

# CT-500H Operation and Maintenance Manual

## CT-500H Elf Series Heating Temperature Controller



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

### 1.Spec Setting

	Parameter	Code	Default	Setting Range
1	Temp Set	SEt	15°C	15~99°C
2	Diff Set	td	2°C	1~9°C
3	Run Cycle	H	6H	1~24H
4	Stop Cycle	C	20min	0~60min
5	Calibration	Ta	0°C	-10~+10°C
6	Lock	oFF/on	oFF	on→Locked , oFF→Unlocked

### 2.Operation

- 2.1 After installation, power on. All segments and LEDs light indicating normal status.
- 2.2 After 3 sec, current temperature is displayed. Controller starts operation.
- 2.3 Parameter Setting : Hold ▲ 3s to show first parameter code "SEt". Press ▲/▼ to view default value. Press ▲/▼ again to modify. New values are saved automatically. Each parameter switches automatically after 3s until exit.
- 2.4 Heater has 2-min delay start. Hold ▼ 5s to cancel delay and force immediate operation (if current temp ≥ set point).
- 2.5 During stop cycle, hold ▼ 5s to force run cycle with immediate heater operation (if temp ≥ set point).
- 2.6 If error occurs, error code is displayed and fault indicator flashes.

- 2.7 ★ Total Runtime & Forced Start  
Hold ▼ 5s to show HXX→dXX→LXX = total hours  
(e.g. H12,d34,L56 = 123,456 hrs).  
Heater forces on when (Set Temp - Diff) > Actual Temp, stops at set value.
- 2.8 Lock Function  
"oFF" = unlocked, "on" = locked. Hold ▲/▼ 3s to toggle.

### 3.Error Codes

- 3.1 OP : Sensor open circuit or temperature below 5°C
- 3.2 SH : Sensor short circuit or temperature above 100°C
- 3.3 EE : EEPROM error

### 4.Parameter Description

- 4.1 Temp Set : Maximum operating temperature.
- 4.2 Diff Set : When heater stops, it restarts if room temperature drops below (Temp Set - Diff Set). (Heater has 2-minute delay start).
- 4.3 Calibration : Compensates for sensor deviation caused by component aging.  
Note : After installation, recalibrate to match actual required temperature.

Note : During initial power-on, the controller performs a self-test : all 7-segment digits and LEDs illuminate. If an EEPROM error is detected, "EE" is displayed.

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



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