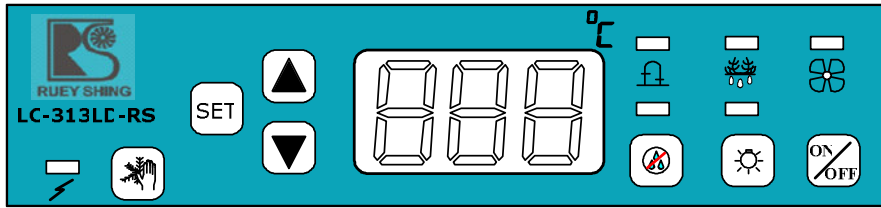




# LF-313LD-RS-HP Refrigeration system controller

Panel :



Technical data :

- Power supply : 110V/220V AC/50~60Hz
- Display : Seven segment LED
- Mounting : Snap-in(Panel)
- Fit-in size : 137\*28\*32mm<sup>3</sup>(Panel)  
171\*141\*39mm<sup>3</sup>(Rear box)
- Maximum output rating : Compressor 30A/250V(Resistance load)  
Heater 30A/250V(Resistance load) Fan · Lamp · Defog 8A/250V(Resistance load)
- Temperature range : -50°C ~ +80°C
- Working temperature : -15°C ~ +70°C
- Accuracy : ±1°C
- Resolution : 0.1°C

System parameter table :

No.	Symbol	Description	Range	Default
1.	tS	Set compressor stop temperature	-50°C ~ +80.0°C	-20°C
2.	td	Define differential temperature	+0.1°C ~ +15.0°C	+4.0°C
3.	Sd	Compressor start time delay after stop	0 ~ 15 Min.	2Min.
4.	dt	Defrost type 『EL』 or 『HS』	EL/HS	EL
5.	di	Defrost interval time	0 ~ 24 Hour	4 Hour
6.	dd	Defrost duration time	0 ~ 60 Min.	20 Min.
7.	dS	Defrost stop temperature	0.0°C ~ +80.0°C	+25.0°C
8.	FS	Fan start temperature	-50°C ~ +30.0°C	0.0°C
9.	CL	condenser cleaning time interval	0~250 day	0 day
10.	rt	Temperature up delay time	0~15 sec.	0 sec.
11.	tA	Sensor calibration adjustment	-10°C ~ +10.0°C	0.0°C

Lock system parameter table :

No.	Symbol	Description	Range	Default
1.	Lo	Select system parameters to lock or unlock	y : lock/n : unlock	y
2.	tH	The upper temperature limit	tS ~ +80.0°C	+50.0°C
3.	tL	The lower temperature limit	-50°C ~ tS	-50°C
4.	AH	High temperature alarm	tS+td~+80.0°C	+50.0°C
5.	Ht	Temperature reach 『AH』, after 『Ht』 value , alarm start working	0~180 Min.	90 Min.
6.	AL	Low temperature alarm	-50°C~tS	-30°C
7.	Lt	Temperature reach 『AL』, after 『Lt』 value , alarm start working	0~180 Min.	60 Min.
8.	tC	Defrost interval time type	ti(hour)/CP(quarter hour)	ti
9.	FL	Fan working type	y : stop/ n : running	y
10.	OF	Fan stop time(option for FL=y)	0~60 Min.	3 Min.
11.	On	Fan run time(option for FL=y)	0~60 sec.	15 sec.

**Note:** (1).After choose 『y』 on the first lock system parameter『LO』; means you select to lock the system parameters ,display will show system parameter 『tS』 only , and it can only be adjusted within the highest 『tH』 and lowest , 『tL』 temperature limit , no other system parameters can be changed , thereafter. On the contrary if 『n』 is selected , then all system parameters can be modified.

(2). 『tC』 means defrost time count type . 『ti』 means hour's unit 『CP』 means compressor running time , use quarter hour unit.

Self test function :

Error code	Description	Error code	Description
E1H	Sensor shorted or temperature higher than +80.0°C	AH	High temperature alarm
E1L	Sensor opened or temperature lower than -50°C	AL	Low temperature alarm
E2H	Evaporator sensor shorted or temperature higher than +80.0°C	CLn	Condenser need to be clean
E2L	Evaporator sensor opened or temperature lower than -50°	EHP	High pressure Alarm

Operation :

A. System parameter setting :

- Press 【SET】 key , the display flashes pattern 『888』 for 3 times , then shows the symbol of the first system parameter 『tS』 , this means the controller entering the parameter modifying phase , can press 【▲】 or 【▼】 key to scroll up/down the parameter that is going to be adjust , .Press 【SET】 key , the display shows set value , can push 【▲】 or 【▼】 key to increase or decrease the value by one unit , press the 【SET】 key , the controller goes to modify the next parameter. Press【SET】key, the display shows『888』, then display cabinet-room temperature mean that you finish parameters setting.



# LF-313LD-RS-HP

## Refrigeration system controller

### B. Lock system parameter setting :

1. Press **【SET】** key for three seconds , the display begins flashing pattern 『888』 . While flashing , press both **【▲】** and **【▼】** keys together until display shows 『Lo』 (which means into parameters lock). Press **【SET】** again , the modified value would be showed. At this time , press **【▲】** or **【▼】** to lock by choosing 『y』 or to unlock by choosing 『n』 .
2. After select system parameters to unlock push **【SET】** key , the display shows pattern 『tH』 , can press **【▲】** or **【▼】** key to scroll-move to the next parameter.

### C. Other operations :

1. After sent city power to controller , push **【ON/OFF】** key to Power-on 『Pon』 or Power-off 『Pof』 .
2. After power 『ON』 , the compressor is delaying for protecting. If you want to bypass the delay time and start immediately running the compressor , then you can push **【▼】** key until display shows 『Fon』 . The controller then forces compressor to start up immediately. This special function is only effective on the power on stage.
3. **Total operation hours (tot)** : The total compressor running time can be showed on display by showing three sets digits through push Press **【▲】** button and **【▼】** button simultaneously. For example if the total running time is 12345 hours , the display will show first set “tot” (means total running time) , then followed by the second digit set 『012』 , then the last digit set 『345』 .
4. If there is no key was pushed within 30 seconds , the controller jump back normal temperature display

**\*\*While “CLn” is flashing , press **【▼】** to cease alarm.\*\***

**\*\*To reset the “CLn” error code, use 『on/off』 key to turn Off power and turn on power again . The system will re-count the cleaning time.**

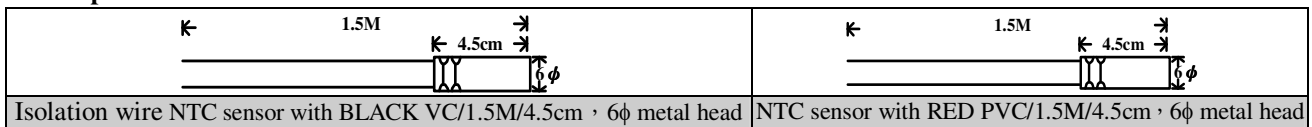
#### Function keys :

	Power on/off	The controller power supply key
	Increase/Decrease	To increase or decrease one unit value
	Set	Request for setting the parameter
	Manual defrost	Push this key to do manual defrost
	Door heater	To on/off the door heater for clarify the showcase door
	Light on/off	To on/off the indoor light appliance

#### LED Indicators :

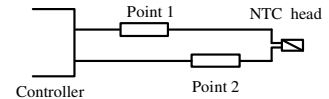
	Yellow	Lamp on , power supply
	Green	Lamp flash , compressor start up delay Lamp on , compressor running
	Red	Lamp on , system defrosting
	Yellow	Lamp on , fan is running
	Yellow	Lamp on , door heater is on
	Yellow	Lamp on , indoor light appliance is on

#### Sensor description :



**\*Lengthen your NTC sensor probe , Please pay attention on below :**

- (1). Off the system power.
- (2). To avoid short circuit , the connection points should be interleaved , as shown right.



#### Wiring diagram :

