

AX series

Digital Temperature Controller

Economical
price

Convenient
functions

High speed
sampling

High accuracy
temperature controlling



AX2 · AX3 · AX4 · AX7 · AX9



→ Actualized the highly accurate temperature controlling

High display accuracy

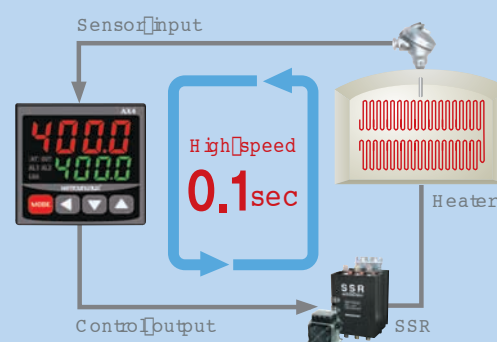
Upgraded the display accuracy to the $\pm 0.3\%$ of F.S (Full Scale)

$\pm 0.3\%$ of F.S

High speed sampling cycle

Performs more precise temperature controlling by the high speed sampling cycle (0.1s)

0.1s



0.1 °C / 0.1 °F decimal point indication

Able to select either Celsius (°C) or Fahrenheit (°F) for temperature display by the internal parameter selection

0.1 °C / 0.1 °F

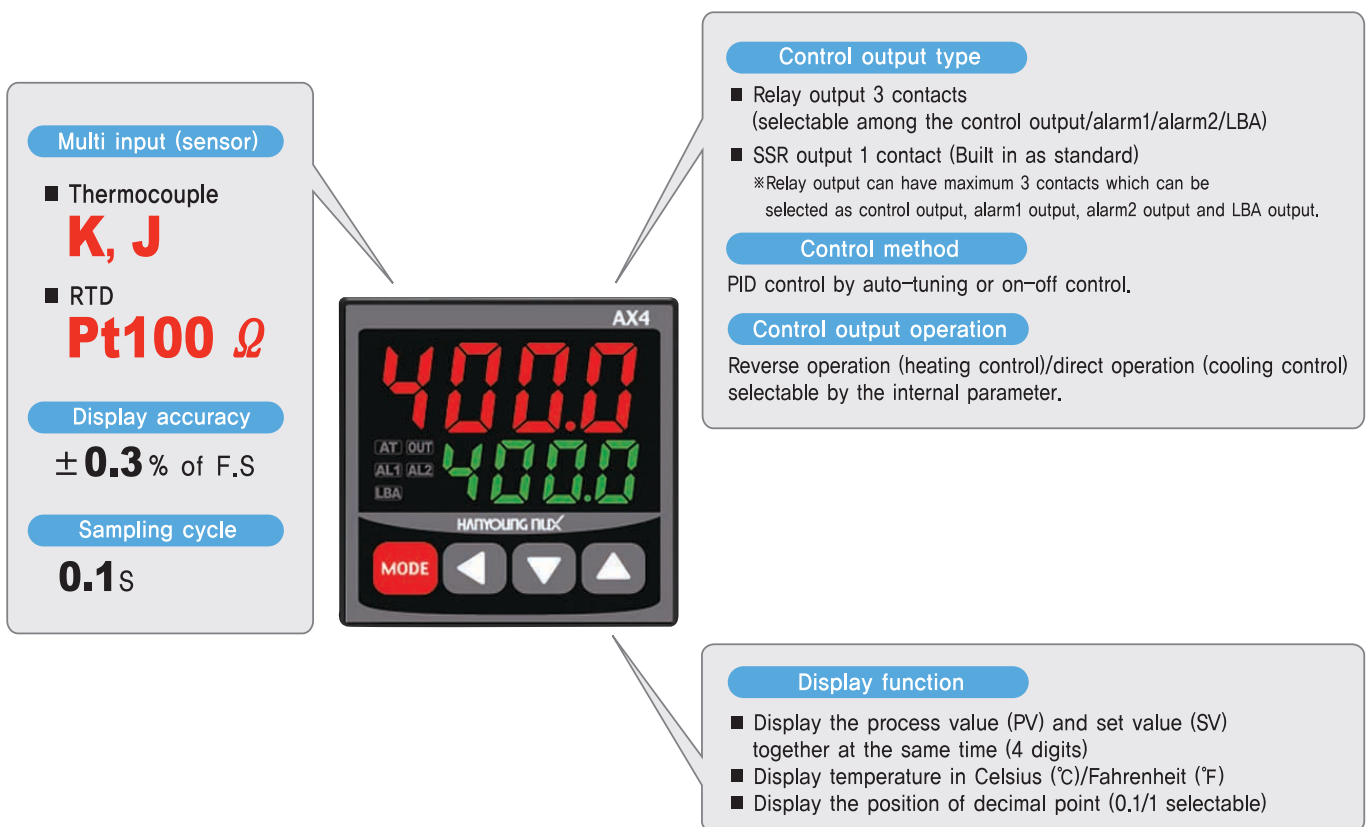
AX Series

Digital Temperature Controller

Actualized the economical price, convenient functions, high speed sampling and highly accurate temperature controlling.

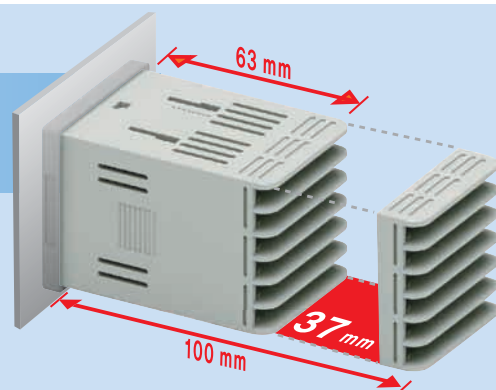
We pursued the convenience for customers by summarizing the standard functions. Also, we actualized the highly accurate temperature controlling by applying the faster sampling cycle.

→ Simple selection



Actualized the installation depth as **63 mm**.

AX Series It allowed users to minimize the installation space by designing the installation depth as 63 mm. Due to the fact, it can be corresponded to the minimization of control panel and control box.



AX2 · AX3 · AX4 · AX7 · AX9

AX Series

Digital Temperature Controller

- ▶ Multi input
(K, J and Pt100 \varnothing are selectable)
- ▶ Multi output
(Relay and SSR are selectable)
- ▶ High speed sampling cycle (0.1 sec)
- ▶ Installation depth : 63 mm
- ▶ Control output selectable:
Reverse operation / Direct operation
- ▶ P.I.D auto tuning
- ▶ Control loop break alarm (LBA)

>> Suffix code

Model	Code	Information
AX	<input type="checkbox"/> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Digital temperature controller (Multi input : K, J, Pt100 \varnothing)
Dimension	2	AX2 : 48 X 96 mm
	3	AX3 : 96 X 48 mm
	4	AX4 : 48 X 48 mm
	7	AX7 : 72 X 72 mm
	9	AX9 : 96 X 96 mm
Output selection	1	Relay 1 + Relay 2 + SSR 1 Contact
	2	Relay 1 + Relay 2 + Relay 3 + SSR 1 Contact
	3	4 -20 mA(Control output) + Relay2
	4	4 -20 mA(Control output) + Relay2 + Relay3
Power supply voltage	A	100 - 240 V a.c, 50/60 Hz

* Relay output is operated as control output, alarm output or LBA output depending on the internal parameter.

>> Name of each parts and function








NO.	Name	Information
1	Process value (PV)	Display the current temperature on operation screen
2	Set value (SV)	Display the set temperature on operation screen
3	UP key	Change the operation screen, increase the set value and move to the parameter set mode
4	DOWN key	Decrease the set value and move to the parameter set mode
5	Digit shift key	Shift the digit of set value Move among the operation screen, user setting mode and engineer setting mode
6	Mode key	Move among the operation screen, user setting mode and engineer setting mode
7	[AT]	ON when PID auto-tuning is operated
	[OUT]	ON when control output is operated
	[AL1]	ON when alarm1 is operated
	[AL2]	ON when alarm2 is operated
7	[LBA]	ON when LBA is operated



AX Series

>> Specification

Model	AX4	AX3	AX7	AX2	AX9	
Dimension W × H × D (mm)						
	48X48X63	96X48X63	72X72X63	48X96X63	96X96X63	
Input type	Multi input (Thermocouple: K, J, IEC 584-1), (RTD: Pt 100 Ω, EIC751)					
Sampling cycle	100 ms					
Input impedance	max 1 MΩ					
Allowable input wiring resistance	max 10 Ω/wire (RTD). But resistance among 3 wires must be same.					
Allowable input voltage	10 V d.c					
Display accuracy	± 0.3 % of F.S					
Display type	7 Segment LED (PV: red, SV: green)					
Font Size	PV	13.0X6.5	15.9X7.6	14.5X7.0	14.5X7.0	22.5X11.2
	SV	9.2X5.2	12.0X6.0	9.4X4.7	10.8X5.2	18.7X9.3
Input resolving power	<ul style="list-style-type: none"> • Thermocouple : 0.1 °C (TC-K2, TC-J), 0.5 °C (TC-K1) • RTD : 0.03 °C, (0.1 °F) 					
Insulation resistance	min 20 MΩ, 500 V d.c. 1 minute (primary terminal-secondary terminal)					
Dielectric strength	2300 V a.c, 50/60 Hz, for 1min (primary terminal-secondary terminal)					
Control method	PID control by Auto-Tuning, ON / OFF control.					
Manual reset	Users set within the range 0.0 % ~ 100.0 %					
Control output operation	Reverse operation / Direct operation selectable by the parameter setting					
Control output	<ul style="list-style-type: none"> • Relay output ※Selectable by the parameter setting 1a contact, 3A 240 V a.c, 3 A 30 V d.c (resistive load) 					
	<ul style="list-style-type: none"> • Voltage pulse output for running SSR [time sharing proportional control (CYC)] • Voltage pulse output for running SSR [phase control (PHR)] 0/12 V d.c, pulse voltage (resistive load minimum 600 Ω) 					
	4 - 20 mA d.c (resistive load max. 600 Ω)					
Power supply voltage	100 - 240 V a.c, 50 / 60 Hz					
Voltage fluctuation	± 10 % of the power supply voltage					
Power consumption	5.5 VA max					
Ambient temperature	- 5 ~ 50 °C					
Ambient humidity	35 ~ 85 % R.H.(but without dew condensation)					
Vibration resistance	10-55 Hz, 0.75 mm, each to direction X, Y and Z for 2 hours					
Shock resistance	300 m/s ² to direction 6 each 3 times					
Weight	180 g	320 g	300 g	320 g	400 g	

※ Weight included the weight of box

>> Range and input code

Classification	Code	Input type	Range	
			Celsius (°C)	Fahrenheit (°F)
Thermocouple	℄1	K	-100 ~ 1200	-148 ~ 2192
	℄2		-100.0 ~ 500.0	-148 ~ 932
	℄	J	-100.0 ~ 500.0	-148 ~ 932
RTD	℄℄	Pt100 Ω	-100.0 ~ 400.0	-148.0 ~ 752.0

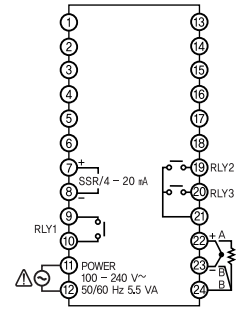
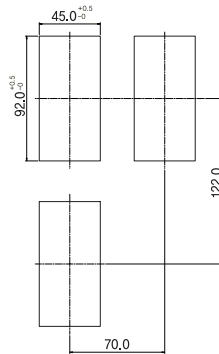
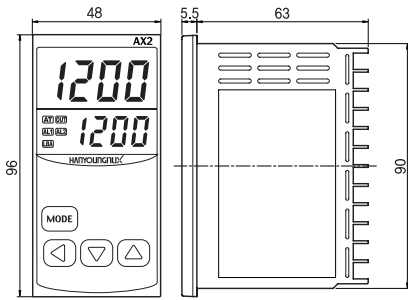
» Dimension and panel cutout / connection diagram

(unit : mm)

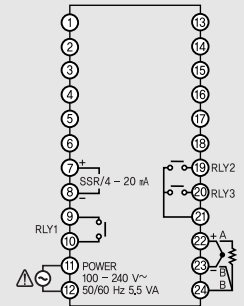
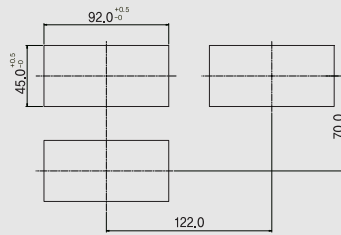
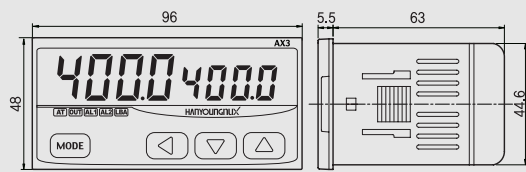
Dimension

Panel cutout

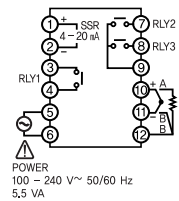
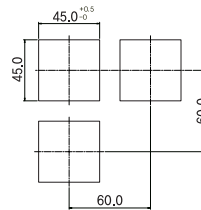
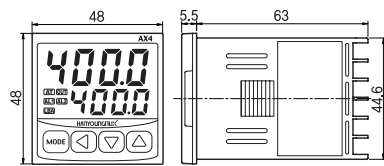
Connection diagram



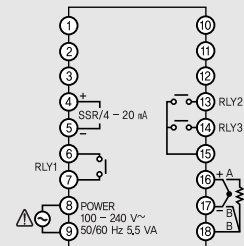
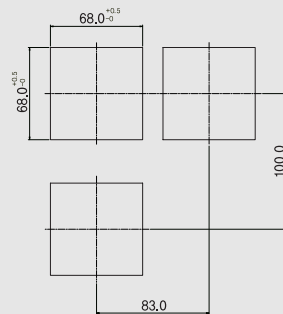
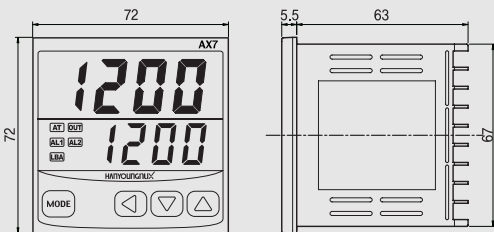
AX2



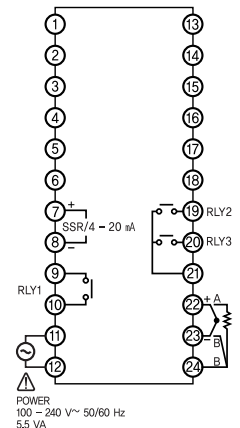
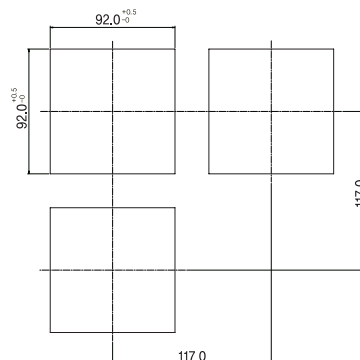
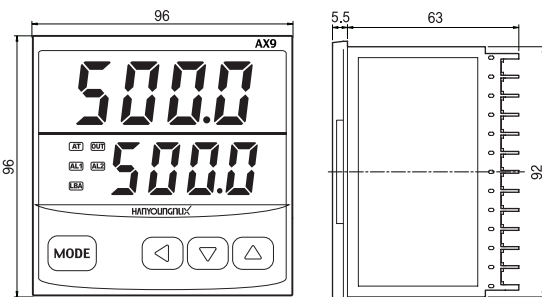
AX3



AX4



AX7



AX9