

A

BR6

Digital temperature controller

- Cooling control and heating control selection
- Alarm output and timer output selection
- ON / OFF and proportional control selection
- 0.1 °C / 1 °C selection
- Delay output time setting



Suffix code

Model	Code	Description
BR6-	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Digital temperature controller 72(W) × 35(H)
Control type	F	ON/OFF control
	P	Proportional control
Input	D	HANYOUNG NUX exclusive sensor (TH-540D) *Diode
	N	HANYOUNG NUX exclusive sensor (TH-540N) *Thermistor
Control output	M	Relay
	S	SSR (voltage pulse output 5 V DC)
Power Supply Voltage	P3	10 – 24 V DC / AC, 50 – 60 Hz
	P4	100 – 240 V AC, 50 – 60 Hz

Specification

Input

Input type (sensor)	HANYOUNG NUX exclusive sensor (TH-540D), (TH-540N)
Input sampling time	500 ms
Input display resolution	1 °C / 0.1 °C display selection (usually less than the minimum indicated value)
Input impedance	TH-540D (84 KΩ), TH-540N (5 KΩ)
Input compensation	±30 °C (±30.0 °C)
Input signal break detection	When exceeding 5 °C from the max or min range, control output becomes OFF

Performance

Display accuracy	±1 % of FS ±1 Digit
Insulation resistance	Min 20 M Ω (500 V DC)
Dielectric strength	2,000 V AC, 50 / 60 Hz, for 1 min (between the different recharging terminal from each other)

Control function and output

Control type	ON/OFF or proportional control
Control action	Reverse action (heating) or direct action (cooling)
Manual reset	1 ~ 100 % (proportional band)
ON/OFF control hysteresis	1 ~ 50 °C (1.0 ~ 50.0 °C)
ON/OFF control output delay time	0 ~ 240 sec
Proportional band	1 ~ 100 °C
Proportional cycle	Relay output (fixed with 20 sec), SSR output (fixed with 2 sec)
1 °C / 0.1 °C display	Selected by the internal parameter
Auxiliary output	Select either alarm or defrosting timer function
Alarm type	High alarm (absolute value) with heating control and low alarm (absolute value) with cooling control
Alarm setting range	-50 ~ 150 °C (-50.0 ~ 150.0 °C)
Alarm hysteresis	1 ~ 50 °C (0.2 ~ 50.0 °C)
Alarm output delay time	0 ~ 240 sec
Defrosting timer unit selection	Select minute or second by internal parameter
Defrosting output time setting	ON time (0 ~ 3600 minute(sec)), OFF time(0 ~ 3600 minute(sec))

● Output

Control output	Relay output	Contact composition : S.P.D.T, 250 V AC, 5 A (resistive load)
	SSR	Approx 5 V DC (resistive load min 500 Ω), approx. 50 mA max
Alarm output (alarm/defrost)	Relay	Contact composition : 1 c, 250 V AC, 5 A (resistive load)

A

Temperature
Controller

General specification

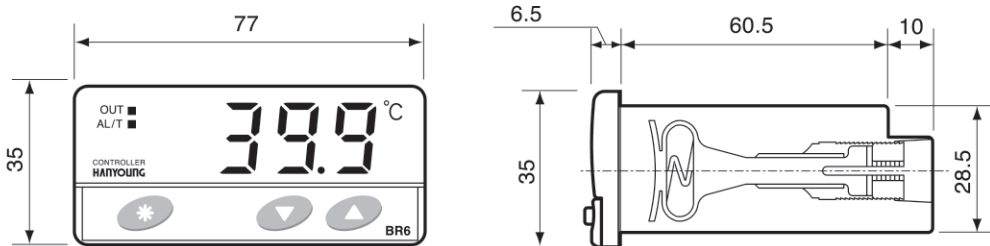
Power Supply	100 – 240 V AC, 50 – 60 Hz
Voltage	10 – 24 V DC / AC, 50 – 60 Hz
Voltage fluctuation	±10 % of the Power Supply Voltage
Power consumption	max 5 VA (220 V AC 60 Hz)
Ambient temperature	0 ~ 50 °C
Ambient humidity	35 ~ 85 % RH (without dew condensation)
Storage temperature	-25 ~ 65 °C
Vibration	10 – 55 Hz, peak amplitude 0.76 mm for 2 min each in 3 axis direction
Shock	300 $\frac{m}{s^2}$, to the direction 6 each 3 times
Weight	116 g

Range and input code chart

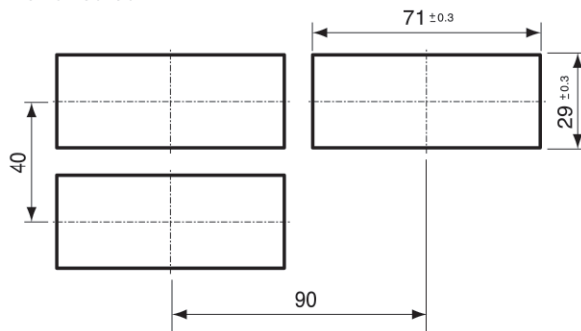
Classification	Code	Input type	Range (°C)	Accuracy
HANYOUNG NUX exclusive sensor	D	TH-540D	-50.0 ~ 150.0	±2 °C
	N	TH-540N	-40.0 ~ 90.0	±1.5 °C

Dimension and panel cutout (unit : mm)

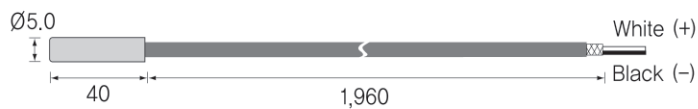
Dimension



Panel cutout



Sensor (TH540D/TH540N)



(Caution) In case of using Diod sensor, the max temperature error may be $\pm 4\text{ }^{\circ}\text{C}$
(Sensor error $\pm 2\text{ }^{\circ}\text{C}$ and controller error $\pm 2\text{ }^{\circ}\text{C}$)

Connection diagram

