CT-500 Operation and Maintenance Manual

CT-500 Refrigeration Thermostat

Dimensions : 81(97) × 26(34) × 40 mm
Cutout : 82.2 × 26.6 mm

°C

AKR
SMacon
CT-500

Run

Defrost/Error

1. Specifications Setup

	Parameter	Code	Default	Setting Range
1	Temperature Setting	Set	4℃	-40℃～+40℃
2	Temperature Differential Setting	td	4℃	1 ~ 9℃
3	Operation Cycle	H	6hours	1 ~ 24 hours
4	Defrost Cycle	C	20 minutes	0 ~ 60(minutes)
5	Temperature Calibration	tA	0℃	-10 ~10℃
6	Lock Function	oFF/On	oFF	On→Locked off→ Unlocked

2. Operation Instructions

2.1 After installation, connect power. All 7-segment displays and LED indicators will illuminate, indicating normal controller status.

2.2 After 3 seconds, the display shows current temperature and controller begins operation.

2.3 Parameter Setting : Hold ▲ for 2 seconds to enter setting mode (displays "SEt"). Use ▲/▼ to view factory settings, then adjust values.
New settings are automatically saved. Each parameter auto-advances after 3 seconds until exit.

2.4 Compressor has 2-minute delay start protection. Hold ▼ for 5 seconds to bypass delay (compressor starts immediately if within operating temperature range).

2.5 During defrost cycle : Hold ▼ for 5 seconds to force operation cycle (compressor starts immediately if within operating temperature range).

2.6 Error code displays with flashing indicator light when malfunction occurs.

2.7 Total Cumulative Operation Time & Forced Start :
Press and hold the ▼ button for 5 seconds to display
tot → hXX → dXX → LXX = total hours (e.g., h12,d34,L5 = 123,456 hrs).
Compressor forces on if set temp < actual temp, stops at set value.

2.8 Set Value Lock Function :
"off" → Unlocked "on" → Locked
Hold ▲ or ▼ for 3 seconds to toggle setting.

3. Error Codes

3.1 OP : Temperature sensor open circuit or temperature below -45℃.
3.2 SH : Temperature sensor short circuit or temperature above +50℃.
3.3 EE : Memory malfunction

4. Parameter Descriptions

4.1 Temperature Setting : Sets the minimum operating temperature for the storage compartment.

4.2 Differential Setting : When the compressor stops, it will restart once the storage compartment temperature rises to (Temperature Setting + Differential Setting). (Compressor has 2-minute delay start protection).

4.3 Temperature Calibration : Compensates for temperature deviation caused by component degradation over time. Must be recalibrated after installation to match actual required temperature values.

Note : At first power-on, the controller performs a self-test: all segments and LEDs light. If EEPROM error occurs, "EE" is displayed.

Design Feature : During self-test, press any key while powering on to verify relay output and segment-by-step display activation.