

# 107 OPERATION MANUAL

Research/Developed · Manufactured by a ISO-9001 Certified Company.

-Version 02-

## 1.Specification :

### a.Dimension :

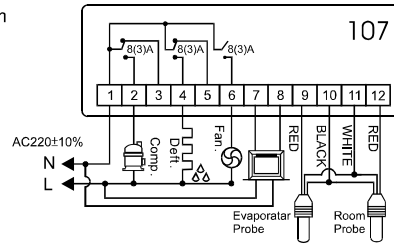
- Front panel size : 34.5mm (H) × 75mm (W) +/- 1mm
- Mounting hole size : 30mm (H) × 72mm (W) × 85mm (D)+/- 1mm

### b.Operating environment :

- Operating : -5℃~55℃
- Storage : -10℃~65℃
- Humidity : 20%~85% ( none-condensing )

### c.Output / Input :

- Input voltage : AC220V+/-10% single phase 50/60Hz
- Power consumption : Max.5 watts. ( Controller only )
- Temperature display range : -45℃~55℃. Tolerance +/- 1℃
- Temperature sensor : NTC. PVC or silicon. 1.5m ( L )
- Compressor output contact capacity : 8A/250VAC Resistance
- Fan motor output contact capacity : 8A/250VAC Resistance
- Heater output contact capacity : 8A/250VAC Resistance
- Alarm output : Buzzer



## 2.Buttons commands :

### a.Setup mode :

- ※ In power-on status, press [Set] button and hold for 3 seconds to enter setup mode. "tS" is displayed and "Set" LED flashes.
- ※ Press [▲] or [▼] button to switch the parameter codes in cycle a/f : tS, td, dF, dt, AU, AL, Ad, LS, Ot,Ct, AC, dS, Cr, CS, FC, Fd, dO, dr.

### b. To display or alter parameter value :

- ※ After parameter code is selected, press [Set] button to display value.
- ※ Press [Set] button again to return to setup mode to review the parameter value but unsave it.
- ※ Press [▲] or [▼] button to adjust the paramete, then press [Set] button to save the new value and return to display parameter code.(Keep holding [▲] or [▼] button to increase or decrease the value rapidly)
- ※ Select "OU" code, then press [Set] button to save the parameter and exit from setup mode and back to normal operating status.

### c. Under setup mode :

- ※ If no button is pressed within 15 seconds, the system will save the current parameter value, exit from setup mode to normal operation and display the current temperature.

## 3.Fast freezing :

- When power is on but defrost is not in progress, press [Set] + [Log] buttons and hold for 3 seconds to start or terminate the fast freezing mode. "Comp" LED flashes rapidly.

## 4.Defrost manually :

- When power is on but fast freezing mode is not in progress, press [▲] + [▼] buttons and hold for 3 seconds to start or terminate the defrost mode, "Defr" LED flashes. When evaporator temp. exceeds dS, it can't enter or terminate the defrost mode.
- Please hold [▲] for 3 seconds to display the evaporator temp. 3 seconds later, it will return to display room temp.

## 5.Max. and Min. Temp. recording :

- When room temp. reaches set temp., the system will start to record the max. or min. temp. ever measured.
- Press [Log] button at any time to review the max. and min. temp. switched on display. Holding [Log] button for 5 seconds to clean the previous record and restart recording.

## 6.Return to factory defaults

- Press [Log] + [Set] buttons followed by re-plug in to re-load in the factory defaults ("rS" is displayed). 2 seconds later, the system will re-start automatically.

## 7.LEDs indication and Error / Alarm codes :

### a.LEDs indication :

- Comp : The light is on when compressor operates. The light is off when compressor is off.
- Flashing when compressor is in delay protection. Flashing rapidly when fast freezing is in progress.
- Defr : Flashing when defrost is in progress.
- Alarm : Flashing when there is an error or alarm acts.
- Set : Flashing when setup mode is entered.

### b.Error codes :

- "E1" : Sensor failure. (Check if sensor is well-connected or change the sensor)
- "E2" : Evaporator sensor failure. (Check if sensor is well connected or change the sensor)
- "EE" : Parameter memory failure. (Re-plug in and operate as factory default)

### c.Alarm signals :

- "UA" : Room temp. has reached the max. temperature.
- "LA" : Room temp. has reached the min. temperature.

### d.Alarm output :

- The buzzer acts when alarm delay time is up. Press [▼] button to pause the signalling or press [▼] again to make alarm on.

## 8. Locking system:

- Press [Log]+[▼] buttons simultaneously for 3 seconds. "LC" will be displayed and all settings are locked.
- Press [Log]+[▼] buttons simultaneously for 3 seconds again. "UL" will be displayed and all settings are unlocked.

## 9.107 Parameter lists:

Code	Function	Range		De-fault	Unit	Description
		Min	Max			
tS	Set temperature	LS	45	-18	℃	Compressor stop point
td	Set temp. threshold	1	10	4	℃	The compressor will be on when the temp.= tS+td.
dF	Operation duty	1	99	4	Hr	Set the interval between defrost cycles.
dt	Defrost cycle	0	99	25	Min	Defrost duration is subject to the preset defrost time. Defrost is terminated when defrost time is up or evaporator temp. ≥ dS. Defrost is not performed when dt=0 or when operation time is up but room temp. ≥ dS. To start or stop defrost manually is enabled.
AU	Max. temperature alarm	AL+1	55	45	℃	This function works when room temp. reaches set temp. at the first time. When room temp. ≥ AU, "UA" and room temp. are displayed alternatively.
AL	Min. temperature alarm	-45	AU-1	-40	℃	This function works when room temp. reaches set temp. at the first time. When room temp. ≤ AL, "LA" and room temp. are displayed in turn.
Ad	Alarm delay	0	99	15	Min	With Ad=0, alarm acts without any time delay.
LS	Min. Temp. setup	-40	tS	-30	℃	To limit the min. set temp.
Ot	Temperature calibration.	-12	12	0	℃	Temperature calibration.
Ct	Fast freezing time	0	24	4	HR	Length that compressor operates in continuous mode which can be used when room is filled with new merchandise. Such function should be set or released manually. With Ct=0, no fast freezing is performed.
AC	Compressor start delay protect	1	30	1	Min	No start delay if AC=0. Compressor will operate with 1 min. delay at the first plug-in.
dS	Defrost stop temperature	0	55	10	℃	During defrost cycles, when evaporator temp. ≥ dS, defrost is terminated to avoid the damage of the food.
Cr	Compressor ON time with faulty sensor	0	99	15	Min	With Cr=0, compressor is always on during sensor failure.
CS	Compressor OFF time with faulty sensor	0	99	15	Min	With CS=0, compressor is always off during sensor failure.
FC	Fan mode	0	1	1		With FC=0, fan runs in accordance with compressor. With FC=1, fan runs in continuous mode.
Fd	Fan start delay after defrost	0	99	10	Min	Set the interval between end of defrost and rerunning fan. Delay time is counted after compressor operates
dO	Defrost mode	0	1	0		With dO = 0, defrost by elec. heater. With dO = 1, defrost by hot gas.
dr	Re-operate delay after defrost	0	99	0	Min	Set the interval between end of defrost and re-operation. The evaporator will get rid of drops formed when defrosting