



ISO 9001:2008

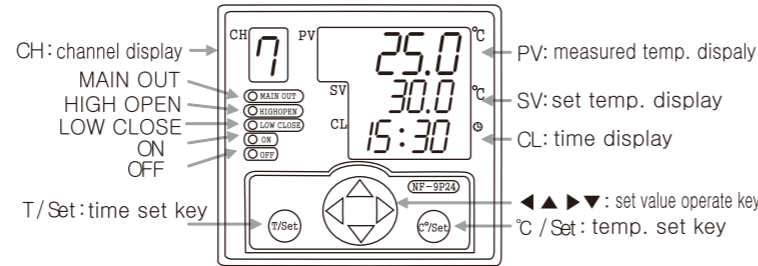
CONOTEC

CONOTEC CO., LTD. www.conotec.co.kr

NF-9N24 & NF-9P24 Manual
Digital Control Panel Meter



2. Names of Parts



Key functions

- C/Set**: The key for setting temperature and program change
- T/Set**: The key for setting time and program change
- ◀▶▶▶**: The key for changing temperature and time program set value

3. Code composition



type	case	input	main output	aux. output kinds
NF (ON-OFF series)	1 Other	P PT	R Relay	1 warning
	2 72*36	C CA	S SSR	2 defrost
	4 48*48	N NTC		3 communication
	5 96*48	4~20mA		4 warn, defrost
	6 48*96		A 4~20mA	5 warn, communi.
	7 72*72			6 defrost, communi.
	8 815			7 alarm,com,defrost
	9 96*96		24	24 hour 9 channel green house controller

4. Rating/performances

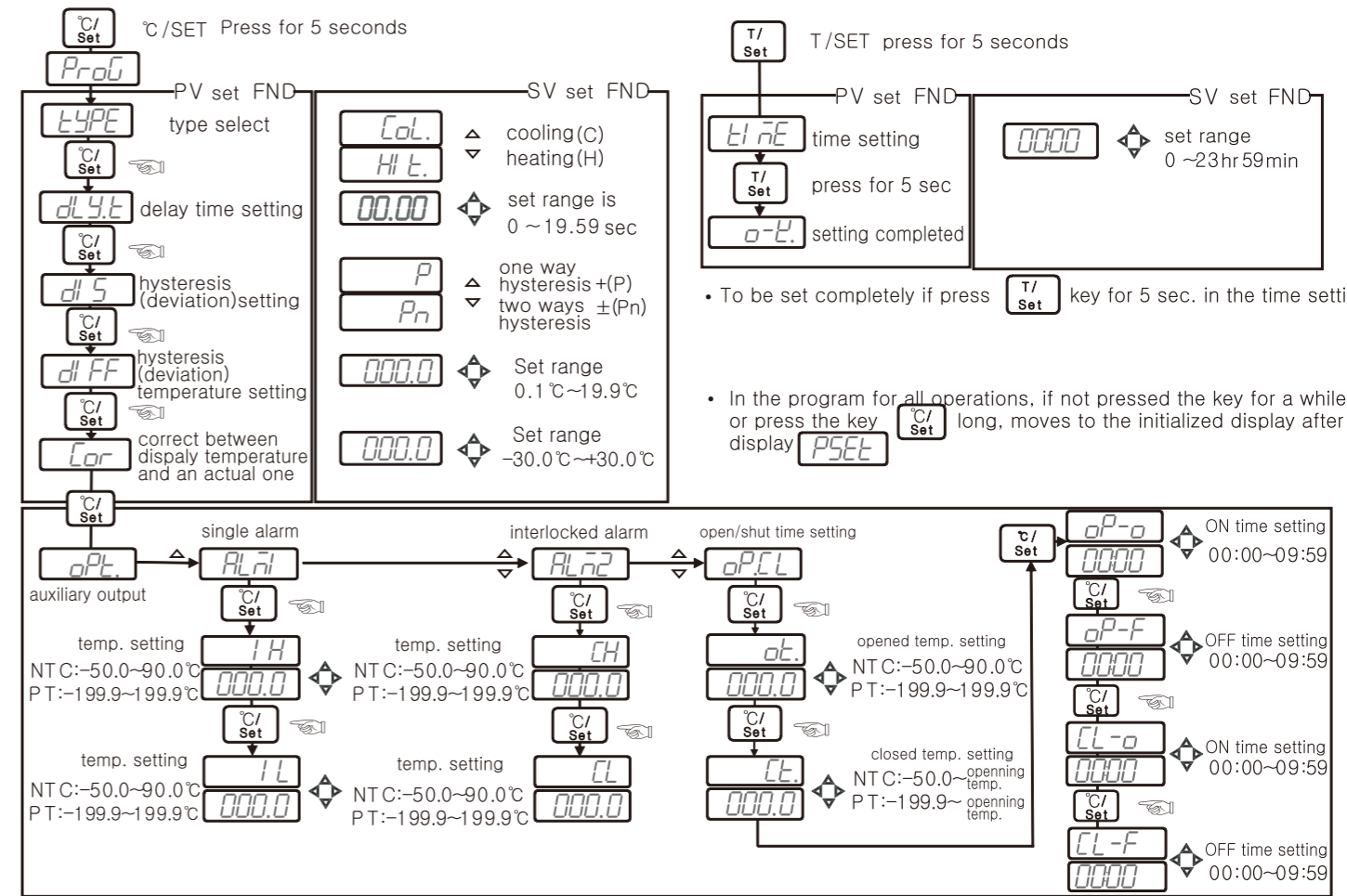
Power supply	AC 100~240V, 50~60Hz
Change range of allowance voltage	90%~110% of power supply
Power consumption	Less than approx. 4VA
Method of display	7 Segment LED Display [Measured value (PV), set value (SV): red, channel(CH): green]
Display degree	F.S + 0.3% or 3°C which side on the higher
Input specifications	Thermocouple: K(CA) < allow track resistance 1.00Ω > below Resistance temperature detector (RTD): DIN Pt100Ω NTC, 4~20mA
Control type	ON/OFF control
Control output	Main output: relay SPDT max.250VAC, 2A(resistive load) Aux. output: SPST max.250VAC, 2A(resistive load) Current output: 4~20mA DC, load resistance: less than 300Ω
Ambient temperature	0 °C to +50 °C (but, not in the state of freezing)
Ambient humidity	35% to 85% RH(non-condensing)
Reserved temperature	-20 °C to +65 °C

5. Input range and set value when shipment

Mode	set point	OPTmode	set point	OPTmode	set point
TYPE	COL	ALn1		oPCL	
dLYt	00:00	1H	+90.0	oE	+90.0
dLS	P	1L	-50.0	CLo	-50.0
dLFF	1.0	ALn2		oP-o	09:59
Cor	0.0	LH	+90.0	oP-F	09:59
oPt.	ALn1	CL	-50.0	CL-o	09:59
				CL-F	09:59

* 9N24 (NTC sensor)

6. Program setting



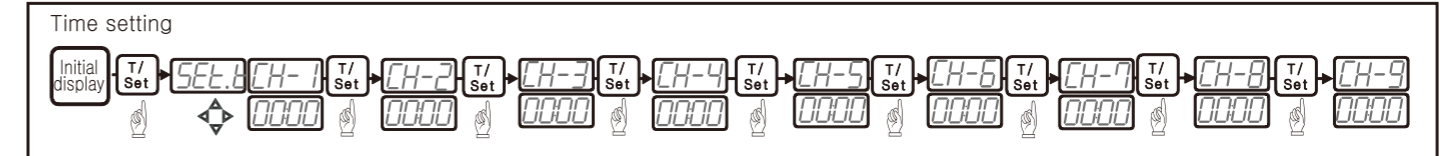
1. Caution for safety

- ⚠ WARNING**
This product should be used after installing the double safe device in case of using control purpose such as a device with great concern to personal injury and damage, significant peripheral damage, and property damage as it is not manufactured as safety device.
- Do not connect, check, repair when at the power supplying state.
 - Make sure to check the socket number before connecting the power.
 - Never disassemble process, improve or repair this equipment.
- ⚠ CAUTIONS**
- Do not install outdoors.
 - Must be used in rating / performance range.
 - Do not use the parts that generate the arc at same power or near directly opening and closing.
 - Power line should be kept away from high-voltage line and do not install in the watery, oily, and dusty place.
 - Do not install this device in a place exposed to direct sunlight, flammable or explosive gas, direct sunlight, radiant heat, vibration, shock place.
 - Sensor line should be kept away signal, power, and load lines, and use an independent piping.
 - Do not use near where devices generate strong high-frequency noise (high-frequency welders, high-frequency sewing machine, high frequency radios, large SCR controller).
 - If you use this device beyond the method specified by the manufacturer, it may cause injury or property damage. Please use shielding wire at the sensor extension and do not make it unnecessarily long.

- Caution, risk of electric shock.**
- Electrical shock - Do not touch at the AC terminal during the application of an electric current.
 - Must shut off the input power during the input power check.
 - Although our controller is designed as the complementary measures regarding these noise from outside, if noise(2KV) disordering become an inflow, the inner-part will be damaged.
 - In case o-E (open error) S-E (short error) Err (error) is displayed, the sensor has problem. Check the sensor.
 - In case shown the character like r232 Err (communication error) it means the problem with the communication cable or cut off communication between the sensor unit and control unit.

7. Time setting per channel and temp. setting

* Only temperature setting available at the relevant channel at first time setting per channel.



- Basic setup for time display is CH2~CH9
- When the relevant channel to set the time, at the time displayed press the button at the same time shortly, will be turned to be set available status.
- If no pressing for a certain period after time setting or long pressing, move to the initial screen after saving set value.
- Time setting available range through whole channel is 0000 ~ 2359.
- Time set value for channel no. 1 should be always closer to 00:00 than other channel.
- In case of saving the channel no. 2 time set value is same with the channel no. 1 or less will be displayed.
- Moving to the initial display at the right time set value and the set value can be saved.
- Time set value per channel is for time to start at the relevant channel.
- channel no. 1: 3:00 → apply time from 3:00 as a set value for channel no. 1 to next channel start time.



- In case of using channel no. upto 3 only
- In case of using upto channel no. 2 only during upto channel no. 9.

