Elitech®

Innovation Preceding All

DIGITAL TEMPERATURE CONTROLLER

Product Selection Guide

Elitech®

Elitech Technology, Inc.

Tel: +86 15152003966

Email: service-8@e-elitech.com

Website: www.elitech.com

No.1 Huangshan Rd. Tongshan Economic Development Zone

Xuzhou Jiangsu China

LLC-2021/9/22-V1.0

SPECIALIZING IN

REFRIGERATION CONTROL SINCE 1996

COMPANY PROFILE

Elitech offers a high level of monitoring and maintenance in the refrigeration field, IoT technology, wireless and smart tools, quality, and safety certificates. Our main goal is to always provide innovative alternatives to our customers to perform their work better and more conveniently. Our products and services serve many industries, from small to large corporations whether is related to life science, medical and pharmaceutical industry, food, and collection storage, to a whole logistic process from manufacturing, handling, storage, and distribution. Our products also count on environmental testing technology, and local refrigeration systems, and many more. Over the years, we always have been focusing on innovation surrounding our customer's needs. Our wide range of products shows our company development and efforts to make our products more efficient and convenient.

Elitech has fully equipped R&D testing labs, which are capable of completing industrial four-level EMC electromagnetic interference testing experiments. Environmental performance tests run in our labs, as well as lighting, cycle drop, and electrostatic discharge test along with high/low-temperature impact and heating alternating. In addition, Elitech counts with 200 qualified engineers. All our technicians and engineers are prompt to assist you with any questions, validations, or requirements that you may have. Elitech's team is spread in all continents, allowing you to contact us at any time, anywhere.

RESEARCH LABORATORY

The scientific research laboratory of Elitech is equipped with Swiss imported 7637 test system, electrical transient conduction group pulse generator, ultra-low temperature verification thermostat, dispersive X-ray fluorescence spectrometer, American Agilent comprehensive analyzer, high-precision temperature, and humidity verification system, lightning surge generation There are more than 120 sets of instruments and equipment, such as In addition to product performance testing and environmental testing, it can also complete industrial level four, EMC electromagnetic interference testing, such as lightning surge, cycle drop, and electrostatic discharge, as well as extreme tests such as high and low-temperature impact, high and low temperature damp and heat alternation.



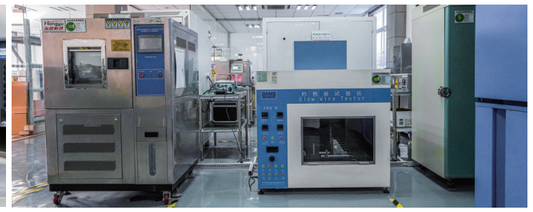
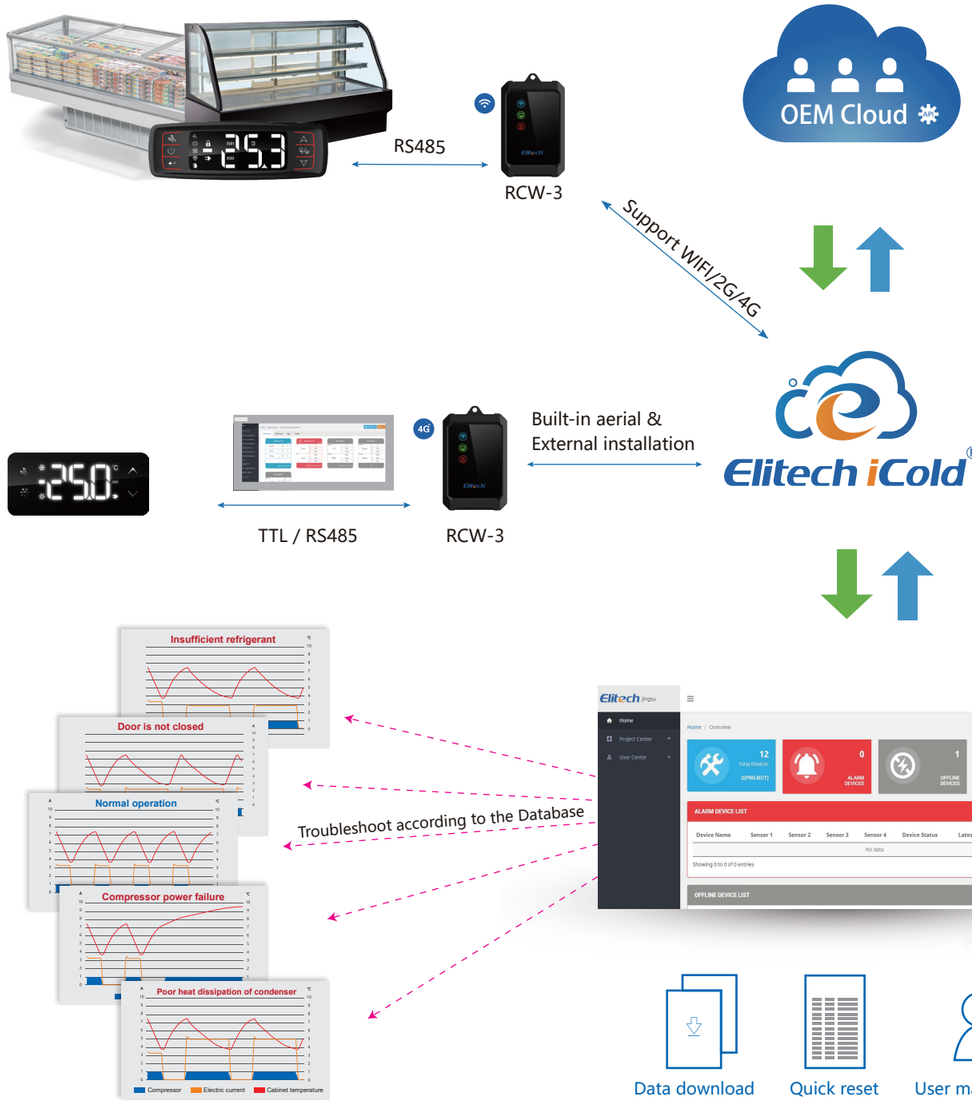



TABLE OF CONTENTS

Commercial Display Cabinet Temperature Controller Solutions

Temperature Controller + Data Transmitter + Elitech iCold Cloud Platform



ALL IN ONE

Temperature Controller Solutions for Commercial Display Cabinet

SERIES 01
COMMERCIAL KITCHEN CABINET CONTROLLERS

LTW-100, LTW-200, LTW-800, LTW-51, LTC-50/LTC-50D, LTC-2X+, LTC-3X+

LTW-100

Cooling · Defrost · Fan · Light · Alarm · Copy Card · Door Switch · 3 Sensors · Temperature Calibration · ℃/℉ · RS-485 Communication

- Large panel with LED, split design, artistic appearance, easy installation.
- Copy card helps adjust parameters quickly.
- Modular design, suitable for tailored control of defrost, fan, light/external alarm.
- Up to 20A/240VAC cooling relay output, directly drive single-phase 2HP compressor.
- Optional evaporator sensor, condenser sensor, door switch.
- A switch can control the defrost of multiple devices to form a real-time sync defrost network.
- With temperature sensor self-test function, multiple protection and alarm modes are available if a fault is detected.
- Out-of-limit alarm per absolute temperature or relative temperature.
- Hot gas defrost delay protects the compressor so as to lengthen its service life.
- Integrated design of the front panel with protection grade IP65.
- Measurement units switch between ℃ and ℉.

PRODUCT PARAMETER

Model	LTW-100
Power supply	220VAC±10%, 50/60Hz
Overall power consumption	<5W
Measuring range	-50℃~90℃ or -58℉~194℉
Accuracy	±1℃(-40℃~50℃), ±2℃(50℃~70℃), ±3℃(other)
Resolution	0.1℃
Temperature control range	-50℃~85℃ or -58℉~185℉

Product Series	Control Output							Signal Input			
	Cooling 1	Cooling 2	Defrost (optional)	Fan (optional)	Light	External Alarm	Buzzer Beep	Cabinet Temp 1	Cabinet Temp 2	Defrost	Door Switch
LTW-100-S1	20A	×	×	×	10A	Optional	●	●	●	×	×
LTW-100-S2	20A	20A	×	×	10A	Optional	●	●	●	×	×

PRODUCT WIRING DIAGRAM

Product Series	Control Output					Signal Input			Buzzer Beep (optional)
	Cooling	Defrost (optional)	Fan (optional)	Light/External Alarm (optional)	Demist (optional)	Cabinet Temp	Defrost (optional)	Door Switch (optional)	
Configuration 1	20A	17A	10A	10A	5A	●	●	●	●
Configuration 2	30A	10A	10A	10A	10A	●	●	●	●

LTW-200

Cooling Defrost Fan Light Alarm Door Switch Three Sensors Temperature Calibration ℃/℉ RS-485 Communication

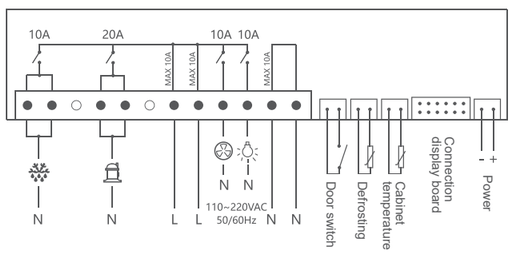
- Modular design for software and hardware can meet customized demands for input and output configurations.
- The hardware may drive up to 6 channels of loads.
- Optional accessories include defrost sensor, condenser sensor, door switch and buzzer.
- Cooling relay has 20A/240VAC output at maximum and may directly drive a 2HP/240VAC single-phase compressor.
- With temperature sensor self-test function, multiple protection and alarm modes are available if a fault is detected.
- The functions of copy card and one key reset to default provide the manufacturer with convenience in production and after-sale service.
- Digital signals are user-defined and can meet multiple customized needs.
- Two alarm modes: per absolute temperature or relative temperature.
- Hot gas defrost delay protects the compressor from starting with pressure so as to lengthen its service life.
- Two classes of ECO-DOOR modes. The controller can automatically recognize Routine Mode, ECO Mode - class 1 and ECO Mode - class
- The master can write/read the controller parameters, and read the controller's working and error status. The slave can be assigned / synchronized to defrost, power on/off, or turn on/off light.
- External display TPM-950 can be added to match supermarket cabinets, cake and ice-cream showcases, etc.

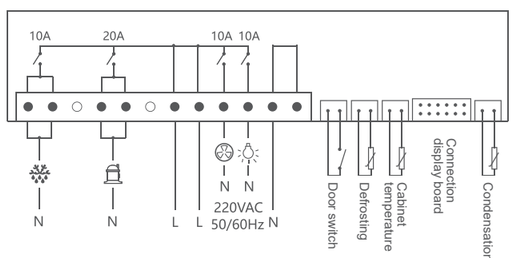
PRODUCT PARAMETER

Model	LTW-200
Power supply	220VAC±10%, 50/60Hz
Overall power consumption	<5W
Measuring range	-50℃~90℃ or -58℉~194℉
Accuracy	±1℃(-40℃~50℃), ±2℃(50℃~70℃), ±3℃(other)
Resolution	0.1℃
Temperature control range	-50℃~85℃ or -58℉~185℉
Power supply box size(mm)	139 x 133 x 40
Control panel size(mm)	180 x 65 x 19
Mounting size(mm)	171 x 56

Model	Control Output							Signal Input		
	Cooling	Defrost	Fan	Light	Demist	External Alarm	Buzzer Beep	Cabinet Temp	Defrost	Door Switch
LTW-200	20A	10A	10A	10A	Optional	Optional	●	●	●	●

PRODUCT WIRING DIAGRAM





LTW-800

Cooling Defrost Fan Light Alarm Demist Door Switch 3 Sensors Temperature Calibration ℃/℉ RS-485 Communication Copy Card Historical Curve ECO Mode

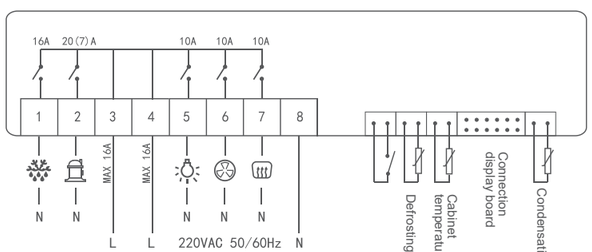
- Touch button design for high-end commercial cabinets;
- Visual LCD display of historical temperature curve;
- Split design, communication control via main display board, easy to install;
- Built-in networking module, supporting WiFi, Bluetooth and 4G communication connections;
- Waterproof front panel: IP65;
- Max. 5 output channels, with optional functions;
- Up to 20A/240VAC cooling relay output, directly driving 2HP/240VAC compressor;
- With temperature sensor self-test function, multiple protection and alarm modes available if a fault is detected;
- Copy card and one-key parameter reset functions are convenient for production and after-sales service to manufacturers;
- Supporting various configuration modes of digital signals and various types of digital signal input modes;
- Out-of-limit alarm per absolute temperature or relative temperature;
- Hot gas defrost delay protects the compressor, extending service life;
- Two classes of ECO-DOOR modes, automatically recognizing routine mode, ECO mode – class 1 and ECO mode – class 2;
- The master is able to write/read the controller parameters, and read the controller's working and error status, and the slave assigned/ synchronized to defrost, power on/off, or turn on/off light;
- Applicable to supermarket cabinets, cake and ice-cream showcases, etc. by connecting to external display TPM-950.

PRODUCT PARAMETER

Model	LTW-800
Power supply	220VAC±10% 50/60HZ
Overall power consumption	<5W
Measuring range	-50°C–90°C or -58°F –194°F
Accuracy	± 1°C for -40°C – 50°C; +2°C for 50°C – 70°C; 3°C for other temperature ranges
Resolution	0.1°C
Temperature control range	-50°C–85°C or -58°F –185°F
Product size (mm)	139X133X40 (power box) 180X 65 X 19 (controller panel)
Mounting size (mm)	171 X 56 (controller panel)

Product Series	Control Output					Signal Input				
	Cooling	Defrost (optional)	Fan (optional)	Light (optional)	External Alarm (optional)	Cabinet Temp	Defrost (optional)	Condenser (optional)	Buzzer Beep (optional)	485 Interface
A(20.20.17.17.17)S234.B	20A	17A	10A	10A	10A	●	●	●	●	●
A(17.10.10.10.10)S234.B	17A	10A	10A	10A	10A	●	●	●	●	●

PRODUCT WIRING DIAGRAM



LTW-51

Cooling Defrost Fan Light Alarm Demist Door Switch 3 Sensors Temperature Calibration ℃/℉ RS-485 Communication Copy Card ECO Mode

- Split design, communication control via main display board, easy to install;
- Built-in networking module, supporting WiFi, Bluetooth and 4G communication connections;
- Waterproof front panel: IP65;
- Max. 5 output channels, with optional functions;
- Up to 20A/240VAC cooling relay output, directly driving 2HP/240VAC compressor;
- With temperature sensor self-test function, multiple protection and alarm modes available if a fault is detected;
- Copy card and one-key parameter reset functions are convenient for production and after-sales service to manufacturers;
- Supporting various configuration modes of digital signals and various types of digital signal input modes;
- Out-of-limit alarm per absolute temperature or relative temperature;
- Hot gas defrost delay protects the compressor, extending service life;
- Two classes of ECO-DOOR modes, automatically recognizing routine mode, ECO mode – class 1 and ECO mode – class 2;
- The master is able to write/read the controller parameters, and read the controller's working and error status, and the slave assigned/ synchronized to defrost, power on/off, or turn on/off light.

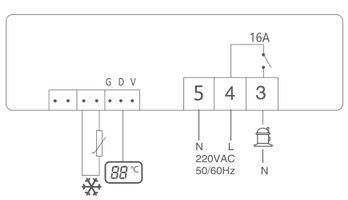
PRODUCT PARAMETER

Model	LTW-51
Power supply	220VAC±10% 50/60HZ
Overall power consumption	< 3W
Measuring range	-40℃ - 90℃
Accuracy	±1℃
Resolution	0.1℃
Temperature control range	30%-20%
Product size (mm)	132 X 43 X 21.5
Mounting size (mm)	112X39

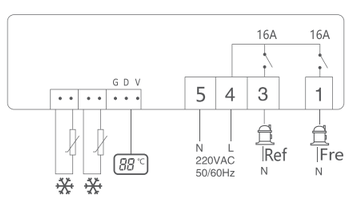
Product Series	Control Output				Signal Input		
	Cooling	Defrost	Fan	Buzzer Beep	Cabinet Temp	Defrost	Door Switch
LTW-50	16A	×	×	×	●	Optional	Optional
LTW-51	16A	16A	×	×	●	Optional	Optional
LTW-55	20A	10A	10A	Optional	●	●	Optional

PRODUCT WIRING DIAGRAM

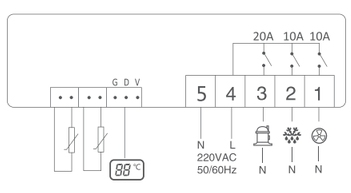
µBOX-K1



µBOX-K2



µBOX-K3



LTC-50/LTC-50D

Cooling Defrost Light Single Sensor Temperature Calibration Copy Card

- Tailed panel, economic and convenient, waterproof and oil resistant.
- 6 position buttons on the panel for one-key setting of desired temperature.
- Power button can be used to turn off the controller directly.
- Two ways to mount: fixed by a surrounding bracket or snap-in brackets.
- When the surrounding bracket is used, the front panel remains the same level with the device surface.
- Copy card helps adjust parameters quickly.
- Blade terminal connecters provide convenience for production and after-sale service to professional equipment manufacturers.

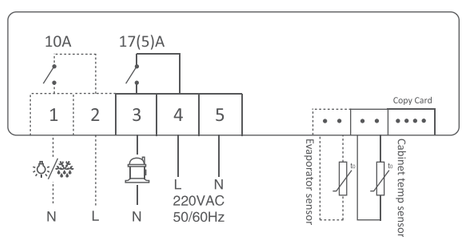
PRODUCT PARAMETER

Model	LTC-50/LTC-50D
Power supply	220VAC±10%, 50/60Hz
Overall power consumption	<3W
Measuring range	-40℃~90℃
Accuracy	±1℃
Resolution	0.1℃
Temperature control range	-30℃~20℃
Product size(mm)	132×43×61.5
Mounting size(mm)	112×39

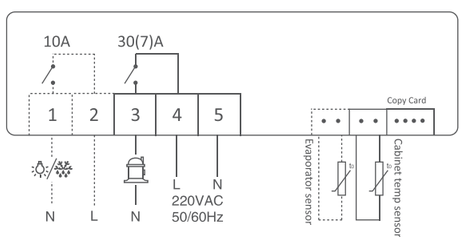
Product Series	Control Output		Signal Input		Buzzer Beep
	Cooling	Defrost/Light(optional)	Cabinet Temp	Defrost (optional)	(optional)
Configuration 1	17A	10A	●	●	●
Configuration 2	30A	10A	●	●	●

PRODUCT WIRING DIAGRAM

LTC-50/50D CONFIGURATION 1



LTC-50/50D CONFIGURATION 2



LTC-2X+ LTC-3X+

Cooling Defrost Single Sensor

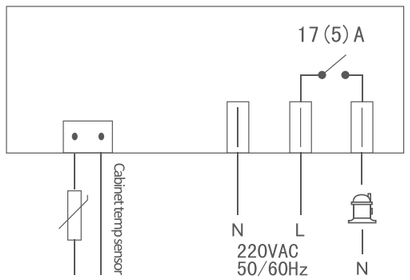
- One channel of temperature sensor for adjusting cabinet temperature.
- One control output for cooling.
- Defrost with compressor off: available for LTC-3X, N/A for LTC-2X, LTC-2X+ series.
- Rotary band switch with 7 temperature positions and off position.
- LTC-2X/3X with docking terminals, LTC-2X+ with plug-in terminals, convenient for professional equipment manufacturers in production and after-sale service.

PRODUCT PARAMETER

Model	LTC-2X+ LTC-3X+
Power supply	220VAC±10%, 50/60Hz
Overall power consumption	＜3W
Cooling output	20A/240VAC, normally open, directly drive 2HP (220VAC) single phase compressors;
	17A/240VAC, normally open, directly drive 1.0HP (220VAC) single phase compressors.
Measuring range	-40℃～ 90℃
Accuracy	±1℃
Resolution	1℃
Protection grade	IP65
Product size(mm)	132.3 x 43.4 x 57(LTC-2X+) 137 x 56 x 69(LTC-2X, LTC-3X)
Mounting size(mm)	112×39

Model	Measuring Range	Compressor Shutdown Temperature	Differential	Delay (sec)
LTC-20+,LTC-30+	10℃ ~ -5℃	6,4,2,0,-1,-3,-5	4	2
LTC-21+,LTC-31+	0℃ ~ -10℃	-4,-5,-6,-7,-8,-9,-10	4	2
LTC-32+,LTC-22+	4℃ ~ -15℃	0,-3,-6,-8,-10,-12,-15	4	2
LTC-33+,LTC-23+	-2℃ ~ -18℃	-6,-8,-10,-12,-14,-16,-18	4	2
LTC-34+,LTC-24+	-8℃ ~ -25℃	-12,-15,-17,-19,-21,-23,-25	4	2
LTC-35+,LTC-25+	10℃ ~ 0℃	6,5,4,3,2,1,0	4	2
LTC-36+,LTC-26+	-6℃ ~ -16℃	-10,-11,-12,-13,-14,-15,-16	4	2
LTC-37+,LTC-27+	10℃ ~ -6℃	6,4,2,0,-1,-3,-6	4	2

PRODUCT WIRING DIAGRAM



SERIES 02

SUPERMARKET DISPLAY CABINET CONTROLLERS

ECS-7180NEO,LTW-90+MINIBOX/□BOX,LTC-70,LTC-1815/1625/1626

SPS-24VDC-20W / SPS-24VDC-40W

ECS-7180NEO

Cooling · Defrost · Fan · Light · Copy Card · Door Switch · 3 Sensors · Temperature Calibration · ℃/℉

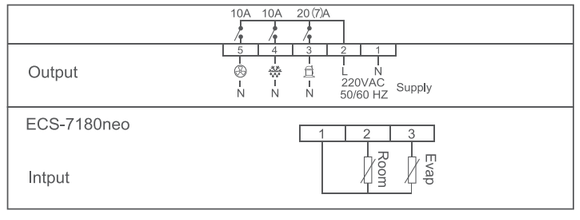
- Three channels of temperature sensors are used to adjust cabinet temperature, control defrost and monitor condenser temperature.
- One channel of switch is used to monitor door status or control the defrosting of multiple devices and form a real-time defrost network.
- Multiple control outputs: compressor, defrost, fan, light/external alarm.
- Light/external alarm relay can be selected via software. When external alarm relay is selected, a remote alerter can be connected.
- Hot gas defrost delay protects the compressor so as to lengthen its service life.
- Switch between ℃ and ℉ via menu.
- With temperature sensor self-test function, multiple protection and alarm modes are available if a fault is detected.
- Copy card helps adjust parameters quickly.
- Mounted by guide rail.

PRODUCT PARAMETER

Model	ECS-7180NEO
Power supply	220VAC±10%, 50/60Hz
Overall power consumption	<3W
Measuring range	-50℃~90℃ or -58℉~194℉
Accuracy	±1℃(-40℃~50℃), ±2℃(50℃~70℃), ±3℃(other)
Resolution	0.1℃
Temperature control range	-50℃~85℃ or -58℉~185℉
Product size(mm)	71 x 87 x 58
Guide rail size(mm)	TH35-7.5

Product Series	Control Output			Signal Input				Buzzer Beep (optional)
	Cooling	Defrost (optional)	Fan (optional)	Cabinet Temp	Defrost (optional)	Condenser (optional)	Door Switch	
A(20.10.10.00)S234.B	20A	10A	10A	●	●	×	×	●

PRODUCT WIRING DIAGRAM



LTW-90+MINIBOX/μBOX

Cooling · Defrost · Fan · Light · Alarm · Door Switch · 3 Sensors · Temperature Calibration · ℃/℉ · RS-485 Communication · Copy Card · Demist · iCloud

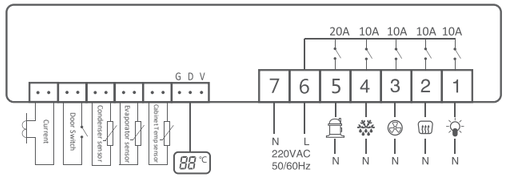
- Split design, touch button, artistic appearance, easy to install, separate strong and weak electricity, much safer;
- Built-in networking module, with 485 communication interface, supporting connection to cloud through internal or external networking module;
- Copy card to help adjust parameters quickly;
- Three channels of temperature sensors used to adjust cabinet temperature and control defrost and monitor condenser temperature;
- One channel of switch used to monitor door status or control the defrosting of multiple devices and form a real-time sync defrost network;
- Multiple control outputs: compressor, defrost, fan, light/external alarm and demist;
- Hot gas defrost delay protects the compressor, extending service life;
- Multiple fan run modes for tailored needs;
- Switch between °C and °F via menu;
- With temperature sensor self-test function, multiple protection and alarm modes available if a fault is detected;
- Applicable to supermarket cabinets, cake and ice-cream showcases, etc. by connecting to external display TPM-950.

PRODUCT PARAMETER

Model	LTW-90+miniBox/μBox
Power supply	220VAC±10% 50/60HZ
Overall power consumption	<5W
Measuring range	-50°C–90°C or -58°F–194°F
Accuracy	±1°C for -40°C–50°C; ±2°C for 50°C–70°C; ±3°C for other temperature ranges
Resolution	0.1°C
Temperature control range	-50°C–85°C or -58°F–185°F
Product size (mm)	180*30*17.5 (display) 139 * 133 * 40 (minibox) 85 * 63 * 33 (μ Box)
Mounting size (mm)	172*25

Product Series	Control Output					Signal Input						
	Cooling	Defrost (optional)	Fan (optional)	Light/External Alarm (optional)	Demist (optional)	Cabinet Temp	Defrost	Condenser (optional)	Door Switch (optional)	Buzzer Beep (optional)	485	Built-in Networking Module
Configuration 1	20A	10A	10A	10A	10A	●	●	●	●	●	●	(optional)
Configuration 2	20A	10A	10A	×	×	●	●	×	●	●	●	×
Configuration 3	16A	×	×	×	×	●	●	×	×	●	●	×

PRODUCT WIRING DIAGRAM



LTC-70

Cooling · Defrost · Fan · Light · Demist · Door Switch · Double Sensors · Temperature Calibration

- Optional outputs include defrost, fan, demist, light/external.
- Tailored filmy panel can perfectly fit the color of cold/wine cabinets.
- Ultra-thin front panel fits display cases better.
- Simple to operate: One key to control light, demist, defrost, switch off.
- With temperature sensor self-test function, multiple alarm modes are available if a fault is detected.
- Wiring modes: Blade terminal connecters or joining-wiring.

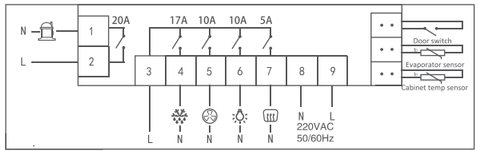
PRODUCT PARAMETER

Model	LTC-70
Power supply	220VAC±10%, 50/60Hz
Overall power consumption	<5W
Measuring range	-50℃~90℃
Accuracy	±1℃(-40℃~50℃), ±2℃(50℃~70℃), ±3℃(other)
Resolution	0.1℃
Temperature control range	-50℃~85℃
Product size(mm)	148 x 43.5x 47.5
Mounting size(mm)	137.5 x 33

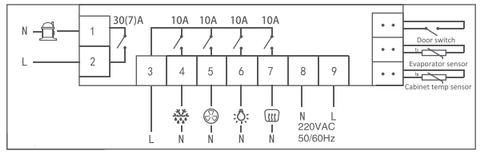
Product Series	Control Output					Signal Input			Buzzer Beep (optional)
	Cooling	Defrost (optional)	Fan (optional)	Light/External Alarm (optional)	Demist (optional)	Cabinet Temp	Defrost (optional)	Door Switch (optional)	
Configuration 1	20A	17A	10A	10A	5A	●	●	●	●
Configuration 2	30A	10A	10A	10A	10A	●	●	●	●

PRODUCT WIRING DIAGRAM

CONFIGURATION 1



CONFIGURATION 2



LTC-1815/1625/1626

Cooling · Defrost · Fan · Alarm · Demist · Light · Door Switch · 3 Sensors · Temperature Calibration

- Split design, easy to install.
- Control outputs: cooling, defrost, fan, demist, light/external (LTC-1815)
- Only cooling (LTC-1625).
- Simple to operate: One key to control light, demist, defrost, switch off (LTC-1815).
- Four keys, two optional rocker switches added to directly control cabinet power and light(LTC-1626).
- Multiple fan run modes for tailored needs.
- With temperature sensor self-test function, multiple alarm modes are available if a fault is detected.
- Password lock, separate user and administrator menu, simplifying the operation for users, and allowing the administrator to flexibly deal with different equipment situation.

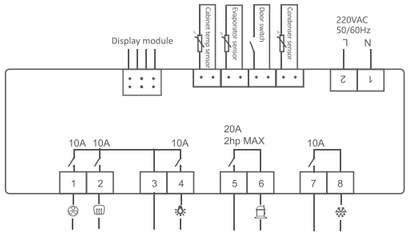
PRODUCT PARAMETER

Model	LTC-1815/1625/1626
Power supply	220VAC±10%, 50/60Hz
Overall power consumption	<5W
Measuring range	-50℃~90℃
Accuracy	±1℃(-40℃~50℃), ±2℃(50℃~70℃), ±3℃(other)
Resolution	0.1℃
Temperature control range	-50℃~85℃
Panel size(mm)	40 X 170
Mounting size(mm)	33 X 140

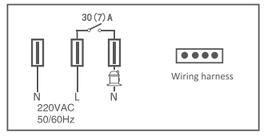
Product Series	Control Output					Signal Input			Buzzer Beep (optional)
	Cooling	Defrost (optional)	Fan (optional)	Light/External Alarm (optional)	Demist (optional)	Cabinet Temp	Defrost (optional)	Door Switch (optional)	
Configuration 1	20A	17A	10A	10A	5A	●	●	●	●
Configuration 2	30A	10A	10A	10A	10A	●	●	●	●

PRODUCT WIRING DIAGRAM

LTC-1815



LTC-1625/1626



SPS-24VDC-20W / SPS-24VDC-40W

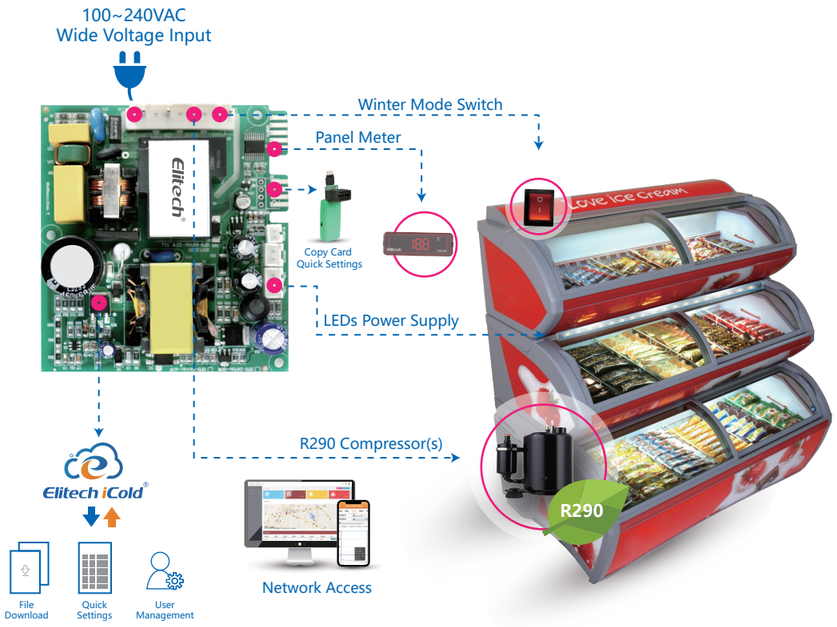
Cooling | Fan | Light | Single Sensor | Temperature Calibration | Copy Card

- One channel of temperature sensor is used to adjust cabinet temperature.
- One channel to control compressor; timing defrost with compressor off.
- LED switch and connection is configured; auto or manual control of LED light.
- A winter mode switch is arranged for direct shift.
- Copy card helps adjust parameters quickly.
- Sync display of the controller temperature by connecting to panel meter TPM-950.

PRODUCT PARAMETER

Model	SPS-24Vdc-20W / SPS-24Vdc-40W
Power supply	1165~242VAC, 50/60Hz
Standby power consumption	≤1 W
Measuring range	-50℃~70℃
Accuracy	±1℃
Operating ambient temperature	0℃~55℃
Temperature control range	-40℃~50℃
Product size(mm)	70 x 23.5 x 17.2 (display panel) 90 x 80 x 31 (control board)
Mounting size(mm)	65.5 x 19 (display panel)

Model	Control Output		Signal Input
	Cooling	LED	Cabinet Temp
SPS-24Vdc-20W	30A	Start Directly 20W/24VDC	•
SPS-24Vdc-40W	30A	Start Directly 40W/24VDC	•



SERIES 03

LIFE SCIENCE REFRIGERATOR NETWORKING CONTROL SOLUTIONS

MEC-100,MEC-5000,EMC-3000/3100/3200/3300/3400/3000PT

ECS-2012NEO,ECS-180C+ MICROUPS

MEC-100

- Appearance: large LED display, split design, easy to install;
- Input: 2-channel temperature +1-channel humidity (reserved) +current detection + door switch;
- Output: cooling, fan, light and door heating (reserved);
- Alarm: high and low temperature alarm, door switch alarm and power-off alarm;
- Wiring mode: insert;
- Data communication: Bluetooth APP data export and MODBUS communication.

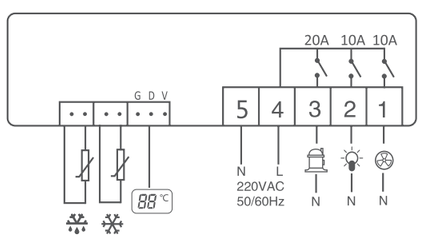
PRODUCT PARAMETER

Model	MEC-10
Power supply	220VAC±10% 50/60HZ
Overall power consumption	<5W
Measuring range	-50°C – 85°C
Accuracy	±0.5°C for -10°C – 30°C; ±1°C for other temperature ranges
Resolution	0.1°C
Temperature control range	-40°C – 50°C
Input port	Cabinet temperature sensor, defrost sensor, humidity sensor (reserved), door switch and current detection
Output port capacity	Cooling relay: 20A/240VAC evaporation fan relay: 10A/250VAC
	Light relay: 10A/250VAC; door heating relay (reserved): 10A/250VAC
Product size (mm)	71 X 63 X 33
Mounting size (mm)	80 X 75 X 20

Model	Control Output				Signal Input				
	Compressor	Fan	Light	Door Heating	Cabinet Temp	Defrost Sensor	Door Switch	Temperature Sensor	Bluetooth Data Record
MEC-100	20 A	10A	10A	Reserved	●	●	●	×	×
MEC-100-01	20 A	10A	10A	Reserved	●	●	●	●	×
MEC-101	20 A	10A	10A	Reserved	●	●	●	×	●
MEC-101-01	20 A	10A	10A	Reserved	●	●	●	●	●

PRODUCT WIRING DIAGRAM

μBOX-K3



MEC-5000

- Modular design to meet customized demands for input and output configurations in all applications of medical cabinets;
- Various peripheral expansion functions, supporting 2G / 4G / WIFI / Bluetooth / Android screen / 485;
- Current detection, PWM frequency conversion output, +12VDC output and other functions, and 2-channel electronic expansion valve control;
- Power-off alarm, extended interface for acid battery, and continuous temperature detection and data recording after power-off;
- Local data storage and export;
- Meeting GSP standard.

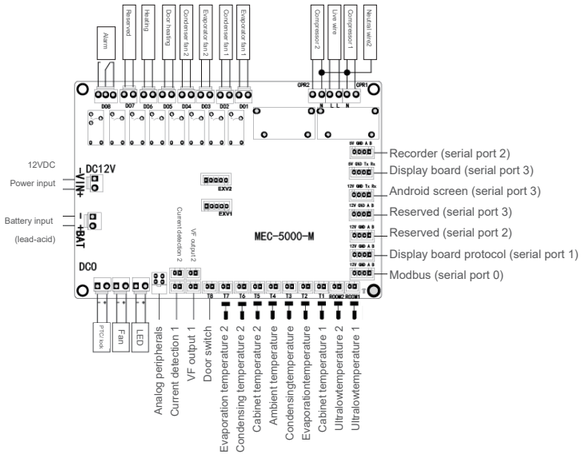
PRODUCT PARAMETER

Model	MEC-5000
Power supply	12VDC±10%
Standby power consumption	<1W
Measuring range	-40°C –50°C,-200°C –50°C (ultralow temperature)
Accuracy	±1°C for -40°C–50°C; ±2°C for 51°C–70°C; ±3°C for other temperature ranges
Resolution	0.1°C
Size (mm)	160 X 100 / 284.5 X 36.6

Model	Output											
MEC-5000	Cooling 1	Cooling 2	Condenser Fan 1	Evaporator Fan 1	Condenser Fan 2	Evaporator Fan 2	Door Heating	Heating	Remote Alarm	LED, Fan PTC	Electronic Expansion Valve	PWM Output
	20A	20A	10A	10A	10A	10A	10A	10A	5A	<6A	Reserved	Reserved

Model	Input										
MEC-5000	Cabinet Temp Sensor 1	Evaporation Sensor 1	Condensation Sensor 1	Cabinet Temp Sensor 2	Evaporation Sensor 2	Evaporation Sensor 2	Condensation Sensor 2	Door Switch	Humidity Sensor	Ultralow Temp Sensor 1	Ultralow Temp Sensor 2
	●	●	●	●	●	●	●	●	●	●	●

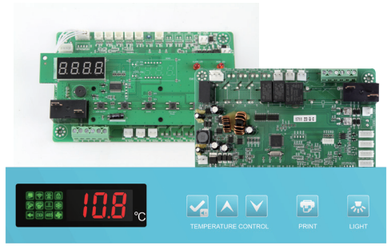
PRODUCT WIRING DIAGRAM



EMC-3000/3100/3200/3300/3400/3000PT

Cooling*2 · Defrost · Fan · Door Switch · Alarm · Printer · Multiple Sensors · Solenoid Valve · Temperature Calibration · PDF Report · Communication

- Multiple input/output ports.
- Various alarm protection modes to fully ensure the system runs stably.
- A lead-acid accumulator can be connected to charge up the control board. Elitech MicroUPS can be used as power supply in case of power cut-off of the system.
- Record temperature in real time and export to PDF file.
- Optional accessories include temperature logging module, touch screen, IoT module, etc.



PRODUCT PARAMETER

Model	EMC-3000/3100/3200/3300/3400/3000PT
Power supply	12VDC±10%
Standby power consumption	＜1W
Temperature Measuring and control range	-50℃～ 50℃ -200℃～ 50℃(EMC-3100)
Accuracy	±1℃(-40℃~50℃); ±2℃(51℃~70℃); ±3℃(others) ±1℃(Only EMC-3100)
Resolution	0.1℃/1℃(other) (EMC-3000)
Display panel size(mm)	284.5x36.6
Power supply board size(mm)	160 x 100

Model	Input Port							
	Cooling 1	Cooling 2	Condenser fan	Evaporator Fan	Heater	Solenoid Valve	External Alarm	Light
EMC-3000	20A	×	10A	10A	10A	×	5A	12V/6W
EMC-31 00	20A	×	10A	×	1 2V/12W	10A	5A	×
EMC-3200	20A	×	10A	10A	10A	×	5A	12V/6W
EMC-3300	20A	20A	10A	10A	1 0A	×	5A	12V/6W
EMC-3400	20A	×	10A	×	10A	×	5A	12V/6W
EMC-3000PT	20A	×	×	10A	×	×	5A	12V/6W

Model	Output Port						
	Cabinet Temp	Evaporator	Condenser	Environment	Display	Pressure	Door Switch
EMC-3000	●	●	●	●	●	×	●
EMC-31 00	●	×	×	●	×	●	×
EMC-3200	●	●	●	●	●	×	●
EMC-3300	●	●	●	●	●	×	●
EMC-3400	●	×	●	●	×	×	×
EMC-3000PT	●	●	×	●	●	×	●

ECS-2012NEO

Cooling · Defrost · Light · 2 Sensors · Temperature Calibration · ℃/℉ · Copy Card

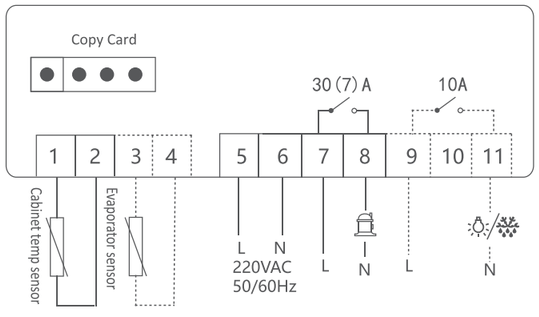
- Ultralow temperature control, down to -200℃.
- Switch between ℃ and ℉ via menu.
- Two channels of temperature sensors can be configured to adjust cabinet temperature and control defrosting.
- Two channels of control outputs to control compressor, light/defrost. In light control mode, compressor is off during defrosting.
- Cabinet or evaporator temperature can be displayed by parameter configuration.
- Multiple protection and alarm functions to ensure device safety.
- Copy card helps adjust parameters quickly.

PRODUCT PARAMETER

Model	ECS-2012neo
Power supply	220VAC±10%, 50/60Hz
Overall power consumption	<3W
Measuring range	-200℃~50℃ or -328℉~122℉
Accuracy	±1℃
Resolution	1℃or 1℉
Temperature control range	-200℃~50℃ or -328℉~122℉
Product size(mm)	78.5 x 34.5 x 74
Mounting size(mm)	71 x 29

Control Output		Signal Input		Buzzer Beep (optional)
Cooling	Light/Defrost (optional)	Cabinet Temp	Defrost (optional)	
30A	10A	●	●	●

PRODUCT WIRING DIAGRAM



ECS-180C+ MICROUPS

Cooling Defrost Fan Light ℃/℉ Alarm 3 Sensors Door Switch Temperature Calibration

- Three channels of temperature sensors for adjusting cabinet temperature, control defrost and monitor condenser temperature.
- One channel of switch for monitoring door status or control the defrosting of multiple devices and form a real-time defrost network.
- Optional backup power supply can be connected for power outage detection and alarm.
- Multiple control outputs: compressor, defrost, fan, light/external alarm.
- Light/external alarm relay can be selected via software. When external alarm relay is selected, a remote alerter can be connected.
- Hot gas defrost delay protects the compressor so as to lengthen its service life.
- Switch between ℃ and ℉ via menu.
- With temperature sensor self-test function, multiple protection and alarm modes are available if a fault is detected.
- One-key reset for quick adjustment of parameters.
- Blade terminal connecters provide convenience for production and after-sale service to professional equipment manufacturers.

MicroUPS

MicroUPS is mainly used as power supply in case of power cut-off of special equipment. It matches with ECS-180 series. It can supply controllers continuous alarm power for more than 48 hours.

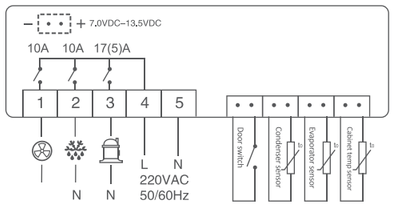
PRODUCT PARAMETER

Model	ECS-8180neo
Power supply	220VAC±10%, 50/60Hz
Overall power consumption	<3W
Measuring range	-50℃~90℃
Accuracy	±1℃(-40℃~50℃), ±2℃(50℃~70℃), ±3℃(other)
Resolution	0.1℃
Temperature control range	-50℃~85℃
Product size(mm)	78.5 x 34.5 x 82
Mounting size(mm)	71 x 29

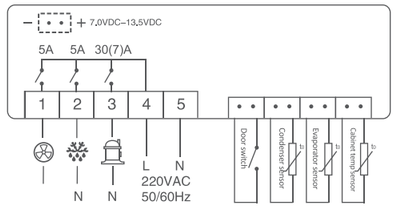
Product Series	Control Output				Signal Input					Power-off Detection (optional)
	CoolingA	Defrost A	Fan A (optional)	Light/External Alarm A	Cabinet Temp	Defrost (optional)	Condenser (optional)	Door Switch (optional)	Buzzer Beep (optional)	
A(17.10.10.00)S234.B.V	17 A	10 A	10 A	×	√	√	√	√	√	√
A(17.10.00.10)S234.B.V	17 A	10 A	×	10 A	√	√	√	√	√	√
A(17.10.05.05)S234.B.V	17 A	10 A	5 A	5 A	√	√	√	√	√	√
A(30.10.00.00)S234.B.V	30 A	10 A	×	×	√	√	√	√	√	√

PRODUCT WIRING DIAGRAM

A(17.10.10.00)S234.B.V



A(30.05.05.00)S234.B.V



SERIES 04
UNIVERSAL CONTROLLER

EPS-180,ECS-180NEO,ECS-2280NEO,ECS-11NEO ECS-2011NEO ECS-6011NEO
ECS-06CX,ECS-02CX,ECS-961NEO,ECS-974NEO,EK-3010,DHC-100+,EPS-100
STC-1000PRO/STC-1000WIFI,STC-1000HX,STC-8000HX

EPS-180

Cooling · Defrost · Fan · Light · Alarm · Door Switch · ℃/℉ · 485 Communication · 3 Sensors · Temperature Calibration · Copy Card · UPS · Current Detection · Panel Meter

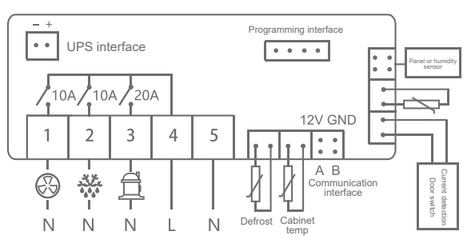
- Comprehensive waterproof design: integrated front plastic housing, with no splicing on the upper surface, significantly improving the waterproof performance;
- Large high-brightness display screen featuring white text on black background, capacitive touch design, and integrated high-brightness panel;
- Two installation methods: installation with screws from front or with elastic clamps from behind;
- Supporting 4 channels of sensors at the maximum and connection with external panel meters or humidity sensors;
- With 485 communication interface, supporting connection to networking module;
- With UPS interface, supporting power-off alarm;
- Supporting current detection against the risk of overcurrent burning;
- Modular design, with defrost, fan, light/external alarm control functions available to meet customized demands;
- Up to 20A/240VAC cooling relay output, directly driving single-phase 2HP compressor;
- Light/external alarm relay selected by software, supporting connection to the remote alarm bell when the external alarm relay function is selected;
- Optional evaporator sensor, condenser sensor, door switch and buzzer;
- With the function of synchronous defrost switch signal detection, forming a real-time sync defrost network;
- With temperature sensor self-test function, multiple protection and alarm modes available if a fault is detected;
- Hot gas defrost delay protects the compressor, extending service life;
- Supporting output by plug-in terminal, connection to quick-insertion terminal, with flexible connection.

PRODUCT PARAMETER

Model	epS-180
Power supply	220VAC±10% 50/60HZ
Overall power consumption	<5W
Measuring range	-50°C–90°C or -58°F–194°F
Accuracy	±1°C for -40°C – 50°C; ±2°C for 50°C–70°C; ±3°C for other temperature ranges
Resolution	0.1C
Temperature control range	-50°C–85°C or -58°F–185°F
Mounting size (mm)	71*29

Product Series	Control Output			Signal Input					Optional Functions			
	Cooling	Defrosting (optional)	Fan (optional)	Light/External Alarm (optional)	Cabinet Temp	Defrosting (optional)	Condenser (optional)	Door Switch (optional)	UPS (optional)	Networking Module	Current Detection	Panel Meter
A(17.10.10.00)S234.B	17A	10A	10A	x	•	•	•	•	•	optional	optional	optional
A(17.10.00.10)S234.B	17A	10A	X	10A	•	•	•	•	•	optional	optional	optional
A(17.10.05.05)S234.B	17A	10A	5A	5A	•	•	•	•	•	optional	optional	optional
A(20.10.10.00)S234.B	20A	10A	10A	x	•	•	•	•	•	optional	optional	optional

PRODUCT WIRING DIAGRAM



ECS-180NEO

Cooling · Defrost · Fan · Light · Copy Card · Door Switch · Three Sensors · Temperature Calibration · ℃/℉

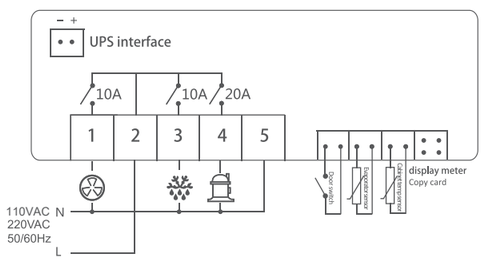
- ECS-180neo is a small, high-precision, easy-to-operate temperature controller, suitable for temperature control of cooling, defrosting, and fan.
- It supports temperature measurement, display and controlling, temperature calibration, sensor failure alarm, Fahrenheit, copy card.
- Two way input: room-temperature sensor, defrosting sensor.
- Three way output: cooling, defrosting, and fan.

PRODUCT PARAMETER

Model	ECS-180neo
Operating Voltage	110VAC/220VAC±10% 50/60Hz
Overall Power Consumption	<3W
Temperature Measurement Range	-50℃～ 90℃
Temperature Control Range	-50℃～ 85℃
Temperature Measurement Accuracy	±1℃(-40℃～ 50℃), ±2℃(51℃～ 70℃), Others±3℃
Display Resolution	0.1℃
Product Size（mm）	78.5×34.5×82
Mounting Dimension（mm）	71×29

Model	Control Output			Control Output		Other		
	Refrigeration	Defrosting	Fan	Temperature Sensor	Defrost Sensor	Buzzer	Copy card	Over-temperature Alarm
ECS-180NEO	√20A	√10A	√10A	√	√	√	√	√

PRODUCT WIRING DIAGRAM



ECS-2280NEO

Cooling Defrost Fan Light Door Switch Three Sensors Temperature Calibration ℃/℉ RS-485 communication Copy Card

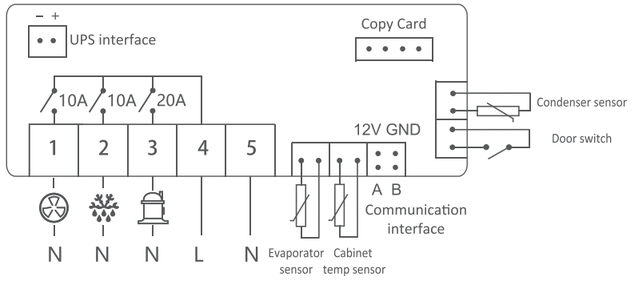
- ECS-2280neo is a small, high-precision, easy-to-operate temperature controller, suitable for temperature control of cooling, defrosting, and fan.
- It supports temperature measurement, display and controlling, temperature calibration, sensor failure alarm, Fahrenheit, copy card, and RS-485 communication.
- Two way input: room-temperature sensor, defrosting sensor.
- Three way output: cooling, defrosting, and fan.

PRODUCT PARAMETER

Model	ECS-180neo
Operating Voltage	110VAC/220VAC±10% 50/60Hz
Overall Power Consumption	<3W
Temperature Measurement Range	-50℃～ 90℃
Temperature Control Range	-50℃～ 85℃
Temperature Measurement Accuracy	±1℃(-40℃～ 50℃), ±2℃(51℃～ 70℃), Others±3℃
Display Resolution	0.1℃
Product Size（mm）	78.5×34.5×82
Mounting Dimension（mm）	71×29

Model	Control Output			Signal Input		Other				
	Refrigeration	Defrosting	Fan	Temperature Sensor	Defrost Sensor	Buzzer	Copy card	Over-temperature Alarm	485 Interface	Connect to the iCold
ECS-2280NEO	√20A	√10A	√10A	√	√	√	√	√	√	√

PRODUCT WIRING DIAGRAM



ECS-11NEO ECS-2011NEO ECS-6011NEO

Cooling Defrost Light 2 Sensors Temperature Calibration ℃/℉ Copy Card

- Switch between ℃ and ℉ via menu.
- Maximum two channels of control outputs: compressor and light/defrost.
- In light control mode, compressor is off during defrosting.
- Cabinet or evaporator temperature can be displayed by parameter configuration.
- Working status indicator on display, buzzer alarm output.
- With temperature sensor self-test function, multiple protection and alarm modes are available if a fault is detected.
- Sync display of the controller temperature by connecting to panel meter TPM-950.
- Copy card helps adjust parameters quickly.

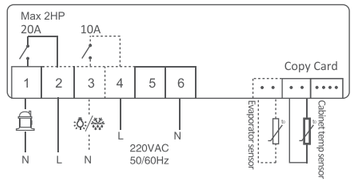
PRODUCT PARAMETER

Model	ECS-11neo/2011neo/6011neo
Power suppiy	220VAC±10% , 50/60Hz
Overall power consumption	<3W
Measuring range	-50℃~90℃ or -58℉~194℉
Accuracy	±1℃(-40℃~50℃), ±2℃(51℃~70℃), ±3℃(other)
Display resolution	1℃ or 1℉
Temperature control range	-50℃~90℃ or -58℉~194℉
Product size(mm)	78.5 X 34.5 X 82 / 78.5 X 34.5 X 74 / 78.5 X 34.5 X 39
Mounting size(mm)	71 X 29

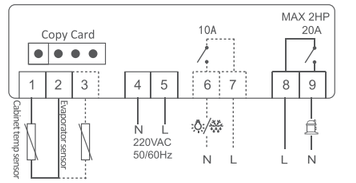
Product Series	Control Output		Signal Input
	Cooling/Heating	Light/Defrost(optional)	Cabinet Temp
A(20.10.00.00)S2.B	20A	10A	●
A(17.10.00.00)S2.B	17A	10A	●

PRODUCT WIRING DIAGRAM

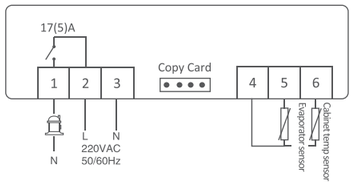
ECS-11NEO A(20.10.00.00)S2.B



ECS-2011NEO A(20.10.00.00)S2.B



ECS-6011NEO



ECS-06CX

Cooling · Defrost · Fan · Double Sensors · Door Switch · Temperature Calibration · ℃/℉ · One-Key Reset · Copy Card

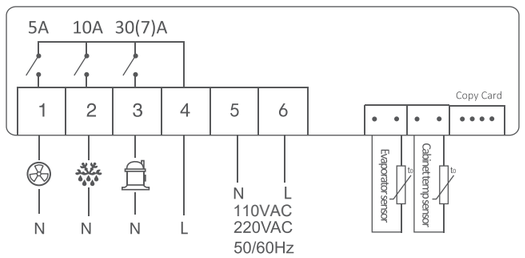
- ECS-06CX is a small, high-precision, easy-to-operate temperature controller, suitable for temperature control of cooling, defrosting, and fan.
- It supports temperature measurement, display and controlling, temperature calibration, sensor failure alarm, Fahrenheit.
- Two way input: room-temperature sensor, defrosting sensor.
- Three way output: cooling, defrosting, and fan.

PRODUCT PARAMETER

Model	ECS-06CX
Operating Voltage	110VAC/220VAC±10% 50/60Hz
Overall Power Consumption	<3W
Temperature Measurement Range	-50℃～ 99℃
Temperature Control Range	-50℃～ 99℃
Temperature Measurement Accuracy	±1℃(-40℃～ 50℃), ±2℃(51℃～ 70℃), Others±3℃
Display Resolution	Temperature Sensor：0.1℃, Defrost Sensor：1℃
Product Size	78.5×34.5×82（mm）
Mounting Dimension	71×29 (mm)

Model	Control Output		Signal Input		Other
	Refrigeration	Defrosting	Temperature Sensor	Defrost Sensor	Over-temperature Alarm
ECS-06CX	√10A	√10A	√	√	√

PRODUCT WIRING DIAGRAM



ECS-02CX

Cooling/Heating Switch · Defrost · Double Sensors · Door Switch · Temperature Calibration · ℃/℉ · One-Key Reset · Copy Card

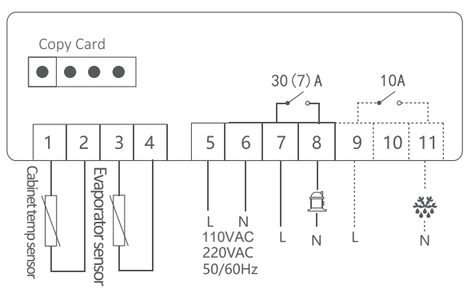
- ECS-02CX is a small, high-precision, easy-to-operate temperature controller, suitable for temperature control of cooling/heating.
- It supports temperature measurement, display and controlling, temperature calibration, sensor failure alarm, Fahrenheit.
- Two way input: room-temperature sensor, defrosting sensor.
- One way output: cooling/heating output.

PRODUCT PARAMETER

Model	ECS-02CX
Operating Voltage	110VAC/220VAC±10% 50/60Hz
Overall Power Consumption	<3W
Temperature Measurement Range	-50℃～ 99℃
Temperature Control Range	-50℃～ 99℃
Temperature Measurement Accuracy	±1℃(-40℃～ 50℃), ±2℃(51℃～ 70℃), Others±3℃
Display Resolution	0.1℃(-9.9-9.9), Others ℃
Product Size	78.5×34.5×74（mm）
Mounting Dimension	71×29 (mm)

Model	Control Output	Signal Input	Other
	Refrigeration	Temperature Sensor	Over-temperature Alarm
ECS-02CX	√10A	√	√

PRODUCT WIRING DIAGRAM



ECS-961NEO

Cooling/Heating Switch · Defrost · Temperature Calibration · Cabinet Sensor · One-Key Reset · Copy Card

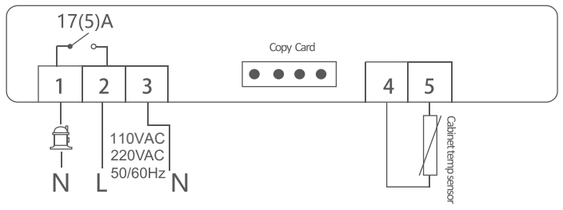
- ECS-961neo is a small, high-precision, easy-to-operate temperature controller, suitable for temperature control with a single refrigeration output.
- With temperature measurement, display and control; temperature correction; sensor failure alarm and other functions; shutdown defrost function.
- One-way sensor input: the library temperature probe sensor.
- One control output: refrigeration equipment output.

PRODUCT PARAMETER

Model	ECS-961neo
Operating Voltage	110VAC/220VAC±10% 50/60Hz
Overall Power Consumption	<3W
Temperature Measurement Range	-50℃～ 99℃
Temperature Control Range	-50℃～ 99℃
Temperature Measurement Accuracy	±1℃(-40℃～ 50℃), ±2℃(51℃～ 70℃), Others±3℃
Display Resolution	0.1℃/1℃
Product Size（mm）	78.5×34.5×82
Mounting Dimension（mm）	71×29

Model	Control Output	Signal Input	Other	
	Cooling/Heating	Temperature Sensor	Copy card	Shutdown defrosting
ECS-961NEO	√17A	√	√	√

PRODUCT WIRING DIAGRAM



ECS-974NEO

Cooling · Defrost · Fan · Double Sensors · Temperature Calibration · One-Key Reset · Copy Card

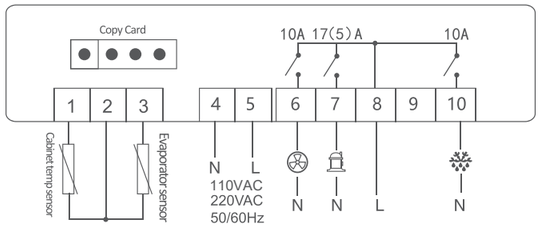
- ECS-974neo is a small, high-precision, easy-to-operate temperature controller, suitable for temperature control of of refrigeration, defrosting and fan output.
- With temperature measurement, display and control; temperature correction; sensor failure alarm, temperature overrun alarm and other functions.
- Two-way sensor input: temperature probe sensor for the store, defrost probe sensor.
- Three control outputs: refrigeration equipment output, defrost equipment output, fan equipment output.

PRODUCT PARAMETER

Model	ECS-974neo
Operating Voltage	110VAC/220VAC±10% 50/60Hz
Overall Power Consumption	<3W
Temperature Measurement Range	-50℃～ 99℃
Temperature Control Range	-50℃～ 99℃
Temperature Measurement Accuracy	±1℃(-40℃～ 50℃), Others ±2℃
Display Resolution	0.1℃/1℃
Product Size（mm）	78.5×34.5×74
Mounting Dimension（mm）	71×29

Model	Control Output			Control Output		Other	
	Refrigeration	Defrosting	Fan	Temperature Sensor	Defrost Sensor	Copy card	Over-temperature Alarm
ECS-974NEO	√17A	√10A	√10A	√	√	√	√

PRODUCT WIRING DIAGRAM



EK-3010

Cooling Defrost Fan Heating Switch Double Sensors

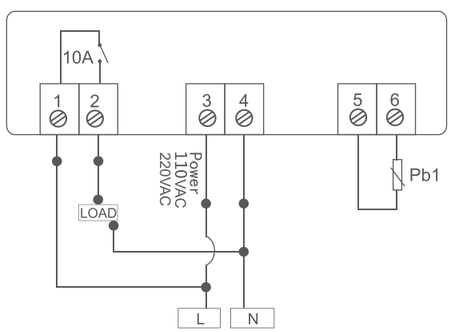
- EK-3010 is a small temperature controller, suitable for temperature control of refrigeration or heating equipment.
- With temperature measurement, display and control; temperature correction; temperature overrun and sensor fault alarm function; one-touch restore function for factory-set parameters.
- Key lock function, trial time function.
- One-way sensor input: temperature probe sensor.
- One-way control output: refrigeration/heating equipment.

PRODUCT PARAMETER

Model	EK-3010
Operating Voltage	110VAC/220VAC±10%; 50/60Hz
Overall Power Consumption	<5W
Temperature Measurement Range	-40℃～85℃
Temperature Control Range	-40℃～99℃
Temperature Measurement Accuracy	±1℃(-30℃～50℃), Others ±2℃;
Display Resolution	1℃/0.1℃
Product Size	85.0×35.0×63.8 (mm)
Mounting Dimension	71×29 (mm)
Rated Current of Output Relay	10A/220VAC

Model	Control Output		Signal Input	Other		
	Refrigeration (10A)	Defrosting (10A)	Temperature Sensor	Buzzer	Over-temperature alarm	Parameter Reduction
EK-3010	√	√	√	√	√	√

PRODUCT WIRING DIAGRAM



DHC-100+

Humidify Dehumidify Alarm Sensors

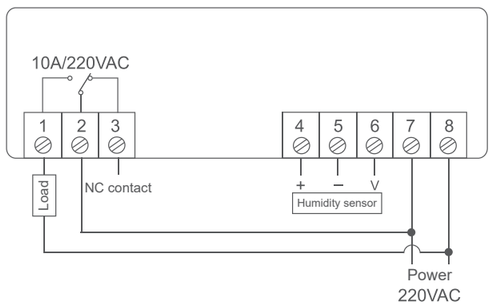
- Capable of both humidification and dehumidification modes, and supporting humidity control based on humidity set and return difference;
- Supporting control output delay protection, humidity correction, humidity over-limit alarm and sensor fault alarm;
- Time proportioning adjustable for startup and shutdown after sensor failure, with keyboard lock function;
- One-channel sensor input: humidity sensor;
- One-channel control output: humidification/dehumidification equipment output.

PRODUCT PARAMETER

Model	DHC-100+
Power supply	220VAC±10% 50/60HZ
Overall power consumption	< 3w
Measuring range	0%RH –99%RH
Control range	10%RH –99%RH
Accuracy	±6% RH (0RH–59RH) and 8%RH for others
Resolution	0.1°C for 40°C–99.9°C, 1°C for others
Product size (mm)	75x34.5x85
Mounting size (mm)	71x29

Model	Control Output		Signal Input	Others	
	Humidification	Humidification	Cabinet Temp Probe	Buzzer Beep	Overtemperature Alarm
DHC-100+	•	•	•	•	•

PRODUCT WIRING DIAGRAM



ThinkMax EPS-100

Cooling*2 | Defrost*2 | Fan*2 | Light*2 | Alarm | Door Switch | 4 Sensors | Temperature Calibration | ℃/℉ | 485 Communication | One-Key Reset

- Modular design for software and hardware to meet customized demands for optional input and output configuration;
- Driving up to 6 channels of loads;
- Optional defrost sensor, condenser sensor, door switch and buzzer;
- Up to 20A/240VAC cooling relay output, directly driving 2HP/240VAC single-phase compressor
- White LED display for indication of various symbols of working status, with Celsius temperature accurate to 0.1°C;
- With temperature sensor self-test function, multiple protection and alarm modes available if a fault is detected;
- Copy card and one-key parameter reset functions are convenient for production and after-sales service to manufacturers;
- Supporting various configuration modes of digital signals and various types of digital signal input modes;
- Out-of-limit alarm per absolute temperature or relative temperature;
- Hot gas defrost delay protects the compressor, extending service life;
- Two classes of ECO-DOOR modes, automatically recognizing routine mode, ECO mode – class 1 and ECO mode – class 2;
- Supporting TTL/485 master-slave communication, similar to MODBUS protocol;
- Vertical waterproof front panel: IP65, with anti-seepage structure for mounting hole, and optional anti-drip cover for harsh application environment such as kitchens;
- With ELITECH special module to form 2G/4G/WIFI network; supporting base station /GPS positioning and ELITECH ICOLD service;
- The master is able to write/read the controller parameters, and read the controller's working and error status, and the slave assigned/ synchronized to defrost, power on/off, or turn on/off light;
- Applicable to supermarket cabinets, cake and ice-cream showcases, etc. by connecting to external display TPM-950.

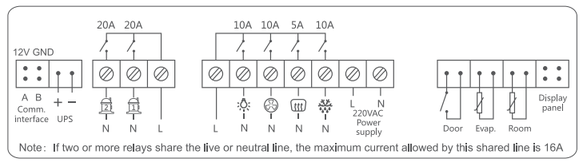
PRODUCT PARAMETER

epS-100-C1xC2xD1xD2xFGxF1xF2xAxL1xL2x -S123-1U-Px-Nx-CPT/F-CR/G/B/W-Vxx.xx

epS-100	C1x	C2x	D1x	D2x	FGx	F1x	F2x	Ax	L1x	L2x	S123	I	U	Px	Nx	CPx	CR/G/B/W	Vxx.xx
Model	Cooling1	Cooling 2	Defrost 1	Defrost 2	Demist	FAN 1	FAN 2	External Alarm	Light 1	灯光 2	Sensor	Buzzer	UPS	P(VAC)	Network	Terminal	Display	Software
0	C10=None	C20=None	D10=None	D20=None	FG0=None	F10=None	F20=None	A0=None	L10=None	L20=None	S=cabinet temp	Void=None	Void=None	P0=12	NO=None	CPT=Screw	CR=Red	Version
1	C1 1=HF161	C21=HF161	×	×	×	×	×	×	×	×	1=Defrosting	I=Yes	U=Yes	P1=24	N1=TTL	CPF=Insert	CG=Green	
2	C12=HF152	C22=HF152	D12=HF152	×	×	×	×	×	×	×	2=Condensation	×	×	P2=100	N2=232	×	CB=Blue	
3	C13=HF3FF	C23=HF3FF	D13=HF3FF	×	×	×	×	×	×	×	3=Door switch	×	×	P3=115	N4=485	×	CW=White	
4	×	×	×	×	×	F14=HF32FG	×	×	×	×	×	×	×	P4=220	×	×	×	Vxx.xx
5	×	×	×	D25=HF46F	FG5=HF46F	×	F25=HF46F	A5=HF46F	×	L25=HF46F	×	×	×	P5=230	×	×	×	
6	×	×	×	×	×	×	×	×	L16=HF32FVG	×	×	×	×	P6=240	×	×	×	
7	×	×	×	×	×	×	×	×	L17=HF115F	×	×	×	×	P7=380	×	×	×	

Note: Six output loads at the maximum, with demist / defrost 2 / fans 2 and 1/external alarm / light 2 sharing one relay tag number

PRODUCT WIRING DIAGRAM



STC-1000PRO/STC-1000WIFI

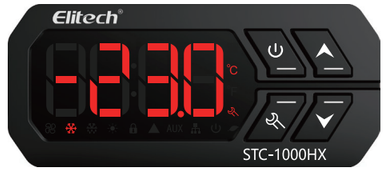
- STC-1000Pro/STC-1000WiFi is a plug-and-play smart digital temperature controller. it features two pre-wired heating and cooling outlets that not only can keep your appliances at ideal temperatures automatically but also can keep safe and reliable due to the usage of V-0 classified flame-retardant ABS material.
- STC-1000Pro/STC-1000WiFi with UK/EU/US version can be widely used in areas that need automatic temperature controls such as homebrew, aquarium , incubation, pet breeding , seedling heat mats , culture fermentation,etc.

PRODUCT PARAMETER

Model	STC-1000Pro/STC-1000WiFi
Operating Voltage	110-240VAC, 50/60HZ
Overall Power Consumption	< 5W
Temperature Measurement Range	-45°C ~ 115°C / -49°F-239°F
Temperature Control Range	-40°C ~ 110°C/-40°F ~ 230°F
Temperature Measurement Accuracy	±1°C/±2°F
Display Resolution	0.1°C/0.1°F
Cable length(Probe)	2m
Dimension（mm）	165 x 60 x 32
Wi-Fi type	2.4GHZ WIFI (STC-1000 Wifi Only)

STC-1000HX

Cooling | Heating Switch | Fan | Alarm | 2 Sensors



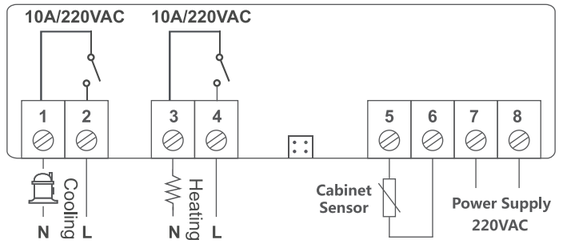
- STC-1000X temperature controller is a small, high-precision, easy-to-operate temperature controller, suitable for temperature control with cooling, automatic heating changeover output; aesthetically pleasing with new design.
- With temperature measurement, temperature display, temperature control, temperature correction, sensor fault alarm functions; Celsius, Fahrenheit conversion function.
- One-way sensor input: temperature probe sensor.
- Two-way control outputs: refrigeration and heating equipments.

PRODUCT PARAMETER

Model	STC-1000HX
Operating Voltage	110VAC/220VAC±10%; 50/60Hz
Overall Power Consumption	<3W
Temperature Measurement Range	-50℃～ 120℃
Temperature Control Range	-49℃～ 109℃
Temperature Measurement Accuracy	±1℃(-20℃～ 50℃),Others ±1.5℃
Display Resolution	0.1℃
Product Size（mm）	80×35×66
Mounting Dimension（mm）	71×29 (mm)

Model	Control Output		Signal Input	Other	
	Refrigeration (10A)	Defrosting (10A)	Temperature Sensor	Buzzer	℃/℉
STC-1000X	√	√	√	√	√

PRODUCT WIRING DIAGRAM



STC-8000HX

Cooling | Defrost | Alarm | Three Sensors

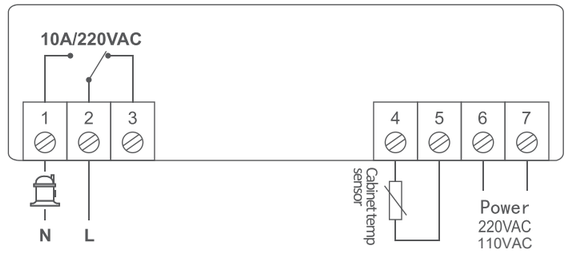
- STC-8080A+ temperature controller is a small, high-precision, easy-to-operate temperature controller, suitable for temperature control with a single refrigeration output.
- With temperature measurement, temperature display, temperature control, temperature correction, sensor fault alarm functions.
- One-way sensor input: temperature probe sensor.
- One-way control output: refrigeration equipment.

PRODUCT PARAMETER

Model	STC-8000HX
Operating Voltage	110VAC/220VAC±10%; 50/60Hz
Overall Power Consumption	<3W
Temperature Measurement Range	-50℃～ 99℃
Temperature Control Range	-40℃～ 50℃
Temperature Measurement Accuracy	±1℃(-40℃～ 70℃), Others ±2℃
Display Resolution	1℃
Product Size (mm)	80.5×34.9×65.8
Mounting Dimension (mm)	71×29
Rated Current of Output Relay	10A/220VAC

Model	Control Output	Signal Input	Other	
	Refrigeration (10A)	Temperature Sensor	Buzzer	Over-temperature Alarm
STC-8080A+	√	√	√	√

PRODUCT WIRING DIAGRAM



SERIES 05

PANEL METERS

TPM-110/120, TPM-900+/910+/920, TPM-950/960/970/980, DST-50,DST-30

TPM-110/120

Cooling Defrost Fan Light Door Switch Three Sensors Temperature Calibration ℃/℉ RS-485 communication Copy Card

- Split design, touch button, artistic appearance, easy to install, separate strong and weak electricity, much safer
- Built-in networking module, with 485 communication interface, supporting connection to the cloud through internal or external networking module
- Copy card to help adjust parameters quickly
- Three channels of temperature sensors used to adjust cabinet temperature and control defrost and monitor condenser temperature
- One channel of switch used to monitor door status or control the defrosting of multiple devices and form a real-time sync defrost network
- Hot gas defrost delay protects the compressor, extending service life
- Multiple fan run modes for tailored needs
- With temperature sensor self-test function, multiple protection and alarm modes available if a fault is detected

PRODUCT PARAMETER

Model	TPM-110/120
Power supply	220VAC±10% 50/60HZ
Overall power consumption	<5W
Measuring range	-50°C–90°C or -58°F–194°F
Accuracy	±1°C for -40°C–50°C; ±2°C for 50°C–70°C; ±3°C for other temperature ranges
Resolution	0.1°C
Temperature control range	-50°C–85°C or -58°F–185°F
Product size (mm)	180 X 30 X 17.5 (display) 139 x 133 x 40 (POWERBOX MINI) 85 x 63 x 33 (μ BOX)
Mounting size (mm)	172 X 25

TPM-900+/910+/920

- One channel for temperature measurement.
- Measurement unit: ℉/℃. Calibration temperature and display resolution is set by default.
- Flush mounting structure; integral waterproof design; simple and artistic modeling.
- Quick connect terminals provide convenience for production and after-sale service to professional equipment manufacturers.

TPM-900+

TPM-910+/920

PRODUCT PARAMETER

Model	TPM-900+/910+/920
Power supply	220VAC±10%, 50/60Hz
Overall power consumption	<3W
Measuring range	-50℃~120℃ or -58℉~248℉
Accuracy	±1℃(-40℃~50℃); ±2℃(51℃~70℃); ±3℃(others)
Resolution	1/0.1℃/℉
Calibration temperature	-5℃~5℃
Product size(mm)	64 x 31
Mounting size(mm)	58.4 x 25.7

TPM-950/960/970/980

- TPM-950/TPM-970
- Match with Refulgence Series controllers.
- Communicate with the controller to display real-time temperature.
- Fully waterproof, safe and artistic.
- Silk-screen symbol in front panel can be tailored.

TPM-960/TPM-980

- Independent panel meter.
- Measurement unit: ℉/℃. Calibration temperature and display resolution is set by default.
- Fully waterproof, simple and artistic.
- Blade terminal connecters provide convenience for production and after-sale service to professional equipment manufacturers.
- Silk-screen symbol in front panel can be tailored.

TPM-950

TPM-960

TPM-970/980

PRODUCT PARAMETER

Model	TPM-950/970
Power supply	5VDC±10%(No independent power supply needed as it matches with controllers)
Overall power consumption	<1W
Temperature display range	-99℃~99.9℃ or -99℉~999℉
Resolution	1℃(-99℃~-10℃), 0.1℃(-9.9℃~99.9℃); 1℉
Product size(mm)	70 x 23.5 x 17.2（TPM-950） / 106 x 68 x 25（TPM-970）
Mounting size(mm)	65.5 x 19（TPM-950） / 97 x 51（TPM-970）

Model	TPM-960/980
Power supply	110~220VAC±10%, 50/60Hz
Overall power consumption	<1W
Measuring range	-50℃~120℃ or -58℉~248℉
Accuracy: Accuracy	±1℃(-40℃~50℃); ±2℃(51℃~70℃); ±3℃(others)
Resolution	1/0.1℃/℉
Calibration temperature	-5~5℃
Product size(mm)	70 x 23.5 x 34.20(TPM-960) / 106 x 68 x 25（TPM-980）
Mounting size(mm)	65.5 x 19(TPM-960) / 97 x 51（TPM-980）

DST-50

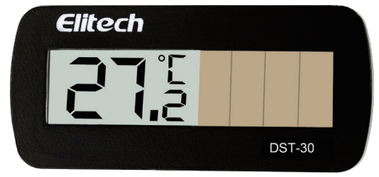
Solar power supply; omniseal waterproof design. Backup battery is equipped to keep the product running without light source. It is applied to various devices that require measuring and displaying temperature, such as refrigerated cabinets, display cases, etc.

PRODUCT PARAMETER

Model	DST-50
Power supply	Solar panel
Measuring range	-50℃~150℃(When the temperature goes above 80℃ or below -20℃, the sensor needs to be tailored.)
Accuracy	±1℃(-20℃~80℃), ±2℃(other)
Resolution	0.1
Operating environment	illuminance ≥100Lux, humidity: 5~85%RH, temperature: -10~45℃
Mounting size(mm)	68 x 29

DST-30

Solar power supply; omniseal waterproof design. For various devices that require accurate temperature measurement, such as refrigerated cabinets, display cases, etc.



PRODUCT PARAMETER

Model	DST-30
Power supply	Solar panel
Measuring range	-50℃~150℃(When the temperature goes above 80℃ or below -20℃, the sensor needs to be tailored.)
Accuracy	±1℃(-20℃~80℃), ±2℃(other)
Resolution	0.1
Operating environment	illuminance ≥ 100Lux, humidity: 5~85%RH, temperature: -10~45℃
Product size(mm)	66 x 30 x 11.6
Mounting size(mm)	59.5 x 26

SERIES 06
ACCESSORIES

CONSTANT VOLTAGE/CURRENT LED POWER SOURCE
HIGH-POWER LED POWER SUPPLY 60W/90W/120W/150W
QUICK-FREEZING CABINET SENSOR
TEMPERATURE SENSOR
FULLY PLASTIC-SEALED SENSOR
MAGNETIC DOOR SWITCH (SS-1, SS-2)
TEMPERATURE AND HUMIDITY MODULE (SS-3, SS-4)
PRESSURE TRANSMITTERS
WATERPROOF REAR HOUSING CPK-30
WATERPROOF HOUSING CPK-50
COPY CARD CPK-4
RCW-3(WIFI/4G)

CONSTANT VOLTAGE/CURRENT LED POWER SOURCE

- Energy-saving and environment friendly; saves more than 80% energy compared with traditional light sources with same light effects.
- Service life is up to 50,000 hours.
- The product has passed surge test. Its anti-interference level reaches industry standard grade four. It's very stable and reliable.
- Waterproof and dustproof; its high protection grade can meet the requirements of operating environment of commercial refrigerators.
- Match different powers; with complete range of specifications; with 35W/25W/15W/8W mainstream configuration.

PRODUCT PARAMETER

Model	Specifications (constant voltage)	Specifications (constant current)
Rated input voltage	220VAC	100VAC~240VAC
Input voltage range	185VAC~264VAC	90VAC~264VAC
Grid frequency range	47HZ~63HZ	47Hz~63Hz
Max standby power consumption	≤1W	≤1W
Full-load transfer efficiency	≥75 %(220VAC)	≥ 80% (110VAC/220VAC)
Ambient temperature	×	≥ 0.9 (110VAC/220VAC)
Full-load power factor	-10℃~55℃	-10℃~55℃
Operating temperature	10%~90%RH (non-condensing)	10%~90%RH (non-condensing)
Storage temperature	-25℃~75℃	-25℃~75℃
Storage humidity	10%~90%RH (non-condensing)	10%~90%RH (non-condensing)

CONSTANT VOLTAGE TYPE:

Model	Rated Output Power	Rated Output Current	Rated Output Current	Output Ripple	Full-load Transfer Efficiency	Input Voltage Range	Full-load Power Factor	Short Circuit Protection	Open Circuit Protection	Approval
ledD-B-12VDC-8W	8W	12V	0.7A	≤5%	≥75%	185VAC~264VAC	≥0.9	●	●	×
ledD-B-12VDC-15W	15W	12V	1.3A	≤5%	≥75%	185VAC~264VAC	≥0.9	●	●	×
ledD-B-12VDC-25W	25W	12V	2.1A	≤5%	≥80%	185VAC~264VAC	≥0.9	●	●	3c
ledD-B-12VDC-35W	35W	12V	3.0A	≤5%	≥80%	185VAC~264VAC	≥0.9	●	●	3c
ledD-B-24VDC-8W	8W	24V	0.35A	≤5%	≥75%	185VAC~264VAC	≥0.9	●	●	×
ledD-B-24VDC-15W	15W	24V	0.65A	≤5%	≥75%	185VAC~264VAC	≥0.9	●	●	×
ledD-B-24VDC-25W	25W	24V	1.05A	≤5%	≥80%	185VAC~264VAC	≥0.9	●	●	3c
ledD-B-24VDC-35W	35W	24V	1.5A	≤5%	≥80%	185VAC~264VAC	≥0.9	●	●	3c
SPS-13VDC-15W	15W	13V	1.16A	≤2%	≥80%	100VAC~240VAC	×	●	●	UL
SPS-13VDC-20W	20W	13V	1.54A	≤2%	≥80%	100VAC~240VAC	×	●	●	UL
SPS-13VDC-40W	40W	13V	3.07A	≤2%	≥80%	100VAC~240VAC	×	●	●	UL

CONSTANT CURRENT TYPE

Model	Rated Output Power	Rated Output Current	Input Voltage Range	Output Ripple	Full-load Transfer Efficiency	Input Voltage Range	Full-load Power Factor	Short Circuit Protection	Open Circuit Protection	Approval
ledD-B-320mA-15W	15W	20~40V	1050mA	≤2.5%	≥80%	90VAC~264VAC	≥0.9	●	●	3C
ledD-B-320mA-25W	25W	40~70V	1050mA	≤2.5%	≥80%	90VAC~264VAC	≥0.9	●	●	3C
ledD-B-1.05A-15W	10.5W~14.7W	10~14V	320mA	≤2%	≥75%	90VAC~264VAC	≥0.9	●	●	3C

HIGH-POWER LED POWER SUPPLY 60W/90W/120W/150W

- Power coverage: 60W/90W/120W/150W; fully meet the demand of different power for various commercial supermarket cabinets.
- High power factor; PFC>0.9; service life of LED light is efficiently improved; luminous decay is avoided.
- The product has passed surge test. Its anti-interference level reaches industry standard grade four. It's very stable and reliable.
- Conform to the latest national 3C requirements for LED control devices.

PRODUCT PARAMETER

Rated input voltage	220VAC
Input voltage range	185VAC~264VAC
Grid frequency range	47HZ~63HZ
Max standby power consumption	≤ 1W
Full-load transfer efficiency	≥ 80% (220VAC)
Full-load power factor	≥ 0.9 (220VAC)
Rated output current	24VDC
Output voltage deviation	≤5% (typ=24VDC)
Rated output power	≥90W
Output ripple range	≤ 2% (220VAC)
Output overpower protection	≤ 150% (185VAC) auto recovery to running after the fault is removed.
Operating Environment	
Ambient temperature	-10℃~55℃
Operating temperature	10%~90%RH (non-condensing)
Storage temperature	-25℃~75℃
Storage humidity	10%~90%RH (non-condensing)
Electrical Specifications	
Safety class	B
Insulation resistance	≥100MΩ
Leakage current	≤10mA
Max temperature rise	≤50℃
Mean time between failures	MTBF≥50000 hour

Model	Rated Output Power	Rated Output Voltage	Rated Output Current	Output Voltage Ripple	Full-load Transfer Efficiency	Input Voltage Range	Full-load Power Factor	Short Circuit Protection	Open Circuit Protection	Approval
ledD-B-24VDC-60W	60W	24V	2.5A	185Vac~264Vac	≤5%	≥80%	≥0.9	•	•	3C
ledD-B-24VDC-90W	90W	24V	3.75A	185Vac~264Vac	≤5%	≥80%	≥0.9	•	•	
ledD-B-24VDC-120W	120W	24V	5A	185Vac~264Vac	≤5%	≥80%	≥0.9	•	•	
ledD-B-24VDC-150W	150W	24V	6.25A	185Vac~264Vac	≤5%	≥80%	≥0.9	•	•	

QUICK-FREEZING CABINET SENSOR

- Food contact materials; energy saving and environment friendly.
- Easy to install; drawing resistance; bending resistance.
- Plug-in probe can reach inside of goods and sense temperature
- Quickly and accurately.

PRODUCT PARAMETER

Description	Measuring Range	Protection Grade	Heating Element Voltage(Max)	Heating Element Resistance
Plug-in NTC sensor (L-shaped handle)	-50 ～ +150℃	IP67	×	×
Plug-in NTC sensor (L-shaped handle, with heating element)	-50 ～ +150℃	IP67	24VDC	7.2Ω、10.8Ω
Plug-in PTC sensor (L-shaped handle)	-50 ～ +150℃	IP67	×	×

TEMPERATURE SENSOR

- Adopt Japanese chip with high accuracy, small annual drift and long service life.
- Withstand 3000 times of high and low temperature shock; reliable packaging; durable in use.

FULLY PLASTIC-SEALED SENSOR

- Two-layered protection harness: coated by TPE material and Teflon material inside, comply with environment protection requirements. Applicable to low temperature and moist environments.
- Made of TPE with high elasticity and strength; apply to low temperature environment; conform to environment protection requirements.
- Adopt Japanese chip with high accuracy, small annual drift and long service life.
- Protection grade: IP68 • Sensor size: 6 x 5mm;
- Length: 0.5m, 1.0m, 1.5m , 2.0m, 2.5m, 3.0m, 3.5m, 4.0m, 4.5m, 5.0, 5.5m, 6.0m

PRODUCT PARAMETER

Description	Measuring Range	Protection Grade
NTC sensor, Φ5x25mm round bottom, stainless steel, PE cable	-50 ~ +125℃	IP67
NTC sensor, Φ5x30mm round bottom stainless steel probe with Teflon sheathed line.	-70 ~ +125℃	IP67
PT-1000 sensor, Φ5x30mm round bottom stainless steel probe with PTFE line.	-70 ~ +105℃	IP67
PT1000 (PT deep temperature) sensor, Φ5x30stainless steel, soft, PTFE cable.	-200 ~ +105℃	IP67

MAGNETIC DOOR SWITCH (SS-1, SS-2)

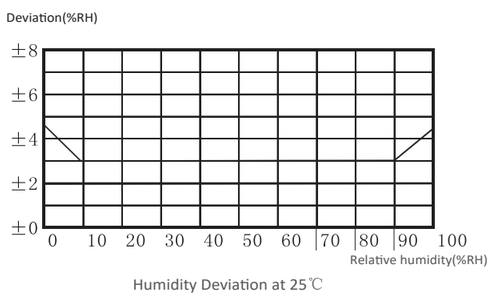
- Compact in size, easy to install, reliable in performance, wear resistance, heat-resistant.
- Sealed, safe and stable

PRODUCT PARAMETER

Initial contact resistance	≤ 150mΩ (except the cable)
Maximum switching voltage	200VDC
Maximum switching current	500mA
Maximum switching power	10W /12VA
Maximum carrying current	1A
Preventive withstanding voltage between open contacts	50VDC
Insulation resistence	1000M
Mechanical endurance	100 million times
Electrical endurance	100000 times @100V,100mA
Operating ambient temperature	-25℃~85℃
Storage temperature	-25℃~85℃
Shock	30g
Vibration	20g
Protection grade of the sensor	IP67
sensing distance	33mm≤sensing distance≤37mm, activated. (SS-1) 30mm≤sensing distance≤40mm, activated. (SS-2)
In a non-magnetic environment	sensing distance<35mm: contacts closed sensing distance>35mm: contacts open

TEMPERATURE AND HUMIDITY MODULE (SS-3, SS-4)

- Voltage signal output in proportion.
- Low power consumption, high accuracy, long-term stability.
- Waterproof design, compact size.



Humidity Deviation at 25℃

SS-3

SS-4

PRESSURE TRANSMITTERS

- Germany ceramic chip: made of special ceramic material, solid ceramic sensitive diaphragm, characterized of 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; completely meet the vibration and shock requirements of refrigerating units, more stable and reliable performance
- Interior sealing compound technology; high protection grade; at full consideration of application environment of refrigerating systems, interior sealing treatment is adopted to effectively avoid ship and circuit failure caused by condensation by inner negative pressure.
- Anti-interference design ensures stable 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 calibration and digital compensation technology helps effectively restrain errors caused by temperature drift, so the product is highly accurate and stable.
- Multiple choices of pressure ports; flexible and convenient for installation.

PRODUCT PARAMETER

Model	Pressure Range	Adaptor	Electric Interface	Cable	Signal Output
PA-1000-FS3-X1	-1 ~ 16bar	7/16-20UNF-2B female thread	Packard interface	1.5m Packard cable	Current
PA-1001-FS3-X1	-1 ~ 40bar	7/16-20UNF-2B female thread	Packard interface	1.5m Packard cable	Current
PA-1002-FS3-X1	-0.5 ~ 11bar	7/16-20UNF-2B female thread	Packard interface	1.5m Packard cable	Current
PA-1003-FS3-X1	-0.5 ~ 11bar	7/16-20UNF-2A male thread	Packard interface	1.5m Packard cable	Current
PA-1004-FS3-X1	0 ~ 30bar	7/16-20UNF-2B female thread	Packard interface	1.5m Packard cable	Current
PA-1005-FS3-X1	0 ~ 30bar	7/16-20UNF-2A male thread	Packard interface	1.5m Packard cable	Current
PA-1006-FS3-X1	-0.5 ~ 7bar	7/16-20UNF-2A male thread	Packard interface	1.5m Packard cable	Current
PA-1100-FS4-V-L0	0~ 10 bar	7/16-20UNF-2B female thread with wire	Packard interface	1.5m Packard cable	Voltage
PA-1101-FS4-V-L0	0~ 16 bar	7/16-20UNF-2B female thread with wire	Packard interface	1.5m Packard cable	Voltage
PA-1102-FS4-V-L0	0~20bar	7/16-20UNF-2B female thread with wire	Packard interface	1.5m Packard cable	Voltage
PA-1103-FS4-V-L0	0~ 30 bar	7/16-20UNF-2B female thread with wire	Packard interface	1.5m Packard cable	Voltage
PA-1104-FS4-V-L0	0~ 35 bar	7/16-20UNF-2B female thread with wire	Packard interface	1.5m Packard cable	Voltage
PA-1105-FS4-V-L0	0~ 45 bar	7/16-20UNF-2B female thread with wire	Packard interface	1.5m Packard cable	Voltage
PA-1100-FS4-V-L3	0~ 10 bar	7/16-20UNF-2B female thread Packard 3 Male	Packard interface	1.5m Packard cable	Voltage
PA-1101-FS4-V-L3	0~ 16 bar	7/16-20UNF-2B female thread Packard 3 Male	Packard interface	1.5m Packard cable	Voltage
PA-1102-FS4-V-L3	0~ 20 bar	7/16-20UNF-2B female thread Packard 3 Male	Packard interface	1.5m Packard cable	Voltage
PA- 1103-FS4-V-L3	0~ 30 bar	7/16-20UNF-2B female thread Packard 3 Male	Packard interface	1.5m Packard cable	Voltage
PA-1104-FS4-V-L3	0~ 35 bar	7/16-20UNF-2B female thread Packard 3 Male	Packard interface	1.5m Packard cable	Voltage
PA-1105-FS4-V-L3	0~ 45 bar	7/16-20UNF-2B female thread Packard 3 Male	Packard interface	1.5m Packard cable	Voltage
PA-1100-FS4-V-TO	0~ 10 bar	Copper tubing with wire	Packard interface	1.5m Packard cable	Voltage
PA-1101-FS4-V-TO	0~ 16 bar	Copper tubing with wire	Packard interface	1.5m Packard cable	Voltage
PA-1102-FS4-V-TO	0~ 20 bar	Copper tubing with wire	Packard interface	1.5m Packard cable	Voltage
PA-1103-FS4-V-TO	0~ 30 bar	Copper tubing with wire	Packard interface	1.5m Packard cable	Voltage
PA-1104-FS4-V-TO	0~ 35 bar	Copper tubing with wire	Packard interface	1.5m Packard cable	Voltage
PA-1105-FS4-V-T0	0~ 45 bar	Copper tubing with wire	Packard interface	1.5m Packard cable	Voltage
PA-1100-FS4-V-T3	0~ 10 bar	Copper tubing Packard 3 Male	Packard interface	1.5m Packard cable	Voltage
PA-1101-FS4-V-T3	0~ 16 bar	Copper tubing Packard 3 Male	Packard interface	1.5m Packard cable	Voltage
PA- 1102-FS4-V-T3	0~ 20 bar	Copper tubing Packard 3 Male	Packard interface	1.5m Packard cable	Voltage
PA-1103-FS4-V-T3	0~ 30 bar	Copper tubing Packard 3 Male	Packard interface	1.5m Packard cable	Voltage
PA-1104-FS4-V-T3	0~ 35 bar	Copper tubing Packard 3 Male	Packard interface	1.5m Packard cable	Voltage
PA-1105-FS4-V-T3	0~ 45 bar	Copper tubing Packard 3 Male	Packard interface	1.5m Packard cable	Voltage

WATERPROOF REAR HOUSING CPK-30

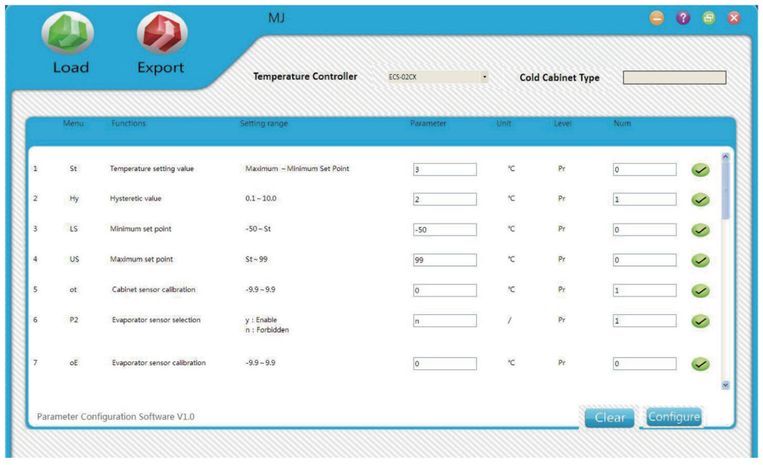
- Waterproof grade（rear): IPX4.
- It can effectively improve controllers' protection grade and reduces customers' after-sales repair fees.
- Easy to install.

WATERPROOF HOUSING CPK-50

- Its front panel is a standalone, transparent and shifting housing for installing a controller in.
- It integrates power button and light button.
- Its rear apron can effectively prevent condensing water dropping in. It has high protection grade.
- Convenient to install and disassemble.

COPY CARD CPK-4

- Convenient for manufacturers and distributors' production and after-sales maintenance.
- Special software configured; download or upload copy card data directly via computer USB port.
- Freely add the control parameters of Refulgence series controllers by loading EXCEL sheet.
- Manage controller parameters of various cabinets in file format.
- Auto read of the stored parameters in the copy card by software.
- Software language: Chinese, English; compatible with WIN7, WIN8 and WIN10.



RCW-3(WIFI/4G)

RCW-3 series of IOT pipeline modules can be used with Elitech thermostats and other end products to realize remote control and monitoring of end products through Elitech iCold App and cloud platform. With remote alarm messaging function and 2G, CAT1, 4G and WiFi data transmission modes, it can monitor the operation status of end products in a real-time manner. Moreover, it is of modular design, and is easy to install through multiple ways such as fixed hole, magnetic suction and foam tape.

Android APP

Apple APP

PRODUCT PARAMETER

Model	RCW-3
Power supply	9–24V±10% DC
Ambient temperature	-10°C–+65°C
Type of SIM card	NANO SIM card, supporting all communication systems
Data upload interval	Default 2 min.
Load capacity	1 module can connect 3 devices for networking
Antenna type	Onboard antenna or external glue stick antenna
Transmission mode	2G, CAT1, 4G, WIFI
Interface	RS-485 waterproof plug, extending up to 50m
Status display	LED indicator
Overall size (mm)	71X46X19.5

Indicator Status Description

Network Connection Status Indicator (Blue Light)

Normally on: Network connection of the pipeline module is normal.

Flashing: WIFI devices are waiting for networking.

Out: The pipeline module is not networked.

Device Connection Status Indicator (Green Light)

Normally on: The communication between the pipeline module and the controller is normal.

Flashing: The connection between the pipeline module and the control is not established.

Module Operation Status Indicator (Red Light)

Normally on: abnormal

Out: normal

SERIES 07

COLD STORAGE CONTROL SYSTEM SOLUTION

MTC-5060,MTC-5080,SPLIT TYPE ELECTRONIC CONTROL SYSTEM,ECB-5060S/ECB-5080S

ECB-1000 SERIES PLASTIC ELECTRIC CABINET PRODUCTS SPECIFICATION

MTC-5060 MTC-5080

Cooling Defrost Fan 2NTC Temperature Calibration

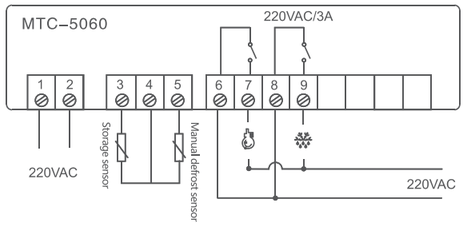
Applicable in cold storage control, provides refrigerating output, defrosting and other functions; possess temperature measurements, display, control, and over-limit temperature alarms and sensor faulty functions and etcetera.

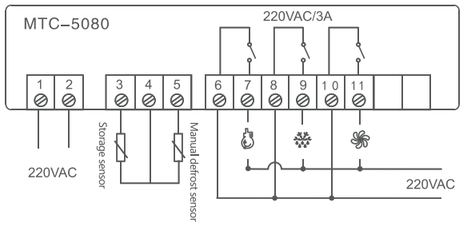
PRODUCT PARAMETER

Power supplu	220VAC±10%，50/60HZ
Temperature measurement range	-50℃～50℃
Temperature controlling range	-50℃～50℃
Resolution	1℃
Accuracy	±1℃
Compressor output connect point capacity	8A/220VAC
Sensor type	exported NTC sensor, lengths 2 meter NTC 2m
Case/shell materials	grey ABS anti-flaming plastic case ABS
Product size（mm）	100×51×82.5
Mounting size（mm）	92×44

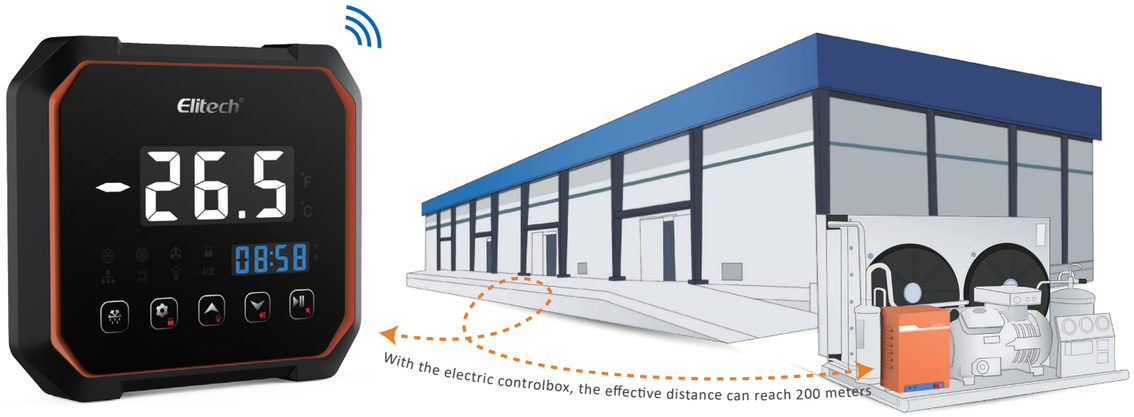
Model	Control Output			Signal Input
	Cooling	Manual defrost	Fan	Sensor
MTC-5060	•	•	x	2
MTC-5080	•	•	•	2

WIRING DIAGRAM





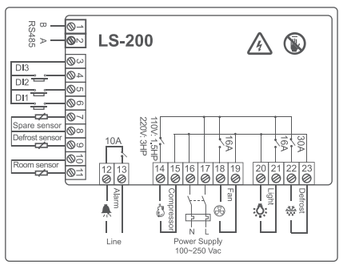
SPLIT TYPE ELECTRONIC CONTROL SYSTEM

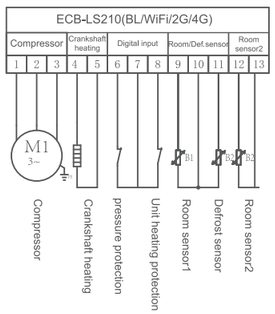


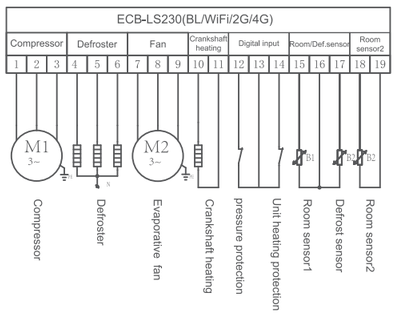
FEATURES

- Beautiful design subverts tradition.
- With the electric control box, the effective distance can reach 200 meters.
- Large panel LED screen, clear and intuitive, touch buttons.
- The control panel is separated from the electric control box and can be installed arbitrarily within 200 meters to easily reach the district city.
- The installation of the electric control box and the unit nearby greatly saves power lines and wiring costs.
- Separation of strong and weak electricity makes the controller far win the traditional strong electricity working environment, safer.
- Bluetooth, Wifi , 2G , 4G, multiple network connection mobile phone control, remote monitoring.
- Siemens Certified Partner of Electronic Control System for Freezing and Refrigeration Industry.

WIRING DIAGRAM







One Machine for One Storage		Split Type Electric Control System Specification		
Overview	Description	ECB-LS200(BL/WiFi/2G/4G)	ECB-LS210(BL/WiFi/2G/4G)	ECB-LS230(BL/WiFi/2G/4G)
	Control load	Compressor, defroster, air cooler	Compressor	Compressor, defroster, air cooler
Unit	Supply voltage	220VAC±10% 50/60HZ	3-phase 5-wire or 3-phase 4-wire 380VAC±10% 50/60HZ	
	Applicable compressor type	Piston compressors and scroll compressors	Piston compressors and scroll compressors	
	Applicable compressor power	3HP	5HP, 10HP, 15HP	
	Compressor contactor size	3HP	18A(5HP),25A(10HP),32A(15HP)	
	Compressor start mode	Direct start	Direct start	Direct start
	Condenser type	Air cooled	Air cooled	Air cooled
Storehouse	Cold storage type	Calandria/Fan cold storage	Calandria cold storage	Fan cold storage
	Defrost mode	Electric	Defrost-free	Electric
Temperature control	Thermostat model	LS-200	LS-300	LS-300
	Control range	-40℃～119℃		
	Control accuracy	±1℃		
	Display resolution	0.1℃		
	Temperature sensor type	NTC (10KΩ/25℃, B value 3435K) (5HP product defrost sensor length 5m, other products 8m)		
	Number of temperature sensors	Three lines of temperature sensors (two for storage temperature, and one for defrost temperature)		
	Compressor protection output delay	1～120 min, adjustable		
	Defrost start mode	Cyclic defrost and clock defrost, optional		
	External signal protection input:	Two lines of external signal input		
Protection	Motor protector	The thermostat is self-contained (with phase missing, phase sequence, overload, three-phase unbalance and inverse time limit protection functions, among others)		
	Current measuring range	0～80A		
	Current measuring accuracy	±3% (within nominal range of the transformer) and ±2A (0～30A)		
	Current display resolution:	1A		
Body	5-15HP dimensions (W*H*D)	261x167.5x95mm	260*320*135mm	260*320*135mm
	Color	White	Orange door and blue body	Orange door and blue body
Networking	Remote monitoring	Bluetooth/WiFi/2G/4G		
	Networking module	RCW-3		
Others	Service environment	Temperature:-10℃～60℃; Humidity: 20%～90%RH, condensation prevention; Designed to be placed in a ventilated and dry environment away from heat sources and direct sunlight		

ECB-5060S/ECB-5080S

ECB-5060S(SN/SW)

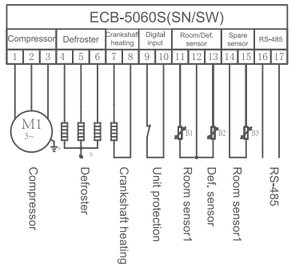
ECB-5080S(SN/SW)

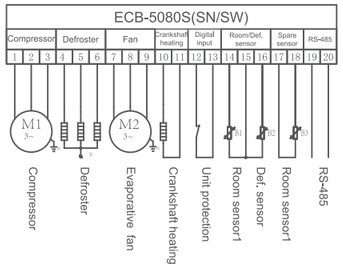
ECB-6030S(SN/SW)

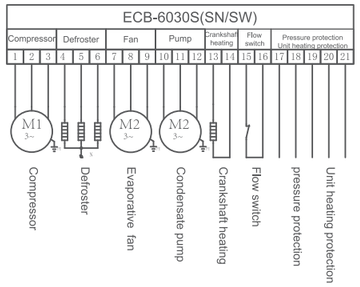
FEATURES

- This series of electric cabinets are suitable for the control of medium and low temperature cold storage and quick freezers.
- The LTC-500B large screen controller is used for visual view of the current storage temperature and set temperature, and the multilingual operating system can be operated without instructions, which is convenient for customers to debug and use.
- With the function of IoT, it can remotely view and modify unit parameters and record and save temperature data in real time on PC and mobile phone APP to realize remote centralized monitoring of the cold storage.
- It has a variety of protection functions such as compressor high-pressure protection, low-pressure protection, module protection, overload protection, phase sequence protection, phase missing protection, three-phase unbalance protection and inverse time limit protection.

WIRING DIAGRAM







One Machine for One Storage		ECB-6000N IOT Series Electric Cabinet Products Specification		
Overview	Description	ECB-5060S(SN/SW)	ECB-5080S(SN/SW)	ECB-6030S(SN/SW)
	Control load	Compressor, defroster	Compressor, defroster, air cooler	Compressor, defroster, air cooler, condensate pump
Unit	Supply voltage	3-phase 5-wire or 3-phase 4-wire 380VAC±10% 50/60HZ (single-phase product supply voltage 220VAC±10% 50/60HZ)		
	Applicable compressor type	Piston compressors and scroll compressors		
	Applicable compressor power	5HP, 10HP, 15HP, 20HP, 25HP, 30HP (it is recommended to use one specification larger when using medium and high temperature cold storage)		
	Compressor contactor size	18A(5HP),25A(10HP),32A(15HP),40A(20HP),50A(25HP),65A(30HP)		
	Compressor start mode	Direct start	Direct start	Direct start
	Condenser type	Air cooled	Air cooled	Water cooling
Storehouse	Cold storage type	Fan cold storage	Fan cold storage	Fan cold storage
	Defrost mode	Electric	Electric	Electric
Temperature control	Thermostat model	MTC-6000N	MTC-6000N	MTC-6000N
	Control range	-50℃～50℃		
	Control accuracy	±1℃		
	Display resolution	0.1℃		
	Temperature sensor type	NTC (10KΩ/25℃, B value 3435K) (5HP product defrost sensor length 5m, other products 8m)		
	Number of temperature sensors	Three lines of temperature sensors (two for storage temperature, and one for defrost temperature)		
	Compressor protection output delay	1～120 min, adjustable		
Protection	Motor protector	0～80A		
	Current measuring range	±3% (within nominal range of the transformer) and ±2A (0～30A)		
	Current measuring accuracy	1A		
	Current display resolution	CP-6000N (with phase missing, phase sequence, overload, three-phase unbalance and inverse time limit protection functions, among others)		
Body	5-15HP dimensions (W*H*D)	340*420*135mm	340*420*135mm	400*550*180mm
	20-30HP dimensions (W*H*D)	350*470*180mm	400*550*180mm	400*550*180mm
	Color	Blue door and white body		
Networking	Remote monitoring	None for S series; 4G networking module for SN series; WIFI networking module for SW series		
	Networking module	RCW-2S		
Others	Service environment	Temperature:-10℃～60℃; Humidity: 20%～90%RH, condensation prevention; Designed to be placed in a ventilated and dry environment away from heat sources and direct sunlight		

ECB-1000 SERIES PLASTIC ELECTRIC CABINET PRODUCTS SPECIFICATION

ECB-1000S

ECB-1000PLUS

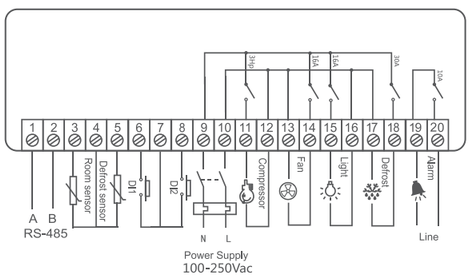
ECB-1000PLUS CLOUD

FEATURES

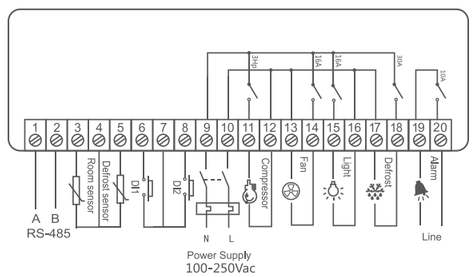
- Multiple functions: refrigeration, defrost, fan and light
- Compact clamshell with ABS flame retardant material.
- Waterproof,dustproof,quakeproof.
- High/Low temperature alarm,sensor fault alarm.
- Manual on/off;real-time view and change of parameters;clock display.
- Modbus-RTU communication
- nternet access:WiFi&4G(only ECB-1000PLUS CLOUD)
- Much safer with more stability and reliability.
- Big output capacity ,strong load capacity.

WIRING DIAGRAM

ECB-1000PLUS ECB-1000PLUS



ECB-1000PLUS ECB-1000PLUS CLOUD



One Machine for One Storage		ECB-1000 Series Plastic Electric Cabinet Products Specification		
		ECB-1000PLUS	ECB-1000PLUS CLOUD	ECB-1000S
Function		Cooling	Cooling	Cooling
Measuring range		-49- 119 ℃	-49- 119 ℃	-45- 99 ℃
Control range		-40- 99 ℃	-40- 99 ℃	-40- 90 ℃
Measuring accuracy		±1℃ (-20- 50℃) ; ±1.5℃ (others)	±1℃ (-20- 50℃) ; ±1.5℃ (others)	±1℃
Voltage range		100- 256VAC 50/60Hz	100- 256VAC 50/60Hz	100- 240VAC 50/60Hz
Overall power consumption		7W	12W	5W
Analog input	Temperature probe	•	•	•
	Defrost probe	•	•	•
Digital input	Door switch	—	—	•
	Multi-function 1(1)	•	•	—
	Multi-function 2(2)	•	•	—
Digital output	Compressor	3Hp	3Hp	2Hp
	Defrost	30A	30A	8A
	Fan	16A	16A	5A
	Light	16A	16A	5A
	Alarm	10A	10A	5A
	Four-way valve	—	—	—
Defrost type	Electric	•	•	•
	Hot gas	•	•	•
	Shutdown	—	—	—
Defrost type	Cyclic	•	•	•
	Real-time clock	•	•	•
Defrost mode	Clock mode	•	•	•
	Buzzer alarm	•	•	•
Other features	HACCP function	—	—	•
	High/low temp alarm	•	•	•
	Temperature unit CF	•	•	•
	ECO mode	•	•	•
Communication interface	RS-485	•	•	•
Networking function	WiFi(2.4GHz)	—	•	—
	4G	—	•	—
Operating temperature		-10- 65 ℃	-10- 65 ℃	-5- 60 ℃
Storage temperature		-20- 75 ℃	-20- 75 ℃	-20- 75 ℃
Dimensions (mm)		261*167.5*95mm	261*167.5*95mm	261*167.5*95mm

SERIES 08

ELITECH ICOLD

Elitech iCold®

SECURITY CLOUD SERVICE PLATFORM FOR GLOBAL COLD CHAIN

PLATFORM INTRODUCTION

Elitech iCold focuses on the intelligent management of refrigeration equipment and the cloud service for safety monitoring of cold chain. It is a solution developed based on 25 years of technical experience of Elitech in the refrigeration industry to provide customers with stable, reliable, safe, credible and sustainable innovative cloud services. By using IoT, cloud computing, big data analysis, AI and other technologies, the platform helps the refrigeration industry in quickly realizing digital construction and transformation, strengthening the intelligent safety monitoring throughout the cold chain, and providing the life science cold chain and food cold chain industries with cold chain operation platform solutions and cloud customization services from equipment access, IoT presentation to the whole life cycle of industrial applications and end-to-end cold chains.

PLATFORM ADVANTAGE

Real-timemonitoring and effectivesupervision

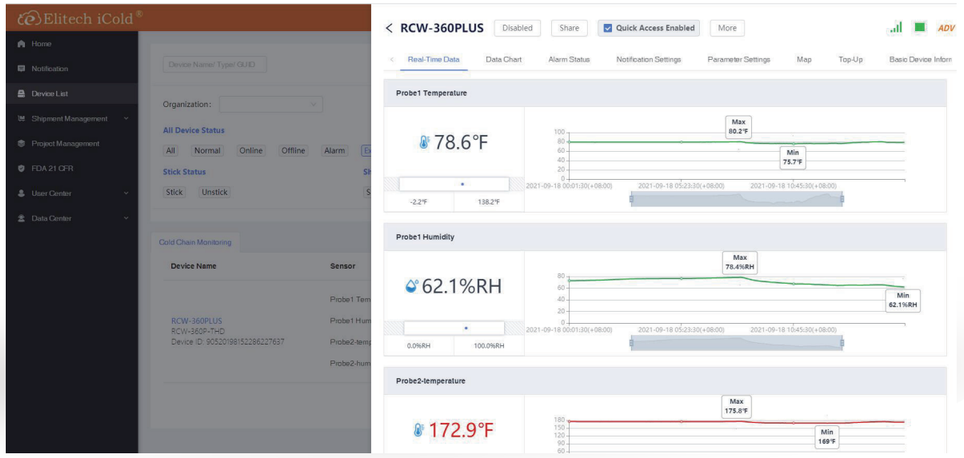
Data analysis BI visualization

Elitech iCold®

Intelligent earlywarning to avoid risks

Compliance with FDA, safety

Predictive maintenance to reduce costs



Elitech iCold®

EXCLUSIVE IOT CLOUD PLATFORM FOR REFRIGERATION ENTERPRISES

Elitech has been committed to providing customers with one-stop IoT cloud platform customization services and helping them in quickly realizing the digitization and intelligentization of refrigeration equipment through the open exclusive Cloud Application in the refrigeration industry to own their exclusive IoT cloud platforms.

Three Steps to Cloud

Choose the IoT terminal

- Support multiple networking modes
- Highly integrated
- WIFI/4G/LORA/bluteech

Rapid customization developmentof cloud platform

- Deep interface customization
- Functional customization development
- Privatization deployment

Release exclusive APP

- Released on majorapplication malls foronline use

CUSTOMIZATION ADVANTAGES OF ELITECH ICOLD PLATFORM

Quick acquisition of exclusive cloud application of refrigeration industry

Have real-time monitoring, alarm messaging, authority and user management functions, as well as exclusive Cloud Applications in the refrigeration industry such as energy consumption statistical analysis, use supervision, multi-level early warning and after-sales service.

Personalized customization of enterprises

Provide personalized customization of cloud platform and App interfaces and functions, release exclusive Apps, and support public cloud SaaS services and private cloud services.

Visual development based on usage scenarios

Provide visual customized services, information aggregation and large-screen real-time display for end users.

Safety and compliance

Comply with FDA, GSP and other food and drug cold chain related laws and regulations, and compliance requirements of end users.

SAFETY MONITORING SOLUTION TO CHAINFOOD AND BEVERAGE COLD CHAIN MEETING HYGIENIC STANDARDS OF FOOD COLD CHAIN

Elitech iCold provides the chain catering industry with a full cold chain safety monitoring solutions from general warehouse to branch warehouse to store.

Group Headquarters

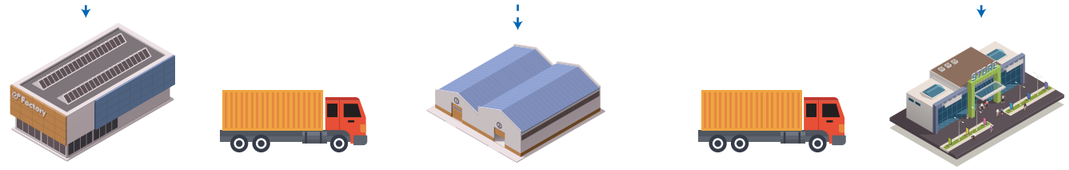
Intelligent early warning to avoid risks

Real-time monitoring and effective supervision

Elitech iCold®

Multi-push of graded alarms

Big screen display of data analysis



General warehouse
Storage center

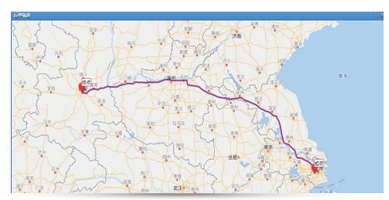
Cold chain transportation
Cold chain monitoring system

Branch warehouse
Cold store

Cold chain transportation
Cold chain monitoring system

Storefront Freezer

Warehousing temperature statistics of cold chain



Logistics transportation path of cold chain

Temperature and humidity data statistics of cold chain