

DEI-660PNE Operation Manual

Version 01
5INSL00265

1. CAUTIONS :

- 1.1 To prevent electric shock accident, please switch off all power supply before installation.
- 1.2 Do not install power board in humid environment to ensure good signal communication.
- 1.3 Before supplying power, please check if wiring and input power is connected correctly.
- 1.4 Read the wiring diagram and operation manual before installation.
- 1.5 Any damages caused by wrong wiring are beyond our warranty.

2. SPECIFICATION :

- 2.1 Operation temperature : $-5^{\circ}\text{C} \sim 55^{\circ}\text{C}$, $< 90\% \text{RH}$ (Non-condensing) .
- 2.2 Storage temperature : $-10^{\circ}\text{C} \sim 65^{\circ}\text{C}$, $< 90\% \text{RH}$ (Non-condensing) .
- 2.3 Power supply : AC 230V $\pm 10\%$.
- 2.4 Power consumption : Max. 5 Watts (controller only) .
- 2.5 Temperature sensing range : $-40.0^{\circ}\text{C} \sim 50.0^{\circ}\text{C}$, 0.5°C in a step , accuracy $\pm 1.0^{\circ}\text{C}$.
- 2.6 Temperature sensing range : $-40.0^{\circ}\text{F} \sim 99.0^{\circ}\text{F}$, 1°F in a step , accuracy $\pm 2.0^{\circ}\text{F}$.
- 2.7 Sensor : NTC 、 PVC wire , 1.5M in length $\times 1$ pc .
 - 2.7.1 Cabinet temperature sensor (ROOM) , white terminal.
- 2.8 Output / Input :
 - 2.8.1 Compressor output : 25(7)A / 250VAC.
 - 2.8.2 Fan output : 1A / 250VAC.
 - 2.8.3 Defog output : 2A / 250VAC.
 - 2.8.4 Lighting output : 2A / 250VAC.
 - 2.8.5 High low pressure protection input : OPEN= abnormal compressor pressure short=normal compressor pressure.
 - 2.8.6 Fuse capacity : 5A / 250VAC.
 - 2.8.7 Communication interface : RS485 communication data input/ output, 2 sets.
 - 2.8.7.1 DEI-860CN communication indicator (Green) .
 - 2.8.7.2 DEI-860A 、 631N 、 121N communication indicator (Red) .
 - 2.8.7.3 Recommend using communication wire UL2464 / 26 AWG.
 - 2.8.7.4 Max. communication distance : 1200 M.
- 2.9 Setting IP address (DIP1) : It must be completed the set up before supplying power.
 - 2.9.1 Setting range : 1~63.
 - 2.9.2 IP will only be detected once after supplying power. New IP will be available after re-supplying power.

3. FUNCTION DESCRIPTION :

- 3.1 Compressor operation mode (Please refer to the parameter list) :
 - 3.1.1 When cabinet temperature $\leq tS$, compressor output OFF : When cabinet temperature $\geq (tS+td)$, compressor output is ON; if AC time has not reached, compressor output is OFF.
 - 3.1.2 If AC time =0, after supplying power and switch on the controller, compressor output will be ON a minute later. Afterward, no any delay for the compressor.
- 3.2 Data storing function :

When power failure occurs and re-supply power, the system will load and operate by the parameters saved before power failure.
(Not including power and defrost status).
- 3.3 Fan output :
 - 3.3.1 Normal mode :
 - 3.3.1.1 FC=1 Fan keeps operating.
 - 3.3.1.2 FC=0 Fan operates by compressor ON or OFF.
 - 3.3.1.3 When evaporator temperature is $\geq Ft$, fan output is OFF.
 - 3.3.2 Fan keeps operating when under defrosting mode.
 - 3.3.3 Fan keeps operating when under E1 and EE status.
- 3.4 Temperature calibration :

Displayed temperature=(Cabinet probe temperature + Ot Temperature calibration).
- 3.5 Defrosting mode :
 - 3.5.1 Defrost cycle:
 - 3.5.1.1 Start to count defrost cycle from supplying power or switching on the controller (If dF (Defrost cycle) =6, the system will have defrosting 4 times a day) ; If re-set dF, it will be recounted.
 - 3.5.1.2 When (dF- dt (defrost period)) time is reached, it begins to defrost, however, if it is under defrosting by manual at that time, "dt" will not be recounted.
 - 3.5.1.3 Enable defrosting manually will not interfere the defrost cycles.
 - 3.5.1.4 If any failure or alarm occurred, it will not interfere the defrost cycles.
 - 3.5.1.5 Defrost is operated by compressor off.
 - 3.5.1.6 When dt time is reached, re-enter to compressor operation mode.
 - 3.5.1.7 When dt=0, defrost is unavailable.
 - 3.5.2 Pressure Protection Detection (Pd) :
 - 3.5.4.1 Pd=0 No detection contact (DI).
 - 3.5.4.2 Pd=1 When abnormal compressor pressure occurred (DI=OPEN), compressor will be forced terminated and alarm message will be displayed.

3.6 Parameter list :

Code	Function	Setting range		Default	Unit	Description
		Min.	Max.			
tS	Set Point	LS	HS	4 40	°C °F	Compressor termination temp.
td	Set Differential	1 1	10 20	4 8	°C °F	tS+td = compressor start temp.
dF	Defrost Cycle	1	99	6	hr	Defrost period interval
dt	Defrost Period	0	55	30	min	Control defrost period. Defrost will stop once defrost process time completed, (dt = 0, defrost will not operate).
AU	High Temperature Alarm Setting	AL+0.5 AL+1	50 99	45 99	°C °F	When cabinet temp. is equal or higher to AU, alarm will be enabled. (Condition to start: cabinet temp. has to be reached the set point once).
AL	Low Temperature Alarm Setting	-40	AU-0.5 AU-1	-40	°C °F	When cabinet temp. is equal or lower to AL, alarm will be enabled. (Condition to start: cabinet temp. has to be reached the set point once).
HS	Max. Set Point	tS	40 79	25 79	°C °F	The maximum temperature can be set.
LS	Min. Set Point	-40	tS	-30 -20	°C °F	The minimum temperature can be set.
Ad	Alarm Delay	0	60	15	min	Buzzer delay time.
AC	Compressor Delay Protection	0	30	1	min	Interval time for compressor re-start after stop operation.
Cr	Error operation time	0	60	15	min	When SERSOR error, time for compressor forced to operate.
CS	Error stopping time	0	60	15	min	When SERSOR error, time for compressor forced to stop.
Ot	Temp. Calibration	-12 -20	12 20	0 0	°C °F	Cabinet temp. calibration.
Ut	Unit Selection	°C	°F	°C		To select different temp. unit.
FC	Fan Operation Mode	0	1	1		0=Fan stops operating while compressor stops; 1=Fan continuous operating.
Pd	Pressure protection Detection	0	1	0		0=No detection contact (DI); 1=Activate detection contact (DI).
OU	Exit	-	-	-		Waiting for 2 seconds and exit setting mode.

4.FAILURE ELIMINATION :

4.1 Communication indicator (Green LED) :

When LED is blinking, it indicates normal linking status; when LED is OFF, it indicates DEI-860CN has not installed or abnormal communication.

(Please check if communication wiring is properly).

4.2 Power/ Communication indicator (Red LED) :

After supplying power, LED is ON indicates DEI-860A, DEI-631N or DEI-121N has not installed or abnormal communication.

(Please check if communication wiring is properly).

4.3 Below alarm and failure codes will not display in power board, but generated from the power board.

4.3.1 When EP displayed in DEI-860CN or DEI-860A, it indicates abnormal compressor pressure and compressor will be forced to stop.

4.3.2 When below failures occurred, the compressor of power board operates by (Cr) time and terminates by (CS) time.

4.3.2.1 When E1 displayed, it indicates cabinet sensor failure.

(Please check if the sensor in power board in failure or replace a new one)

4.3.2.2 When EE displayed, it indicates abnormal memory.

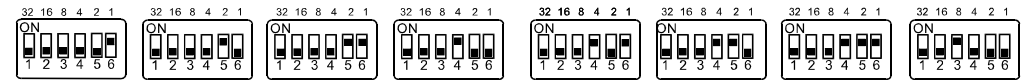
(Re-supply power to power board and it will operate by default values)

4.3.3 Alarm codes : (Cabinet temp. has to be reached set point once to activate alarm codes and displayed alternately with cabinet temp.) .

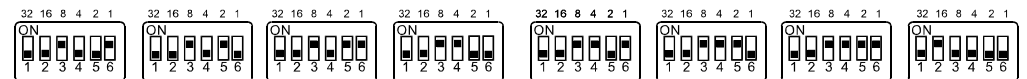
4.3.3.1 UA indicates cabinet temp. \geq High temperature alarm setting (AU) .

4.3.3.2 LA indicates cabinet temp. \leq Low temperture alarm setting (AL) .

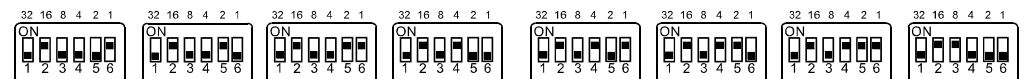
5. IP SETTING :



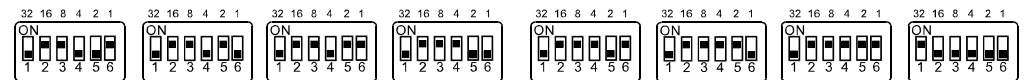
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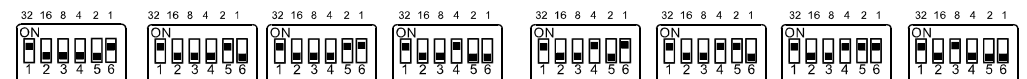
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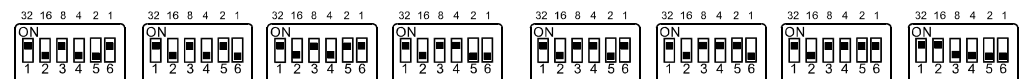
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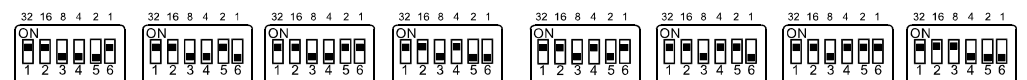
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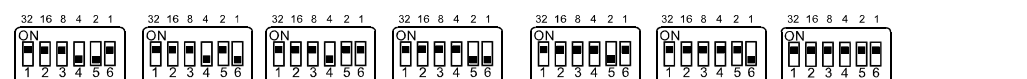
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No.49 No.50 No.51 No.52 No.53 No.54 No.55 No.56



No.57 No.58 No.59 No.60 No.61 No.62 No.63