CONOTEC

CONOTEC CO., LTD.
DIGITAL TEMPERATURE CONTROLLER

ISO 9001:2008   ISO 14001

CNT-2H, 2H-2 | Instruction Manual

- A user manual for this product is posted on the company website.
- Please download the technical document and communications manual on the company website

01 Safety precautions

Please read the safety precautions carefully for correct operation of the product.

※ The specifications and dimensions specified in this instruction manual may be changed without any notice for performance enhancement.

⚠ Warning

1. This product was not made as a safe device. Therefore, this product should be attached with dual safety devices if it is used for the control purposes (e.g. a device vulnerable to accident and property damage, etc.).
2. Do not wire, inspect or service this product while the power is being supplied.
3. You must attach this product to a panel. Otherwise, it may cause an electric shock.
4. When connecting the power, you must check the terminal number.
5. Do not ever disassemble, process, modify or repair this product.

⚠ Caution

1. Please make yourself familiar with all the operation instructions, safety precautions and warnings before using this product. Comply with related specifications and capacity requirements
2. Do not wire or install this product to any unit with high inductive load (e.g. motor, solenoid, etc.).
3. Use a shielded cable with a proper length when extending a sensor.
4. Do not use any part that generates an arc when used in the same power or directly switched in close proximity.
5. Keep the power cable away from a high-voltage cable and do not install this product in any place that is full of water, oil and dust.
6. Do not install this product in any place that is exposed to direct sunlight or rain.
7. Do not install this product in any place that is subject to strong magnetic power, noise, vibration or shock.

8. Keep this product away from any place that generates strong alkaline or acid substances. Use a separate pipe.
9. Do not sprinkle water onto this product for cleaning when installing it in the kitchen.
10. Do not install this product in any place where the temperature/humidity ratings are exceeded
11. The sensor cable should not be cut or cracked..
12. Keep the sensor cable away from a signal cable, a power cable or a load cable. Use a separate pipe.
13. Keep in mind that the follow-up service will not be available if this product has been arbitrarily disassembled and modified
14. ⚠ symbol on the terminal wiring diagram indicates a safety statement that alerts a warning or caution.
15. Do not use this product near any device generating strong high-frequency noise (e.g. high-frequency welding machine high-frequency sewing machine, high-frequency radio, large-capacity SCR controller, etc.).
16. Using this product in any method other than those specified by by the manufacturer may lead an injury or a property damage
17. The product is not a toy. Keep it away from children.
18. The product should be installed only by an expert or a qualified person.
19. The company will not be liable for any damage caused by the violation of the above warnings and cautions or by a consumer's fault
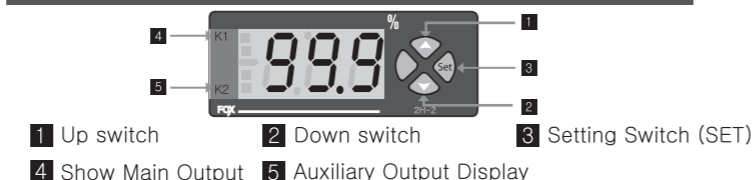
⚠ Danger

Caution: Risk of electric shock

- Electric shock – Do not touch the AC terminal while the current is flowing. It may cause an electric shock.
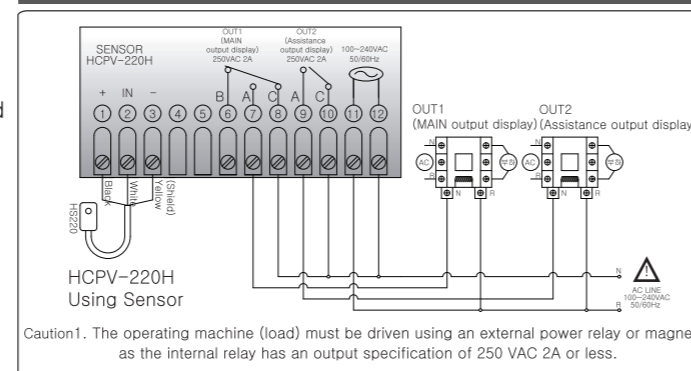- You must disconnect the input power when servicing it.

02 Model Types

Model	Output	Sensor	Humidity range
CNT-2H	Main : 1c 250Vac 2A	HCPV-220H	10.0%~95.0%Rh
CNT-2H-2	Aux : 1a 250Vac 2A		

03 Components

1 Up switch   2 Down switch   3 Setting Switch (SET)
4 Show Main Output   5 Auxiliary Output Display

04 Terminal wiring diagram

SENSOR HCPV-220H

OUT1 (MAIN output display)   OUT2 (Assistance output display)

HCPV-220H Using Sensor

Caution1. The operating machine (load) must be driven using an external power relay or magnet, as the internal relay has an output specification of 250 VAC 2A or less.

05 Setting process

User Setting Humidity Changing

60.0

In the current humidity display state, the ⊞ key. Press to change the setting value.

30.0

The setting humidity is displayed and you can change the setting humidity to ▲ or ▼
Setting range: 0.0% to 100%Rh

o-t

Pressing the ⊞ key again after the setting is over will briefly display the (o-t) character and will display the current humidity again when the setting is saved.

60.0
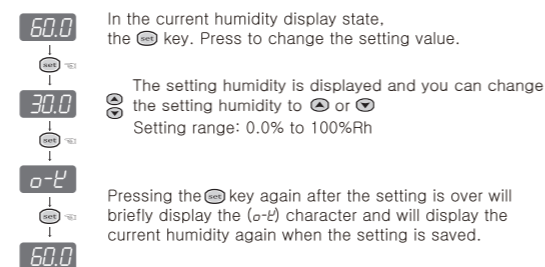
Program setting（The value of each item is the factory setting.）

60.0

[set] Press for 5 sec

EH1 ⟷ EH2

[set]

Enable auxiliary output two-stage humidity control / Use auxiliary output as time output

2SE ⟷ tIn

[set]   [set]

tYP Output Type Change Menu

[set]

H Set range H (humidity) / d (dehumidity)

[set]

dLt Output Latency Change Menu

[set]

0.00 Set range 0 m~9 m59 s

[set]

dIS Deviation (hysteresis) Application Direction Setting Menu

[set]

P P : + Application of deviation   Pn : ± Application of deviation

[set]

dIF Deviation (hysteresis) Value Setting Menu

[set]

1.0 Set range 0.1 ~ 19.9

[set]

Cor Sensor Calibration Menu

[set]

0.0 Set range – 10.0 ~ + 10.0

[set]

LoC Program Lock menu

[set]

L.oF Set range L.oF (Releases) / L.on (Lock)

Two-stage humidity control branch (2SE)

St2 Two-Stage Humidity Setting
[set]
30.0 Set range 0.0 % ~ 100.0 %
[set]
tY2 Two-Stage Humidity Output Type Change Menu
[set]
H Set range H (humidity) / d (dehumidity)
[set]
dL2 Two-Stage Humidity Output Latency Change Menu
[set]
0.00 Set range 0 m~ 19 m59 s
[set]
dI2 Two-Stage Humidity Deviation (hysteresis) Value Setting Menu
[set]
1.0 Set range 0.1 ~ 19.9

Time output branch (tIn)

onS Time output ON time Count Unit Setting Menu
[set]
SEC Set range MIN(m) / SEC()
[set]
ont Time output ON time Setting Menu
[set]
0 Set range 0 ~999
[set]
oFS Time output OFF time Count Unit Setting Menu
[set]
SEC Set range MIN(m) / SEC(s)
[set]
oFt Time output OFF time Setting Menu
[set]
0 Set range 0 ~999
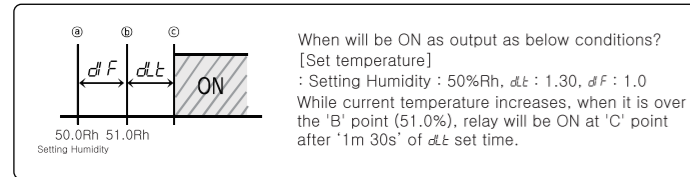
06 Function details

`EU1` : Indicates the setting for the main output (1-stage output)

`tYP` : Setting the output type for the main output (1-stage output)
H : Humidifying motion *d* : Dehumidifying motion

`dLt` : Set output delay time for the main output (1-stage output)
Used if the on/off function of a control target is used too frequently (freezer, compressor, etc.)
Protects running machine from momentary outage or power re-connection

When will be ON as output as below conditions?
[Set temperature]
: Setting Humidity : 50%Rh, *dLt* : 1.30, *dF* : 1.0
While current temperature increases, when it is over the 'B' point (51.0%), relay will be ON at 'C' point after '1m 30s' of *dLt* set time.

`dIS` : Select the method of applying deviation (hysteresis) to the main output (1-stage output)
P : + Application of deviation
Pn : ± Application of deviation

`dIF` : Setting the output deviation for the main output (1-stage output)
For on/off control, there should be a certain interval between on and off. A relay or other output contacts may be quickly damaged or experience hunting (electricity generation, chattering, etc.) due to an external noise if the on/off function is used too frequently.
Different temperature is set to prevent such phenomenon and protect relevant contacts.
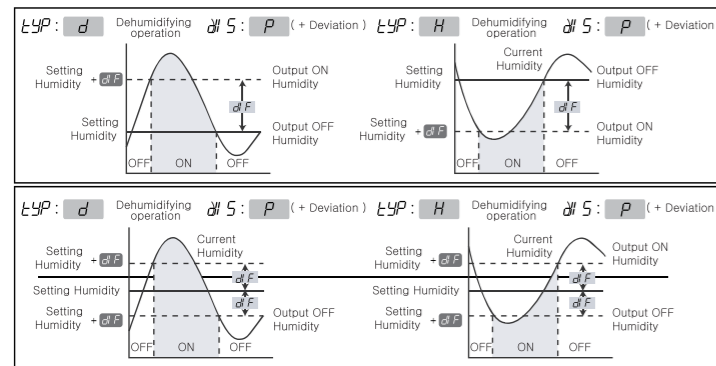
`Cor` : Current Humidity Correction Features
The function calibrates the current humidity to be consistent with the actual humidity if the humidity shown in the display window and the actual are humidity are different despite the product has no problem.
Ex) Actual Humidity : 55.0Rh, Current Humidity :
Suppose the Cor value is set -2 when 57.0Rh, the current humidity will be displayed at 55%Rh.
⚠ Caution : The performance of the actual humidity is verified.
Please use calibrated equipment for calculation.
Calibration based on humidity calculation with incorrect equipment may cause product malfunction.

`HEt` : Humidity sensor heating function
It is possible to be covered with dew when the humidity is high. If the present humidity is 95.0% RH, it is generated heat inner its sensor in order to prevention of dewy.

`YES` : It is operated the heating function automatically if the humidity is more than 95.0%RH. It is removed it if the humidity is less than 95.0%RH

`no` : The heating function will be prohibited.
⚠ Caution : It must be set up "NO" because the heating function can not be used for more than 95.0%RH
⚠ Caution : The present temperature's display can be increased a little while operating of the humidity sensor's heating function

`LoC` : Locking of the setting
Lon : Lock / *LoF* : Unlocking

`EU2` : Indicate that this is a setting for auxiliary output

`2St` : Use auxiliary output as two-stage humidity output

`St2` : Change the setting humidity of auxiliary output to two-stage humidity output

`tY2` : Setting the output type for auxiliary output to two-stage humidity output
H : Humidifying motion / *d* : Dehumidifying motion

`dL2` : Setting the output delay time for auxiliary output to two-stage humidity output
3. *dLt* reference

`dI2` : Setting output deviations for auxiliary output to two-stage humidity output
5. *dLt* reference

`tI n` : Set auxiliary output to time output

`onS` : Setting the ON-time count unit of the auxiliary output (time output)
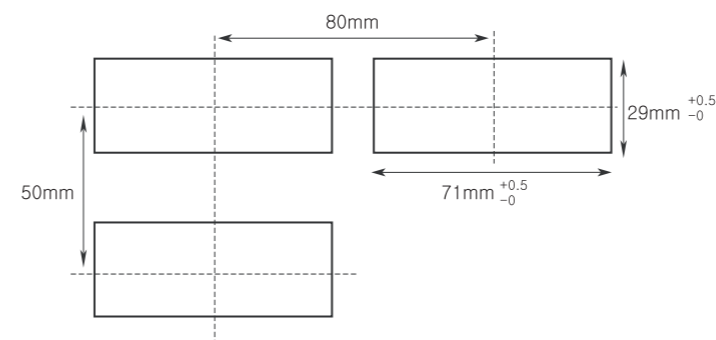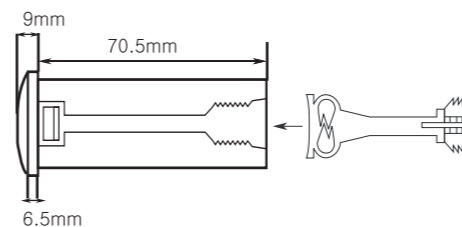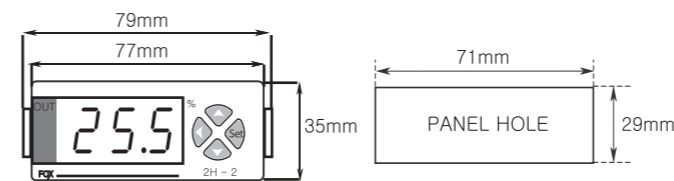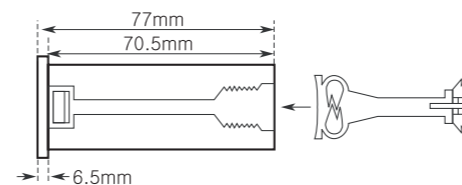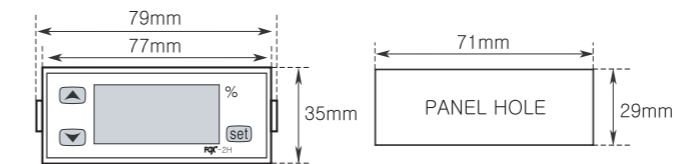*n* : Count in minute / *SEC* : Count in seconds

`ont` : Setting the ON-time count time for the auxiliary output (time output)

`oFS` : Setting the OFF-time count unit of the auxiliary output (time output)
n : Count in minute / *SEC* : Count in seconds

`oFt` : Setting the OFF-time count time for the auxiliary output (time output)

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07 Diemension and panel hole sizes

(Unit : mm / error : ±0.5)

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08 Easy error diagnosis instructions

※ If an error is displayed while the product is running

- `Er 1` : It is case where the product was subject to a strong external noise and internal data memories have been damaged In this case, contact us for product service.
- Although this controller was designed to withstand a certain level of external noise, it is not supposed to withstand all levels of noise.
- If the product is subject to a noise greater than 2KV, it could be internally damaged.
- `o-E` display means communication defect with the sensor. Please check connection, wire short, and connection order to the sensor. If the problem persists, please contact our customer. service department.
- `L-E` or `H-E` is shown when humidity display has exceeded the range. If the error is displayed despite maintaining our customer service department

◆ Installation precautions
■ This device should be connected to a protective earth terminal and a power supply in order to prevent an electric shock.
■ Do not block the air outlet.

◆ Operation precautions
※ An operating environment of this device is as follows.
■ Ambient temperature : 0 ~ 60℃ ■ Ambient humidity : 80%RH or less
■ Indoor uses only   ■ Pollution class 2
■ Altitude under 2000m   ■ Installation category : II
■ This device should be laid out in a way that its power cord is easy to handle.
■ Using this product in any method other than those specified by the manufacturer may damage its protection function

■ Major products and development
- Temperature/humidity controller • Heat pump controller
- Counter and timer controller • Chiller controller
- Current and voltage panel meter • Thermo-hygrostat controller
- Temperature/humidity indicator • Short message alarm
- Oven controller
- CO2 controller • Temperature/ humidity transmitter
- PID controller • Smartphone app and monitoring system
- Unit cooler controller

※ This manual was prepared in the Naver Nanum fonts.