexible parameter setting: sensor NTC/PTC optional, switch between Celsius and Fahrenheit, switch between refrigeration and heating mode.

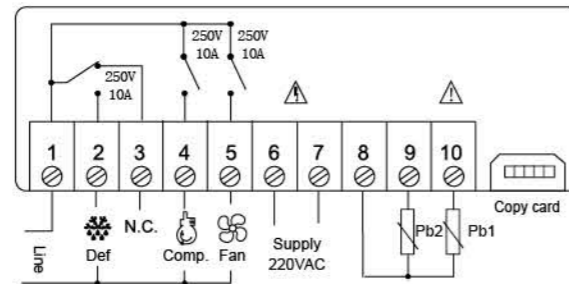
### Technical parameters:

- ◆ Temperature measuring range: NTC: -50~110°C (-58~230°F); PTC: -55~140°C (-67~284°F);
- ◆ Temperature controlling range: -5~55°C;
- ◆ Relay contact output capacity: 10A/250VAC;
- ◆ Working voltage: 230VAC±10%, 50/60Hz;
- ◆ Resolution: 1 or 0.1°C;
- ◆ Sensor: NTC (10KΩ/25°C, B value 3435K), PTC (990Ω/25°C).

### Accessories:

2 probes, 1 operation instruction, 2 elastic tabs.

### Wiring diagram:



The product is widely used in drinks cabinets, display cabinets and kitchen cabinets.



### Main features:

- ◆ Refrigeration and defrosting function;
- ◆ Copy card helps users set the parameters quickly during batch production or after-sale service and highly saves time and cost;
- ◆ Flexible parameter setting: sensor NTC/PTC optional.

### Specification:

- ◆ Machine dimensions: 77\*32\*58 (mm)
- ◆ Mounting dimensions: 71\*29 (mm)

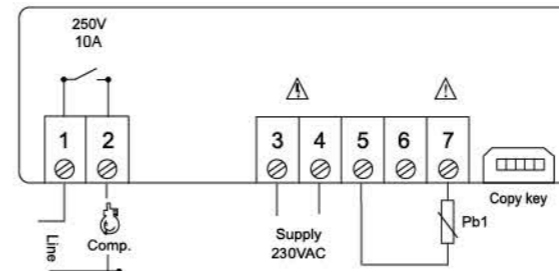
### Technical parameters:

- ◆ Operating voltage: 230VAC±10% 50/60Hz;
- ◆ Relay rated operating current: 8A/220VAC;
- ◆ Temperature control range: -50°C~99°C;
- ◆ Display resolution: 1°C/0.1°C (with integer and fractional switching mode);
- ◆ Temperature measurement accuracy: ±0.5°C (-15°C~-30°C), others, ±1°C;
- ◆ Sensor type: NTC (-50°C~120°C); PTC (-55°C~150°C).

### Accessories:

1 probe, 1 operation instruction, 2 elastic tabs

### Wiring diagram:



## ETC-902



The product is widely used in the beverage cabinets, display cases, kitchen cabinets, etc.

**Main features:**

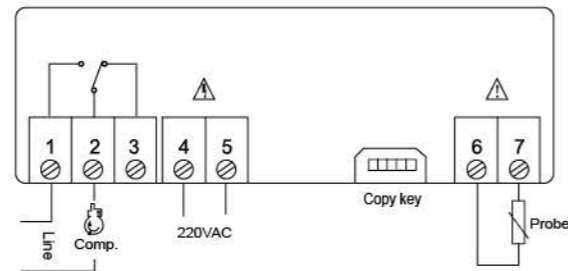
- ◆ User friendly operation mode, convenient for customer to use or replace.
- ◆ Copy card helps users set the parameters quickly during batch production or after-sale service and highly saves time and cost.
- ◆ Flexible parameter setting: sensor NTC/PTC optional, switch between Celsius and Fahrenheit, switch between refrigeration and heating mode.

**Technical parameters:**

- ◆ Working voltage: 230VAC±10%, 50/60Hz;
- ◆ Temperature controlling range: -50°C~99°C;
- ◆ Resolution: 1°C/0.1°C (switch between integer mode and decimal mode);
- ◆ Accuracy: ±0.5°C (-15°C~-30°C), others, ±1°C;
- ◆ Sensor type: NTC (-50°C~120°C); PTC (-50°C~150°C).

**Accessories:**

1 probe, 1 operation instruction, 2 elastic tabs

**Wiring diagram:**

## ETC-512B



The product is widely used in all kinds of cold storage and kitchen refrigerators.

**Main features:**

- ◆ Product operation meets the habit of the American users, convenient for customers to replace and use.
- ◆ Waterproof front panel, ensures normal running of the controller in the hot and humid environment.
- ◆ Forced defrosting function with one-touch operation prevents abnormal defrosting, keeping the normal running of the controller.
- ◆ Multilingual manual (English, Portuguese, Spanish).

**Basic function:**

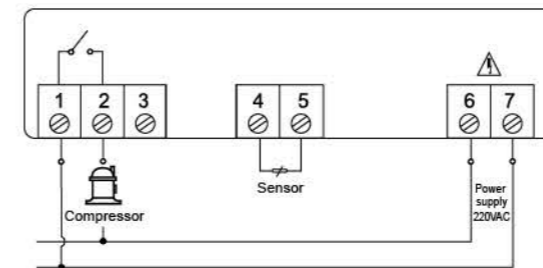
- ◆ Refrigeration and heating optional, relay output contact capacity 16A, can drive 1HP compressor
- ◆ Use NTC sensor, sensor wire 2m
- ◆ °C/°F optional
- ◆ Password lock
- ◆ Manual defrosting
- ◆ Alarm
- ◆ Power on/off function

**Technical parameters:**

- ◆ Power supply: 220V±10%;
- ◆ Temperature controlling range: -50°C~105°C;
- ◆ Relay capacity: 16A/250V;
- ◆ Working temperature: -10°C~60°C;
- ◆ Working humidity: 10~90%;
- ◆ Storage temperature: -20°C~70°C;
- ◆ Front panel: IP65.

**Accessories:**

- ◆ Hongfa relay
- ◆ Japan Shibaura sensor

**Wiring diagram:**

## STC-9600

The product is specially designed for medical refrigerators, vaccine cabinets, blood cabinets etc.



### Main features:

- ◆ Refrigerating, defrosting modes optional;
- ◆ Alarm in case of power failure (alarm output), standby battery supply;
- ◆ Door switch function, door open over time alarm;
- ◆ Return difference to control temperature;
- ◆ User menu and administrator menu setting separately;
- ◆ If sensor error occurs, compressor turns on/off in a proportional time mode.



### Specification:

- ◆ Mounting size: 71 \* 29 (mm)
- ◆ Products size: 74 \* 34.5 \* 85 (mm)

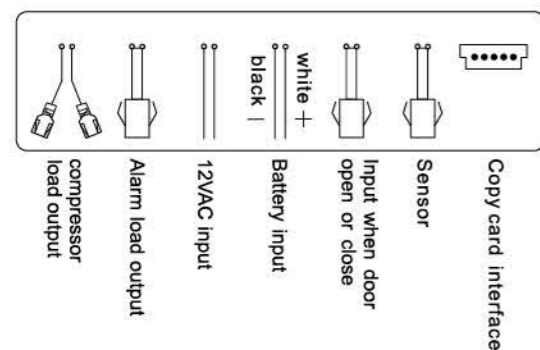
### Technical parameters:

- ◆ Power supply: 12VAC/DC;
- ◆ Temperature measuring range: -50~50°C;
- ◆ Temperature controlling range: -50~50°C;
- ◆ Resolution: 0.1;
- ◆ Accuracy: ±1°C;
- ◆ Compressor output contact capacity: 10A/220VAC;
- ◆ Alarm output contact capacity: 7A/220VAC;
- ◆ Sensor type: NTC, 2M;
- ◆ Shell: gray ABS flame retardant material.

### Accessories:

1 probe, 1 operation instruction, 2 elastic tabs.

### Wiring diagram:



### Administrator menu:

Menu level	Menu item	Parameter range	Default	Working mode	
User menu	F01	Temperature lower limit-temperature upper limit	-5°C	Set temperature parameter value	
	F02	1°C-25°C	2°C	Return difference value	
	F03	F01-50°C	+20°C	Temperature upper setting value	
	F04	-50°C-F01	-20°C	Temperature lower setting value	
	F05	0min-50mins	3	Compressor delay time	
	F06	0-1 (0: alarm when the door open; 1: alarm when the door close)	0	The effective alarm mode when the door open or close	
	F07	0min-120mins	3	Alarm delay when door close or open	
	F08	0s-255s	30	Alarm delay when power off	
	F09	Temperature lower limit -50°C	50°C	Exceeding temperature upper limit alarm value	
	F10	-50°C-temperature upper limit	-50	Exceeding temperature upper limit alarm value	
	F11	0-99mins	15	Temperature alarm delay	
Administrator menu	F12	0-2 (0: not activated 1: alarm relay functions same as buzzer 2: alarm can't be canceled)	1	Alarm relay working mode	
	F13	-10°C~+10.0°C	0	Temperature calibration	
	F14	0-255	45	Compressor stop time when sensor error	
	F15	0-255	15	Compressor start up time when sensor error	
	F16	0-255	180	Alarm delay time when power off	
	F17	0-255 hour	6	Defrost cycle	
	F18	0-255 mins	30mins	Defrost duration	
	F19	0-50°C	6°C	Defrost storage temperature termination temp. value	
	F20	0: regular working time			
		1: compressor accumulated working time			

## MTC-6050/6060

The product is widely used in cool cabinets, medical cabinets, foodstuff cold storage, agricultural greenhouses, medicine cold storage, etc.



### Features and functions:

- ◆ Besides common temperature control, it possesses functions of dehumidifying and temperature compensation, heating, etc;
- ◆ Defrosting function is added based on functions of MTC-6050. Optional functions: defrosting by shutting down compressor, heating defrosting;
- ◆ It adopts Honeywell high accuracy sensor with full range accuracy up to 5%RH so that humidity can be controlled accurately;
- ◆ It is in complete conformity with GSP medical standard and equipped with door switch alarm, over temperature / humidity limit alarm;
- ◆ Temperature and humidity information is displayed separately in two screens. Simple operation, no menu!



MTC-6050

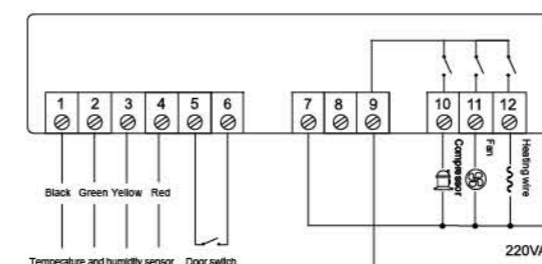
### Technical parameters:

- ◆ Power supply: 230VAC+10%;
- ◆ Output capacity: Refrigeration: 16A/250VAC; Fan: 7A/250VAC; Heating relay: 7A/250VAC;
- ◆ Temperature measuring range: -40°C~80°C (only when sensor calibration value is set as 0);
- ◆ Temperature control range: -50°C~50°C;
- ◆ Temperature resolution: 0.1°C;
- ◆ Temperature accuracy: ±0.5°C (0°C~40°C); ±1°C (others);
- ◆ Humidity measuring range: 0~100%RH, ±5%RH;
- ◆ Humidity accuracy: 1%RH.



MTC-6060

### Wiring diagram:



MEC-SY1 MEC-SY2 MEC-SY3



The product is widely used in cool cabinets, medicine cabinets, etc.



MEC-SY1

**MEC-SY1:**

**Technical parameters:**

- ◆ Power supply: 220-240VAC, 50/60HZ;
- ◆ Ambient temperature: -20°C~60°C;
- ◆ Temperature measuring range: -50~90°C;
- ◆ Temperature resolution: 0.1°C (Min);
- ◆ Temperature accuracy: ±0.5°C (0°C~40°C);  
±1°C (0°C~20°C, 40°C~70°C);  
±2°C (-20°C~-50°C, 70°C~90°C);
- ◆ Compressor relay contact capacity: 16A;
- ◆ Fan relay contact capacity: 8A;
- ◆ Heating wire relay: 8A.



MEC-SY2

**MEC-SY2 MEC-SY3:**

**Technical parameters:**

- ◆ Power supply: 220-240VAC, 50/60HZ;
- ◆ Ambient temperature: -20°C~60°C;
- ◆ Temperature measuring range: -50~90°C;
- ◆ Temperature resolution: 0.1°C (Min);
- ◆ Temperature measuring accuracy: ±0.5°C (0°C~40°C);  
±1°C (0°C~20°C, 40°C~70°C);  
±2°C (-20°C~-50°C, 70°C~90°C);
- ◆ Compressor relay contact capacity: 16A;
- ◆ Heating wire relay: 16A.



MEC-SY3

MEC-1000 MEC-H8



MEC-1000

The product is mainly used for temperature/humidity measurement, control and record in medical refrigerators.

**Features and functions:**

- ◆ Equipped with Honeywell sensors of high accuracy—5%RH
- ◆ Power outage alarm function—continuously display and record data for 36 hours after power outage to ensure real time record and monitoring of medicine temperature/humidity;
- ◆ Download data via USB—directly download data from front panel via USB interface; convenient to read and view data;
- ◆ Cooling, defrosting with compressor shutdown, fan and heating functions.

**Specification:**

- ◆ Product size: 220 \* 33 \* 50 (mm)

**Technical parameters:**

- ◆ Power supply: 230VAC±10%, 50/60HZ;
- ◆ Overall power consumption: < 2VA;
- ◆ Temperature measuring range: -40~90°C;
- ◆ Temperature accuracy: ±0.3°C (0~60°C), ±1°C (others);
- ◆ Humidity measuring range: 0~100%RH;
- ◆ Humidity accuracy: ±2%RH (20~80%RH),  
±3%RH (others);
- ◆ Working condition: -20~60°C, humidity 20%~80%RH,  
non-condensing;
- ◆ Storage condition: 30~70°C, humidity 20%~80%RH,  
non-condensing;
- ◆ Ambient temperature: -20°C~60°C;
- ◆ Overall power consumption: <2VA



MEC-H8

The product is mainly used for temperature / humidity detection, control and record of medical refrigerating cabinets, such as refrigerators, cool cabinets, etc.

**Features and functions:**

- ◆ It can meet the needs of cool cabinets with accuracy up to 5%RH when humidity is 30%RH-90%RH.
- ◆ It has functions of cooling, heating, fan, defrosting by shutting down compressor, etc.
- ◆ Record function is optional. Data can be downloaded via USB. It is easy to read and view.

**Specification:**

- ◆ Product size: 178 \* 48 \* 86 (mm)
- ◆ Mounting size: 157 \* 39 \* 80 (mm)

**Technical parameters:**

- ◆ Power supply: 230VAC+10%, 50/60HZ;
- ◆ Temperature measuring range: -40°C~99°C;
- ◆ Temperature accuracy: ±0.3°C (0°C~60°C); ±1°C (others);
- ◆ Humidity measuring range: 0~99.9%RH;
- ◆ Humidity accuracy: ±3%RH (20~80%RH); ±5%RH (others);
- ◆ Ambient temperature: -20~60°C;  
humidity: 20%RH~90%RH (non-condensing);
- ◆ Storage temperature: -30~70°C;  
humidity: 20%RH~90%RH (non-condensing);
- ◆ Overall power consumption: <8VA;
- ◆ Installation: snap-in type.

## BCD-1 BCD-2



BCD-1



Double cabinet temperature BCD-2



Three cabinet temperature BCD-2

The product is widely used in the single-system and three-chamber household refrigerators.

**Main features:**

- ◆ Large panel displays, attractive appearance;
- ◆ Intelligent mode with a key, simple operation;
- ◆ Automatic defrosting shutdown function.

**Technical parameters:**

- ◆ Temperature measuring range:  $-40^{\circ}\text{C}\sim 40^{\circ}\text{C}$ ;
- ◆ Operating temperature:  $-20^{\circ}\text{C}\sim 55^{\circ}\text{C}$ ;
- ◆ Storage temperature:  $-30^{\circ}\text{C}\sim 60^{\circ}\text{C}$ ;
- ◆ Display Resolution:  $1^{\circ}\text{C}$ ;
- ◆ Measurement Accuracy:  $\pm 1^{\circ}\text{C}$ ;
- ◆ Power supply voltage:  $(220\pm 10\%)$ VAC, 50/60Hz;
- ◆ Relay electrical properties: normally open output, 10A/277VAC;

The product is widely applicable to a single system of three-chamber household refrigerators

**Main features:**

- ◆ White LED display penetrate different tempered glass;
- ◆ Touch the button can operate in wet condition;
- ◆ Accuracy up to  $0.1^{\circ}\text{C}$ ;
- ◆ One key Intelligent mode, simple operation;

**Technical parameters:**

- ◆ Temperature measuring range:  $-40^{\circ}\text{C}\sim 40^{\circ}\text{C}$ ;
- ◆ Operating temperature:  $-20^{\circ}\text{C}\sim 55^{\circ}\text{C}$ ;
- ◆ Storage temperature:  $-30^{\circ}\text{C}\sim 60^{\circ}\text{C}$ ;
- ◆ Display resolution:  $1^{\circ}\text{C}$ ;
- ◆ Measurement accuracy:  $\pm 1^{\circ}\text{C}$ ;
- ◆ Power supply voltage:  $(220\pm 10\%)$ VAC, 50/60Hz;
- ◆ Relay electrical properties: normally open output, 10A/277VAC

## Constant Voltage / Constant Current LED Power Supply

The product is widely used in beverage cabinets, showcases and cake showcases.

**Main features:**

- ◆ Energy saving and environment friendly; more than 80% energy saving compared with traditional light sources with same light effects;
- ◆ More than 50000 hours service life;
- ◆ Electrical surge test reaches industry standard level four, stable and reliable performance;
- ◆ Waterproof and dustproof, high waterproof level can meet the requirements of operating environment of commercial refrigerators.
- ◆ Match different powers; with complete range of specifications; 35W/25W/15W/8W mainstream configuration.

**Parameters (constant voltage):**

- ◆ Power input
  - Rated input voltage: 100VAC~242VAC;
  - Input voltage range: 90VAC~264VAC;
  - Power frequency range: 47Hz~63Hz;
  - Max no-load loss:  $\leq 1\text{W}$ ;
  - Full load transfer efficiency:  $\geq 75\%$ (220VAC).
- ◆ Working condition
  - Ambient temperature:  $-10^{\circ}\text{C}\sim 55^{\circ}\text{C}$ ;
  - Ambient humidity: 10%~90%RH (non-condensing);
  - Storage temperature:  $-25^{\circ}\text{C}\sim 75^{\circ}\text{C}$ ;
  - Storage humidity: 10%~90%RH (non-condensing).

**Parameters (constant current):**

- ◆ Power input
  - Rated input voltage: 100VAC~240VAC;
  - Input voltage range: 90VAC~264VAC;
  - Power frequency range: 47Hz~63Hz;
  - Max no-load loss:  $\leq 1\text{W}$ ;
  - Full load transfer efficiency:  $\geq 80\%$ (110VAC/220VAC);
  - Full load power factor:  $\geq 0.9$ (110VAC/220VAC).
- ◆ Working condition
  - Ambient temperature:  $-10^{\circ}\text{C}\sim 55^{\circ}\text{C}$ ;
  - Ambient humidity: 10%~90%RH (non-condensing);
  - Storage temperature:  $-25^{\circ}\text{C}\sim 75^{\circ}\text{C}$ ;
  - Storage humidity: 10%~90%RH (non-condensing).

**Constant voltage:**

Serial No.	Model	Rated output power	Rated output voltage	Rated output current	Output ripple	Full load conversion efficiency	Input voltage range	Full load power factor	Short circuit protection	Short circuit protection				
1	ledD-B-12Vdc-8W	8W	12V	0.7A	$\leq 5\%$	$\geq 75\%$	185Vac~264Vac	$\geq 0.9$	Short circuit protection: auto recovery to running after troubleshooting.	Open circuit protection: auto recovery to running after troubleshooting.				
2	ledD-B-12Vdc-15W	15W		1.3A		$\geq 80\%$								
3	ledD-B-12Vdc-25W	25W		2.1A		$\geq 75\%$								
4	ledD-B-12Vdc-35W	35W		3.0A		$\geq 80\%$								
5	ledD-B-24Vdc-8W	8W	24V	0.35A	$\leq 5\%$	185Vac~264Vac					$\geq 0.9$	Short circuit protection: auto recovery to running after troubleshooting.	Open circuit protection: auto recovery to running after troubleshooting.	
6	ledD-B-24Vdc-15W	15W		0.65A										$\geq 75\%$
7	ledD-B-24Vdc-25W	25W		1.05A										$\geq 80\%$
8	ledD-B-24Vdc-35W	35W		1.5A										$\geq 80\%$

**Constant current:**

SerialNo.	Model	Rated output power	Rated output voltage	The output voltage range	Output ripple	Full load conversion efficiency	Input voltage range	Full load power factor	Short circuit protection	Short circuit protection
1	ledD-B-320mA-15W	15W	320mA	20~40V	$\leq 2.5\%$	$\geq 80\%$	90Vac~264Vac	$\geq 0.9$	Short circuit protection: auto recovery to running after troubleshooting.	Open circuit protection: auto recovery to running after troubleshooting.
2	ledD-B-320mA-25W	25W	320mA	40~70V	$\leq 2.5\%$	$\geq 80\%$				
3	ledD-B-1050mA-15W	15W	1050mA	12~16V	$\leq 15\%$	$\geq 75\%$				

## Pressure Transmitter

The product is widely used in various refrigerating units.

### Features and functions:

- ◆Germany ceramic chip: special ceramic material, solid ceramic sensitive diaphragm, with strong output signals and long term stability;
- ◆Pressure chips specialized for refrigeration systems; anti-corrosion, shock resistance, good performance of strong anti-corrosion to refrigerant; they are completely meet the vibration and shock requirements of refrigerating units, more stable and reliable performance;
- ◆Interior sealing compound technology, high level of protection, full consideration of application environment of refrigerating systems; interior sealing treatment can effectively avoid ship and circuit failure caused by condensation by inner negative pressure;
- ◆Anti-interference design ensures stabler output signals; it has passed anti-interference tests, such as electromagnetic radiation, electromagnetic radiation sensitivity, electrostatic discharge, etc. so it can run stably and reliably under harsh electromagnetic conditions, thus avoiding distortion or loss of measured information caused by interference signals generated by refrigerating unit motor;
- ◆Auto tuning and digital compensation technology helps effectively restrain errors caused by temperature drift, so the product is highly accurate and stable.

### Technical parameters:

- ◆Power supply: 24(8~36)VDC;
- ◆Pressure span:
  - PA-1000-FS3-A-X1: -1~16 bar;
  - PA-1001-FS3-A-X1: -1~40 bar 1MPa=10bar;
- ◆Overload pressure: 1.5 times rated pressure (1.5X);
- ◆Breakdown pressure: 3 times rated pressure (3X);
- ◆Accuracy:  $\pm 0.5\%$  F.S.(10~30°C); Max:  $\pm 1\%$  F.S.(0~65°C);
- ◆Operating temperature: -40°C~80°C;
- ◆Compatible medium: all the corrosive medium that is compatible with 1Cr18Ni9Ti and ceramics;
- ◆Output signal: 4~20mA;
- ◆Vibration/shock: 10g/5~2000Hz, axes X/Y/Z20g sine 11ms;
- ◆Electromagnetic compatibility:
  - electromagnetic radiation: EN50081-1/-2;
  - electromagnetic sensitivity: EN50082-2.

Type	Span	Accuracy	Voltage range
PA-1000-FS3-X1	-1~16 bar	1%	8~36VDC
PA-1001-FS3-X1	-1~40 bar		
PA-1002-FS3-X1	-0.5~11bar		
PA-1003-FS3-X1	-0.5~11bar		
PA-1004-FS3-X1	0~30bar		
PA-1005-FS3-X1	0~30bar		
PA-1006-FS3-X1	-0.5~7bar		



## CPK-30 Quick Freezer Sensor

The structure is mainly designed to avoid front and upper splash with waterproof level: IPX4.

It supports Refulgence Series products, etc. to prevent the rear part of temperature controllers from being flooded by splash and condensate water in refrigerator cleaning. It is aimed to improve the overall waterproof level of controllers so as to reduce customers' after-sales service cost.



Waterproof rear shell CPK-30 for Refulgence Series controllers

### Application:

The product is widely used in quick freezers.

### Features and functions:

- ◆Food contact materials, energy saving and environment friendly;
- ◆Easy installation, drawing resistance, bending resistance;
- ◆Plug-in probe can reach inside of goods;
- ◆Quick and accurate temperature sensing.



Quick Freezer Sensor

## TPM-10 TPM-10F TPM-30 TPM-910+/920



Draw-type Thermometer  
TPM-10

**Features and functions:**

- ◆Drawer-type structure provides users more convenience to change and use the battery by drawing the battery compartment.
- ◆High accuracy sensor is more stable and recognized by the market.
- ◆It passes CE and ROHS certifications, so it is safe and reliable.

**Specification:**

- ◆Product size: 58.4 \* 25.7 (mm)
- ◆Mounting size: 64 \* 31 (mm)

**Technical parameters:**

- ◆Power supply: 220VAC±10%, 50/60HZ;
- ◆Temperature measuring range: -50°C~80°C;
- ◆Resolution: 0.1°C(<100°C); 1°C(≥100°C);
- ◆Accuracy: ±1°C(-20°C~70°C), others, ±2°C.



TPM-10F

**Functions:**

Simple style, beautiful, LCD display screen, damp-proof, anti-interference. Suitable for all kinds of refrigerant equipments such as refrigerant cabinet, display cabinet and so on.

**Specification:**

- ◆Mounting size: 46.2\* 26.7 (mm)
- ◆Product size: 48 \* 28.5 \* 16 (mm)

**Technical parameters:**

- ◆Power supply: two button batteries (LR44, 1.5V);
- ◆Temperature measuring range: -50°C~70°C;
- ◆Resolution: 0.1 (TPM-10F), 1 (TPM-10AE);
- ◆Accuracy: ±1°C(-20°C~70°C), others, ±2°C;
- ◆Sensor: NTC.



TPM-30

**Functions:**

LCD display screen, pre-positive battery door for easy installation. Suitable for all kinds of refrigerant equipments such as refrigerant cabinet, display cabinet and so on.

**Specification:**

- ◆Mounting size: 59.5(W) \* 25(H) (mm)
- ◆Product size: 62.5(W) \* 29.5 (H) \* 19 (D) (mm)

**Technical parameters:**

- ◆Power supply: one button battery (LR44, 1.5V);
- ◆Temperature measuring range: -50°C~70°C;
- ◆Resolution: 0.1 (> -20°C), 1 (≤-20°C);
- ◆Accuracy: ±1°C(-20°C~70°C), others, ±2°C;
- ◆Sensor: NTC.



TPM-910+/920

**Functions:**

LED display, with simple and elegant appearance, whole waterproof design. Suitable for refrigerant cabinet and display cabinet etc.

**Specification:**

- ◆Mounting size: 58.4 \* 25.7 (mm)
- ◆Product size: 64 \* 31 (mm)

**Technical parameters:**

- ◆Power supply: 220VAC±10%, 50/60HZ;
- ◆Temperature measuring range: -30°C~110°C;
- ◆Resolution: 0.1 (<100°C), 1 (≥100°C);
- ◆Accuracy: ±1°C.

## TPM-60 DST-30 DST-31

**Features and functions:**

- ◆LCD backlight display, transparent front panel, more visual, stylish and convenient;
- ◆Integral waterproof and dustproof design, suitable for different environment;
- ◆220V power supply is connected with probe wire in plug-in type. Operation is more convenient and secure;
- ◆Celsius/Fahrenheit switch jumper is reserved inside, more customized and suitable for global clients from different areas.

**Specification:**

- ◆Product size: 64 \* 31 \* 40 (mm)
- ◆Hole size: 58.4 \* 25.7 (mm)

**Technical parameters:**

- ◆Power supply: 220VAC±10%, 50HZ;
- ◆Overall power consumption: <3w;
- ◆Ambient temperature: 0°C~60°C;
- ◆Temperature measuring range: -40°C~120°C;
- ◆Resolution: 0.1°C;
- ◆Temperature measuring accuracy: ±0.5°C (-40°C~80°C); ±1°C (80°C~120°C);
- ◆Relative humidity: 20%~85% (non-condensing);
- ◆Waterproof level: IP65.



TPM-60

**Functions:**

Solar energy power supply, easy operation, big LCD display screen, small size, waterproof design. Suitable for various refrigerant equipments such as refrigerant cabinet and display cabinet.

**Specification:**

- ◆Mounting size: 59.5(W) \* 26(H) (mm)
- ◆Product size: 66(W) \* 30 (H) \* 11.6 (D) (mm)

**Technical parameters:**

- ◆Power supply: solar battery panel;
- ◆Temperature measuring range: -50°C~150°C;
- (when temperature >80°C or <-20°C, need to comtomize sensor wire);
- ◆Resolution: 0.1°C;
- ◆Accuracy: ±1°C;
- ◆Operation environment: illumination level≥100Lux, humidity: 5%~85%RH, temperature: -10°C~45°C;
- ◆Sensor: NTC.



DST-30

The product adopts solar power, with no need to replace battery, so it is more convenient. When equipped with a balancing battery, the product can display temperature on special occasions so as to cover the shortage of solar power.

**Specification:**

- ◆Product size: 66 \* 30 \* 6.5 (mm)
- ◆Sensor wire length: 1m

**Technical parameters:**

- ◆Temperature measuring range: -20°C~40°C(by inner and outer probes);
- ◆Resolution: 0.1°C;
- ◆Accuracy: ±2°C(-20°C~-18°C) minus deviation 5°C;
- ±2°C(-18°C~-15°C) minus deviation 4°C;
- ±1°C(-15°C~+5°C) minus deviation 4°C;
- ±2°C(+5°C~+20°C) minus deviation 4°C;
- ±2°C(+20°C~+30°C) minus deviation 4°C;
- ±2°C(+30°C~+40°C) minus deviation 8°C;

- ◆Power supply: solar battery and CR2032 battery;
- ◆Ambient temperature: 0°C~55°C;
- ◆Storage temperature: -10°C~60°C;
- ◆Water-proof level: IP65 (the overall product, not including probe wire connector);
- ◆Illumination grade: work normally under 100LUX in case of removing backup battery.



DST-31

## Molded Electric Control Box

Modularized Design Free Extension

ECB-2010/2020/2030



The product is applied to small and medium size refrigerated storage and freezers and suitable for automatic control of refrigerating units.

### Functions and features:

- ◆ The first molded electric control box with modularized plastic case of combined type; large display panel, touch buttons; stylish with strong sense of science and technology;
- ◆ Innovative combined design allows free infinite expansion of control units, easy upgrading of functions and quick response to clients' customized demands;
- ◆ Specially designed for 3.8KW/5.5KW/7.5KW refrigerating unit control systems. Centralized control of all the units, including compressor, fan, defrosting, light and alarm;
- ◆ Molded case made of ABS flame retardant material, more simple and elegant appearance. Compared with metal box, it has better insulating property, so it is more reliable and secure;
- ◆ Equipped with RS-485 communication interface, which communicates with PLC devices, etc. Upper computer software can be used to monitor the cold storage centrally;
- ◆ With functions of current display, overload, phase loss, three-phase imbalance, phase sequence protection, and high/low voltage alarm;
- ◆ The non-business hour mode helps to save energy at night. Business hour mode can be set via the clock, reducing energy consumption of cold storage.



ECB-2010  
Only cooling



ECB-2020  
Cooling, defrosting



ECB-2030  
Cooling, defrosting, fan

## ECB-1000P/Q

### Functions and features:

Temperature measurement, display and control; relay control output for cooling or heating; timed defrost function; manual power on/off function; temperature sensor failure alarm.

### Specification:

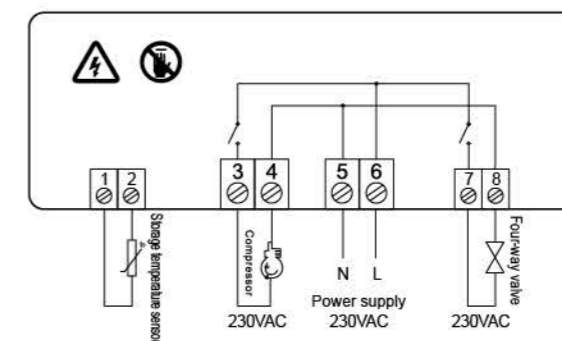
- ◆ Product size: 250 \* 350 \* 150 (mm)

### Technical parameters:

- ◆ Power supply: 220VAC ± 10%, 50/60Hz;
- ◆ Power consumption: < 5W;
- ◆ Measuring temperature range: -50°C~99°C;
- ◆ Accuracy: ±1°C;
- ◆ Temperature control range: -40°C~99°C;
- ◆ Temperature resolution: 0.1°C;
- ◆ Relay contact output capacity: compressor 5HP/230VAC (MAX);  
Four-way valve 5A/220VAC;
- ◆ Storage Temperature: -30°C~75°C;
- ◆ Ambient temperature: -10°C~60°C;
- ◆ One way alarm output: buzzer;
- ◆ Sensor type: NTC (10KQ/25°C, B value 3435K)



### Wiring diagram:



## Innovative Product with Huge Difference

ECB-100/200/300

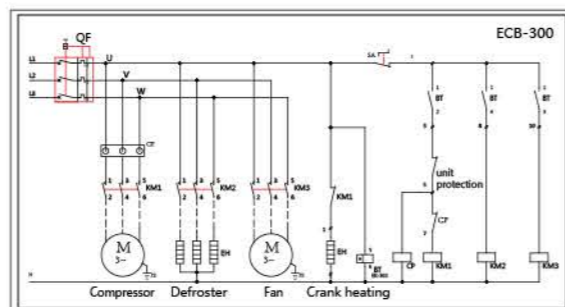
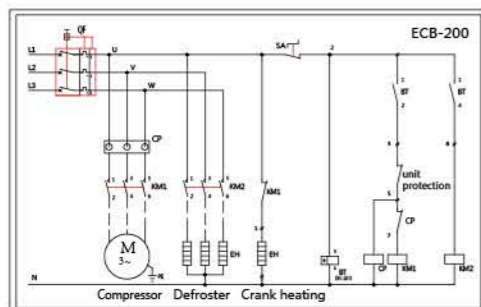
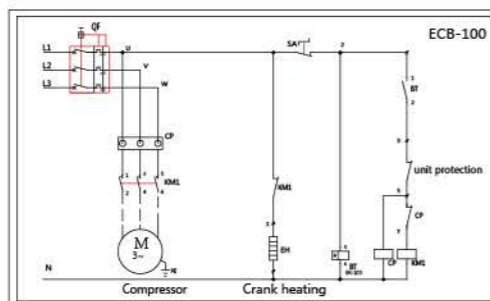


The product is applied to refrigerating system control of various refrigerating storage, freezers and quick freezers.

### Functions and features:

- ◆ 6 inch panel, touch control, centralized display of refrigerating unit status, including cooling, defrosting, fan, etc. No additional LED light but more visual and simple display effect.
- ◆ Touch buttons, unibody front panel of injection moulding, high level of protection, waterproof and dustproof, longer service life, with more stable and reliable performance.
- ◆ Orderly internal wiring, simple and artistic appearance. Electrostatic coating technology benefits the box with wear resistance and anti-corrosion.
- ◆ By separation of strong and weak current, control circuit can be assembled directly inside the case, thus avoiding looseness or dropout of strong current lines caused by repeated open or shut of the door, so the controller is more reliable and secure.
- ◆ ECB-100: Only cooling  
ECB-300: Cooling, defrosting  
ECB-200: Cooling, defrosting, fan

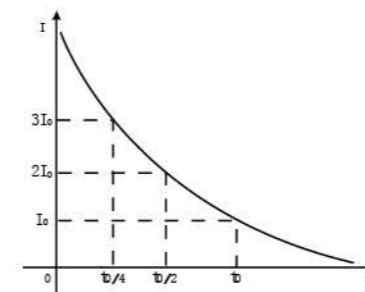
### Wiring diagrams:



## ECB-3010/3021/3030

### Functions and features:

- ◆ The product adopts CP-6000 current protector with inverse time limit protection.  
When compressor is running, it can adjust protection time automatically based on overcurrent to realize real overcurrent protection.



- ◆ Phase loss protection, phase order protection and three-phase imbalance protection.
- ◆ It adopts EK series temperature controller of touch control type with six touch buttons, no menu operation helps end users free of fussy parameter settings.
- ◆ ECB-3010: Only cooling  
ECB-3021: Cooling, defrosting  
ECB-3030: Cooling, defrosting, fan



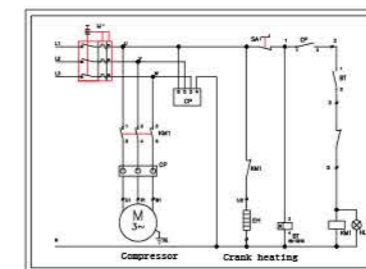
### Specification:

- ◆ Product size: 250 \* 350 \* 150 (mm)

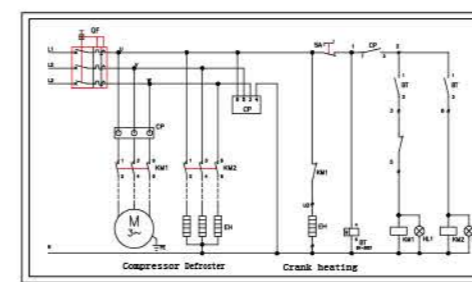
### Technical parameters:

- ◆ Temperature measuring range: -40°C~99°C
- ◆ Temperature accuracy: ±1°C±0.5digit (-40°C~80°C); ±2°C±0.5digit (others)
- ◆ Compressor delay protection time: 1~10 min adjustable
- ◆ Max constant output current of compressor loop: 10A, 22A, 30A

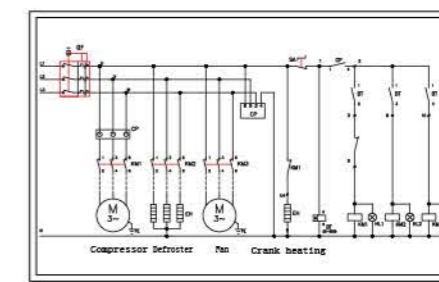
### Wiring diagrams:



ECB-3010



ECB-3021



ECB-3030

## ECB-5060

**Functions and features:**

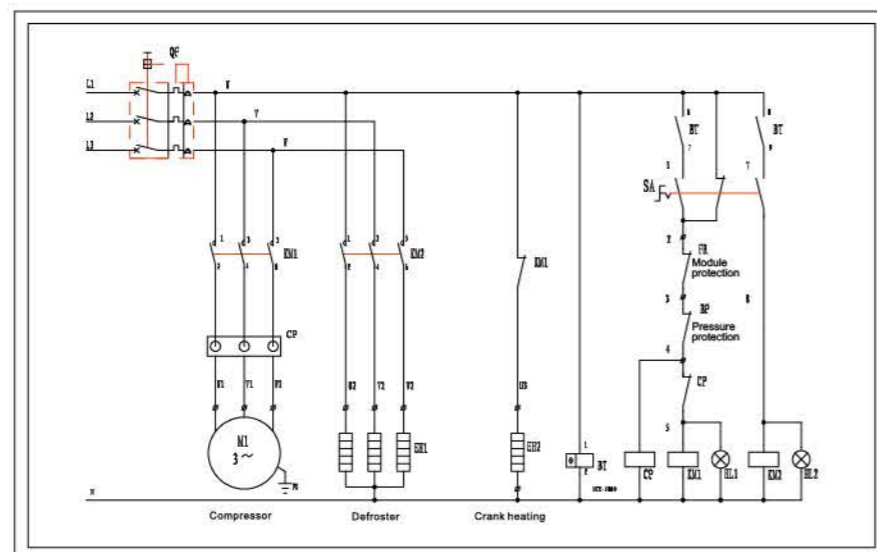
ECB-5060 is specially designed for refrigerating units. Doublescreens display both the current temperature and setting temperature; measuring temperature by double sensors; manage and control compressor and defroster separately; auto and manual control optional; defrosting over temperature protection; when sensor error occurs, compressor turns on/off with proportional time; easy operation and visual display, stable and reliable performance.

**Specification:**

Product size: 300\*400\*150 (mm)

**Technical parameters:**

- ◆ Power supply: Three-phase five-wire (or three-phase four-wire), 380 VAC  $\pm 10\%$ , 50Hz;
- ◆ Temperature measuring and controlling range:  $-50^{\circ}\text{C} \sim +50^{\circ}\text{C}$ ;
- ◆ Accuracy:  $\pm 1^{\circ}\text{C}$ ;
- ◆ Resolution: 0.1;
- ◆ Compressor start-up delay protection time: 0~120 min (adjustable);
- ◆ Max. capacity of controlling the compressor: 11kw;
- ◆ Max. capacity of controlling the defroster: 11kw.

**Wiring diagram:**

## ECB-5080

**Functions and features:**

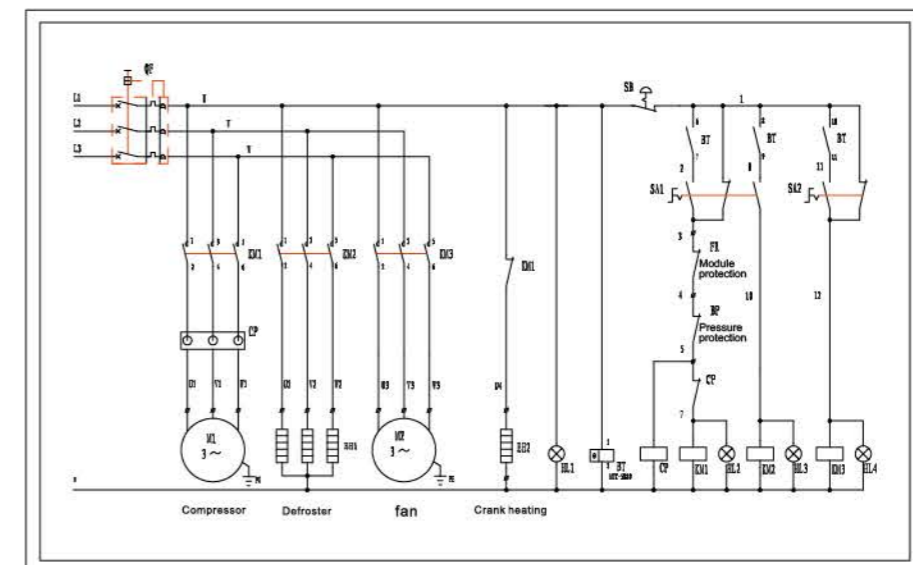
ECB-5080 is specially designed for refrigerating units. Double screens display both the current temperature and setting temperature; measuring temperature by double sensors; manage and control compressor, defroster and fan separately; auto and manual control optional; defrosting over temperature protection; when sensor error occurs, compressor turns on/off with proportional time; easy operation and visual display, stable and reliable performance.

**Specification:**

Product size: 300\*420\*150 (mm)

**Technical parameters:**

- ◆ Power supply: three-phase five-wire (or three-phase four-wire), 380 VAC  $\pm 10\%$ , 50Hz;
- ◆ Temperature measuring and controlling range:  $-50^{\circ}\text{C} \sim +50^{\circ}\text{C}$ ;
- ◆ Accuracy:  $\pm 1^{\circ}\text{C}$ ;
- ◆ Resolution: 0.1;
- ◆ Compressor start-up delay protection time: 0~120 min (Adjustable);
- ◆ Compressor control Max. capacity: 11kw (Max);
- ◆ Fan control Max. capacity: 4kw (Max);
- ◆ Defrosting control Max. capacity: 11kw (Max).

**Wiring diagram:**

## Bitzer Dedicated Electronic Control Box



### Proprietary protection:

- ◆ Start-up frequency protection - users start frequency, running time settings to prevent the compressor starting frequently, to improve the service life of the compressor.
- ◆ Compressor overheating protection - prevent compressor failure, resulting in motor temperature is too high, to avoid burn.
- ◆ Exhaust temperature protection - to prevent the exhaust temperature is too high, resulting in frozen oil temperature carbonization. (Protection temperature can be set according to customer needs)

### Easy operation:

- ◆ No menu, easy to use.
- ◆ Using dual displays, current temperature setting is displayed, easy and intuitive.
- ◆ Large panel displays various working conditions, clear and visual, easy fault diagnosis and quick repair.

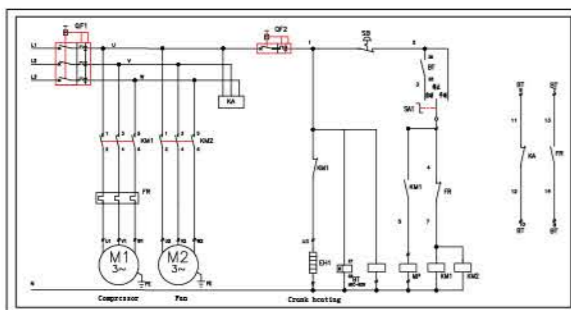
### Specification:

- ◆ Product size: 400\*550\*180 (mm)

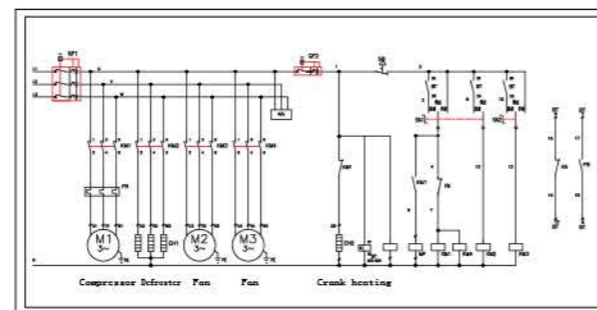
### Technical parameters:

- ◆ Power supply: Three-phase five-wire (or three-phase four-wire), 380 VAC  $\pm$  10%, 50Hz;
- ◆ Temperature measuring and controlling range:  $-50^{\circ}\text{C}\sim 50^{\circ}\text{C}$  ;
- ◆ Accuracy:  $\pm 1^{\circ}\text{C}$  ;
- ◆ Resolution: 0.1;
- ◆ Compressor start-up delay protection time: 0~120 min (Adjustable);
- ◆ Compressor control Max capacity: 7.5kw(Max);
- ◆ Fan control Max capacity: 3kw(Max);
- ◆ Defrost control Max capacity: 11kw(Max).

### Wiring diagrams:



ECB-BZR-101



ECB-BZR-301

## Care for Your Life Everyday! JC-200 Formaldehyde Detector



### Functions and features:

- ◆ DART formaldehyde sensor from the UK can provide accurate data;
- ◆ Patent algorithm, the first of its kind in the industry, automatic refresh and reset;
- ◆ Big LCD screen, simple and convenient touch operation;
- ◆ Certified by national certification organizations;
- ◆ Conform to EU ROHS standard.

### Specifications:

- ◆ Mainframe weight: 245g
- ◆ Product size: 156 \* 83 \* 81 (mm)

### Technical parameters:

- ◆ Battery charging: 5V~1000mA;
- ◆ Temperature range:  $10\sim 40^{\circ}\text{C}$  ;
- ◆ Humidity range: 15~90%RH;
- ◆ Atmospheric pressure: 1 standard atmospheric pressure;
- ◆ Measuring range:  $0\sim 3\text{mg}/\text{m}^3$ ;
- ◆ Resolution:  $0.001\text{mg}/\text{m}^3$ ;
- ◆ Temperature measuring range:  $10\sim 40^{\circ}\text{C}$  ;
- ◆ Humidity measuring range: 25~90%RH.



## LD-100/200



The product is used for refrigerating tools and cooling maintenance market.

### Features and functions:

- ◆ Brand new appearance, unique shape; LED displays detailed information, such as battery, sensitivity, easy to operate;
- ◆ Imported sensor of semiconductor nanotechnology and stabilivolt chip of high accuracy collect more than 5000 signals per seconds; weighing recursive average filtering method; more accurate and stable;
- ◆ Wider detection range, besides common halogen refrigerants, new refrigerants, such as R600A, R410A, etc. The accuracy can reach 3g/y;
- ◆ Sensitivity: 7 level adjustable(LD-200);
- ◆ Battery display, low battery alarm function;
- ◆ Conform to CE standard and SAEJ1627 standard;
- ◆ Replaceable probe.



## LMC-100 Refrigerant Scale



The product is suitable for market of refrigeration tools and used for refrigerant filling, reclaim and weighing of refrigerating systems, such as commercial and automobile air conditioners, cold storage, etc.

### Features and functions:

- ◆ Accurate weighing and easy operation guarantees perfect filling of refrigerant. Resistive transducer of high accuracy and stability ensures long term accuracy and reliability.
- ◆ Aeronautical aluminum alloy material is moulded just for once to form the main body with high intensity, thus it will not deform after long term use at full load.
- ◆ Light and handy body is convenient for users to carry about. It allows refrigerant filling freely even in a limited working space.
- ◆ High definition and high light LCD with back light allows data reading in any environment.
- ◆ Regarding unit of measurement, metric and inch are optional, suitable for clients from different areas.
- ◆ The maximum weight of this scale is 70kg.

## SLD-300



- 1 Replaceable nano sensor: stable performance of new materials, higher accuracy and sensitivity.
- 2 Lengthened (43cm) and flexible metal probe: ease of use, even in a more complex environment.
- 3 Efficient air pump: locate the leak point more accurately.
- 4 Rechargeable lithium battery: large capacity, free charge, reducing the battery pollution to the environment.
- 5 Blow molding case: easy to carry, better protect the instrument against harsh working environment.



Car air conditioning



Refrigerating unit



Air conditioning pipes

### Technical parameter:

- Sensor type: heat diode sensor
- Response time: <2s
- Warm up time: <60s
- Display method: Red and blue LED indicator lights
- One-touch reset and seven-level adjustable
- sensitivity
- Battery level indication
- Sensor failure indication
- 3.7V/Li/2200mAh rechargeable battery
- SLD-300 with the air pump
- Unique shape design
- Flexible stainless probe
- Application of refrigerant: It will respond to all halogenated (including Chlorine or Fluorine) refrigerants. This includes, but is not limited to:
  - CFCs e.g. R12, R11, R500, R503 etc
  - HCFCs e.g. R22, R123, R124, R502 etc
  - HFCs e.g. R134a, R404a, R125 etc
- Detect most gases that contain chlorine, fluorine and bromine
- Detect cleaning agents used in dry cleaning applications such as perchloroethylene.
- Detect halogen gases in fire-extinguishing system

**Warning:** to prevent personal injury, do not use this leak detector in an explosive or combustible atmosphere. Ambient atmosphere is drawn through the probe and sensor, which operate at a very high temperature. Mixture of hot air with combustible gas could cause explosion.



Acquire the signal 4965 times/second, with the recursive weighted average filter



Heated diode nano technology sensor



Internal high efficient air pump



Rechargeable lithium battery

## HLD-200+



The HLD-200+ is the a reliable negative corona halogen leak detector.

**Main features:**

- ◆ Adopt advanced, low power consumed, eight-bit microprocessor controller;
- ◆ Dual-color LED indicator lights with progressive and real time display;
- ◆ Sensitivity adjustable, seven level alarming indicated by LED display;
- ◆ Modular sensor, convenient for maintenance;
- ◆ Seven levels audible and visual alarm;
- ◆ Auto reset testing when the detector is turned on;
- ◆ Battery level indication.

**Applications:**

It will respond to all halogenated (including chlorine and fluorine) refrigerants.

This includes but not limited to:

CFCs	e.g.R12, R11, R500, R503 etc.
HCFCs	e.g.R22, R123, R124, R502 etc.
HFCs	e.g.R134a, R404a, R125 etc.
Mixtures such as AZ-50.HP62.MP39 etc.	

- Detect ethylene oxide gas leaks in hospital sterilizing equipment;
- Detect SF-6 in high voltage circuit breakers;
- Detect most gases that contain chlorine, fluorine and bromine (halogen gases);
- Detect cleaning agents used in dry cleaning applications such as perchloroethylene.

**Technical parameters:**

- ◆ Operating environment: temperature: 0°C~52°C;  
humidity: <95% RH (non-condensing);
- ◆ Power supply: two AA alkaline batteries;
- ◆ Sensor tip life under continuous operation: more than 50 hours in normal detecting status;
- ◆ Package size: 175\*55\*34 (mm);
- ◆ Probe length: 305mm.

## HLD-100+



The HLD-100+ is the a reliable negative corona halogen leak detector.

**Main features:**

- ◆ Adopt advanced, low power consumption, eight-bit microprocessor controller;
- ◆ Dual-color LED indicator light with progressive and real time display;
- ◆ Sensitivity adjustable, seven level alarming indicated by LED display;
- ◆ Modular sensor, convenient for maintenance;
- ◆ Seven levels audible and visual alarm;
- ◆ Auto reset testing when the detector is turned on;
- ◆ Battery level indication.

**Applications:**

- ◆ Sensor type: negative corona sensor;
- ◆ Ultimate sensitivity: 3 g/yr;
- ◆ Application:

It will respond to all halogenated (including chlorine and fluorine) refrigerants.

This includes but not limited to:

CFCs	e.g.R12, R11, R500, R503 etc.
HCFCs	e.g.R22, R123, R124, R502 etc.
HFCs	e.g.R134a, R404a, R125 etc.
Mixtures such as AZ-50.HP62.MP39 etc.	

- Detect ethylene oxide gas leaks in hospital sterilizing equipment;
- Detect SF-6 in high voltage circuit breakers;
- Detect most gases that contain chlorine, fluorine and bromine (halogen gases);
- Detect cleaning agents used in dry cleaning applications such as perchloroethylene.

**Technical parameters:**

- ◆ Operating temperature: 0°C~50°C ;
- ◆ Operating mode: continuous and no limitation;
- ◆ Reaction time: instant;
- ◆ Resetting time: 2 seconds;
- ◆ Warm-up time: about 6 seconds;
- ◆ Size: 23\*6\*5.5 (cm);
- ◆ Weight: 560g;
- ◆ Power Supply: 3VDC (2 cell alkaline batteries);
- ◆ Probe length: 36cm;
- ◆ Gross Weight: 720g.

## CPU-C

**General descriptions:**

- ◆ Microcomputer processor control with advanced digital signal collecting and processing ability;
- ◆ 6-level single color alarm;
- ◆ Convenient and practical with four keys operation keypad;
- ◆ Advanced functions with fast RESET key, 6-level sensitivity adjustable and battery voltage display;
- ◆ Detects all halogenated gases: maximum sensitivity up to 14g/yr, ultimate sensitivity up to 3g/yr;
- ◆ An economic and practical detector.

**Main features:**

- ◆ Microprocessor control, advanced digital signal processing;
- ◆ Single color visual display;
- ◆ Seven levels of sensitivity;
- ◆ Tactile keypad;
- ◆ Real time sensitivity adjustment;
- ◆ Battery level indication;
- ◆ Certified to DELICACY for detecting R134a, R12, R22, etc;
- ◆ Detect ALL Halogenated Refrigerants;
- ◆ True mechanical pumping provides positive airflow through sensing tip;
- ◆ Cordless and portable, operate on two C batteries;
- ◆ 14" (36.5cm) flexible, stainless probe;
- ◆ Warm-up time: 6s;
- ◆ One-year warranty.

## WJL-6000



The product is incorporated with advanced leak detect technology. It's an ideal and economic halogen leak detector.

**Main features:**

- ◆ Detect all kinds of halogen refrigerant gases;
- ◆ Sensitivity adjusted at any time and it can be adjusted automatically to the best state of detecting;
- ◆ Inner precise IC with ultra-low power consumption circuit design, more stable, longer battery life;
- ◆ Dual-color visual display of battery voltage;
- ◆ Excellent sensor, high sensitivity, long lifetime.

**Applications:**

The WJL-6000 may also be used to:

It will respond to all halogenated (contains Chlorine or Fluorine) refrigerants.

This includes, but is not limited to:

- CFCs e.g. R12, R11, R500, R503 etc.
- HCFCs e.g. R22, R123, R124, R502 etc.
- HFCs e.g. R134a, R404s, R125 etc.
- Blends such as AZ-50, HP62, MP39 etc.

Detect Ethylene Oxide gas leaks in hospital sterilizing equipment

(it will detect the halogenated carrier gas).

Detect SF-6 in high voltage circuit breakers.

Detect most gases that contain chlorine, fluorine and bromine (halogen gases).

Detect cleaning agents used in dry cleaning applications such as per chloroethylene.

Detect halogen gases in fire-extinguishing system.

**Technical parameters:**

- ◆ Operating temperature: 0°C~52°C (30°F to 125°F);
- ◆ Maximum sensitivity: 6 g/yr, for all halogenated refrigerants;
- ◆ Battery life: approximately 50 hours normal use;
- ◆ Response time: Instantaneous;
- ◆ Operating mode: continuous, no limitation;
- ◆ Fixed probe length: 20cm;
- ◆ Dimensions: 22.9\*6.5\*6.5 (cm);
- ◆ Warm-up time: approximately 6 seconds;
- ◆ Reset time: two to ten seconds;
- ◆ Power supply: 6V DC, four AAA alkaline batteries.

## DT-6/7

The thermo-hygrometer is equipped with imported temperature sensor of high accuracy and reliable performance; ABS flame retardant material shell; power supplied by alkaline battery, 220V power or solar panel; LCD or LED display; various installation sizes and appearances; visual and clear temperature display; long service life; and strong anti-interference capability.

They are suitable for installation in various refrigerant equipments such as refrigerator for kitchen and car, wine cabinet etc. or used at home, office, aquarium and pets breeding.



1 Big LCD display, intuitive and convenient

2 The solar panel works when the illumination reaches 100LUX, When lower than 100LUX, it is powered by the rechargeable battery, which ensures its complete power supply in 24hours everyday, and highly reduces the battery pollution to the environment.

3 Back support, very convenient

4 Dual channel temperature and single channel humidity display for DT-7. For DT-6, it has single channel temperature and single channel humidity (external temperature function reserved), no external sensor.

5 With power on/off switch, very flexible.

★ Five year battery life, environmentally friendly, convenient

### Specification:

- ◆ Display size: 53\*55 (mm)
- ◆ LCD size: 61\*57 (mm)

### Technical parameters:

- ◆ Indoor and outdoor temperature: -50°C~70°C;
- ◆ Sample cycle: 10s (1s optional);
- ◆ Temperature accuracy: ±1°C (0°C~+40°C), others, ±3°C;
- ◆ Humidity accuracy: ±10% (40%~80%), others, ±15%;
- ◆ Resolution: Temperature 0.1°C; Humidity 1%;
- ◆ Keys: MAX/MIN/CLEAR;
- ◆ Display Max./Min Value, clear Max./Min. value by pressing CLEAR key for 2s;
- ◆ °C / °F: switch between °C and °F;
- ◆ RESET: Reset key (DT-7: in/out key);
- ◆ Sensor type: NTC;
- ◆ Data display: tilted 5 degrees to the right. Display in two lines;
- ◆ LCD environment temperature: 0°C~50°C;
- ◆ Power supply: SC6157 solar energy battery and NI-MH battery parallel operation;
- ◆ With power toggle switch at the back.

## DST-1

The product is mainly targeted to air conditioner, refrigerator, cold storage maintenance market.

### General descriptions:

- ◆ Solar power supply, no need to change battery, easy of use;
- ◆ Max/Min value memory and memory clear function;
- ◆ High accuracy sensor is more stable and recognized by the market.

### Specification:

- ◆ Product size: 118 \* 32 \* 27 (mm)

### Technical parameters:

- ◆ Temperature measuring range: -50°C~70°C;
- ◆ Resolution: 0.1°C;
- ◆ Temperature measuring accuracy: ±1°C(-20°C~70°C); ±2°C (others);
- ◆ Compressor delay time: 1~10 min adjustable;
- ◆ Sampling period: 10 sec;
- ◆ Power supply: solar battery and button battery (LR44) in parallel operation; DC1.5V;
- ◆ Ambient temperature: -5°C ~50°C;
- ◆ Operating temperature: -10°C ~60°C;
- ◆ Operating current: sampling current ≤55uA; standby current≤7uA;
- ◆ Enable illumination: 100LUX (remove balancing battery).



## BT-3

### Functions:

Dual way indoor/outdoor temperature display; with body comfort degree response; big LCD display, convenient to view data; clock alarm function; beautiful and fashionable.

### Specification:

- ◆ Display size: 74\*61.5 (mm)
- ◆ LCD screen size: 79\*69 (mm)

### Technical parameters:

- ◆ Power supply: DC1.5V one AAA size alkaline battery(optional);
- ◆ Measuring range:
  - Indoor temperature -30°C~50°C;
  - Outdoor temperature -50°C~70°C;
  - Relative humidity: 20%~90% RH;
- ◆ Resolution: temperature:0.1°C, Humidity: 1;
- ◆ Accuracy: temperature: ±1°C, Humidity: ±5%RH.



## WT-5



### Functions:

Solar power supply with standby battery; attractive appearance, thermometer head 180° rotating for an easy reading; switch between °C and °F; temperature memory; mainly applied to foodstuff and medicine industry.

### Specification:

◆Product size: 170\*43\*23.6 (mm)

### Technical parameters:

- ◆Power supply: solar battery and LR44 battery
- ◆Temperature measuring range: -50°C~150°C (-58°F~199°F)
- ◆Resolution: 0.1
- ◆Accuracy: ±1°C (-20°C~80°C)  
±2°C (-50°C~20°C, 80°C~120°C)  
±3°C (120°C~150°C)

## WT-1B



### Functions:

Pen styled, portable, lengthened metal probe, temperature memory, low power consumption, low battery indicating and sensor fault indicating, switch between °C/°F, widely applied to foodstuff industry.

### Specification:

◆Product size: Φ20\*207 (mm)

### Technical parameters:

- ◆Power: DC1.5V LR44 button battery;
- ◆Measuring range: -50°C~300°C (-58°F~572°F);
- ◆Resolution: 0.1(≥400°F), 0.1 (others);
- ◆Accuracy: ±1°C(-20°C~80°C); ±5°C (others).

## WT-6

### Functions:

Transparent and waterproof design, pencil-type outlook; solar energy supply; lengthened metal probe; switch between °C and °F; temperature value memory; specially applied to foodstuff and chemical industry.

### Specification:

◆Product size: Φ22\*210 (mm)

### Technical parameters:

- ◆Power supply: solar energy, illumination level≥100lux;
- ◆Temperature measuring range: -50°C~150°C;
- ◆Accuracy: ±1°C(-20°C~80°C), ±3°C(-50°C~20°C, 80°C~150°C);
- ◆Resolution: 0.1.



## WT-2

### Functions:

Fashionable appearance, lengthened metal probe with lead wire, data keeping, switch between °C/°F, Max./Min. temperature memory, temperature upper and lower limit setting and exceeding temperature alarming, widely applied to HVAC and foodstuff industry.

### Specification:

◆Product size: 59\*105\*19 (mm)

### Technical parameters:

- ◆Power: DC1.5V AAA alkaline battery (optional);
- ◆Measuring range: -50°C~300°C (-58°F~572°F);
- ◆Resolution: 0.1(-19.9°C~199.9°C), 1 (others);
- ◆Accuracy: ±1°C(-20°C~80°C); ±5°C (others).



### DT-1



**Functions:**

Two way temperature measuring, big LCD screen with the display of in door or outdoor temperature simultaneously, lengthened probe lead wire, three placement methods. suitable to be used at home and office.

**Specification:**

◆ Mounting size: 115\*64\*22 (mm)

**Technical parameters:**

- ◆ Power: DC1.5V AAA alkaline battery (optional);
- ◆ Temperature measuring range: -50°C~70°C;
- ◆ Resolution: 0.1;
- ◆ Accuracy: ±1°C.

### DT-2



**Functions:**

Big screen LCD display, two-way temperature measuring, one way humidity measuring, temperature, humidity and time displayed simultaneously, body comfort degree display and with clock function, three placement methods. suitable to be used at home and office.

**Specification:**

◆ Product size: 115\*64\*22 (mm)

**Technical parameters:**

- ◆ Power: DC1.5V, AAA alkaline battery (optional);
- ◆ Measuring range: indoor temp.: -30°C~+50°C, outdoor temp.: -50°C~70°C, humidity: 20%~99% (RH);
- ◆ Resolution: temperature: 0.1, humidity: 1; ◆ Accuracy: temperature: ±1°C; humidity: ±5%(25°C).

### DT-3



**Functions:**

Big screen LCD display. display two-place temperature, one-place humidity simultaneously, comfort display, three kinds of placement, suitable to be used at home and office.

**Specification:**

◆ Product size: 115\*64\*22 (mm)

**Technical parameters:**

- ◆ Power: DC1.5V, AAA alkaline battery (optional);
- ◆ Measuring range: Indoor temp.: -30°C~50°C; Outdoor temp.: -50°C~70°C; Humidity: 20%~99% (RH);
- ◆ Resolution: temperature: 0.1, humidity: 1; ◆ Accuracy: temperature: ±1°C; humidity: ±5% (25°C).

### ST-1A



**Functions:**

LCD display, one way temperature measuring, small and fashionable appearance, various colors optional. Suitable to be used at home, office and refrigeration repair.

**Specification:**

◆ Mounting size: 55.5\*42.5\*16 (mm)

**Technical parameters:**

- ◆ Power supply: DC1.5V button battery LR44;
- ◆ Measuring range: -50°C~70°C;
- ◆ Resolution: 0.1 (>-20°C), 1°C (≤-20°C);
- ◆ Accuracy: ±1°C.

### ST-2



**Functions:**

Indoor/out door temperature measuring; clock display; ultra slim shell design.

**Specification:**

- ◆ Product size: 57\*38.5\*13 (mm)
- ◆ Screen size: 47\*21.5 (mm)

**Technical parameters:**

- ◆ Power supply: DC1.5V button battery LR44;
- ◆ Measuring range: -50°C~70°C;
- ◆ Resolution: 0.1 (>-20°C), 1°C (≤-20°C);
- ◆ Accuracy: ±1°C.

### ST-3



**Functions:**

Small and fashionable appearance; switch between °C and °F; various colors optional; specially applied to the aquarium.

**Specification:**

◆ Product size: 58\*37\*12.5 (mm)

**Technical parameters:**

- ◆ Power supply: DC1.5V button battery LR44;
- ◆ Measuring range: -50°C~70°C;
- ◆ Resolution: 0.1 (>-20°C), 1 (≤-20°C);
- ◆ Accuracy: ±1°C.