Ewelly®

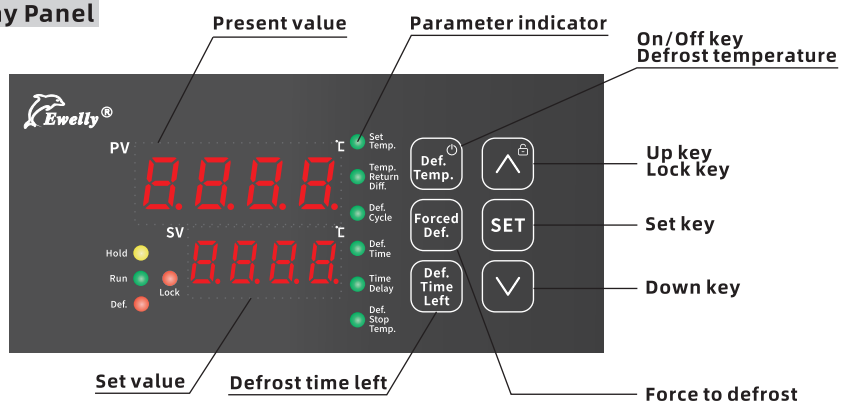
EW-286TK Instruction Manuel

This digital temperature controller is designed with multi-control mode for refrigeration, defrost fan and alarm control, Integrated waterproof and dust-proof panel, automatic fault running mode and temperature differential control mode, and the resolution is 0.1℃.

Specification

1. Operating Voltage: AC220V±10 % ; 50HZ/60HZ
2. Outputs: Compressor 10A/220V/AC; Defrosting 5A/220V/AC; Fan 5A/220V/AC; Alarm 5A/220V/AC
3. Power Consumption: ≤3W
4. Working Environment: -10 ~ 50℃; RH≤90%
5. Control Range: -50 ~ 50℃
6. Resolution: 0.1℃; Accuracy: ±0.5℃
7. Input Signal: 1-off NTC 10k room temp. sensor; 1-off NTC 10k defrost sensor;
8. Sensor length: 2m
9. Overall Dimension: 120 (W) × 53 (H) × 66 (D) mm
10. Mounting size: 92 (W) × 44 (H) mm;

Display Panel



Symbol	Status	Meaning
Hold ●		a)Non defrost or refrigeration mode b)Under delay mode
Hold ●	Light on Light off	Refrigeration mode Non-refrigeration mode
Defrost ●	Light on Light off	Defrost mode Non-defrost mode
Lock ●	Light on Light off	Lock mode Un-lock mode
Set temp. ●	Light on	Setting mode, corresponding parameter

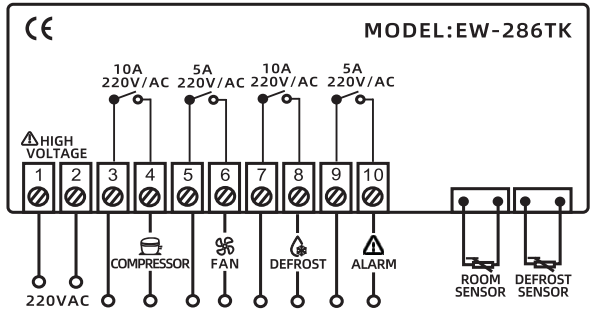
Installation Requirement

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

Operation instruction:

1.Locking Function:
When it is locked, hold ▲ for 3 seconds to unlock the meter along with buzzer sound. This instrument would lock itself automatically after 30s without any operation.
2. Control temperature setting
a) Press "**SET**" 6s until the set temperature indicator is on, then press "**UP**" or "**DOWN**" key to change the set temperature value.
c) Hold "**UP**" or "**DOWN**" key to quickly adjust the values.
2. Parameter setting
a) Hold "**SET**" for 6 seconds until the set temp. indicator is on (green light)
b) Press "**SET**" to select the target parameter, then press "**UP**" or "**DOWN**" key to adjust the parameter values.
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 "**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. Stop/Silence buzzer alarm
Press any key to cancel the current buzzer alarm sound, but the indicator light will not turn off until the fault is removed.
5. Temperature calibration
Under normal display mode (without locking), hold "**UP**" key until all the indicators are on, the small digital shows "**CA**", press "set" key to change "**CA**" or" **Cb**", then press up or down key to adjust the parameters.
6. Defrost temperature display
Press "**Def Temp.**" key to display the present defrost temperature.
7.Defrost time left
Press "**Def. Time Left**" to show the remaining time to enter defrost. The big digital displays "**hours**", and small digital displays "**minutes**", under defrost mode, it will show the remaining time for the downtime of defrost, and the big digital displays "**minutes**" and small digital displays "**seconds**".
8. Force to defrost
Press "**Force to defrost**" key for 6s, if the defrost temp. is lower than the defrost stop temp., the defrost indicator will on, and the system enters defrost mode.
9. On/Off function
Press " ⏻ " button for 6s to turn off the controller, the digital display "———".

Wiring Diagram



Parameter menus

Discription	Setting Range	Default Setting	Unit	Remark
Set temp.	LS+1 ~ HS-1	-10.0	℃	When reach the set temp. compressor relay disconnects
Temp. return difference	0.5 ~ 15.0	3.0	℃	When reach the set temp. + temp. return difference compressor relay disconnects
Defrost cycle	0 ~ 99	6	hr	Time interval between each defrost operation, 0 will not enter defrost mode
Defrost time	1 ~ 45	10	min	defrost operation time
Time delay	1 ~ 5	3	min	compressor delay protection
Defrost exit temp.	0 ~ 35.0	5.0	℃	-

Code	Discription	Setting Range	Default Setting	Unit	Remark
HS	temp. upper limit	set temp.+1 ~ 51.0	50.0	℃	Alarm when exceed the set value
LS	temp. lower limit	-51.0 ~ set temp.-1	-50.0	℃	Alarm when exceed the set value
Fn	evaporator fan mode	-1 ~ 5	0	—	-1: fan always work 0: fan works with the compressor simutaneously 1-5: works after compressor works.
nt	water-dripping time after defrost	0 ~ 10	2	min	Water-dripping time after defrost, 0 is no dripping time
tP	defrost mode	0 ~ 1	0	—	0: electrical defrost 1: thermal defrost
FI	enter defrost temperature	-50 ~ 0	-5.0	℃	When enter defrost temp. is lower than the defrost stop temp.
bF	buzzer sound	On/Off	On	—	
bP	touch key sound	On/Off	On	—	

Fault handling mode

a) When the room sensor is under open or short circuit, LED displays "E1", and it enters the fault running mode, compressor runs for 45min and stops for 15mins.

b) When the defrost sensor is under open or short circuit, LED displays "E2", it will not enter defrost mode, and other functions will not be affected.

c) When present temperature exceeds the value of HS, LED displays "HHH", or when present temperature exceeds the value of LS LED displays "LLL", the present running mode will not be affected.

Functions description:

Refrigeration mode:

1. Compressor starts running:

When the current temperature ≥ 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 ≤ 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.

Trouble shooting

Failures	Causes	Solutions
Controller cannot work with power input	Check to see if the power is short circuit or the thermo-stat 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 termin-als.
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 insta-lled 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 temperat-ure 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 comp-ressor

Warnings

1. Please read this product instruction carefully and connect input/output plugs of power & sensor to the corresponding sockets strictly by following connection diagram, otherwise the usage & operations will be affected. Check again to make sure there is no mistake. Tighten all the screw of connection plugs again, and then connect it to the power for running.
2. Keep away this product from moist or corrosive air and high magnetic field. Otherwise the normal operation of this product will be affected.
3. All our products have passed strict quality inspections before leaving factory. We provide one-year quality guarantee (which is limited to product itself ,and is not responsible for any other joint and several liability) period for this product.

If the products including but not limited to, the following is not the product itself quality problem caused by the damage, Install and use under the do not conform to the safe environment; That the load capacity is beyond the scope of product is allowed; Products by users to disassemble and change, change the internal components, etc.,We will not be so and damaged products provide a replacement and maintenance services, regardless of whether its in the quality assurance period; Meanwhile, we will not assume so direct or indirect losses caused by the liability to pay compensation.

Product warranty date on the case is important basis of product quality assurance. Appeared including but not limited to full filling without permission, to change, to replace lost, damaged, scratched, dirty, and so on, we will not provide a replacement and maintenance services for these products.

Official website

Guangzhou Ewelly Automatic Control Co., Ltd.
http://www.gzewelly.com