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AX series

Digital Temperature Controller

Economical price | Convenient functions | High speed sampling | High accuracy temperature controlling

HANYOUNG nux

HANYOUNG NUX

AX2 · AX3 · AX4 · AX7 · AX9

Actualized the highly accurate temperature controlling

High display accuracy

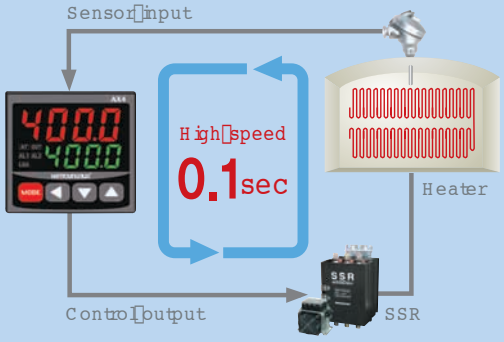
Upgraded the display accuracy to the ±0.3 % of F.S (Full Scale)

±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℃ / 0.1℉ decimal point indication

Able to select either Celsius (℃) or Fahrenheit (℉) for temperature display by the internal parameter seledion

0.1℃ / 0.1℉

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

Multi input (sensor)

- Thermocouple
  K, J
- RTD
  Pt100 Ω

Display accuracy

±0.3 % of F.S

Sampling cycle

0.1 S

Control output type

- Relay output 3 contacts
  (selectable among the control output/alarm1/alarm2/LBA)
- SSR output 1 contact (Built in as standard)
  ※Relay output can have maximum 3 contacts which can be selected as control output, alarm1 output, alarm2 output and LBA output.

Control method

PID control by auto-tuning or on-off control.

Control output operation

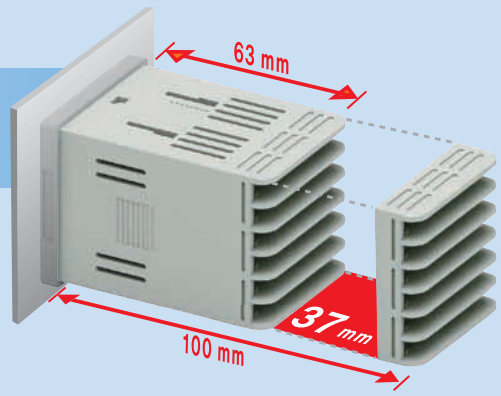
Reverse operation (heating control)/direct operation (cooling control) selectable by the internal parameter.

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)

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

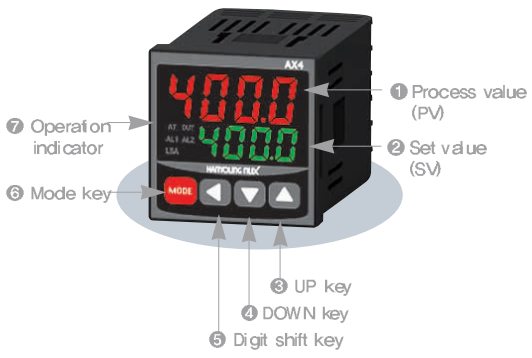
Digital Temperature Controller

- Multi input
  (K, J and Pt100 Ω 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	□ –	□	□	Digital temperature controller (Multi input : K, J, Pt100 Ω)
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		SSR + Relay 1 + Relay 2
		2		SSR + Relay 1 + Relay 2 + Relay 3
		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
❶	Process value (PV)		Display the current temperature on operation screen
❷	Set value (SV)		Display the set temperature on operation screen
❸	▲	UP key	Change the operation screen, increase the set value and move to the parameter set mode
❹	▼	DOWN key	Decrease the set value and move to the parameter set mode
❺	◀	Digit shift key	Shift the digit of set value Move among the operation screen, user setting mode and engineer setting mode
❻	MODE	Mode key	Move among the operation screen, user setting mode and engineer setting mode
❼	AT	Operation indicator	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
	LBA		ON when LBA is operated

AX Series

Specification

Model		AX4	AX3	AX7	AX2	AX9
Dimension W×H×D(㎜)						
		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/1wire (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		• Thermocouple : 0.1 ℃ (TC-K2, TC-J), 0.5 ℃ (TC-K1) • RTD : 0.03 ℃, (0.1 ℉)				
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		• Relay output : 1a contact, 3A 240 V a.c, 3 A 30 V d.c (resistive load)				
		• 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 ℃				
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/s² to direction 6 each 3 times				
Weight		180 g	320 g	300 g	320 g	400 g

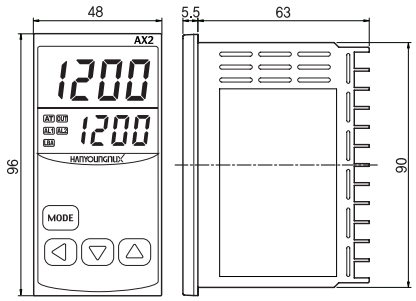
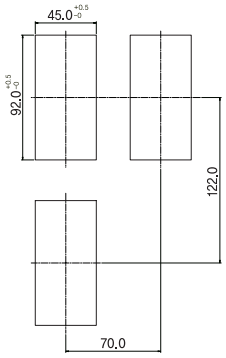
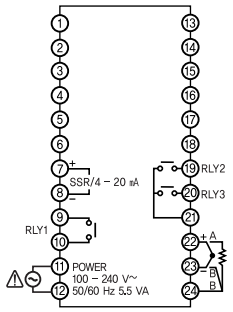
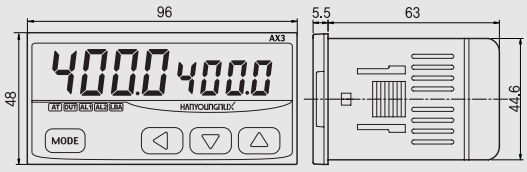
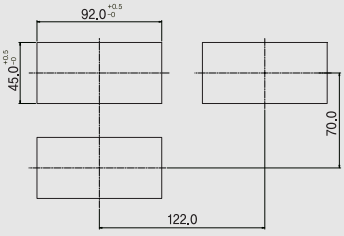
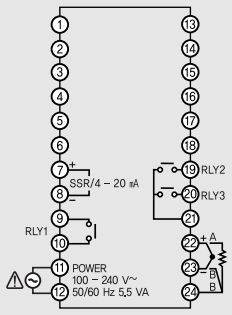
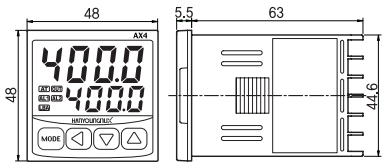
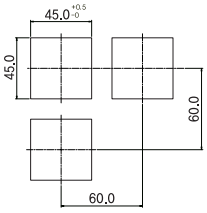
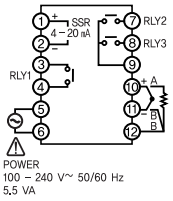
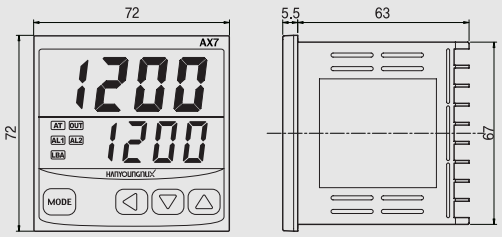
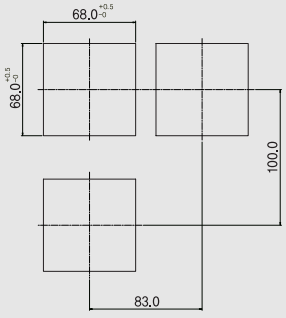
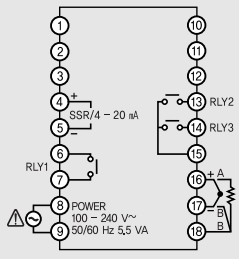
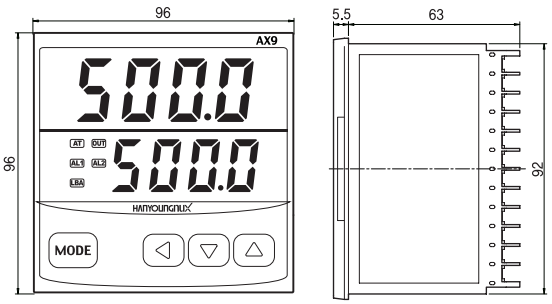
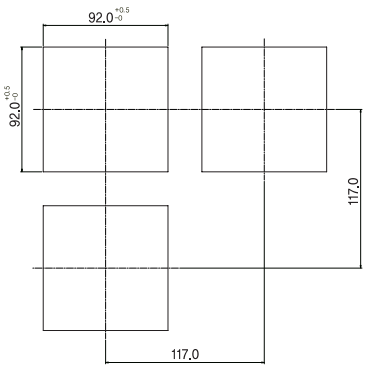
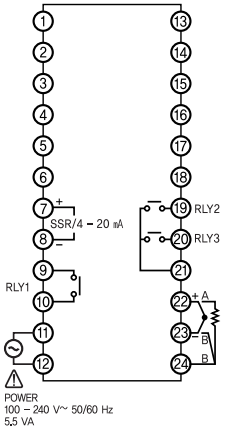
※ Weight included the weight of box

Range and input code

Classification	Code	Input type	Range	
			Celsius (℃)	Fahrenheit (℉)
Thermocouple	K1	K	-100 ~ 1200	-148 ~ 2192
	K2		-100.0 ~ 500.0	-148 ~ 932
	J	J	-100.0 ~ 500.0	-148 ~ 932
RTD	Pt	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

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