

KXA series

Digital temperature controller

- Fuzzy function, PID auto tuning
- 3Zone PID/group PID 3 types
- Ramp control function
- Heating/cooling control,HBA
- 3 types of set value selection by the contact input(DI)
- Communication function (RS485/422)



Specification

Model		KX2A	KX3A	KX4A	KX7A	KX9A	KX4P
Input	Thermocouple Types	K, J, E, T, R, B, S, L, N, U, W, PLII					
	Reference Junction Compensation Accuracy	±1.5 °C (within 0 ~ 50 °C)					
	Temperature Resistance Types	JPT100, PT100					
	Allowable Wire Resistance	Each of the 3 wires should have a resistance of 10 Ω or less (Note : Resistance between the 3 wires must be the same)					
	DC Voltage	1 ~ 5 V, 0 ~ 10 V					
	Display Accuracy	±0.5 % (Refer to the input table)					
	Input Open Circuit	Up Scale					
	Sampling Cycle	250 ms					
Output	Relay output	▪ KX2A, KX3A, KX4A, KX7A, KX9A N.O : 5 A 250 V a.c., 5 A 30 V d.c. (resistive load), N.C : 2 A 250 V a.c., 1 A 30 V d.c. (resistive load), Switching life : 1,000,000 cycles (no load)					
		▪ KX4P 3 A 240 V a.c., 3 A 30 V d.c. (resistive load), Switching life : 1,000,000 cycles (no load)					
	Voltage output	ON Voltage: 12 V d.c. or higher, OFF Voltage: 0.1 V d.c. or lower, Load Resistance: 600 Ω or higher					
	Current output	4 ~ 20 mA : ±0.2% of FS ±1 digit, Load Resistance: 600 Ω or lower					
Control	Type	ON/OFF, PID control					
	Output operation	Reverse action, Direct action					
	Anti-reset wind-up	Auto(A=0), 0.1 ~ 100%					
Option	Alarm output	ALH	▪ KX2A, KX3A, KX9A N.O: 5 A 250 V a.c., 5 A 30 V d.c. (resistive load), N.V: 2 A 250 V a.c., 1 A 30 V d.c. (resistive load), Switching life : 1,000,000 cycles (no load)				
			▪ KX4A, KX7A, KX4P 3 A 240 V a.c., 3 A 30 V d.c. (resistive load), Switching life : 1,000,000 cycles (no load)				
		ALL	3 A 240 V a.c., 3 A 30 V d.c. (resistive load), Switching life : 1,000,000 cycles (no load)				
		LBA	▪ KX2A, KX3A, KX7A, KX9A				

		3 A 240 V a.c., 3 A 30 V d.c. (resistive load), Switching life : 1,000,000 cycles (no load)				
	Retransmission output	4 ~ 20 mA : ±0.2% of FS ±1 digit, Load Resistance: 600 Ω or less.				
Power	Power supply	100 - 240 V a.c. (±10 %), 50 - 60 Hz, 24 V d.c. (±10 %)				
	AC PowerType Power Consumption	8.5 VA or less	7 VA or less	8.5 VA or less	9.0 VA or less	7 VA or less
	DC PowerType Power Consumption	3.5 W or less하	3.2 W or less	3.5 W or less		3.0 W or less
	Insulation Resistance	20 MΩ or more (Primary terminal - Secondary terminal)				
	Dielectric Strength	3,000 V a.c., for 1 minute (Primary terminal - Secondary terminal)				
Installation environment	Temperature and humidity	0 ~ 50 °C, 35 ~ 85% RH (No condensation)				
	Environment	Refer to Environmental Safety Precautions				
Certification						
Weight		170 g	110 g	170 g	240 g	110 g

Suffix Code

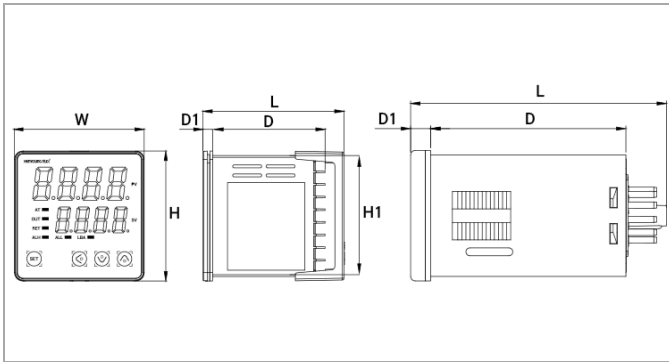
Model	Code					Description	
KX	☐ -	☐	☐	☐	☐	Multi input digital temperature controller	
Dimension	2A					48(W) X 96(H) mm	
	3A					96(W) X 48(H) mm	
	4A					48(W) X 48(H) mm	
	7A					72(W) X 72(H) mm	
	9A					96(W) X 96(H) mm	
	4P					48(W) X 48(H) mm	11pin socket type
Control output		M				Relay	
		S				Voltage Pulse Output (for SSR Drive)	
		C				Current Output (4-20 mA Current Output for SCR Drive)	
Alarm output			C			※ Applicable to KX4A and KX4P	
						KX4A, KX4P	ALH, ALL, LBA (1A Common Output) *1
			E			KX2A, KX3A, KX9A	ALH (1c), ALL (1a)
						KX4A, KX4P, KX7A	ALH (1a), ALL (1a)
			K			※ Not Available for KX4A and KX4P	
						KX2A, KX3A, KX9A	ALH (1c), ALL (1a), LBA (1a)
						KX7A	ALH (1a), ALL (1a), LBA (1a)
Retransmission output (Optional)			A		※ Not Available for KX4P		
					Retransmission output (4 - 20 mA d.c.)		
			N		None		
Power supply voltage					A	100 - 240 V a.c. 50/60 Hz	
					D	24 V d.c. Class2	

※ When using 4 - 20 mA input, connect a 250 Ω (0.1%) resistor across the terminals of the 1 - 5 V DC input.

※ *1) Common output for ALH, ALL, and LBA at the ALH terminal.

■ Dimensions and panel cutout

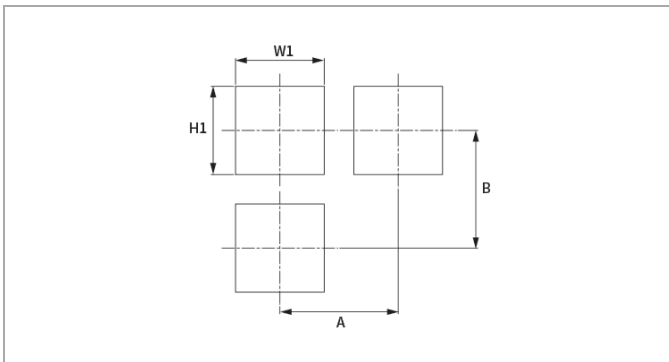
■ Dimensions



[Unit : mm]

Classification	Type	KX2A	KX3A	KX4A	KX4P	KX7A	KX9A
Product dimensions	W	48.0	96.0	48.0	48.0	72.0	96.0
	H	96.0	48.0	48.0	48.0	72.0	96.0
	H1	90.0	44.6	44.6	44.7	67.0	91.6
	D	62.5	62.5	63.0	72.0	62.5	62.5
	D1	5.4	5.1	4.3	7.4	5.3	5.2
	L	78.3	78	77.8	94.0	78.2	78.1

■ Panel cutout

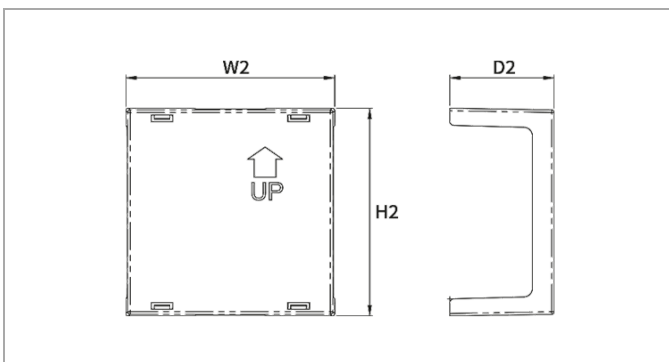


[Unit : mm]

Classification	Type	KX2A	KX3A	KX4A	KX4P	KX7A	KX9A
Panel cutout	W1 * 1)	45.0	90.5	45.0	45.0	67.5	92.0
	H1 * 1)	90.5	45.0	45.0	45.0	67.5	92.0
	A	70.0	122.0	60.0	60.0	83.0	117.0
	B	122.0	70.0	60.0	60.0	100.0	117.0

* 1) Tolerance of +0.5 mm applied

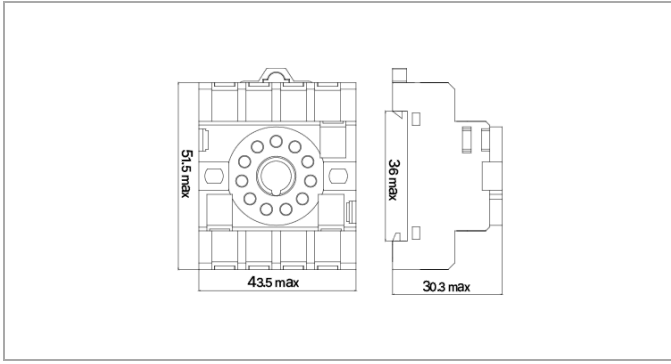
■ Protective cover dimensions (※ sold separately)



[Unit : mm]

Classification	Type	KX2A	KX3A	KX4A	KX7A	KX9A
Protective cover	W2	48.4	94.4	48.0	71.8	96.0
	H2	94.4	48.4	48.1	71.8	96.0
	D2	26.9	26.9	24.0	26.9	26.9

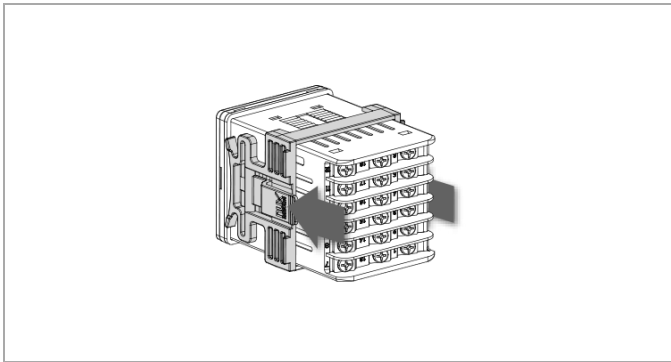
■ 11-PIN Universal Socket (※ sold separately)



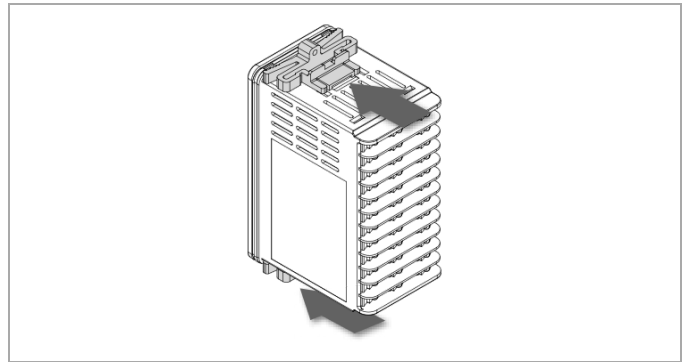
Bracket Assembly Diagram

※ Brackets provided as standard: KX4A, KX4P (1pc), KX2A, KX3A, KX7A, KX9A (2 pcs)

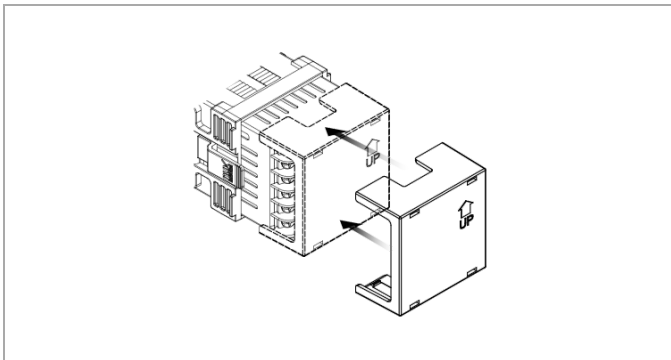
■ KX4A, KX4P



■ KX2A, KX3A, KX7A, KX9A



■ Protective Cover



Input Type and Range

Input Type	Code (SL1)	Input Type	Range	
			1 °C (SL2 : X1XX)	0.1 °C (SL2 : X0XX)
Thermocouple	0001	K	- 200 ~ 1370	- 100.0 ~ 500.0

(T.C)	0101	J	- 200 ~ 1000	- 100.0 ~ 500.0
	1100	E	- 200 ~ 700	- 199.9 ~ 700.0
	1101	T	- 100 ~ 400	- 100.0 ~ 400.0
	0100	R	0 ~ 1700	-
	0110	B * 1	100 ~ 1800	-
	0111	S	0 ~ 1700	-
	1000	L	- 200 ~ 900	- 199.9 ~ 900.0
	1001	N	- 200 ~ 1300	- 100.0 ~ 800.0
	1010	U	- 100 ~ 400	- 100.0 ~ 400.0
	1011	W(Re5-Re25)	0 ~ 2300	0.0 ~ 800.0
	1110	PL2	0 ~ 1300	0.0 ~ 700.0
RTD	0010	KPt100 Ω (old)	- 200 ~ 500	- 199.0 ~ 500.0
	0011	Pt100 Ω (IEC)	- 200 ~ 640	- 199.9 ~ 640.0
DCV	0000	1 - 5 V d.c.	- 1999 ~ 9999	Decimal Point Selection (SL4)
	1111	0 - 10 V d.c.		

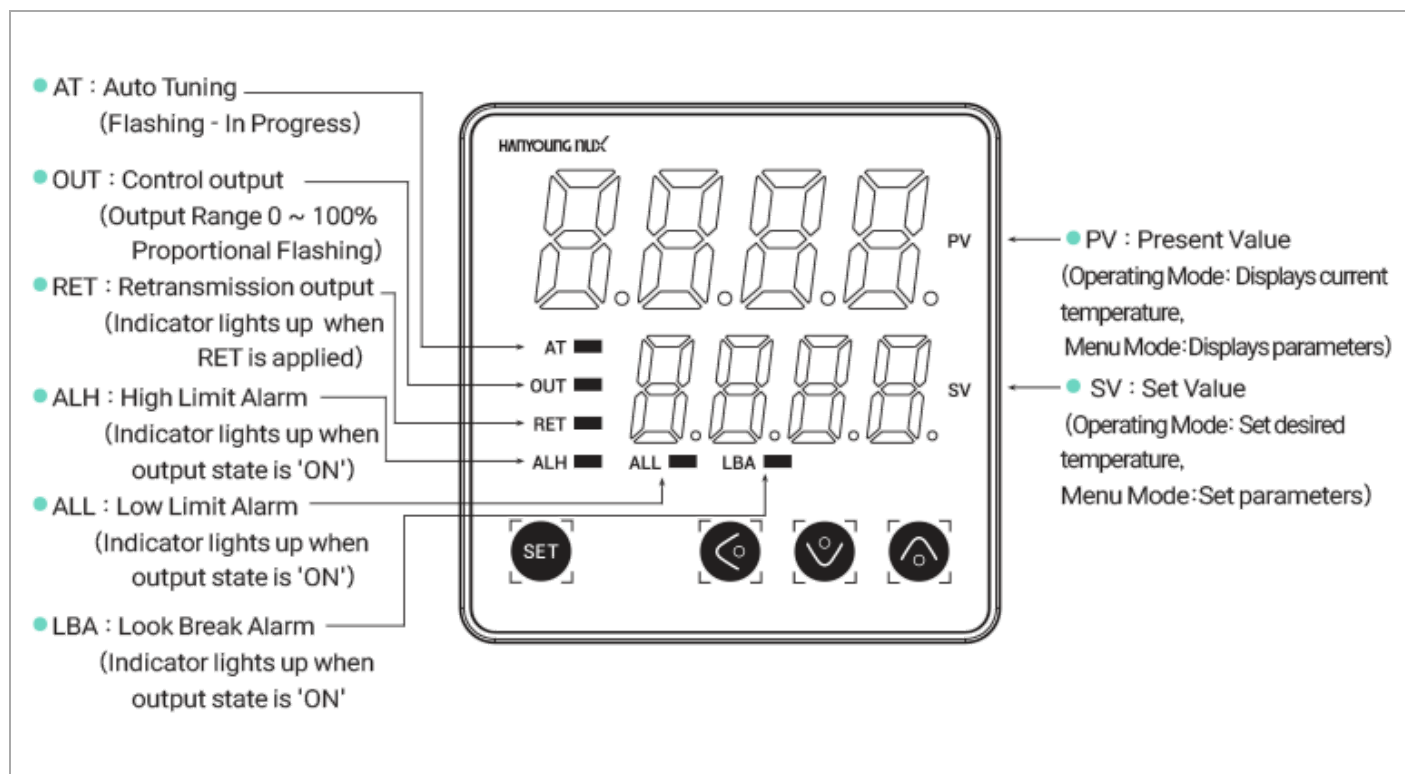
※ K, J, E, T, R, B, S, N : IEC 584 L, U : DIN 43710 W(Re5-Re25) : Hoskins Mfg.Co.USA Pt100 Ω : IEC 751, KS C1603 (Kpt100 Ω : Rt = 139.16 Ω ※ Rt : Resistance value at 100 °C)

※ When using 4 - 20 mA current input, select both 1 - 5 V DC input, and connect a 250 Ω 0.1% shunt resistor across the input terminals.

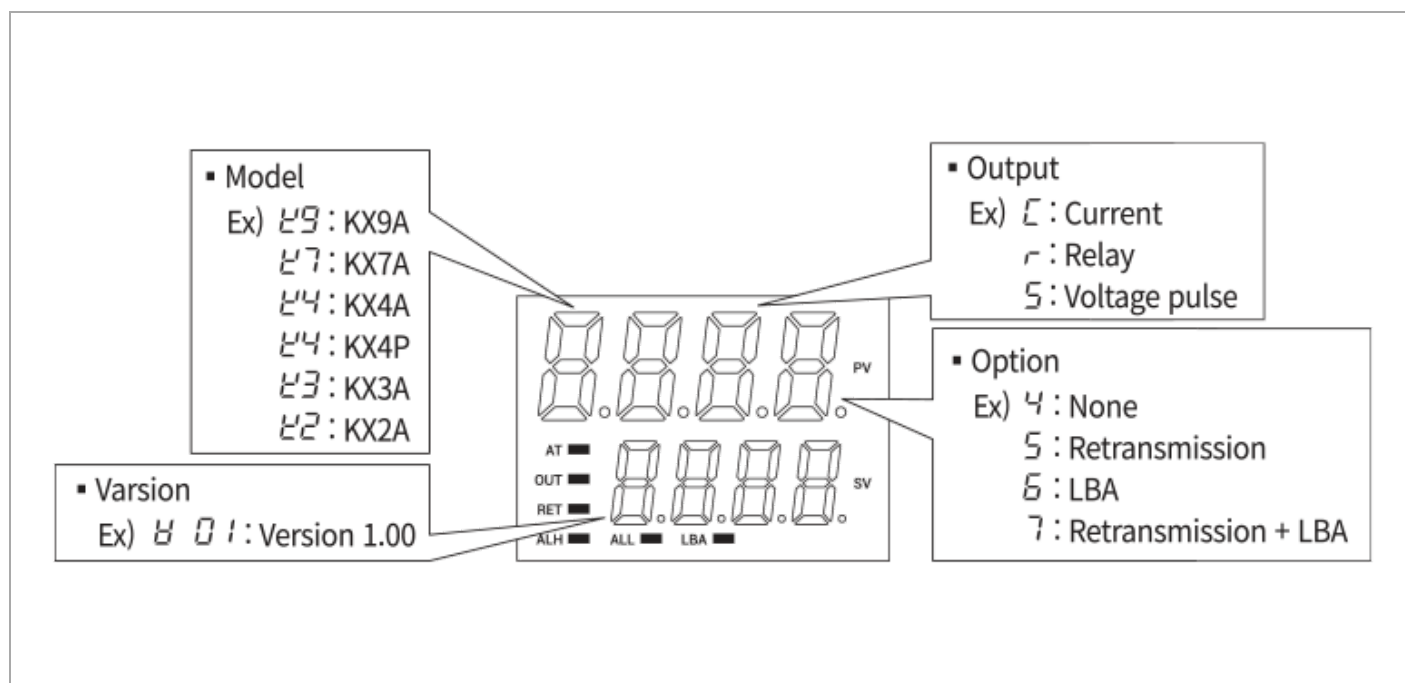
※ Error : ±0.3% of F.S ±1 digit

* 1 : Outside guaranteed range ~ 400 °C

Part name and Function



Model Displayed when Power On



Basic key description

Operation mode

Name	Key	Control / Monitoring	SV edit
Set		Move to SV Edit Mode	saves SV
Shift		-	moves Digit Position
Down			decreases Value
Up			increases Value

Menu mode

Name	Key	General / Initial	Parameter edit
Set		refer to Parameter Configuration	saves value and moves to next parameter
Shift		edits Parameter	-
Down		moves Parameter / moves group	decreases / changes value
Up			increases / changes value

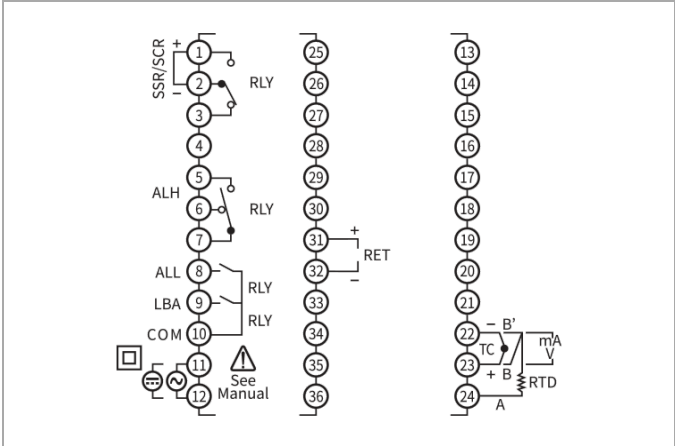
Function Key Description (Operating Mode Use)

No.	Key Combination	Details
1	Press for 3 secs	Enter General Settings Mode, Return to Operating Mode

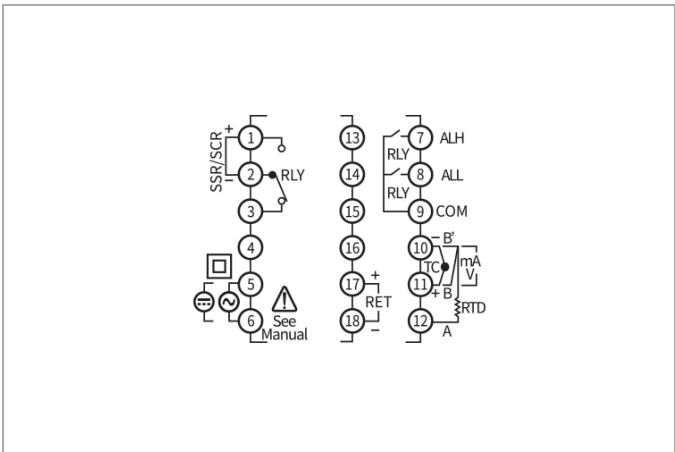
2	 + 	Press for 3 secs	Enter Initial Settings Mode
3	 + 	Press for 1 secs	Execute/Disable Auto Tuning (AT)

■ Connection Diagram

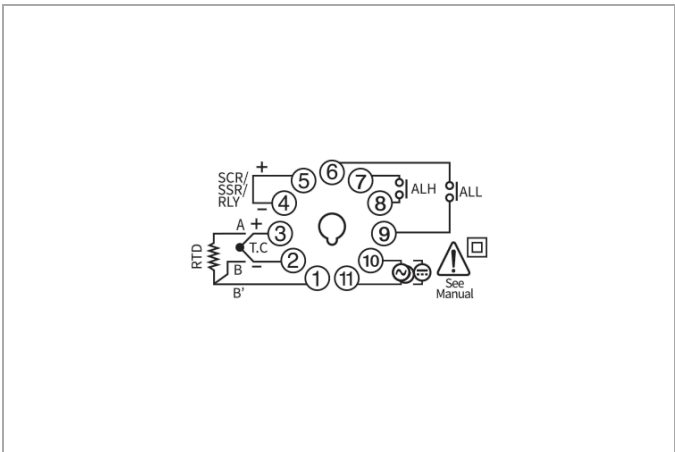
■ KX2A, KX3A



■ KX4A

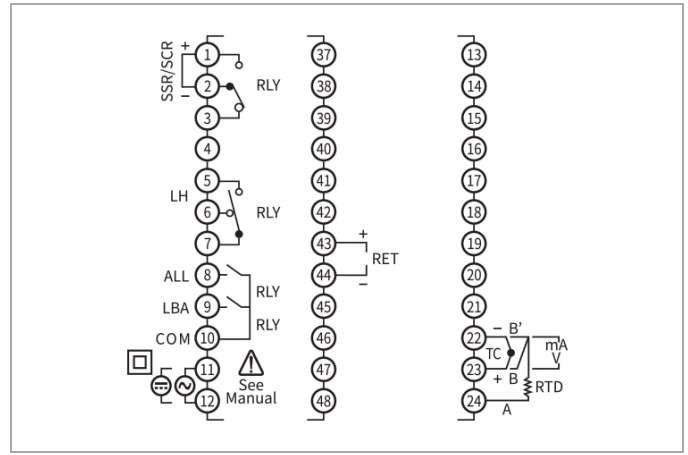
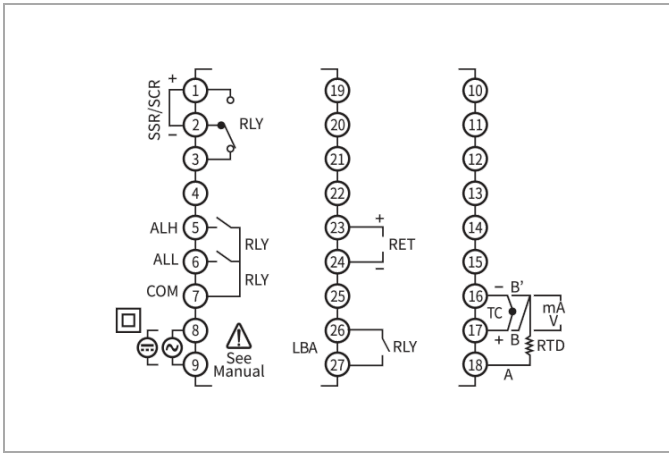


■ KX4P



■ KX7A

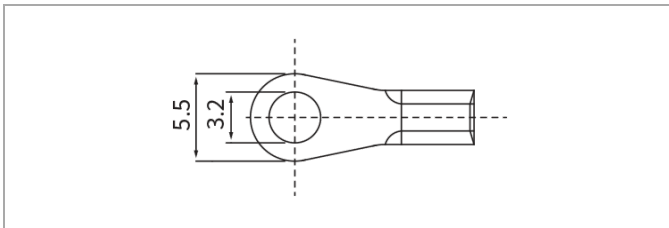
■ KX9A



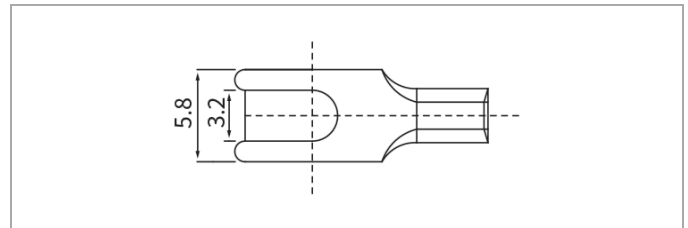
■ Terminal

- ※ Use the following type of terminal.
- ※ Connect wires and terminals using UL-certified products.

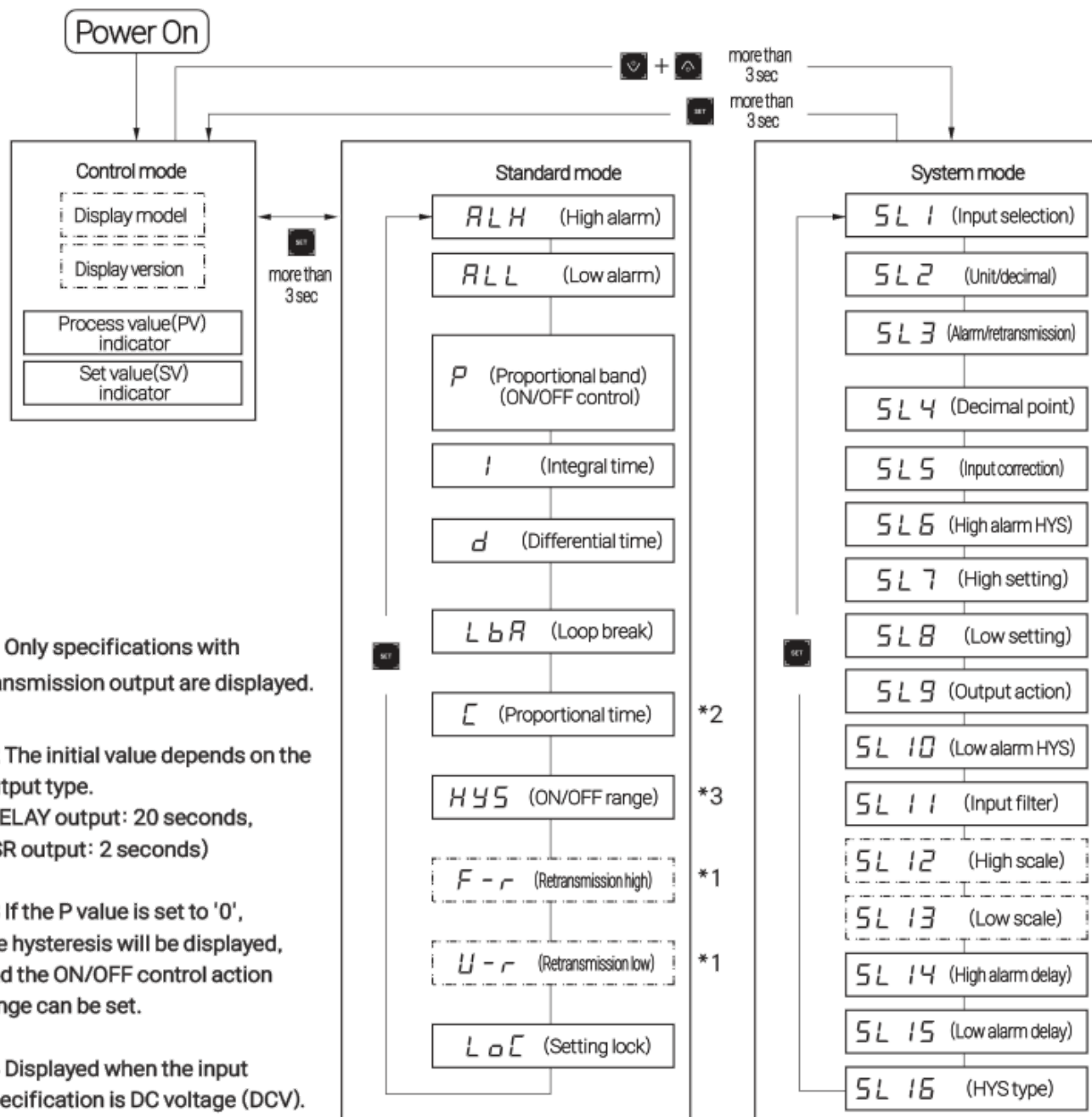
■ Ring Terminal



■ Spade Terminal



■ Parameter Composition



*1 Only specifications with transmission output are displayed.

*2 The initial value depends on the output type.
(RELAY output: 20 seconds,
SSR output: 2 seconds)

*3 If the P value is set to '0',
the hysteresis will be displayed,
and the ON/OFF control action
range can be set.

*4 Displayed when the input
specification is DC voltage (DCV).