ECS-16 Temperature Controller User Manual

1. General

The temperature controller is specially designed for beverage cabinet. It has user menu and administrator menu. Control temperature could be set through user menu; and for administrator menu, it has password protection to avoid misoperation. It can switch between heating and refrigeration mode, and the relay capacity is 30A, which could directly drive a single phase 1.5HP compressor. Defrost output is optional and defrost mode could be either natural defrost or in electric defrost (defrost relay needs to be selected). Colorful LED display, and work status is displayed in symbols. It adopts plug-in quick connection terminal, which highly simplify the processing for manufacturers.

2. Operation and display panel

3. Specification:

Mounting size: 71×29 (mm)
Product size: 78.5 × 34.5 × 82 （mm）

4. Technical parameters

1) Measuring range: -50℃~+90℃；
2) Resolution: 1℃；
3) Accuracy: -50℃~50℃,±1℃, others,±2℃；
4) Cabinet temperature control range: -50℃~85℃；
5) Power supply: 220VAC±10% 50/60Hz；
6) Power consumption: <3W
7) Output capacity:
Refrigeration: 30A/240VAC, directly drive a single phase 1.5HP compressor;
Defrost: 5A/250VAC (optional)
8) Front panel protection level: IP65
9) Ambient temperature: 0℃～55℃
10) Storage condition: temperature -25℃～75℃
11) Storage humidity: 20%～85%(non condensing)

5. Indicator light status description

Indicator light	Symbol	Status	Meaning
Setting	set	ON	Parameter setting
		OFF	Status of temperature measuring and controlling
Control load	out	ON	Control load works
		OFF	Control load stops
		FLASH	Control load in time delay
Heating mode	H	ON	Start heating mode
Refrigeration mode	C	ON	Start refrigeration mode
Defrost	def	ON	Start defrosting

6. Parameter list

Menu	Menu function	Setting range	H1	H2	Unit
		User Menu			
St	Set temperature	Min.set temperature C3~Max.set temperature C4	4	3	℃
Po	Menu password	0~99(password is 55, irreversible)	0	0	/
		Administrator Menu			
rd	Temperature hysteresis	1~15	3	6	℃
C1	Temperature sensor calibration	-10~10	-1	-3	℃
C2	Control load start delay	0~60	3	2	min
C3	Min.set temperature	-50~St	2	0	℃
C4	Max.set temperature	St~85	10	6	℃
A1	Periodical open time after sensor failure	1~60	15	45	min
A2	Periodical close time after sensor failure	0~60 0:close control load after sensor failure	10	15	min
d1	Defrost cycle	0~90 0:Defrost forbidden	6	12	hour
d2	Defrost time	1~90	20	20	min
d3	Display during defrost	0:Display cabinet temperature 1:Display dF during defrost 2:Display defrost start temperature during defrost	2	2	/
HC	Refrigeration/heating switch	0:Refrigeration 1:Heating	0	0	/

7. Keys function

7.1 Key description

Keys	Function
Set	Enter the status of parameter setting
	Switch between menu and parameter
☼	Adjust menu and parameters
↻	Adjust menu and parameters; Press 10s to execute parameter one-key recovery
	Exit from parameter setting status
	Exit from one-key recovery status
❄ Rst	Force to start defrost

7.2 Key operation

1) User parameter setting

In the status of temperature measuring and controlling, press **Set** key for three seconds to enter user parameter setting status, it displays menu St in the digital tube. At this time, press **Set** key to display the corresponding parameter value, and press ☼ or ↻ to adjust the set temperature, and then press **Set** key to return to menu item St.

2) Enter to the administrator menu setting

In the state of user menu setting, when it displays menu item St in the digital tube, press ☼ to switch to the menu item Po, press **Set** key to display 00, and press ☼ and ↻ to adjust it to 55, then press **Set** key again to return to menu item Po. At this time, press ☼ key to display rd, indicating that it has entered to the administrator parameter setting status.