

OPERATION MANUAL



1 SAFETY AND CAUTION

Please carefully digest all cautions prior to the use of product, and correctly operate.
 ※ The specification and external dimension may be changed for improvement of product performance without advance notice.

⚠ WARNING

- Being the product not manufactured for safety related device, make sure to provide a duplicated safety apparatus for use of controlling the devices subject to potential personal injury and/or death, damages on critical peripheral devices and substantial property losses.
- Do not execute the wiring, checking and/or repair works under the condition power supply is engaged.
- Make sure to verify the correct terminal numbers and terminate, when connecting the power supply.

⚠ CAUTION

- Please carefully read and digest the operation procedure and safety related regulations or WARNING descriptions prior to the use of product, and make sure to operate the product only per the relevant specification or within the corresponding capacity rating.
- Do not make wiring or install the product on motor or solenoid with large inductive loads. When extending the sensor, use the shielded wire not extending the extension wire length unnecessarily long.
- Do not use the components generating arc when opening and closing under same power supply line or near to power supply.
- Keep the power supply line away from high voltage wire, and avoid installation at the locations subject to severe moisture, oily content and dust.
- Do not install the product at places exposed to direct sun light or rain.
- Do not install the product at places subject to strong magnetism or severe noise, vibration and impact.
- Keep the product far away from the places directly producing strong alkali or acidic substances using separate conduit for wiring.
- Do not spray water on the product for cleaning purpose when installed at kitchen area.
- Do not install at those places under the temperature and/or moisture exceeding the rated capacity.
- Use the product paying attention not to have disconnected sensor wiring or defect.
- Allow the sensor wiring stay away from signal, power supply, drive and load wires using separate conduit for wiring.
- Please note that no warranty services shall be provided when the product is disassembled or modified at user's own discretion.
- The ⚠ mark shown on Terminal Wiring Diagram is a safety notice notifying warning or caution.
- Do not use the product at places near to the devices generating strong high frequency noise (High frequency welding machine, high frequency sawing machine, high frequency radio, large capacity SCR controller).
- Using the product with procedures not specified by the manufacture may incur the personal injury or property damage.
- Not being a toy, do not allow children touch the product.
- Make sure to execute the installation only by the skilled person with related industry or authorized personnel.
- CONOTEC Co., Ltd. shall assume absolutely no responsibility of whatsoever nature for those damages and/or losses incurred due to the operation not complying with above WARNING or NOTE descriptions or negligence and/or fault of user.

⚠ DANGER

- CAUTION on Danger of Electric Shock
 - Electric Shock – Do not touch the AC power terminals when the power supply is ON, as it may incur the electric shock.
 - Make sure to turn the input power supply OFF when checking the input power supply.

2 PRODUCT CONFIGURATION

Model No.	Sensor	Control Output	Temperature Range	Application
FOX-2PD/T/F	PT	Relay contacts (2 ~ 4EA)	-200℃ ~ +400℃	Temperature control
FOX-2CD/T/F	CA	Relay contacts (2 ~ 4EA)	-50℃ ~ +999℃	Temperature control

3 Name of part

Appearance of product and name of part

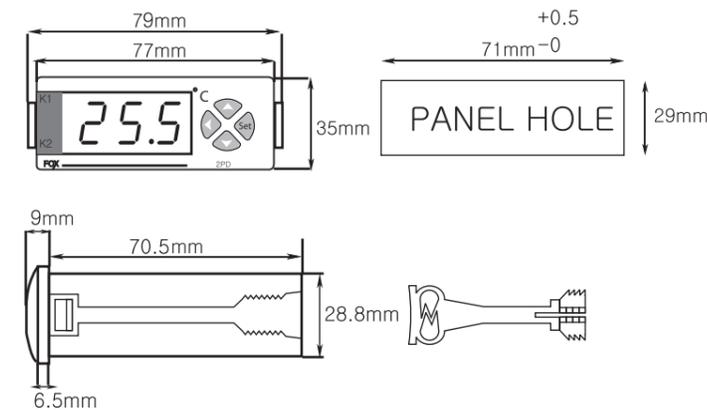


- OUT1 output indication
- OUT2 output indication
- OUT3 output indication
- OUT4 output indication
- Switch Increasing
- Shift Function Switch
- Switch Decreasing

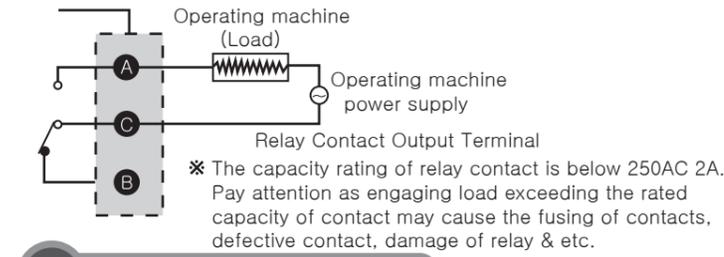
Function of Operating key

- Set: Key assigned for temperature setting and program change
- Left/Right Arrow: Key assigned for changing the temperature and program setup values.

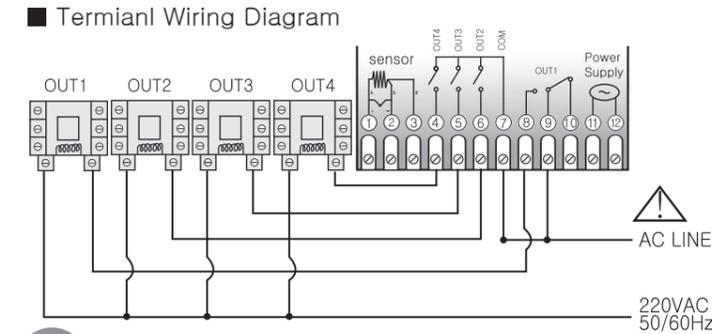
4 External Dimensions and panel size



Relay Wiring Example



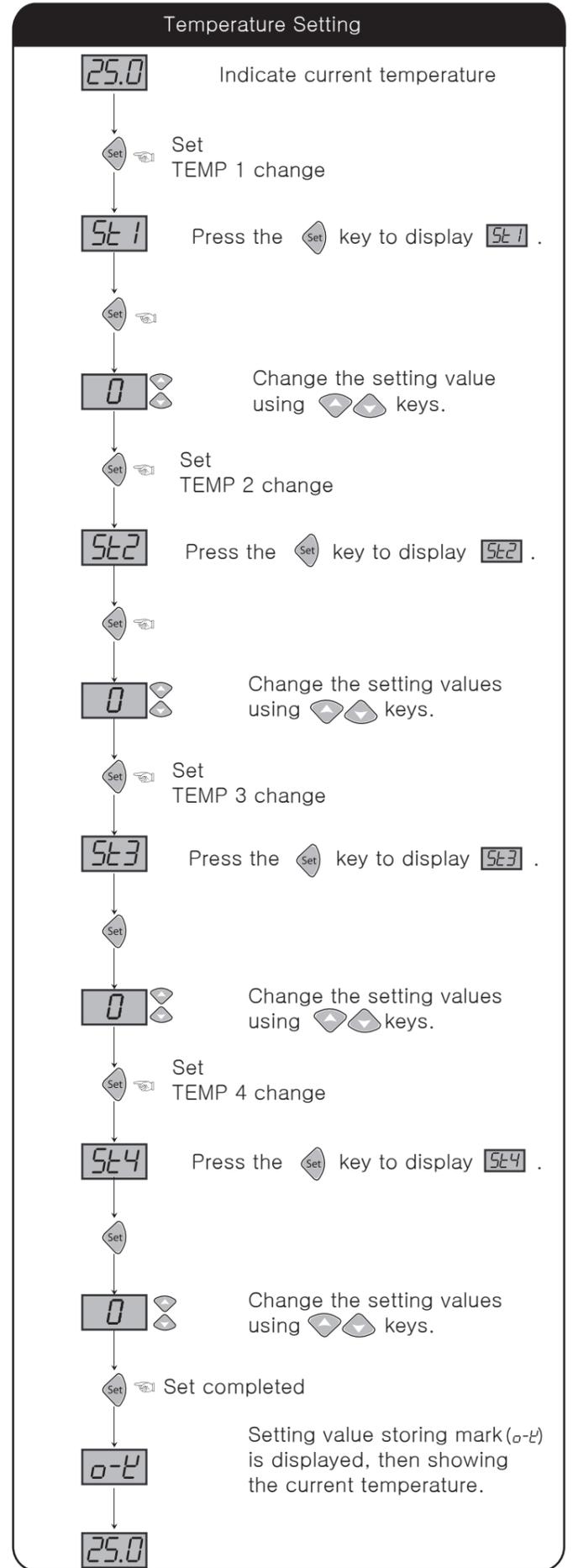
5 Terminal Wiring Diagram



6 Setting Range and Default Setup Value

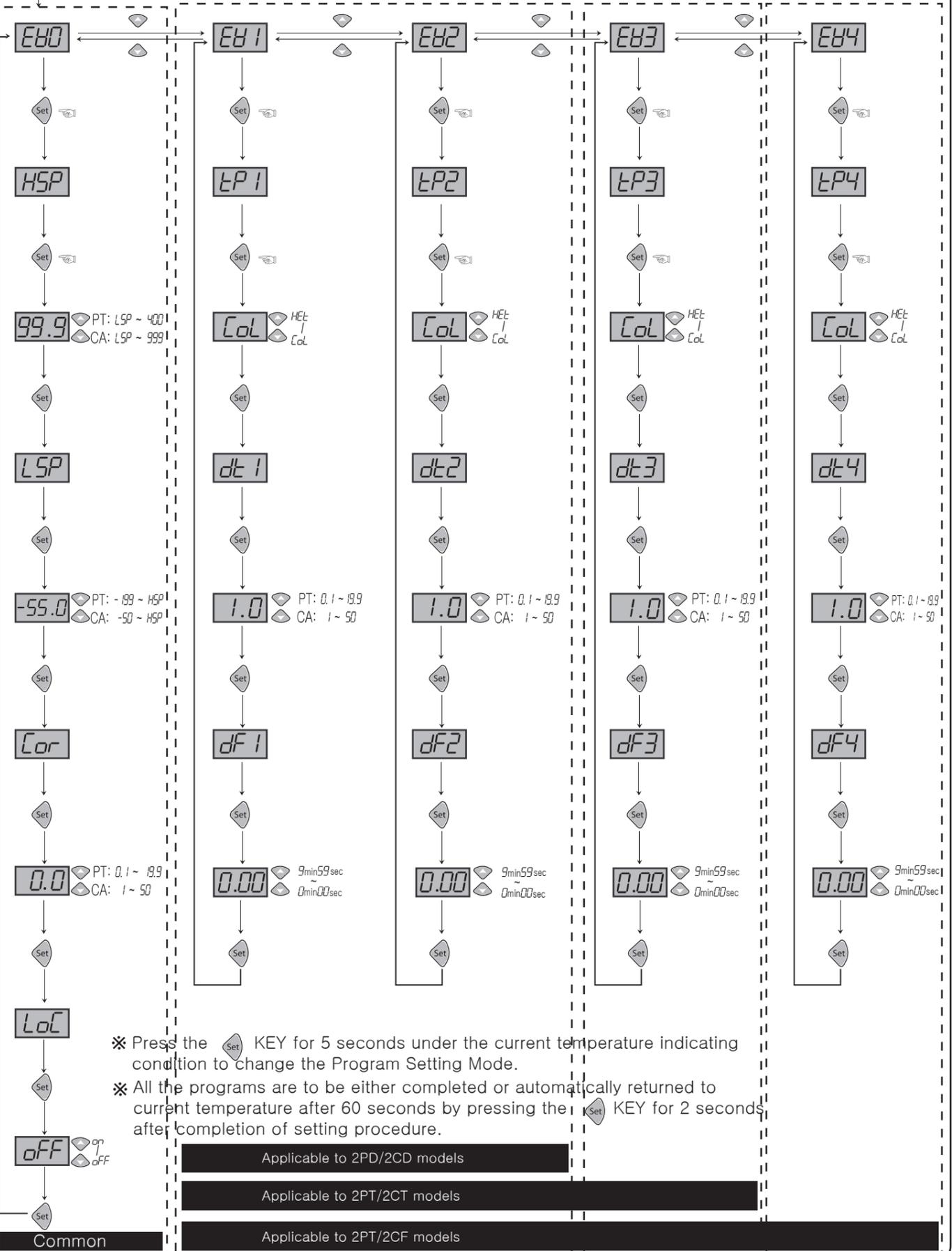
	Function	Display	Range	Default Value	Remark
Temp. setting	TEMP 1 setting	St 1	PT: LSP ~ HSP CA: LSP ~ HSP	10.0 10	
	TEMP 2 setting	St 2	PT: LSP ~ HSP CA: LSP ~ HSP	10.0 10	
	TEMP 3 setting	St 3	PT: LSP ~ HSP CA: LSP ~ HSP	10.0 10	
	TEMP 4 setting	St 4	PT: LSP ~ HSP CA: LSP ~ HSP	10.0 10	
Program setting	User set-up temp. upper limit setting	HSP	PT: LSP ~ 400 CA: LSP ~ 999	400 999	Provided, not related w/relay output
	User set-up temp. lower limit setting	LSP	PT: -199 ~ HSP CA: -50 ~ HSP	-199 -50	Provided, not related w/relay output
	Temperature correction	Cor	PT: -30.0 ~ 30.0 CA: -50 ~ 50	0.0 0	Correction temp. differs between Indicated & Actual
	Locking Function	LoL	on / off	off	on: Locking function setting off: Locking function release Provided except temp. set value
	TEMP 1 Function Select	EP 1	CoL / HEt	CoL	CoL:cooling purpose HEt:heating purpose
	TEMP 1 deviation temp. setting	df 1	PT: 0.1 ~ 19.9 CA: 1 ~ 50	1.0 1	Output hysteresis interval setting
	TEMP 1 output delay time setting	dt 1	0.00 ~ 9.99	0min00sec	
	TEMP 2 Function Select	EP 2	CoL / HEt	CoL	CoL:cooling purpose HEt:heating purpose
	TEMP 2 deviation temperature setting	df 2	PT: 0.1 ~ 19.9 CA: 1 ~ 50	1.0 1	Output hysteresis interval setting
	TEMP 2 output delay time setting	dt 2	0.00 ~ 9.99	0min00sec	
	TEMP 3 function selection	EP 3	CoL / HEt	CoL	CoL:cooling purpose HEt:heating purpose
	TEMP 3 deviation temperature setting	df 3	PT: 0.1 ~ 19.9 CA: 1 ~ 50	1.0 1	Output hysteresis interval setting
TEMP 3 output delay time setting	dt 3	0.00 ~ 9.99	0min00sec		
TEMP 4 function selection	EP 4	CoL / HEt	CoL	CoL:cooling purpose HEt:heating purpose	
TEMP 4 deviation temperature setting	df 4	PT: 0.1 ~ 19.9 CA: 1 ~ 50	1.0 1	Output hysteresis interval setting	
TEMP 4 output delay time setting	dt 4	0.00 ~ 9.99	0min00sec		

7 Setting Value Changing Procedure



Temperature Program Setting

Press for more than 5 seconds



※ Press the **Set** KEY for 5 seconds under the current temperature indicating condition to change the Program Setting Mode.
 ※ All the programs are to be either completed or automatically returned to current temperature after 60 seconds by pressing the **Set** KEY for 2 seconds after completion of setting procedure.

Applicable to 2PD/2CD models
 Applicable to 2PT/2CT models
 Applicable to 2PT/2CF models

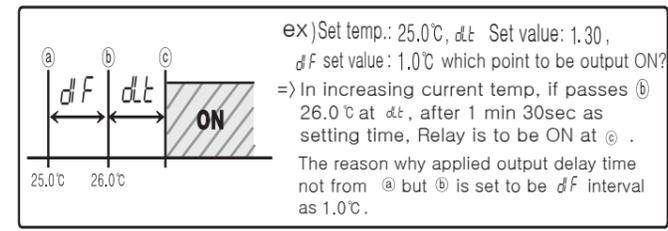
8 Detail Description on Function

- St1** : Set the 1st stage temperature(Applicable model : 2PD, 2PT, 2PF, 2CD, 2CT, 2CF)
- St2** : Set the 2nd stage temperature(Applicable model : 2PD, 2PT, 2PF, 2CD, 2CT, 2CF)
- St3** : Set the 3rd stage temperature(Applicable model : 2PT, 2PF, 2CT, 2CF)
- St4** : Set the 4th stage temperature(Applicable model : 2PF, 2CF)
- HSP** : Set the upper limit of user Set-up temperature.(Max. set point allowed to the last user.) Prohibited setting value above **HSP** ex) When setting **HSP** = 25.0 → Setting temperature cannot be increased over 25.0°C
- LSP** : Set the upper limit of user Set-up temperature.(Min. set point allowed to the last user.) Prohibited setting value below **LSP** ex) When setting **LSP** = 10.0 → Setting temperature cannot be increased below 10.0°C
- Cor** : Current temperature correcting function
 Function of correcting the current temperature against any errors generated by External Signal Input Sensor and the difference with reference temperature.(Example: Mercury thermometer or existing thermometer or temperature controller used)

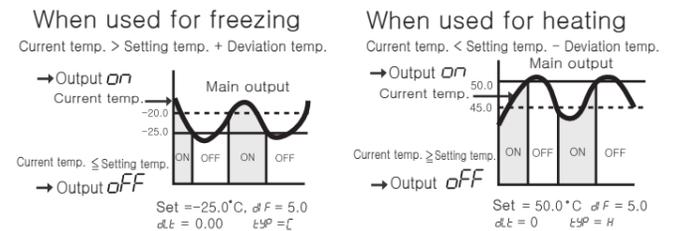
ex) Actual temp. : 25.0°C
 Displayed temp. : 28.0°C
 ※3°C difference with actual temperature. → Correct the **Cor** from 0.0 to -3.0 to display as 25.0°C at the Indicating LCD window

- LoL** : Setting DATA locking function
 A sort of safety device prohibiting the change of various set-up values except with Primary User.
 When setting **on** : Lock all setting values except with temperature setting value
 When setting **off** : Release all setting values except with temperature setting value

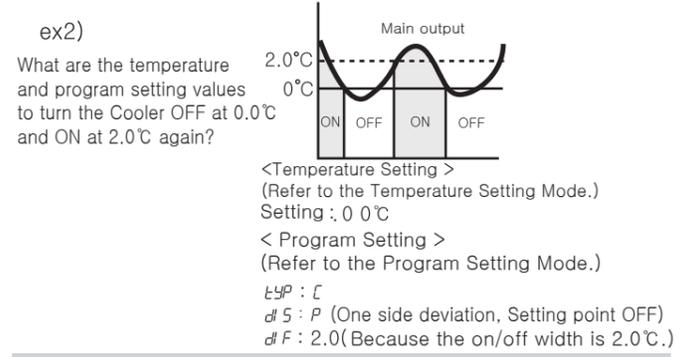
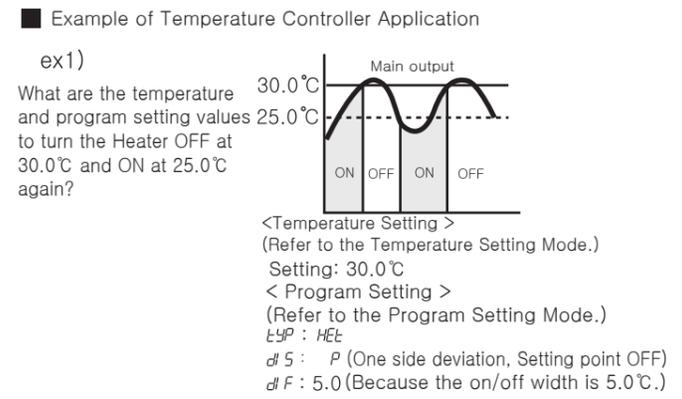
- LP1** : Function selecting TEMP 1 Cooling (**CoL**) and Heating (**HEt**) (Applicable model : 2PD, 2PT, 2PF, 2CD, 2CT, 2CF)
- dt1** : TEMP 1 output delay time (Applicable model : 2PD, 2PT, 2PF, 2CD, 2CT, 2CF)
 Used when the control object repeats the ON/OFF frequently creating troubles. (Freezer, Compressor & etc.)
 Function protecting product from instantaneous power outage, or when re-engaging the power supply.



- dF1** : Setting TEMP 1 temperature deviation (Applicable model : 2PD, 2PT, 2PF, 2CD, 2CT, 2CF)
 Constant interval required between ON and OFF with ON/OFF control
 Excessive actions of ON and OFF accelerates the damage and/or wear of output contact of relay or other devices, or creates haunting phenomenon due to the external noise & other interferences.
 This function protects the contacts and other components of device by setting the temperature deviation in order to prevent above said phenomenon.



- LP2** : TEMP 2 Cooling (**CoL**) and Heating selecting function Refer to Item 9. (Applicable model: 2PD, 2PT, 2PF, 2CD, 2CT, 2CF)
- dt2** : TEMP 2 Output Delay Time Refer to Item 10. (Applicable model: 2PD, 2PT, 2PF, 2CD, 2CT, 2CF)
- dF2** : Setting TEMP 2 Deviation Temperature Refer to Item 11. (Applicable model: 2PD, 2PT, 2PF, 2CD, 2CT, 2CF)
- LP3** : TEMP 3 Cooling (**CoL**) and Heating selecting function (**HEt**) Refer to Item 9. (Applicable model: 2PT, 2PF, 2CT, 2CF)
- dt3** : TEMP 3 Output Delay Time Refer to Item 10. (Applicable model: 2PT, 2PF, 2CT, 2CF)
- dF3** : Setting TEMP 3 Deviation Temperature Refer to Item 11. (Applicable model: 2PT, 2PF, 2CT, 2CF)
- LP4** : TEMP 4 Cooling (**CoL**) and Heating selecting function (**HEt**) Refer to Item 9. (Applicable model: 2PF, 2CF)
- dt4** : TEMP 4 Output Delay Time Refer to Item 10. (Applicable model: 2PF, 2CF)
- dF4** : Setting TEMP 4 Deviation Temperature Refer to Item 11. (Applicable model: 2PF, 2CF)



※ The above product specifications are subject to change without advanced notice to improve the performance Please be well-acquainted with and keep the above-mentioned cautions.
 ※ Regarding the English-language manual, please download it at our homepage.

Head Office : CONOTEC B/D 2nd floor, 26, Yunsan-ro, Geumjeong-gu, Busan, 609-821 Rep. of KOREA
 Research Institute : CONOTEC B/D 3rd floor, 26, Yunsan-ro, Geumjeong-gu, Busan, 609-821 Rep. of KOREA
 Factory : CONOTEC B/D B1, 26, Yunsan-ro, Geumjeong-gu, Busan, 609-821 Rep. of KOREA
 A/S Inquiry TEL : +82-51-819-0425-7
 Please send the product for A/S to the address of head office.
 Homepage : <http://www.conotec.co.kr>
 E-mail : conotec@conotec.co.kr

Main product and development
 - Digital temp./humi. controller
 - Digital timer, Current/Voltage meter
 - Development of other products.