

# CONOTEC

CONOTEC CO., LTD.  
DIGITAL TEMPERATURE CONTROLLER



DSFOX - SLE30

Instruction Manual



a detailed description

- 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 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	Sensor	Control Type	Temperature Range	Power	Function
DSFOX-SLE30 (for freezing)	NTC 10K	Relay contact (3EA)	Celsius : - 55.0 °C ~ + 99.9 °C Fahrenheit : - 60 °F ~ + 200 °F	100~240 VAC 50/60Hz	Comp control Defrosting control Fan Control Ethernet Communications

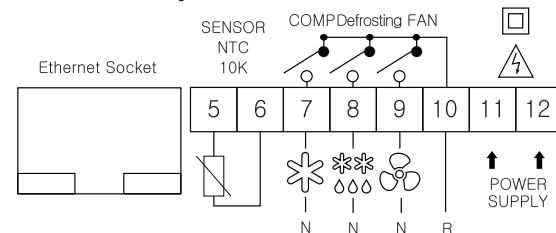
## 03 Components



- 1 Comp output display
- 2 Defrosting output display
- 3 Fan output display
- 4 SET switch
- 5 Defrost & Previous Key
- 6 Up switch
- 7 Down switch
- 8 Temperature unit
- 9 Anti-low temperature output display
- 10 Show server connection status

## 04 Terminal wiring diagram

[ DSFOX - SLE30 ]



- ✱ Output : 250VAC 2A; A power relay or a magnet must be used.
- ✱ Be careful that any load over the contact capacity may cause contact fusion, contact defect, relay damage or others.
- ✱ Ethernet cables are sold separately and are not included as basic components.

## 05 Setting process

### Setting Method

Name	Image	Description
Set key	SET	Change temperature settings and program settings Select and save data values
Defrost key/Back key	●	Manual defrosting ON/OFF Go to the previous menu when setting up a program
Up/Down key	▲ / ▼	Increment/decrement of the selected menu data

#### ■ Chance of the temperature output's set temperature (temperature setting)

- 1) If you press the **SET** key once, the setting will blink and be displayed.
- 2) Increase or decrease the setting with the **▲** or **▼** key

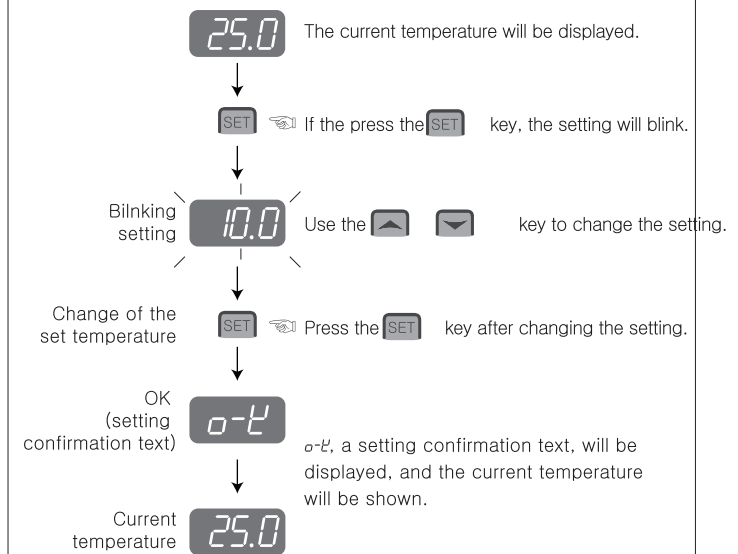
#### ■ Installer mode settings (Program settings)

- 1) Press the **SET** key for at least 5 seconds to enter into the installer mode.
- 2) Configure the program based on the temperature program configuration diagram.
- 3) Press **●** key for Enter the previous setting menu (\*Program setting mode only)

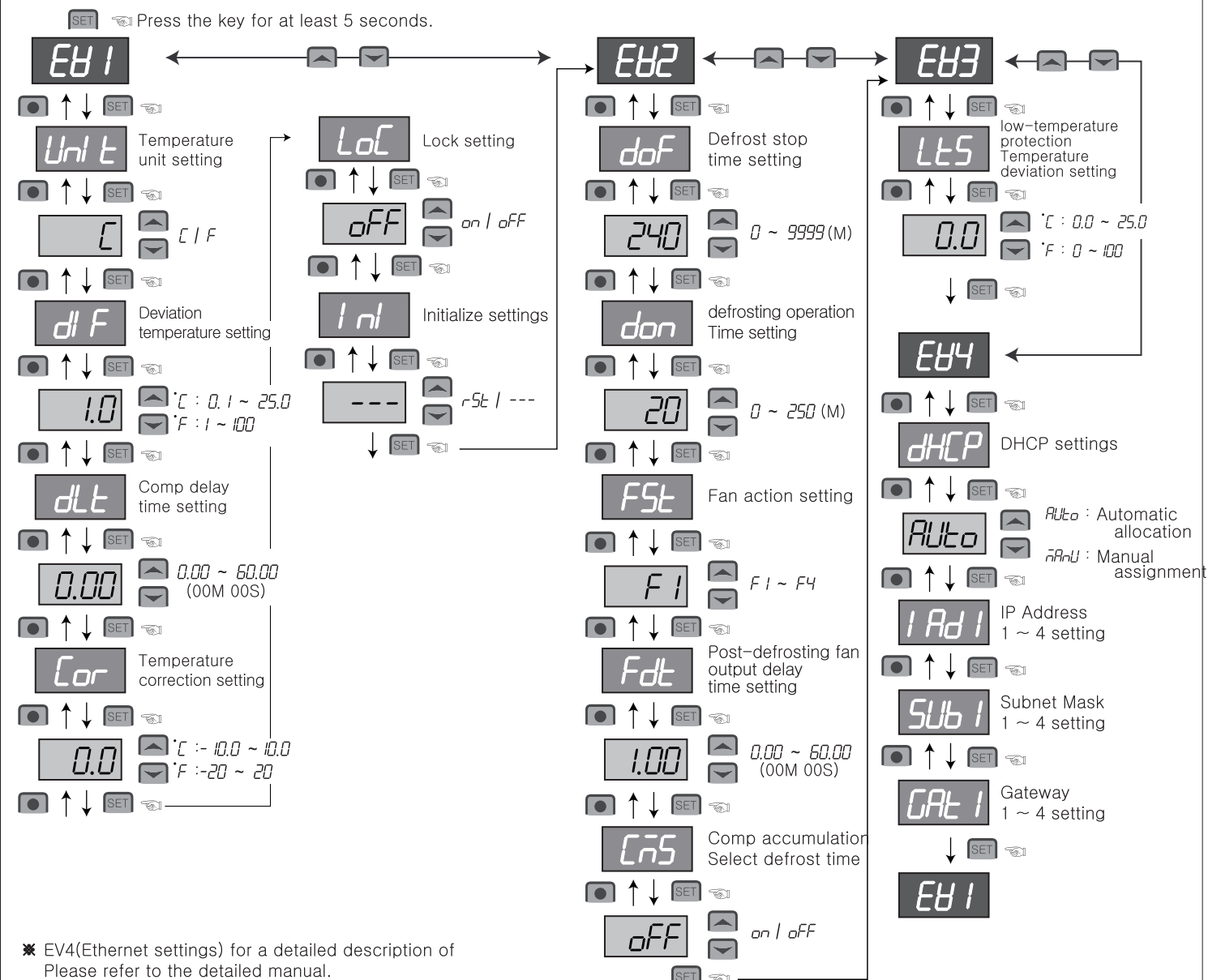
#### ■ System running / Stopping

- 1) In the running mode : System shut down by pushing **● + ▲**
- 2) In the stop mode : System runs by pushing **● + ▲**

### Temperature Setting



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



- ✱ EV4(Ethernet settings) for a detailed description of Please refer to the detailed manual.

06 Function details

- EH1

: Change various settings for temperature output and other settings
- EH2

: Modification of various settings for defrosting and fan output
- EH3

: Modification of various settings for alarm
- Unit

: Change of the temperature unit

– C (temperature displayed in Celsius)

– F (temperature displayed in Fahrenheit)
- ⚠ Note

: If you change the *Unit* while the product is running, all the settings except for the *Unit* will be initialized to factory settings. Please reset all the settings.
- dF

: Deviation temperature setting

– 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.

– Ex1) Set temperature : 10.0℃, *dF* : 5.0
- 15.0℃

10.0℃

Comp Output ON

*dF* : 5.0

Set point OFF
- dLt

: Output delay time setting

– 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.

– Ex) When is the output on for the following conditions:  
set temperature (10.0℃): *dLt*(00.30), *dF*(5.0℃)?
- Output stopped

30 seconds

Comp output

*dF* section

*dLt* applied

(Current temperature)

10.0℃

15.0℃

15.0℃
- Cor

: Correction of the current temperature

– Used to correct the current temperature based on the reference temperature (e.g. mercury thermomrter, existing thermometer, thermostat,etc.) when there is an input error by an external sensor even though the product itself does not have any problem.

– Ex) Actual temperature : 10.0℃ → *Cor* Modification of 0.0 to -2.0  
Display window : 12.0℃ → Displayed as 10.0 (current temperature modified)
- LoC

: Locking of the setting

– Safety function intended to prevent anyone other than the main user from changing the settings

– If set at *on* : All the settings expect for the set temperature will be locked.

– If set at *oFF* : All the settings will be unlocked.
- Init

: Setting initialization

– If set at *r5t*: The current temperature will be displayed after the product’s model name is displayed.
- ⚠ Note

: All the settings will be initialized to factory settings. Please verify them.

- doF

: Defrosting OFF time (defrosting cycle)

– Defrosting will proceed after the set time elapses.
- don

: Defrosting ON time

– Defrosting will commence when the defrosting cycle comes.
- Defrosting stopped

Defrosting output

Defrosting stopped

Defrosting output

*doF*  
(240MIN)

*don*  
(10MIN)

*doF*  
(240MIN)

*don*  
(10MIN)

– Defrosting will be repeated for 10 minutes every 240 minutes.

✱ Note: If '*don* 0', defrosting will be prohibited
- How to set up manual defrost

1. Manual defrost ON : When the key is pressed for more than 3 seconds, the defrost LED lights up, and the display window alternates between *don* and defrosting remaining time

2. Manual defrost OFF : With manual defrost on, press the key continuously for 3 seconds to turn off. Or automatically shut down after DON time
- FSt

: Fan action setting( *F1* ~ *F4* )
- |             |           | When comp is ON | When comp is OFF | When defrosting is ON |
|-------------|-----------|-----------------|------------------|-----------------------|
| Fan setting | <i>F1</i> | Fan ON          | Fan OFF          |                       |
|             | <i>F2</i> | Fan ON          |                  |                       |
|             | <i>F3</i> | Fan ON          | Fan OFF          | Fan ON                |
|             | <i>F4</i> | Fan ON          |                  | Fan OFF               |
- FdLt

: Post-defrosting comp output delay time setting

– A compress is output after a delay of the time set after defrosting.

– Ex) *fdLt* : 0.00 (1MIN)
- Defrosting stopped

1 min

FAN output

*FdLt* applied
- CAS

: Comp accumulation defrosting time option

– If set at *on* : Defrosting operation based on the comp accumulation

– If set at *oFF* : Defrosting operation based on the cycle

✱ If the comp accumulation time is greater than *doF* (defrosting OFF time), defrosting will commence.
- Lt5

: Low-temperature prevention temperature difference setting

– If *Lt5* is 0, the low temperature prevention function will be off.

– Current temperature ≤ ( set temperature – *Lt5* )  
→ Defrosting/fan ON

( When running in the *Lt5* mode, defrosting/fan will be instantly output regardless of the fan setting chart)

Ex) Current temperature : 5.0℃, Set temperature : 10.0℃, *Lt5* : 5.0℃
- 10.0℃

5.0℃

Set point OFF

*Lt5* : 5.0

Defrosting/fan ON

- dHCP

: DHCP settings

– Sets whether to receive TCP/IP information automatically or manually.
- IPd1

: TCP/IP Address settings (IAD1, IAD2, IAD3, IAD4)

– Sets the address of the TCP/IP.
- ISub

: TCP/IP Subnet mask settings (1SUB, 2SUB, 3SUB, 4SUB)

– Sets the subnet mask address for TCP/IP.
- IGAT

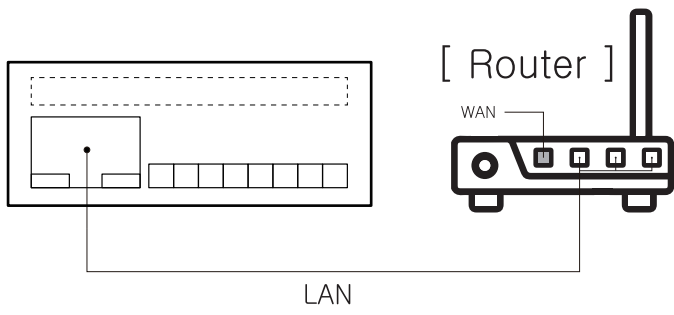
: TCP/IP Gateway settings (1GAT, 2GAT, 3GAT, 4GAT)

– Sets the gateway address for TCP/IP.
- ✱ Note

: If you switch DHCP automatically or manually, it will reboot when the setup is complete.

07 Communication interface

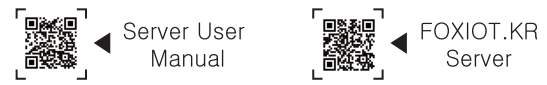
Application Specifications	IEEE802.3
Communication Method	Ethernet RJ45(10/100BaseT – Auto)
Communication Distance	Within 80M (Cat5E, using 6 cables)
Communication Protocol	TCP / IPV4
Communication Server	FOXIOT.KR



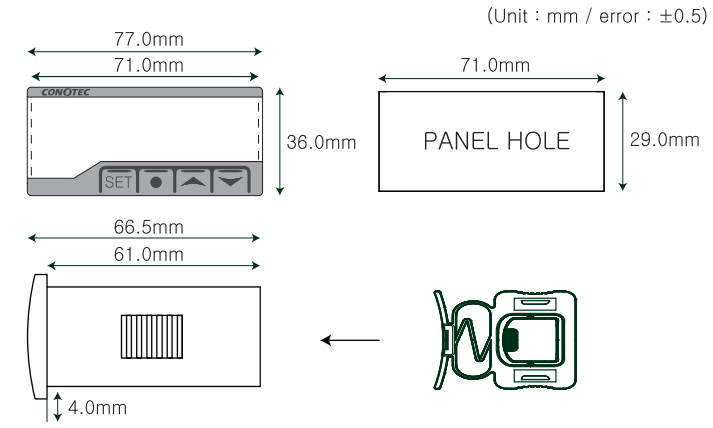
1. Connect the LAN cable to the product's Ethernet socket and the router's LAN port as shown.

2. Power on the product and check the LED blinking status of the Ethernet socket and the SERVER display on the front.

3. Real-time monitoring is possible if the product registration (device addition) has been completed in the communication server (FOXIOT.KR).



08 Diemension and panel hole sizes



09 Easy error diagnosis instructions

- ✱ If an error is displayed while the product is running

*Er1*

*Er4*

This is the case when the product receives strong noise from the outside during use and the memory elements of various data are damaged. In this case, request warranty from us.

*Er1*

*Er4*

Although this controller was designed to withstand a certain level of external noise, it is not supposed to withstand all levels of noise.

*Er1*

*Er4*

If the product is subject to a noise greater than 2KV, it could be internally damaged.

*Er1*

*Er4*

If *Er1* (open error) or *Er4* (short error) is displayed, there is something wrong with a sensor. Please check the sensor.

*Er1*

*Er4*

If *Er1* (defrosting ON) is displayed, the product is in the defrosting mode.

*Er1*

*Er4*

If the same text appears (IP conflict), the IP address is in conflict.

*Er1*

*Er4*

If the same text appears, please check the Ethernet cable connection status and product registration status.

*Er1*

*Er4*

If you see the same text (bad communication status), check the Internet and router status Check and reconnect the LAN cable

*Er1*

*Er4*

A text such as *LoC* (lock) indicates that the product is in the lock mode

*Er1*

*Er4*

If *Er1* (OK) is displayed, settings have been saved.

*Er1*

*Er4*

If *Er1* (product name) is displayed, it refers to a model name.

✱ The above specifications may be changed without any for performance enhancement. Please make yourself fully familiar with and follow the above precautions.

■ Warranty period: One year from the date of purchase

■ Address : (Street address) 56, Ballyongsandan 1-rp, Jangan-eup, Gijang-gun, Busan, ROK  
(Land-lot address) 901-1, Ballyong-ri, Jangan-eup, Gijang-gun, Busan, ROK (46034)

• Product service : 070-7815-8289

• Customer service : 051-819-0425 ~ 0427

• FAX : 051-819-4562

• Email : conotec@conotec.co.kr

• SNS : Facebook, Instagram, Twitter, YouTube ▶ 'Search for 'Conotec'

• Website : www.conotec.co.kr

◆ 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 :

■ 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

• Counter and timer controller

• Current and voltage panel meter

• Temperature/humidity indicator

• Oven controller

• CO2 controller

• PID controller

• Unit cooler controller

• Heat pump controller

• Chiller controller

• Thermo-hygrostat controller

• Short message alarm

• Temperature/humidity transmitter

• Smartphone app and monitoring system

✱ This manual was prepared in the Naver Nanum