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ISO 9001:2008

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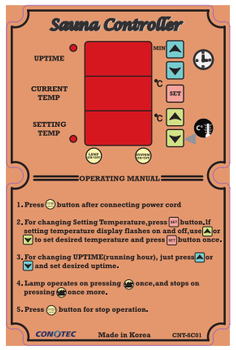
CONOTEC®

CONOTEC CO., LTD.

Digital Temperature Controller

www.conotec.co.kr

User's Manual **CNT-SC01**



SAUNA CONTROLLER

* MAIN FUNCTION

- Temperature output operates following set temperature.
- Lamp operates following manual switch.
- It operates during internal timer set time. After set time, system shutdown.

⚠ CAUTION

1. Pls use this item after installing the duplex safety device in which is applied at dangerous factors such as serious human injury or serious damages of property & important machine because this item is not designed as safety device
2. Do not check or repair when it is power on
3. Pls check the teminal number before connecting power supply
4. Do not disassemble or open, remodel, repair without any permission

1 CAUTION'S FOR SAFETY

Please read the operating manual throughly before putting the device into operation

Product specifications and accessories may be changed at any time based on improvements and other reasons.

SAFETY

1. Please comprehend the usage, safety regulation and warning before the installation of the equipment, and use it within the relevant specification regulated or relevant capacity.
2. Do not wire or install it at the motor or solenoid of which induction load is large.
3. In case of the extension of the sensor, use the same line and don't make it too long unnecessarily.
4. Don't use the parts that generate arc at the same power source or nearby at direct opening and closing.
5. Power line should be placed afar from high-tension wires, and don't install it at the place of much water, oil or dust.
6. Don't install it at the places of direct sunlight or exposed to rain.
7. Don't install it at the places of powerful magnetism, noise, vibration or shock.
8. Make a distance from the place where strong alkaline or strong acid materials are directly emitted.
9. In case of installing it at a kitchen, don't sprinkle water directly on it for cleaning.
10. Don't install it at the place in which temperature/humidity exceed the rated ones.
11. Use it without cutting or scratching the sensor wire.
12. The sensor wire should be placed afar from signal lines, power source, power and load lines, and use independent conduit pipes.
13. Please note that the after-sale service is not provided, if the product is arbitrarily disassembled or modified.
14. The indication at the terminal wiring diagram is the safety mark for warning or notice.
15. Do not use it near the equipment that generates strong high frequency noise (High frequency welder, High frequency sewing machine, High frequency radio and Large capacity SCR controller).
16. Injury or damage may occur, if it is used by the way other than the method that the manufacturer designates.
17. Keep it out of children's reach, as it is not a toy.
18. Installation should be carried out by a relevant expert or a qualified engineer.
19. Our company shall not be responsible for any damage or loss caused by the non-observance of the contents specified in the above warnings and notices or consumer's fault.

⚠ DANGER

■Caution, Danger of Electric Shock

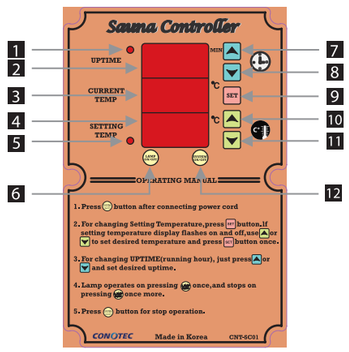
1. Electric shock - Do not contact AC terminal during the current carrying. Electric shock can occur.
2. In case of checking the input power, it should be disconnected without fail.

2 SPECIFICATION

MODEL NAME	CNT-SC01
POWER SUPPLY VOLTAGE	100~240VAC 50/60Hz
DISPLAY METHOD	7Segment LED Display (Red) [LED : Red]
INPUT SENSOR	NTC 10K
POWER CONTROL	ON/OFF CONTROL
TEMPERATURE RANGE	0.0℃ ~ 99.9℃
OUTPUT RELAY	TEMP OUTPUT : 3 relay (1a 100~250VAC 30A) LAMP OUTPUT : 1 relay (1a 100~250VAC 10A)
AMBIENT RANGE	0.0℃ ~ 50.0℃

3 ITEM PART NAME

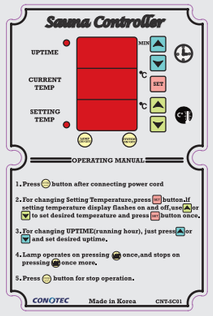
■ ITEM PART NAME



1 LAMP LED DISPLAY
2 TIMER AND SETTING VALUE
3 CURRENT TEMP
4 SETTING TEMP
5 OUTPUT LED
6 LAMP ON/OFF SWITCH
7 TIMER INCREASE SWITCH
8 TIMER DECREASE SWITCH
9 SET SWITCH
10 TEMP INCREASE SWITCH
11 TEMP DECREASE SWITCH
12 POWER ON/OFF SWITCH

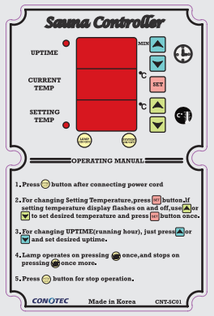
4 DISPLAY ON POWER SUPPLY

■ LOGO ON POWER SUPPLY



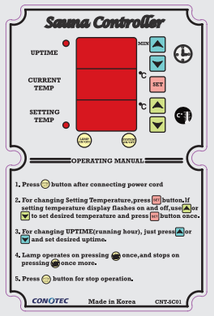
F21 LOADING DISPLAY

■ STATE OF POWER ON



UPTIME, CURRENT TEMP, SET TEMP, LAMP OUTPUT AND LAMP OUTPUT DISPLAY turns ON.

■ STATE OF POWER OFF



NO INDICATION ON DISPLAY.

5 SETTING VALUE CHANGE

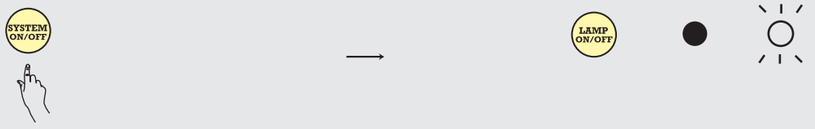
PRESS SET KEY

SET VALUE FLICKERS ON DISPLAY
SETTING RANGE : 0.0℃~99.9℃

CHANGE SET VALUE USING UP/DOWN KEY

DO NOT PRESS ANY KEY FOR 5 SECS OR PRESS SET KEY.
THEN O-K SIGN MARKS AND SETTING VALUE IS SAVED.

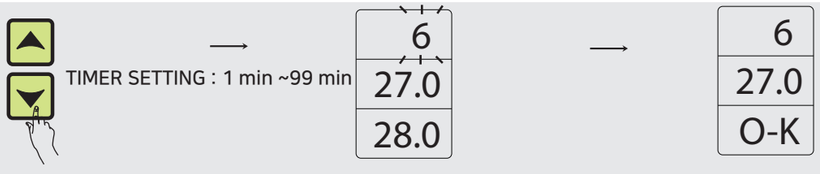
6 SYSTEM ON/OFF OR LAMP OUTPUT



SYSTEM ON/OFF SWITCH

IF LAMP SWITCH TURNS ON, OUTPUT AND DISPLAY LED IS ON.
IF LAMP SWITCH TURNS OFF, OUTPUT AND DISPLAY LED IS OFF.

7 TIMER SETTING



Increase or decrease timer setting time by pressing UP/DOWN key.

When timer set time is over 1 min, it starts to count. If it reaches to set time, system turns off.

Setting value is saved automatically after 10 secs.

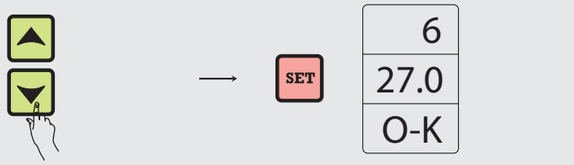
8 DEVIATION(Hysteresis) SETTING

Press SET key for 5 secs

DIF deviation letter displays

Press SET key 1 time

Then set deviation value flickers on display



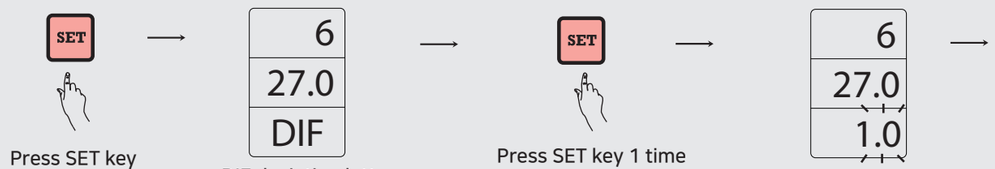
Set output deviation by pressing UP/DOWN key. (Setting range : 0.1~19.9) Set hysteresis of operation output.

Do not press any key for 10 secs or press SET key for 3 secs. If O-K sign marks, setting value is saved.

※ Output operation example
- If, current temp : 26.8℃, DIF : 1.0℃
1. RELAY OUT ON 27.8℃
2. RELAY OUT ON 28.3℃
3. RELAY OUT ON 28.8℃

※ Output ON : Current temp <= (Set temp + DIF value)
※ Output OFF : Current temp <= Set temp

9 CORRECTION OF DISPLAYED VALUE ERROR

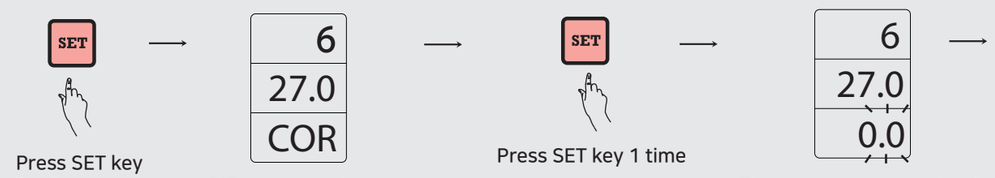


Press SET key for 5 secs

DIF deviation letter displays

Press SET key 1 time

Then set deviation value flickers on display

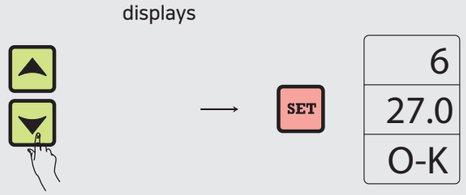


Press SET key for 5 secs

DIF correction letter displays

Press SET key 1 time

Then set correctionvalue flickers on display



Set correction of value by pressing UP/DOWN key. (Setting range : 0.1℃~19.9℃)

Do not press any key for 10 secs or press SET key for 3 secs. If O-K sign marks, setting value is saved.

EX) Display temp : 100℃, Other thermometer : 104℃
-> If you add 4℃ of cor value, diplay temp changes to 104℃.

※ Output ON : Current temp <= (Set temp + DIF value)
※ Output OFF : Current temp <= Set temp

Caution) Please correct temperature after checking accuracy of other thermometer.
※ If pressing UP/DOWN key continuouly, number increase(decrease) at a high speed.
※ If value error is not much, pls indicate COR value as 0.

10 FUNCTION DETAIL

■ POWER STATUS

Controller power status remains on system before main power shut downs. => On power reloading, it recovers to previous power status.

■ PROGRAM FUNCTION

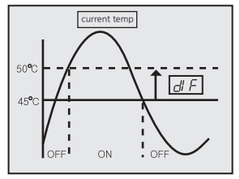
CAL : Current temperature correction function
Function of correcting the current temperature against any errors generated by External Signal Input Sensor and the difference with reference temperature.
(Set Range : -5℃~5℃)

ex) Reference temp : 10℃ — If CAL 0.0 is modified to -2℃,
Displayed temp : 12℃ — it will be shown as 10℃.

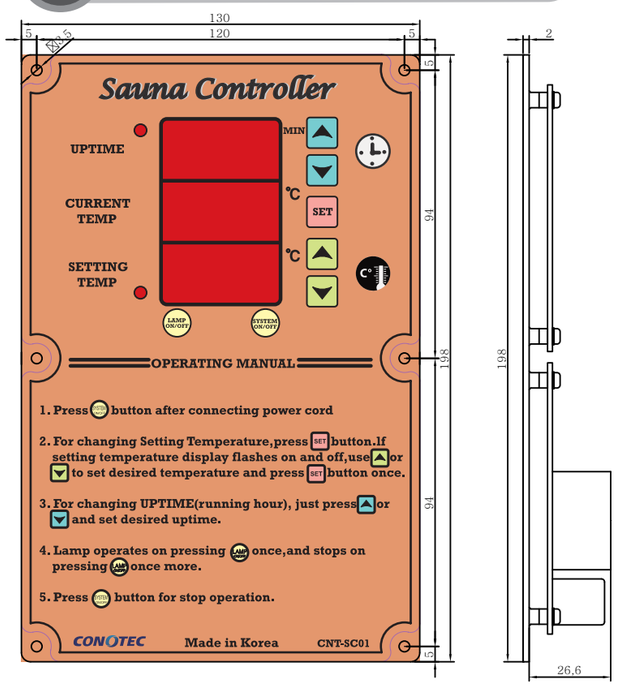
dIF : Setting for temperature deviation
- In the ON/OFF control, it needs at regular interval between ON and OFF.
- By operating the ON/OFF control frequently, the relay or its output contact can be damaged quickly and it also occurs the hunting(oscillating, chattering) by virtue of external noise. You can make use of the temperature deviation in order to protect its relay or contact and so on.

ex) If DIF : 5℃, Setting temp : 50℃,
relay turns ON when measured temp is under 45℃,
relay turns OFF when measured temp is over 50℃.

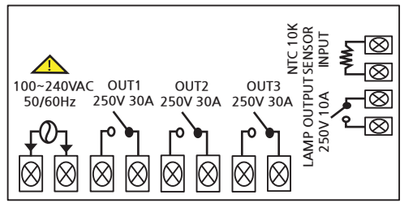
Setting temp : 50℃,
dIF = 5℃
dly = 0



11 PRODUCT APPEARANCE AND PANEL DIMENSION



12 TERMINAL CONNECTION DIAGRAM



※ Output 220VAC
※ Caution : Please make use of power relay or magnet surely.

13 SET VALUE ON SHIPMENT

CNT-SC01		
DISPLAY	RANGE	SET VALUE ON SHIPMENT
TIMER SETTING	0 ~ 99 MIN	10 MIN
TEMP SETTING	0.0℃ ~ 99.9℃	20.0℃
CAL	0.1℃ ~ +19.9℃	0.0℃
dIF	0.1℃ ~ +19.9℃	1.0℃

14 HOW TO CHECK A BREAKDOWN

- **o-E** : When it shows this letter, it indicates sensor is not connected.

※ This device's specification can be changed without any notification to improve its quality.

■ address : 56 Ballyongsandan 1-ro, Jangan-eup, Gijang-gun, Busan, 46034, Rep. of Korea
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- HOMEPAGE : www.conotec.co.kr
- E-MAIL : conotec@conotec.co.kr
- SNS : facebook, instagram, youtube ☞ search 'conotec'

◈ PRECAUTION FOR INSTALLATION
- To avoid electric shock,this equipment must be connected to protective earth ground and power supply.
- Do not block ventilation slots.

◈ PRECAUTION FOR HANDLING
- Ambient temp : 0 ~ 60℃
- Ambient humi : under 80%RH
- Only for indoor
- Pollution grade II
- Altitude : under 2000m
- Installation category II
- Pls avoid deployment which has difficulty on handling power cord.
- If operates not following guideline, protection system on equipment can be damaged.

■ Conotec's Main Products

- TEMP/HUMI CONTROLLER
- TIMER CONTROLLER
- PANEL META
- TEMP/HUMI INDICATOR
- OVEN CONTROLLER
- CO2 CONTROLLER
- PID CONTROLLER
- UNIT COOLER CONTROLLER
- HEATPUMP CONTROLLER
- CHILLER CONTROLLER
- THERMO-HYGROSTAT CONTROLLER
- SMS ALARM PRODUCT
- TEMP/HUMI TRANSMITTER
- SMARTPHONE APP / MONITORING SYSTEM

※ THIS MANUAL WAS MADE USING NAVER NANUM FONT.