



**1 SAFETY PRECAUTIONS**

Read the safety precautions carefully for correct usage.  
 ※ The specifications, appearance, and measurements may change without advance notice for improvement of performance.

**WARNING**

1. This product has not been manufactured as a safety instrument. Thus, when using on instruments that may cause serious damage to peripherals or result in grave property loss, make sure to double equip with safety apparatus before using.
2. Do not connect to wires, inspect, or repair while power is being supplied
3. Make sure to check the terminal number before connecting to power.
4. Never disassemble, repair, reform, or upgrade this product.

- Use this product only for the purposes specified after carefully going over the safety precautions and warnings before installation and use, making sure only to use within its capacity.
- Do not wire or install on motors or solenoids with high inductive load.
- Use sealed wires when extending the sensor, and do not make the wire excessively long.
- Do not use parts that create arc upon open and close in the same power cable.
- Do not install in areas with direct sunlight, oil, water, dust, or other chemical materials.
- Do not install in areas with extreme magnetism, noise, vibration, or shock.
- Keep away from areas with strong alkali or strong acid emission and use independent piping.
- Do not spray water for cleaning if installed in kitchens.
- Do not install in areas with improper temperature or humidity.
- Do not allow the sensor wires to break or be nicked.
- Keep the sensor wire away from the signal wire, power, power supply or load wire: use independent piping.
- No customer service will be available upon arbitrary disassembly or reform of the product.
- The ⚠ mark for safety indicates warning or caution.
- Do not use near machines that create strong high frequency noise such as high frequency welding machine, high frequency sewing machine, high frequency tow-way radio, high capacity SCR controller etc.
- When improperly used not according to the producer recommendations, damage or loss in assets may occur.
- Keep away from children for this is not a toy.
- Installation must be performed only by professionals or persons with appropriate qualifications.
- We will not be responsible for any harm or losses resulting from user negligence, improper use, or not following the warning or caution provisions.

**⚠ DANGER**

- Danger from electrocution
  - Electric shock – Do not make contact with the AC terminal during the electric current application for this may result in electrocution.
  - When inspecting input power, make sure to cut input power.

**2 Model Composition**

Model	Sensor	Temperature Range	Function	Power
FOX-2108	NTC	-55.0°C ~ +99.9°C	Temperature control	AC220V
FOX-2208	NTC	-55.0°C ~ +99.9°C	Temperature, alarm	AC220V
FOX-2208A	NTC	-55.0°C ~ +99.9°C	Temperature, two-level	AC220V
FOX-2108-D12 FOX-2108-D40	NTC	-55.0°C ~ +99.9°C	Temperature control	D12:DC 12V D40:DC 24V ~40V
FOX-2208-D12 FOX-2208-D40	NTC	-55.0°C ~ +99.9°C	Temperature, alarm	
FOX-2208-D12 FOX-2208-D40	NTC	-55.0°C ~ +99.9°C	Temperature, two-level	

**3 Name of Parts**

**Product appearance and name of parts**

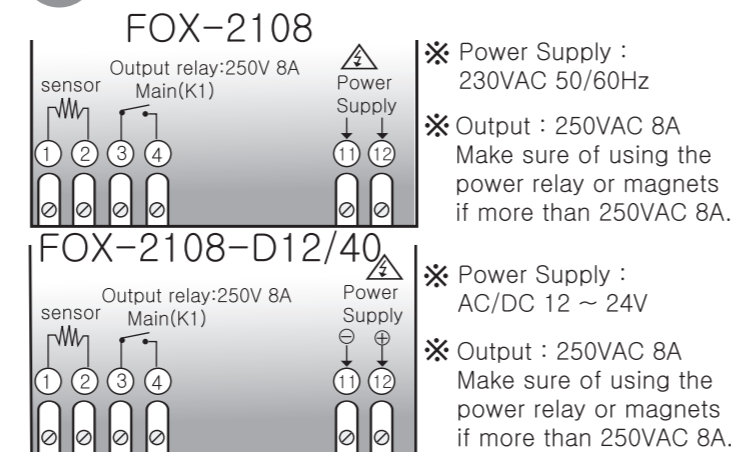


- 1 Temperature output
- 2 UP switch
- 3 Function change switch
- 4 DOWN switch

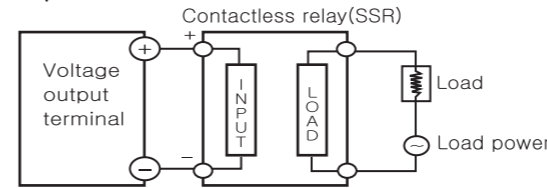
**Changing user setting(temperature setting)**

- Changing the temperature setting of the main output
  - Set Press this key once and the value will blink.
  - or increase or decrease by pressing these keys
- Function setting of installer mode
  - Set Press this key for more than 5 sec to enter the installer mode. Press or to change the values.

**4 Terminal connection diagram**

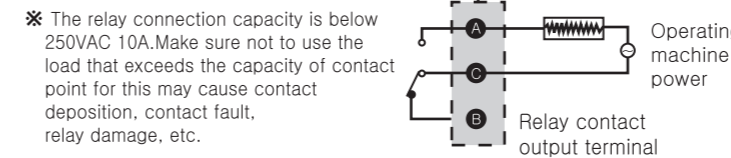


**Example of SSR drive connection**



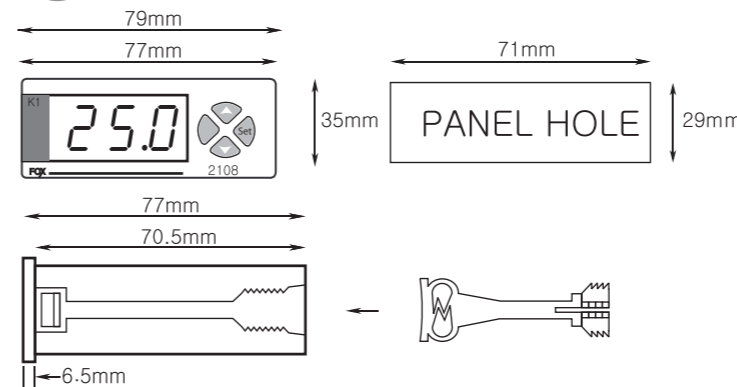
※ When selecting the SSR, the load capacity must be considered, and make sure of using SSR with capacity greater than that of load.

**Example of relay connection**



※ The relay connection capacity is below 250VAC 10A. Make sure not to use the load that exceeds the capacity of contact point for this may cause contact deposition, contact fault, relay damage, etc.

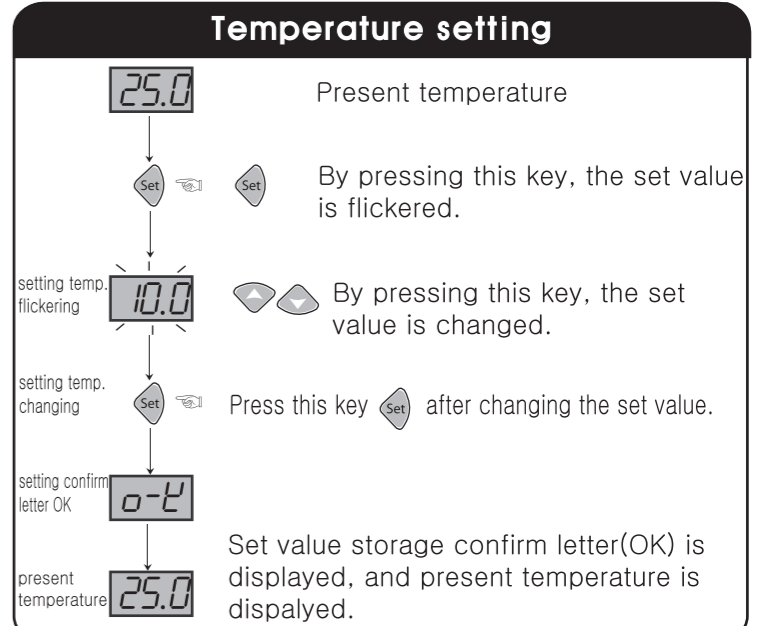
**5 Product appearance and panel size**



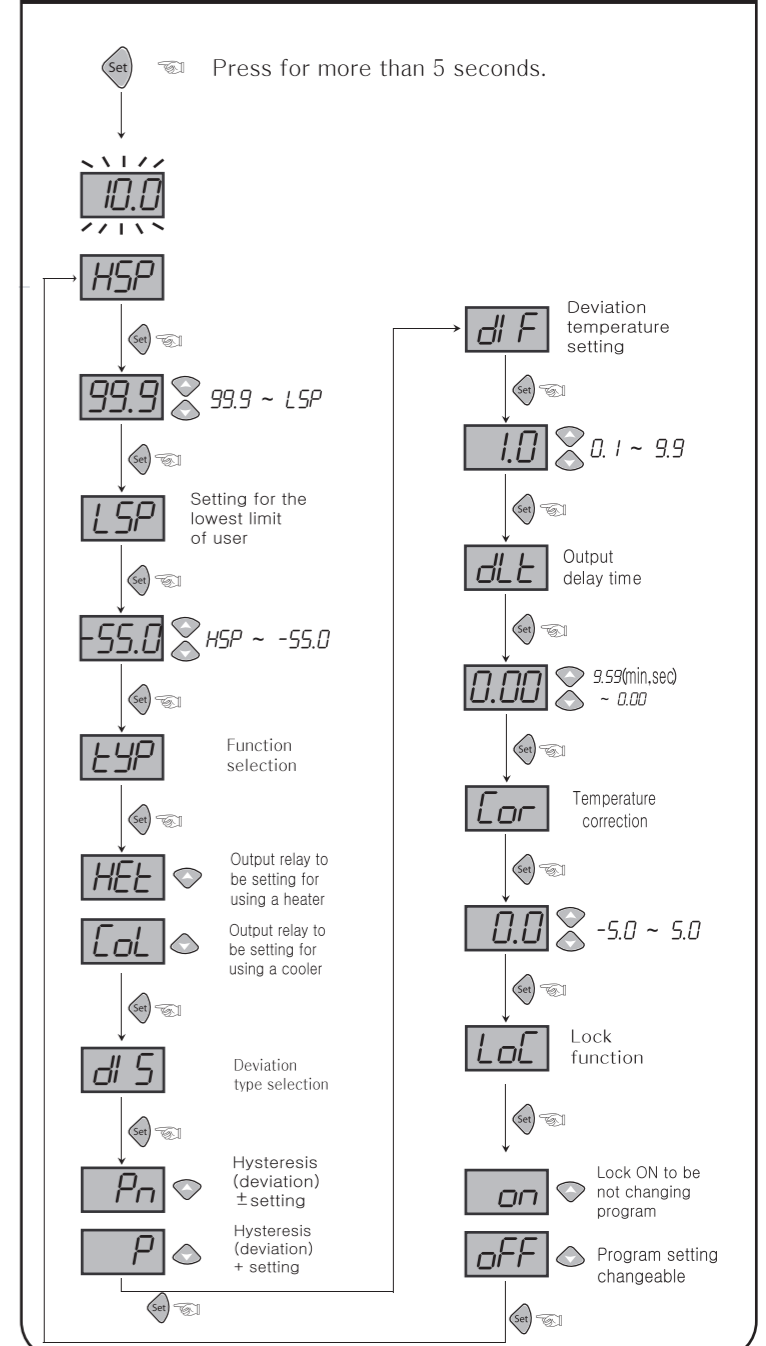
**6 Setting range & set value when shipment**

	Functions	Display	Range	Set value at shipment	REMARK
Setting temperature	Temp. setting		-55.0 ~ 99.9	10.0	
Setting Program	User's setting temp. upper limit setting	HSP	LSP ~ 99.9	99.9	But, irrelevant to the relay output
	User's setting temp. lowest limit setting	LSP	-55.0 ~ HSP	-55.0	But, irrelevant to the relay output
	Function selection	LYP	Col / HET	Col	HET :for heater Col :for cooler
	Deviation type selection	dIF	P / Pn	P	Pn Output hysteresis setting ± activation P Output hysteresis setting + activation
Deviation temp. setting	dIF		0.1 ~ 19.9	1.0	
Output delay time setting	dLt		0.00 ~ 9.99	0.00	min, sec
Temp. correction	Cor		-5.0 ~ 5.0	0.0	Difference correction between display & an actual temperature
Lock function	LoC		on / off	off	on : Lock function setting off :Unlock function except for the temp. set value

**7 Setting value change sequence**



**Temperature program setting**



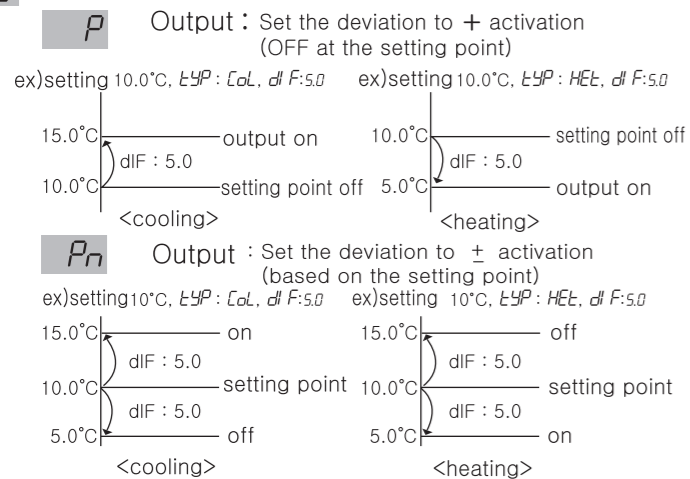
## 8 Detailed function description

**HSP** : User setting temperature upper limit point setting (maximum setting point allowed to final user). Impossible to set up the setting temperature value more than the HSP setting value.  
ex) When set up the HSP = 25.0°C → Setting temp. cannot be raised over than 25.0°C

**LSP** : User setting temperature lower limit point setting (minimum setting point allowed to final user). It is impossible to set up the setting temperature value below than the LSP setting value.  
setting point) When set up the LSP = 10.0°C → Setting temp. cannot be dropped below than 10.0°C.

**LYP** : Rating setting for an auxiliary output1 (Cooling & heating selection function)  
When select the CoL: use as a cooler  
When select the HEt: use as a heater

**dI5** : Deviation type selection

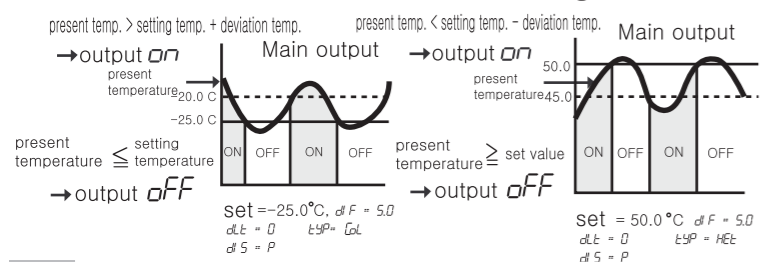


**dIF** : Deviation temperature setting

In the ON/OFF control, regular interval between ON and OFF is required (ON/OFF width setting)  
If the ON and OFF are frequently too much activated, relay or other output contact point would be damaged quickly or hunting (power generating phenomenon, chattering) caused by exterior noise is generated.  
Setting up and using the deviation temperature is the function to protect the contact point of the instrument and others etc.

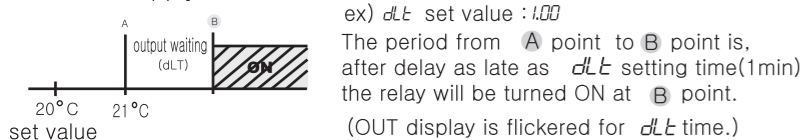
**for using a cooler**

**for using a heater**



**dLt** Output delay time

In case of operating the ON/OFF control very often, to protect the operation machinery when re-input of the power supply or momentary stoppage of power supply.



**Cor** : Present temperature correction function  
It is a function to correct when the error occurred on the sensor input from the outside and standard temperature (ex. mercury thermometer or presently using thermometer, temperature controller) and temperature are different.

ex) Real temp. : 25.0°C  
indication window : 28.0°C →  
\* When there is 3°C difference to the real temp.

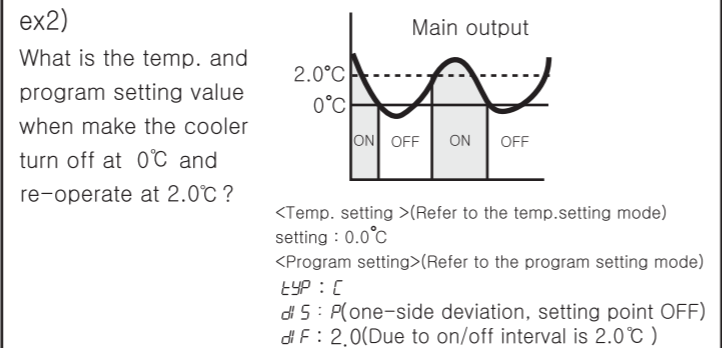
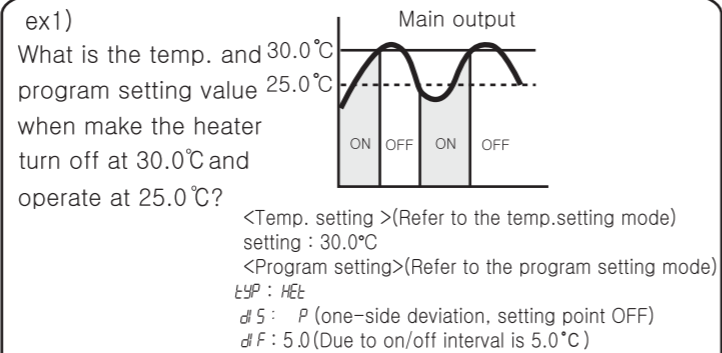
If correct the Cor from 0.0 → -3.0, 25.0°C is marked on the indication window.

**LoL** : Program locking function setting

LoL: Program locking

LoF: Program locking lifting

Example of using the temperature controller



## 9 How to diagnose a breakdown

- Indicating ERROR on using items
- This **Err** is the damage of memory data for various of inner-DATA due to be got nosied strongly from outside while using this items. Please request us A/S by return. Although our controller is designed as the complementary measures regarding these noise from outside, it is not endurable against these noise with endlessly.
- If noise (2KV) disordering become an inflow, the inner-part will be damaged.
- When shows these letter **o-E** (open error), **S-E** (short error) error in sensor. Please check sensor.

\* Above product's information can be changed to improve its quality without any notification. When using this product, please observe the information of caution & warning due to give rise to disordering.

\* Regarding the English-language manual, please download it at our homepage.

■ H.Office : Ballyonsandan 1-ro, Jangan-eup, Gijang, Busan, Republic of Korea  
■ Factory : Ballyonsandan 1-ro, Jangan-eup, Gijang, Busan, Republic of Korea

■ Tel : +82 (051) 819-0425-7  
■ FAX : 82-51-819-4562

■ E-mail : conotec@conotec.co.kr  
■ Homepage : www.conotec.co.kr

■ Main products & developments  
- Digital temp./humi. controller  
- Digital timer, Current/Volt meter  
- Development of other product

MEMO