

# User Manual ECS-974neo Temperature Controller

## 1. Product overview

ECS-974neo is a universal standard temperature controller.

## 2. Display and operation panel



Mounting size: 71 x 29 mm

Product size: 78.5 x 34.5 x 74 mm

## 3. Technical parameters

- 1) Temperature measuring range:  $-50^{\circ}\text{C}\sim 99^{\circ}\text{C}$  (Only when sensor calibration value is set to 0)
- 2) Resolution:  $0.1^{\circ}\text{C}/1^{\circ}\text{C}$  settable
- 3) Accuracy:  $\pm 1^{\circ}\text{C}$  ( $-40^{\circ}\text{C}\sim 50^{\circ}\text{C}$ ),  $\pm 2^{\circ}\text{C}$  (others)
- 4) Temperature control range:  $-50^{\circ}\text{C}\sim 99^{\circ}\text{C}$
- 5) Power supply: 220 VAC $\pm 10\%$ , 50/60Hz; Overall power consumption:  $<3\text{W}$
- 6) Input port: Cabinet sensor, Evaporator sensor
- 7) Output port: Cooling/Defrost/Fan
- 8) Protection grade of front panel: IP65
- 9) Operating ambient temperature:  $0^{\circ}\text{C}\sim 55^{\circ}\text{C}$
- 10) Storage temperature:  $-25^{\circ}\text{C}\sim 75^{\circ}\text{C}$
- 11) Storage humidity: 20%~85% (non-condensing)

## 4. LED

LED	Symbol	Status	Meaning
Setting	set	ON	Set administrator menu
Cooling		ON	Cooling starts.
		OFF	Cooling stops.
		Flash	Cooling delays.
Defrost		ON	Defrost starts.
		OFF	Defrost stops.
Fan		ON	Fan starts.
		OFF	Fan stops.
Drip	drip	ON	Dripping.
		OFF	Drip stops.

## 5. Parameter table

No.	Menu Item	Description	Setting range	Default	Unit
User menu					
0	SEt	Temperature set-point	LSE~HSE	4.0 $^{\circ}\text{C}$	$^{\circ}\text{C}$
Administrator menu					
1	PA1	Administrator menu password	00~250	-	/
2	dIF	Differential	$0.1^{\circ}\text{C}\sim 30.0^{\circ}\text{C}$	2.0	$^{\circ}\text{C}$
3	HSE	Higher SEt. Max possible set-point	SEt~99.0	90.0	$^{\circ}\text{C}$
4	LSE	Lower SEt. Min possible set-point	-50.0~SEt	-50.0	$^{\circ}\text{C}$

No.	Menu Item	Description	Setting range	Default	Unit
5	Ont	Ont: On time (compressor). Compressor activation time in the event of faulty probe. OFt: OFF time (compressor). Compressor stop time in the event of a faulty probe.	0~250	0	min
6	OFt	If Ont=0, the compressor is off. If Ont≠0 and OFt=0, the compressor is always on. If Ont≠0 and OFt≠0, the compressor functions in duty cycle mode per Ont/OFt.	0~250	1	min
7	dOF	Delay (after power) OFF. Delay after switch off; the indicated time must elapse between switch-off of the compressor relay and the successive switch-on.	0~250	0	min
8	OdO	Delay Output (from power) On. Delay time in activating the outputs after switch-on of the controller or after a power failure.	0~250	0	min
9	dty	Defrost type:0 = electric defrost; 1 = reverse cycle defrost (hot gas); 2 = Free defrost (compressor hot).	0~2	0	/
10	dit	Defrost interval time. Interval between the start of two successive defrost operations.	1~250	6	hour
11	dCt	Defrost Counting type. Selection of count mode for the defrost interval. 0 = compressor operating hours; 1 = fixed time interval; 2 = compressor stop hours.	0/1/2	1	/
12	dOH	Defrost offset hour. Start-of-defrost delay time from startup of controller.	1~59	1	min
13	dEt	Defrost endurance time. Defrost time-out; dEt=0, defrost is disabled.	0~250	30	min
14	H42	Whether to enable evaporator sensor: y=yes; n=no	n/y	y	/
15	dSt	Defrost stop temperature	-50.0~99.0	8.0	°C
16	dPO	Defrost (at) Power On. Determines if at the start-up the controller must enter defrosting (if the temperature measured allows this operation). y = yes; n = no.	n/y	n	/
17	FSt	Fan stop temperature	-50.0~99.0	2.0	°C
18	FAd	Fan activation differential	1.0~50.0	2.0	°C
19	Fdt	Fan delay time. Delay time in activating fans after a defrost operation.	0~250	0	min
20	dt	Drainage time. Dripping time	1~250	1	min
21	dFd	Defrost fan disable. Allows to select the evaporator probes exclusion during defrost. y = yes; n = no.	n/y	y	/
22	FCO	Fan Compressor OFF. Allows selecting compressor fans lock OFF (switched off). y = fans activated; n = fans off	n/y	y	/
23	HAL	High Alarm differential	0.1~20.0	4.0	°C
24	LAL	Low Alarm differential	0.1~20.0	4.0	°C
25	PAO	Power-on Alarm Override. Alarm exclusion time after controller switch on or after a power failure.	0~15	0	hour
26	dAO	Defrost Alarm Override. Alarm exclusion time after defrost.	0~250	0	min
27	tAO	Temperature Alarm Override. Temperature alarm signal delay time.	0~250	0	min
28	LOC	Keyboard locking. y = yes; n = no	n/y	n	/
29	PA1	Password 1.	0~250	5	/
30	ndt	number display type. View with decimal point. y = yes; n = no	n/y	y	/
31	CA1	Calibration 1. Positive or negative temperature value added to the value read by probe 1.	-12.0~12.0	0	°C
32	CA2	Calibration 2. Positive or negative temperature value added to the value read by probe 2.	-12.0~12.0	0	°C
33	ddl	Defrost display Lock. Viewing mode during defrosting. 0 = shows the temperature read by the cabinet probe; 1 = locks the reading on the temperature value read by cabinet probe when defrosting starts, and until the next time the Set-point value is reached; 2 = displays "dEF" during defrosting, and until the next time the Set-point value is reached.	0/1/2	1	/