



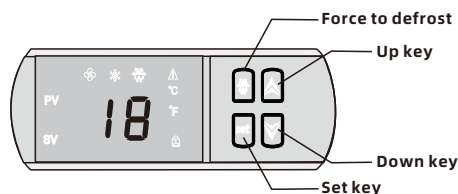
EW-T207Z Instruction Manual

This digital temperature controller is designed with multi-control mode for refrigeration, defrost and fan control, drip-water-proof back shell, automatic fault running mode and temperature differential control mode, and the resolution is 0.1°C.

Specification

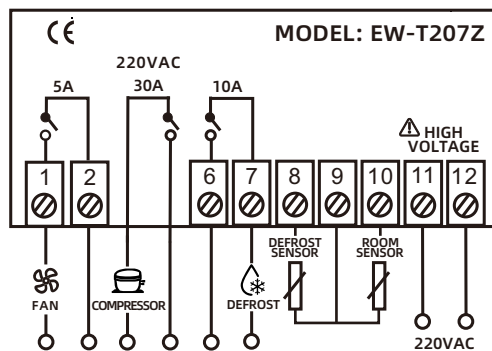
1. Operating Voltage: AC220V $\pm 10\%$ 50HZ/60HZ
2. Outputs:
Refrigeration 30A/220V/AC Defrosting 10A/220V/AC Fan 5A/220V/AC
3. Power Consumption: $\leq 3W$
4. Working Environment: $-10 \sim 50^{\circ}C$ RH $\leq 90\%$
5. Control Range: $-50 \sim 50^{\circ}C$ / $-50 \sim 123^{\circ}F$
6. Resolution: 0.1°C/1°F; Accuracy: $\pm 0.5^{\circ}C/2^{\circ}F$
7. Input Signal: 1-off NTC room temp. sensor; 1-off NTC defrost sensor
8. Sensor length: 2m
9. Overall Dimension: 83 (W) $\times$ 35 (H) $\times$ 77 (D) mm
10. Mounting size: 71 (W) $\times$ 29 (H) mm

Display Panel



Symbol	Status	Meaning
	Light on Light off Light flashing	compressor works compressor stops compressor delays
	Light on Light off Light flashing	defrost works defrost stops defrost delays
	Light on Light off Light flashing	fan works fan stops fan delays
PV	present temp. value	
SV	set temp. value	
°C/°F	temp. units	C- Celsius degree F- Fahrenheit degree
	lock symbol	The keys will be locked when it displays
	Alarm symbol	It will display under alarm mode

Wiring Diagram



Installation Requirement

1. Please make sure that the power supply voltage meets the required voltage of the instrument. The deviation should be less than $\pm 10\%$.
2. The sensor should be kept away from the power cable.
3. Strictly distinguish the interfaces of the

Operation description:

Version: EW-T207Z-542-V1.2

1. Control temperature setting
 - a) Press "SET" to display set temperature, then press "UP" or "DOWN" key to change the set temperature.
 - b) Press "UP" or "DOWN" key to adjust the parameter values.
 - c) Hold "UP" or "DOWN" key to quickly adjust the values.
2. Parameter setting
 - a) Hold Set for 6 seconds until "PA" displayed, press "UP" or "DOWN" key to enter the correct passwords.
 - b) After entering the correct password for 6s or pressing the "SET" key, it displays "LS", if the password is incorrect, the parameters can only be viewed and cannot be revised.
 - c) Then press "SET" to select the target parameter, then press "UP" or "DOWN" key to adjust the parameter values.
 - d) Then press "SET" to confirm the revised parameter value, and return to the normal display mode.
 - e) Under the setting mode, it returns to normal operation automatically when there are no operations for 6 seconds.
3. One-click Restore of Preset Parameter
Under normal mode, hold "UP" or "DOWN" key for 10s or more, the display screen flashes, and all parameters will be reset to factory settings (Please make sure to record the set parameters in advance).
4. Defrosting temp. displayed Under normal mode, click "Up" key for displaying defrosting temp.

Functions description:

Refrigeration mode:

1. Compressor starts running:

When the current temperature $\geq$ the set temperature + Temperature return difference (d) and the set time delay (Pt) has been reached, relay of compressor connects, and indicator is on.

2. Compressor stops running:

When the current temperature $\leq$ the set temperature, relay of compressor disconnects. and indicator is off.

Defrost mode

1. Relay of defrost connects when it meets the follow conditions:

a) After the previous defrost operation finished or the controller is just powered on, and the set defrost cycle is over.

b) Hold the force defrost key for 6s.

c) The defrost temperature is lower than the defrost exit temperature.

2. Relay of defrost disconnects when it meets the follow conditions:

a) Defrost operation time is over.

b) The defrost temperature is higher than the defrost exit temperature.

Notes:

a) When pressing "force to defrost" key, if the defrost temperature is higher than the defrost exit temperature, it will not enter defrost mode.

b) The relays works sequence (under thermal defrost mode): when the defrost conditions are met, all the relays disconnect, defrost indicator is on, the relay of defrost connects after one minute, and the relay of compressor connects after 30s.

b) The relays works sequence (under thermal defrost mode) when exiting defrost: when the conditions of defrost termination are met, defrost indicator is off, the relay of compressor disconnects, and the relay of defrost disconnects after one minute.

Fan

- a) When fan start-up delay < 0, if need to start the compressor, it will start until fan starts first and run out of the set time delay, the fan will stop with the compressor.
- b) When fan start-up delay "C3" ≥ 0 and "C1" is set to "0", fan starts when defrost temp. is lower than the fan start-up temperature. Fan stops when defrost temp. is higher than fan stop temp. "C4".
- c) When fan start-up delay "C3" ≥ 0 and "C1" is set to "1", under non-defrost mode, fan starts when not defrost, and stops when defrost working.
- d) When fan start-up delay "C3" ≥ 0 and "C1" is set to "1", under non-defrost mode, fan starts when compressor starts working, and fan stops when compressor stops or during defrost.

Fault handling mode:

- a) No alarm under defrost mode.
- b) When room temp. exceed set temp. + 10°C, LED displays "HHH", or run out of the set time delay (Hdt), it enters the fault running mode, compressor runs for 45min and stops for 15mins.
- c) When room temp. is lower than the set temp. - 5°C, LED displays "LLL", all the relays will disconnect.
- d) When the sensor is under open or short circuit, LED displays "E1", and it enters the fault

Parameter menus

Symbol	Description	Setting Range	Factory Setting
PA	enter password	0 ~ 99	0
LS	set temp. lower limit	-51.0°C/°F ~ set temp.- 1.0	- 50°C
HS	set temp. higher limit	set temp.+1.0 ~ 51.0°C/124°F	20°C
d	temp. return difference	0.5 ~ 20°C/1 ~ 60°F	2.0°C
Pt	compressor delay protection	1 ~ 10min	1
CA	room temp. calibration	-15.0°C ~ 15.0°C/-45 ~ 45°F	0
Cb	defrost temp. calibration	-15.0°C ~ 15.0°C/-45 ~ 45°F	0
Hdt	high temp. alarm delay	0 ~ 99min	15
F1	defrost mode	00 electrical heating defrost 01 thermal defrost	00
F2	defrost time	1 ~ 255min	10
F3	defrost cycle	0 ~ 120hr	6
F4	defrost exit temp.	0 ~ 40°C/32 ~ 104°F	5.0°C

F5	defrost cycle count mode	00 interval of defrosting 01 the accumulated time of compressor operation	0
F6	water-dripping time after defrost	0 ~ 100min	2
C1	fan operation mode	00 under control 01 continuous operation, off when defrost 02 start/stop with compressor, off when defrost	2
C2	fan start-up temp.	-50.0°C/°F ~ fan stop temp.	-10.0°C
C3	fan start-up delay	-255 ~ 255s	60
C4	fan stop temp.	Fan start temp. ~ 50.0°C	-5.0
CF	temp. unit switch	°C/°F	°C
CPA	password setting	0 ~ 99	0

Note:

When the defrost cycle is set to "0", it will not enter defrost mode automatically, but still can use "force to defrost" key to enter defrost mode.

Trouble shooting

Failures	Causes	Solutions
No display with power supply	Check to see if the power is short circuit or the thermostat is faulty.	Check power supply if there is 220V power input.
With display but the load does not work	The set temperature is higher than the current temperature (cooling mode) The wiring is incorrect.	Reset the right temperature Check if it is overload or overheating. Check the wiring, make sure connect to the right terminals.
The current temperature is different from the real temperature	1. The locations of the sensors are incorrect or sensor wiring is extended too long. 2. The terminal wiring contact is poor 3. The sensor is damaged.	1. Sensors should be installed into the correct location. 2. Enlarge the cross section of the expanded wires. 3. Make sure the wiring is sealed properly, water-proof or moisture-proof. 4. Change sensor if necessary.
Compressor works with over-frequency	Return difference value is set too small	Reset the value of temperature return difference, normally is 2 to 3.
Machine does not stop when the temperature reaches set value	Check if the sensor has accurately measured the temperature or not. The relay of the compressor is malfunction.	Install the sensor correctly or check the sensor is damaged or not Check the relay of the compressor.



Official website

Guangzhou Ewelly Autocontrol Tech. Co., Ltd.
<http://www.gzewelly.com>