CONOTEC

CONOTEC CO., LTD.
DIGITAL TEMPERATURE CONTROLLER

CE ISO 9001:2008 ISO 14001

DSFOX-TPI,TCI, TPI-1, TCI-1   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
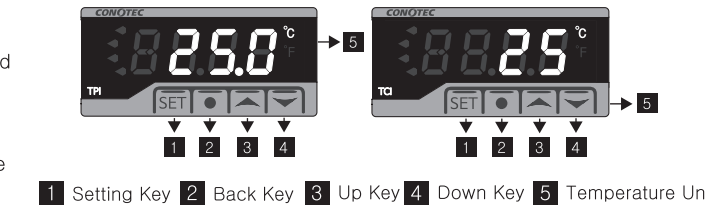
⚠ Danger

Caution: Risk of electric shock

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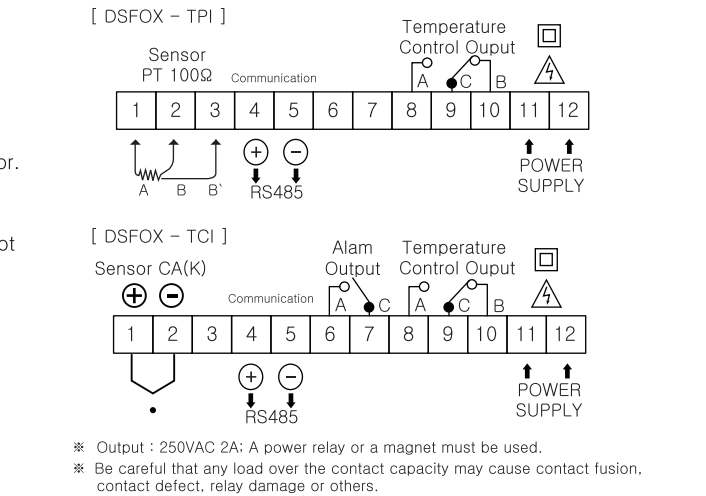- You must disconnect the input power when serviving it.

02 Model Types

Model	Sensor	Control Method	Temperature Range	Power Supply	Function
DSFOX-TPI DSFOX-TPI-1	PT 100Ω	Indicator	Celsius : – 200.0 ℃ ~ + 400.0 ℃ Fahrenheit :– 328 ℉ ~ + 752 ℉	100~240 VAC 50/60Hz	485 Communication (TPI Available) (TPI-1 Not Available)
DSFOX-TCI DSFOX-TCI-1	CA(K)	Indicator	Celsius : – 50.0 ℃ ~ + 1200 ℃ Fahrenheit :– 58 ℉	100~240 VAC 50/60Hz	485 Communication (TCI Available) (TCI-1 Not unavailable)

03 Components

1 Setting Key 2 Back Key 3 Up Key 4 Down Key 5 Temperature Unit

04 Terminal wiring diagram

[DSFOX – TPI]

[DSFOX – TCI]

※ 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.

설정 방법

Name	Image	Description
Set key	SET	Entry into or return to the settings page Selection and saving of data values
Back switch	●	Go to the previous menu when setting up a program
Up/Down key	▲ / ▼	Increment/decrement of the selected menu data

■ 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)

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

Unl t — Temp. Unit Setting — C I F

Cor — Temp. Correction Setting
TPI ℃ : – 10.0 ~ 10.0 ℉ : –20 ~ 20
TCI –50 ~ 50

Addr — Communication address Setting — 1 ~ 99

bPS — Communication Speed Setting — 1200 / 2400 / 4800 / 9600 / 192-

Cdt — Communication Data Type Setting — FL / In

LoC — Lock Setting — on / oFF

05 Function details

Unl t : Temperature unit Setting
– C Display in Celsius when setting, – F Display in Fahreenheit when setting
⚠ Caution: Changing the unit resets all settings except Unl t and communication. Please reset the values.

Cor : Temp. Correction Setting
– This function adjusts for sensor errors or temperature differences from a reference thermometer or existing device, even if the product itself has no issues.

Ex) Current Temp : 10.0℃ Cor Change 0.0 to –2.0
   Display : 12.0℃ → Display as 10.0 (Adjusted Current Temperature)

Addr : Communication Address Setting
– When using RS485 communication, you must assign a station number between 1 and 99

bPS : Communication Speed Setting
– 1200BPS / 2400BPS / 4800BPS / 9600BPS / 19200BPS

Cdt : Communication Data Type Setting
– Change the communication data type to Float or Integer.
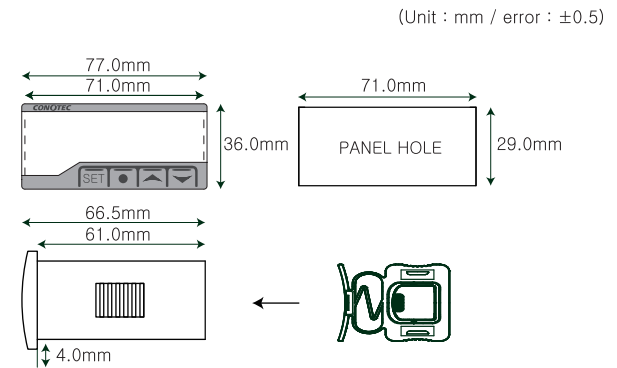– Float(FL) and Integer(In) Select Function.

LoC : Lock Setting
– A safety feature that prevents anyone other than the main user from changing various settings.
– on Setting : Lock all settings except the set temperature value.
– oFF Setting : Unlock all settings

06 Communication interface

Applicable specification	EIA RS485
Maximum units accessed	32 units (however, 1~99 available for address setting)
Communications method	2-line half-duplex:Asynchronous
Data speed	1200/2400/4800/9600/19200bps(5 options)
Communications range	Within 1.2Km
Communications protocol	Modbus
Start Bit, Stop Bit	1Bit (fixed)
Parity Bit, Data Bit	Parity Bit : None, Data Bit : 8Bit (fixed)

※ Please see the user manual on our website for more details about the communications specifications..

07 Diemension and panel hole sizes

(Unit : mm / error : ±0.5)

77.0mm
71.0mm
36.0mm
66.5mm
61.0mm
4.0mm

71.0mm
PANEL HOLE
29.0mm

※ If an error is displayed while the product is running

- $Er1$: 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.

- TPI : $o-E$ (Open Error) $S-E$ (Short Error)

  TCI : SEr nEr (Sensor Error) If the same character appears,
  it indicates an issue with the sensor. Please check the sensor.

- $o-Y$ (O-K) If the same character appears, it means the setting values have been successfully saved.

- $LoCY$ (Lock) If the same character appears, it means the product is in a locked state.

- tPI tCI (Prduct Name) If the same character appears, it indicates the product model name.

※ The above specifications may be changed without any notice
  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 : overseas-sales@conotec.co.kr
- SNS : Facebook, Instagram, Twitter, YouTube➤ 'Search for 'Conotec'
- Website : www.conotec.co.kr

◆ Installation precautions

■ This device sholuld 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   • Temperature/
- CO2 controller   humidity transmitter
- PID controller   • Smartphone app and
- Unit cooler controller   monitoring system

※ This manual was prepared in the Naver Nanum fonts.