NEW

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Digital temperature controller

HX series

Economical | Convenient | Fast Sampling Cycle | High Accuracy · Temperature Control

World Leader in Control & Measurement

HANYOUNG NUX

Digital temperature controller

HX series

Economical • Convenient • Fast Sampling Cycle
High Accuracy Temperature Control

It maintains the ease of use with its essential functionality for engineers and job-site operators and high accuracy temperature control is achieved with fast sampling cycle

Simple selection

Multi input(sensor)

■ **Thermocouple**

K, J, E, T
R, B, S...

■ **RTD**

Pt 100 Ω
KPt 100 Ω

Display accuracy

±0.3 % of F.S

Sampling cycle

62.5 ms

Control output

■ Relay / SSR / Current (4 - 20 ㎃) (available)
■ Retransmission Output (4 - 20 ㎃)
※ Measured Value, Set Value and Output Amount (selectable)

Control method

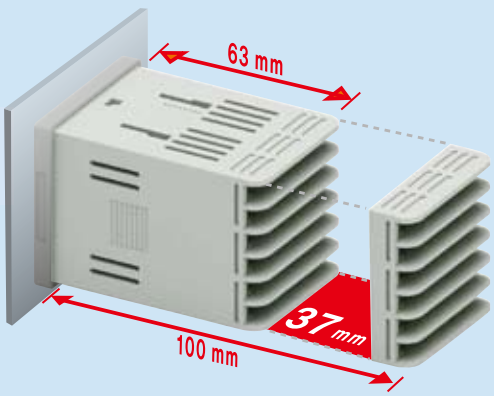
Heating Control / Cooling Control
Simultaneous Heating · Cooling Control

Display function

■ Display the process value (PV) and set value (SV) together at the same time (4 digits)
■ Display temperature in celsius (℃) / fahrenheit (℉)
■ Display the position of decimal point (0.1/1 selectable)

Installation Depth 63 ㎜

HX series With the design of reducing the installation depth it provides more space for installation and the control panel and control box can be miniaturized

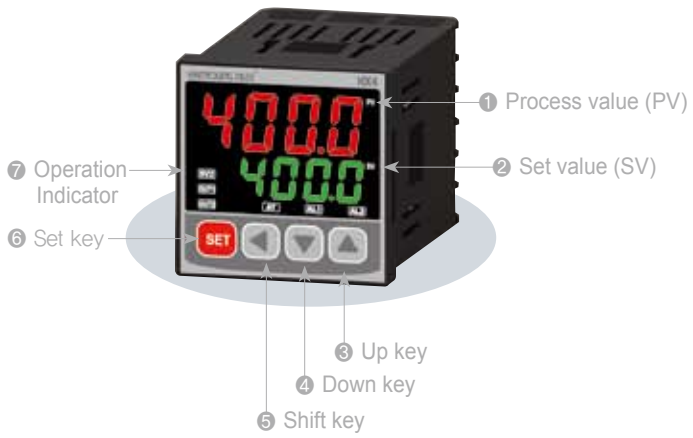


Digital temperature controller

- Multi-Input
  (Thermocouple 12 type, RTD 2 type, DC Voltage 2 type)
- Multi-Output (Relay, S.S.R, Current Output)
- Retransmission Output (4 - 20 ㎃)
- Fast Sampling Cycle 62.5 ㎳
- Installation Depth 63 ㎜
- Heating Control / Cooling Control /
  Simultaneous Heating · Cooling Control
- Two Degrees of Freedom PID
- Heater Break Alarm
- Communication (RS485)
- Setting Value (SV) Selection by Contact Input (D.I)

Suffix code

Model	Code			Description
HX	□–	□	□	Digital temperature controller
Dimension	2			HX2 : 48(W) × 96(H) ㎜
	3			HX3 : 96(W) × 48(H) ㎜
	4			HX4 : 48(W) × 48(H) ㎜
	7			HX7 : 72(W) × 72(H) ㎜
	9			HX9 : 96(W) × 96(H) ㎜
Control output		0		Normal (heating control)
		1		Heating/cooling control (simultaneous control)
HX 2/3/9 option			0	None
			1	RS485 communication + Heater break alarm (H.B.A)
HX7 option			0	None
			1	RS485 communication + D.I 2 contacts (SV2, SV3)
HX4 option			0	None
			1	RS485 communication + D.I 1 contact (SV2)
			2	RS485 communication + Heater break alarm (H.B.A)



Part name and function

Number	Name		Description
❶	Process value (PV)		Displays the process value in the operation mode
❷	Set value (SV)		Displays the set value in the operation mode
❸	▲	Up key	Increases the set value or used to move between groups and to change an option in a parameter in setting mode
❹	▼	Down key	Decreases the set value or used to move between groups and to change an option in a parameter in setting mode
❺	◀	Shift key	Used to move the position of the digit
❻	SET	Set key	Sets (confirm) the set value, displays the output amount, or set an option in a parameter in setting mode and moves between the parameters in a group. By pressing for 3 seconds, it enters the display setting mode (setting mode) or returns to the operation mode
❼	SV2	Operation Indicator	Lights when SV2 is displayed
	SV3		Lights when SV3 is displayed
	OUT1		OUT1 indicator
	OUT2		OUT2 indicator
	AT		Auto-tuning indicator
	AL1		Alarm 1 operation indicator
	AL2		Alarm 2 operation indicator

HX series

Specification

HX series

Model		HX4	HX3	HX7	HX2	HX9
Dimension W X H X D (㎜)						
		48 X 48 X 63	96 X 48 X 63	72 X 72 X 63	48 X 96 X 63	96 X 96 X 63
Power supply		100 – 240 V a.c (±10 %), 50 – 60 ㎐				
Power consumption		6 W max, 10 VA max				
Input	Type	Universal input				
	Sampling cycle	62.5 ㎳				
	Accuracy	±0.3 % of F.S (Depend on input type)				
	Allowable voltage	Within ±20 V d.c (VDC), within ±10 V d.c (TC, RTD)				
	Reference junction compensation accuracy	±3.5 ℃, 0 ~ 50 ℃				
	Operation after input break	T.C : OFF, UP / DOWN RTD : UP				
Control output	Relay	N.O : 5 A 250 V a.c, 5 A 30 V d.c (resistive load) N.C : 3 A 250 V a.c, 1 A 30 V d.c (resistive load)				
	S.S.R (voltage pulse)	ON voltage : 12 V d.c min, OFF voltage : 0.1 V d.c max Load resistance 600 Ω min				
	S.C.R (current)	range : 4 – 20 ㎃ (±5 %), accuracy : ±0.2 ㎃ Load resistance 600 Ω max				
Retransmission output		range : 4 – 20 ㎃ (±5 %), accuracy : ±0.2 ㎃ Load resistance 600 Ω max				
Alarm output		5 A 250 V a.c, 5 A 30 V d.c (resistive load)				
Contact input		OFF resistance : 10 ㏀ min, ON resistance : 1 ㏀ max				
Control	Method	ON / OFF, P.I.D control				
	Output operation	Reverse operation, Direct operation				
	Anti-reset windup	Auto (A = 0), 0.1 ~ 100.0 %				
Interface	Standard	EIA RS 485				
	Max connection unit	31 units (but, ADDRESS setting : 1 ~ 99)				
	Communication method	2 wire half duplex				
	Data transmission	asynchronous				
	Communication sequence	None				
	Communication distance	1.2 ㎞ max				
	Communication Speed	2400, 4800, 9600, 14400, 19200 BPS (selectable by parameter)				
	Start bit	1 BIT				
	Data length	7 or 8 BIT				
	Parity bit	NONE, EVEN, ODD				
	Stop bit	1 or 2 BIT				
	Protocol	PC.LINK, PC.LINK SUM, MODBUS-ASCII, MODBUS-RTU				
	Response time	Processing time in receiving + (response time x 10 ㎳)				
2 degrees of freedom P.I.D		1 ~ 100 % of proportional band				
Insulation resistance		20 ㏁ min (primary terminal – secondary terminal)				
Dielectric strength		2,300 V a.c, for 1 minute (primary terminal – secondary terminal)				
Operating ambient temperature		0 ~ 50 ℃, (with on condensation)				
Operating ambient humidity		35 ~ 85 % R.H (with no condensation)				

HX series

HX2 • HX3 • HX4 • HX7 • HX9

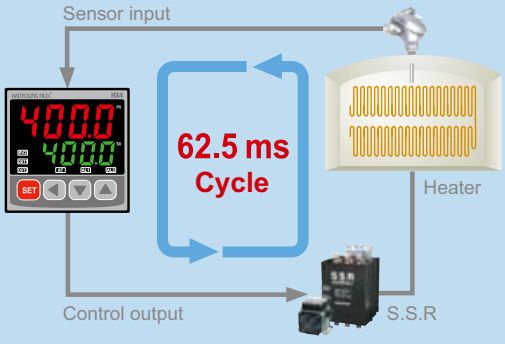
Actualized the highly accurate temperature controlling

±0.3 % of F.S

High display accuracy

Improved display accuracy
±0.3% of F.S (Full Scale)

62.5 ms



Fast sampling cycle

Higher accuracy temperature control is possible with the fast sampling cycle 62.5 ms

0.1 ℃ / 1 ℉

0.1℃ / 1℉ decimal point display

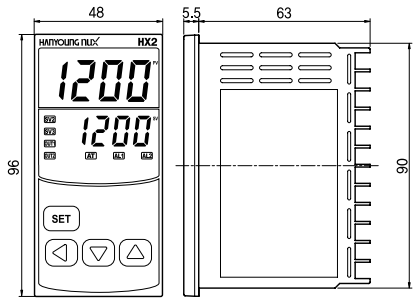
Decimal Point Display (℃) by internal parameter selection
Temperature Unit Selection in Celsius(℃) / Fahrenheit(℉)

Dimension and panel cutout / connection diagram

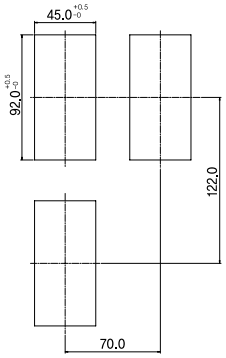
(Unit : mm)

HX2

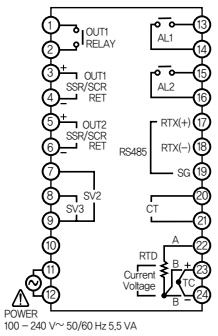
Dimension



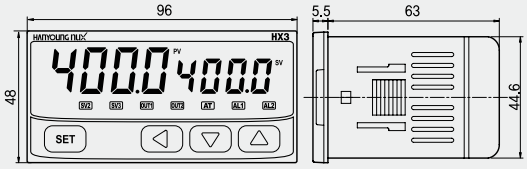
Panel cutout

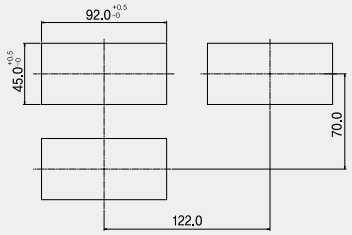


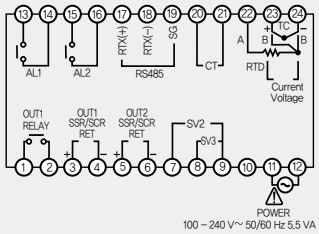
Connection diagram



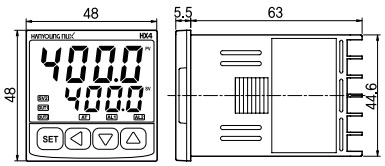
HX3

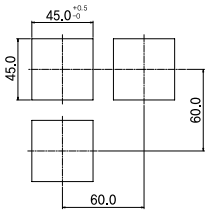


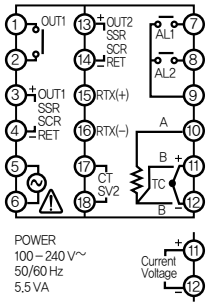




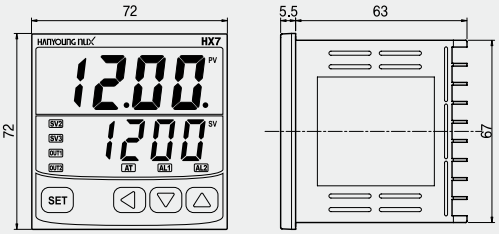
HX4

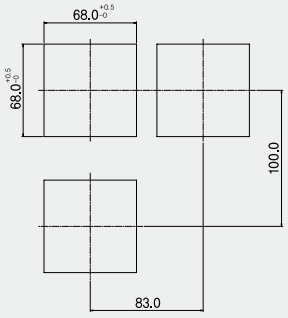


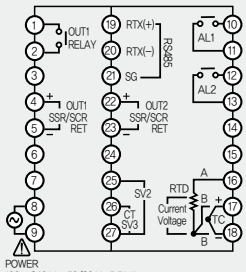




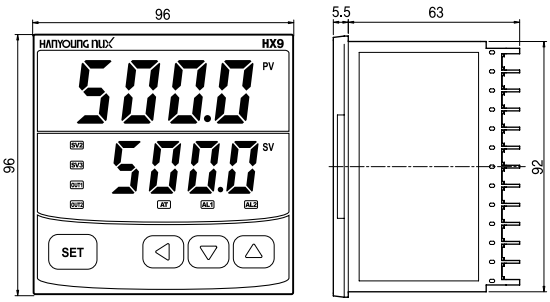
HX7

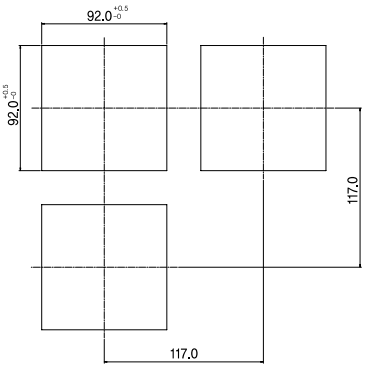


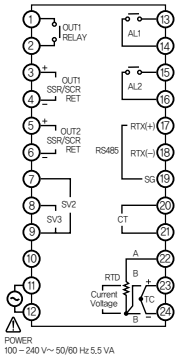




HX9







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