Manuals+ — User Manuals Simplified.

HANYOUNG nux KXN Series LCD Digital Temperature Controller Instruction Manual

Contents

HANYOUNG nux KXN Series LCD Digital Temperature Controller

Product Information

Specifications

- **Product Name:** LCD Digital Temperature Controller
- **Model:** KXN series

Safety Information

Please read the safety information carefully before using the product:

Danger

Do not touch or contact the input/output terminals because it may cause electric shock.

Warning

Failure to follow the instructions provided by the manufacturer may lead to injury or property damage. Do not use the product in a place where combustible or explosive gas is present. Malfunction or incorrect operation may result in a risk of fire or serious accidents.

Caution

Ensure there is proper grounding between the PV of the temperature controller and the actual temperature. Use a noise filter or transformer to minimize noise interference. Do not expose the product to chemicals, steam, dust, salt, iron, or other harmful substances. Avoid physical impacts and direct sunlight or radiant heat. Regular

maintenance is recommended.

Product Usage Instructions

Installation

1. Ensure the power is disconnected before installation.
2. Mount the product on a panel securely.
3. Connect the wiring according to the provided diagram.
4. Use a transformer or noise filter to minimize noise interference.
5. Ground the noise filter and keep the lead wire between the output of the noise filter and the power terminal of the instrument as short as possible.
6. Do not use a general lead wire; use a lead wire with the same resistance for accurate temperature control.

Power Supply

Ensure the rated power voltage is supplied to the product. Do not turn on the power until completing wiring.

Temperature Control

Operate the temperature controller after compensating for the temperature difference appropriately. If using an auxiliary relay, ensure it has the rated margin to avoid shortening the life span of the output relay. SSR output is recommended for cases involving harmful or flammable gases.

Maintenance

Perform periodic maintenance to ensure proper functioning of the product. Clean with a mild detergent, avoiding strong chemicals. Avoid exposure to extreme temperatures and electrostatic or magnetic noise. Check for any physical damage or loose connections.

FAQ

- **Q:** What should I do if I encounter an alarm?
  - **A:** Refer to the instruction manual for specific alarm codes and troubleshooting steps. Check the wiring and connections for any faults.
- **Q:** Can I use a delay relay with the contact output?
  - **A:** Yes, it is recommended to use a delay relay when using the contact output to avoid any potential issues.

Thank you for purchasing Hanyoung Nux products. Please read the instruction manual carefully before using this product, and use the product correctly.
Also, please keep this instruction manual where you can view it any time.

Safety information

Please read the safety information carefully before the use, and use the product correctly.
The alerts declared in the manual are classified into Danger, Warning and Caution according to their importance

- **DANGER:** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury
- **WARNING:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury
- **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor injury or property damage

DANGER

- Do not touch or contact the input/output terminals because it may cause electric shock.

WARNING

- If the product is used with methods other than specified by the manufacturer, then it may lead to injury or property damage.
- Please install an appropriate protective circuit on the outside if a malfunction or an incorrect operation may be a cause of leading to a serious accident.
- Since this product does not have the power switch or a fuse, please install those separately on the outside. (Fuse rating: 250V 0.5A)
- To prevent damage or failure of this product, please supply the rated power voltage.
- To prevent electric shock or equipment failure, please do not turn on the power until completing wiring.
- Since this is not explosion-proof structure, please do not use in a place where combustible or explosive gas is around.
- Never disassemble, modify, or repair the product. There is a possibility of a malfunction, an electric shock, or a risk of fire.
- Please turn off the power when mounting/dismounting of the product. This is a cause of an electric shock, a malfunction, or failure.
- Since there is a possibility of an electric shock, please use the product as mounted on a panel while the power is being supplied.

CAUTION

- Before using a temperature controller, there could be a temperature difference between PV of the temperature controller and the actual temperature so please operate the temperature controller after compensating the temperature difference appropriately.
- The contents of the instruction manual are subjective to change without prior notice.
- Please make sure that the specification is the same as what you have ordered.
- Please make sure that the product is not damaged during shipping.
- Please use this product in a place where the ambient operating temperature is 0 ~ 50 ℃ (40 ℃ max, closely installed) and the ambient operating humidity is 35 ~ 85 % R.H (without condensation).
- Please use this product in a place where corrosive gas (such as harmful gas, ammonia, etc.) and flammable gas do not occur.
- Please use this product in a place where there is no direct vibration and a large physical impact to the product.
- Please use this product in a place where there is no water, oil, chemicals, steam, dust, salt, iron or others.

- Please do not wipe this product with organic solvents such as alcohol, benzene and others. (Please use mild detergent)
- Please avoid places where excessive amounts of inductive interference and electrostatic and magnetic noise occur.
- Please avoid places where heat accumulation occurs due to direct sunlight or radiant heat.
- Please use this product in a place where the elevation is below 2,000 m.
- Please make sure to inspect the product if exposed to water since there is a possibility of an electric leakage or a risk of fire.
- For thermocouple (TC) input, please use a prescribed compensation lead wire. (There is a temperature error if a general lead is used.)
- For resistance temperature detector (RTD) input, please use a small resistance of lead wire and the 3 lead wires should have the same resistance. (There is a temperature error if the 3 lead wires do not have the same resistance.)
- Please put the input signal wire away from the power lines and load lines to avoid the effect of inductive noise.
- The input signal wires and output signal wires should be separated from each other. If it is not possible, please use shielded wires for the input signal wires.
- For thermocouples (TC), please use ungrounded sensors. (There is a possibility of a malfunction of product by an electric leakage if a grounded sensor is used.)
- If there is a lot of noise from the power line, installing an insulated transformer or a noise filter is recommended. The noise filter should be grounded on the panel and the lead wire between the output of the noise filter and the power terminal of the instrument should be as short as possible.
- It is effective against noise if making the power lines of the product the twisted pair wiring.
- Please make sure the operation of the product before using since the product may not operate as it intends if the alarm function is not properly set.
- When replacing the sensor, please turn off the power.
- In case of the high frequent operation such as proportional operation, please use an auxiliary relay since the life span of the output relay will be shortened if it connects to the load without the rated margin. In this case, SSR output is recommended.
    - **Electromagnetic switch:** proportion cycle: set 20 sec min.
    - **SSR: proportion cycle:** set min.1 sec
- Contact output life expectancy: Mechanical – 1 million times min. (without load) Electrical – 100 thousand times min. (250 V a.c 3A: with rated load)
- Please do not connect anything to the unused terminals.
- Please connect wires properly after making sure the polarity of terminal.
- Please use a switch or breaker (IEC60947-1 or IEC60947-3 approved) when the product is mounted on a panel.
- Please install a switch or break near the operator to facilitate its operation.
- If a switch or breaker is installed, please put a name plate that the power is off when the switch or breaker is activated.
- In order to use this product properly and safely, we recommend periodic maintenance.
- Some parts of this product have limited expected life span and aged deterioration.
- The warranty of this product (including accessories) is 1 year only when it is used for the purpose it was intended under normal condition.

- When the power is being supplied there should be a preparation time for the contact output. Please use a delay relay together when it is used as a signal on the outside of interlock circuit or others.
- When the user replaces with a spare unit due to product failure or other reason, please check the compatibility since the operation can be varied by the difference of setting parameters even though the model name and code are the same.

Codes

Suffix code

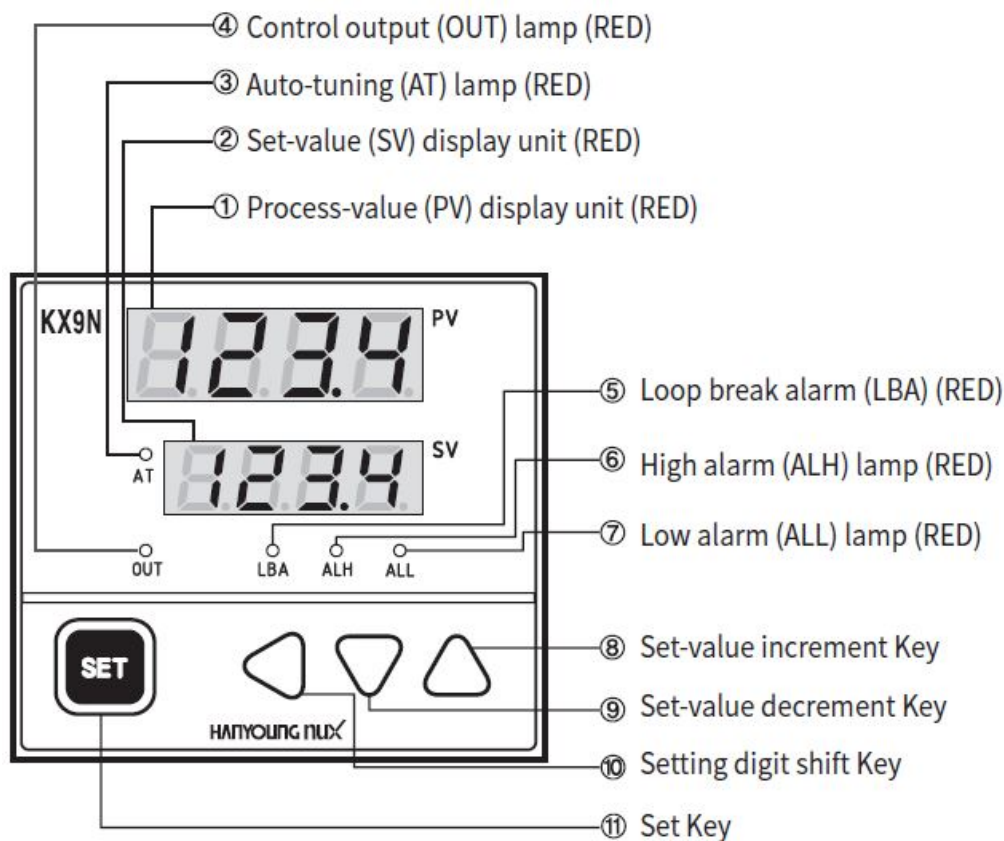| Model		Code					Description	
KX	□ -	□	□	□		□	Digital Temperatrue Contoller	
Dimension	2N						48(W) × 96(H) mm	
	3N						96(W) × 48(H) mm	
	4N						48(W) × 48(H) mm	
	7N						72(W) × 72(H) mm	
	9N						96(W) × 96(H) mm	
	4S						48(W) × 48(H) mm	11pin socket type
Control output		M					Relay	
		S					Voltage pulse output (12 V d.c)	
		C					Current output (4 - 20 mA d.c)	
Alarm output			C				＊ KX4N, KX4S	ALH, ALL, LBA(1a common output)
			E				＊ KX4S	
							KX2N, KX3N, KX9N	ALH(1c), ALL(1a)
							KX7N, KX4N (option)	ALH(1a), ALL(1a)
			K				＊ KX4N, KX4S	
							KX2N, KX3N, KX9N (option)	ALH(1c), ALL(1a), LBA(1a)
							KX7N (option)	ALH(1a), ALL(1a), LBA(1a)
Restransmission output (Option)				A			＊Only selectable with models given in the below KX4N - □ C KX2N - □ E, KX3N - □E, KX9N - □ E KX2N - □K, KX3N - □ K, KX9N - □ K	Retransmission output(RET) 4 - 20 mA d.c
				N			None	
Power supply voltage					A		100 - 240 V a.c, 50 - 60 Hz	
					D		24 V d.c (except KX4S)	

- ※ When using 4 – 20 input, connect 0.1 % 250 Ω resistor to the input terminal of 1-5 V d.c

Input code for input type and range

Input type	SL1	Input type	Range(°C)	
			1 °C (SL2 : X1XX)	0.1 °C (SL2 : X0XX)
Thermocouple	0001	K	- 50 ~ 1300	- 50.0 ~ 999.9
	0101	J ＊2	- 50 ~ 600	- 50.0 ~ 600.0
	1100	E	- 199 ~ 999	- 199.9 ~ 999.9
	1101	T	- 50 ~ 400	- 50 ~ 400.0
	0100	R	0 ~ 1700	0.0 ~ 999.9
	0110	B ＊1	0 ~ 1800	0.0 ~ 999.9
	0111	S	0 ~ 1700	0.0 ~ 999.9
	1000	L ＊2	- 199 ~ 900	- 199.9 ~ 900.0
	1001	N ＊2	- 199 ~ 1300	- 199.9 ~ 999.9
	1010	U	- 199 ~ 400	- 199.9 ~ 400.0
	1011	W(Re5-Re25)	0 ~ 2300	0.0 ~ 999.9
	1110	PL2	0 ~ 1300	0.0 ~ 999.9
RTD	0010	KPt100 Ω	- 199 ~ 500	- 199.9 ~ 500.0
	0011	Pt100 Ω(IEC)	- 199 ~ 640	- 199.9 ~ 640.0
DCV	0000	1 - 5 V d.c ＊3	- 199 ~ 9999	Decimal point: According to SL4
	1111	0 - 10 V d.c ＊3		

- ※ 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 at 100 ℃)
- ※ When using 4 – 20 input, connect 0.1 % 250 Ω shunt resistor to the input terminal when the input mode is 1 – 5 V d.c
- ※ **Accuracy:** ± 0.5 % of F.S
- **1:** The range 0 ~ 400 ℃ are excluded from the guaranteed range
- **2:** The accuracy of the range less than 0 ℃ is ±1 % of F.S
- **3:** ± 1 % of F.S

Part name and function

④ Control output (OUT) lamp (RED)

③ Auto-tuning (AT) lamp (RED)

② Set-value (SV) display unit (RED)

① Process-value (PV) display unit (RED)

⑤ Loop break alarm (LBA) (RED)

⑥ High alarm (ALH) lamp (RED)

⑦ Low alarm (ALL) lamp (RED)

⑧ Set-value increment Key

⑨ Set-value decrement Key

⑩ Setting digit shift Key

⑪ Set Key

※ Model: KX9N

Specification

| Power supply voltage			100 - 240 V a.c (±10 %), 50 - 60 Hz, 24 V d.c (±10 %)	
Power consumption			KX 2, 3, 7, 9	KX4, KX4S
			Below 11 VA max	Below 7 VA max
Input	Input type		Please refer to Input code	
	Sampling cycle		250 ms	
	Indication accuracy		±0.5 % (Please refer to Input type)	
	Allowable voltage		±20 V d.c for 1 minute	
	Reference junction temperature		±3.5 ℃, 0 ~ 50 ℃	
	Operation after input break		Up scale after input break, output OFF	
Control output	Relay		NO : 5 A 250 V a.c, 5 A 30 V d.c(Resistive load), NO : 3 A 250 V a.c, 1 A 30 V d.c(Resistive load)	
	Voltage output		ON voltage : More than 12 V d.c min, Load resistance: 600 Ω min	
	Current output		Range : 4 - 20 mA d.c (±5%), Accuracy : ±0.2 mA, Load resistance: 600 Ω max	
Retransmission output			Range : 4 - 20 mA d.c (±5 %), Accuracy : ±0.2 mA, Load resistance: 600 Ω max	
Alarm output			250 V a.c, 3 A (Resistive load), refer to connection diagram (contact) But, KX4N: 1a contact, 250 V a.c 1A (load resistance)	
Contact input			OFF resistance : 10 kΩ min, ON resistance : 1 kΩ max	
Control	Method		PID control, ON/OFF	
	Output operation		Reverse action, Direct action	
	Anti-reset wind-up		Auto (A=0), 0.1 ~ 100.0 %	
Insulation Resistance			20 MΩ min between 1st and 2nd terminals	
Dielectric strength			2,300 V a.c between 1st and 2nd terminals, for 1 minute	
Operating environment	Temperature & Humidity		0 ~ 50 ℃, 35 ~ 85 % R.H.(With no condensation)	
	Environment		Please refer to safety information	

Dimension & Panel cutout & Connections
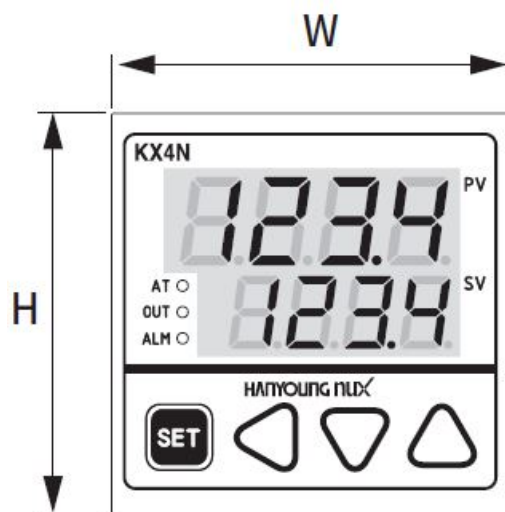
- ❈ **Remark:** current : 4 – 20 mA d.c, SOLID STATE : 12 V d.c min.
- ❈ **KX4N, KX4S, KX7N:** These models do not have earth terminal
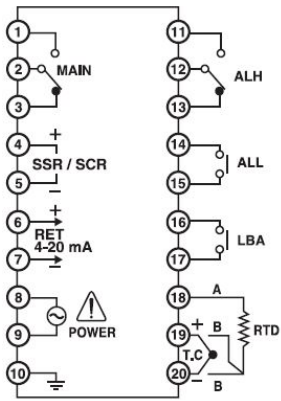
KX2N, KX3N, KX4N, KX7N, KX9N
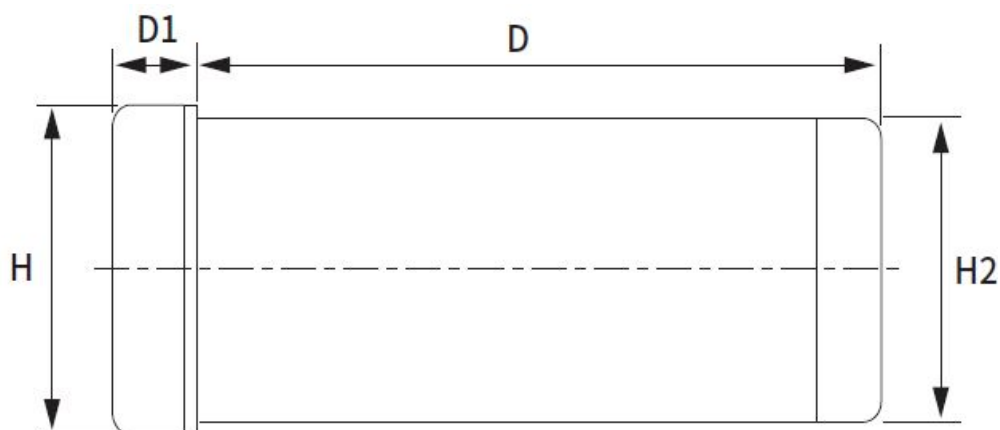
KX4S
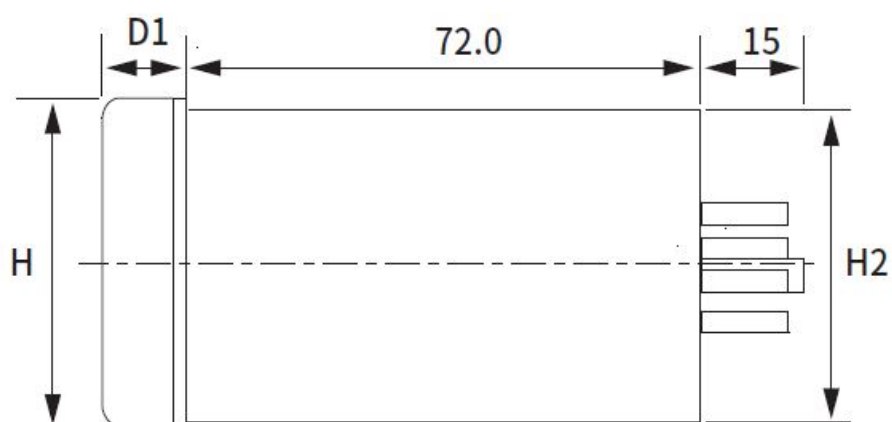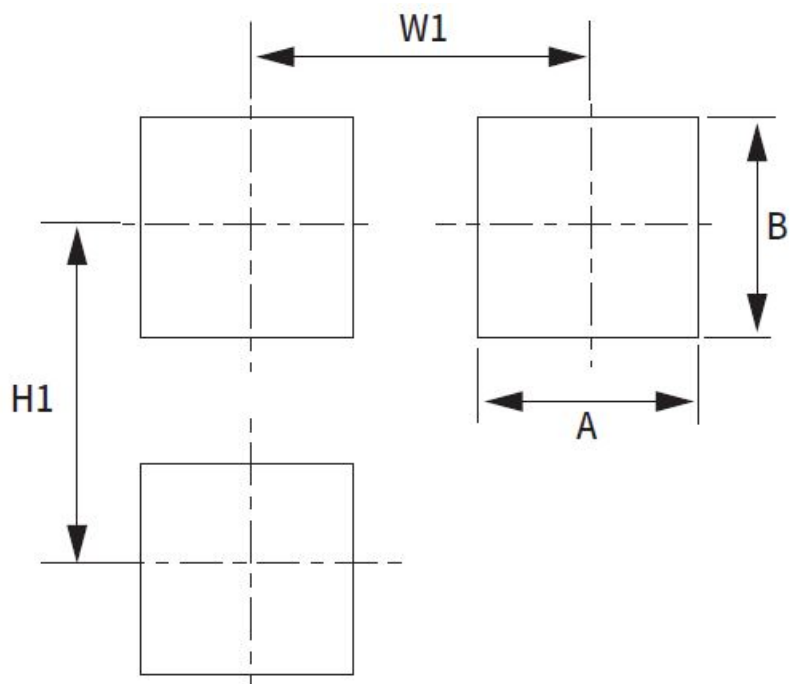
(**Unit :**)

Classification	Type	KX2N	KX3N	KX4N	KX4S	KX7N	KX9N
Product dimensions	W	48	96	48	48	72	96
	H	96	48	48	48	72	96
	H2	91	44.8	44.8	44.7	67	91
	D	100	100	100	*2)	100	100
	D1	12.5	12.5	12.5	12.5	12.5	12.5
Panel cutout	W1 *1)	70	122	60	*2)	93	117
	H1 *1)	122	70	60		93	117
	A	45	92	45		68	92
	B	92	45	45		68	92

- **1)** +0.5 mm tolerance applied
- **2)** Socket type
- **3)** Separately marked

Connections
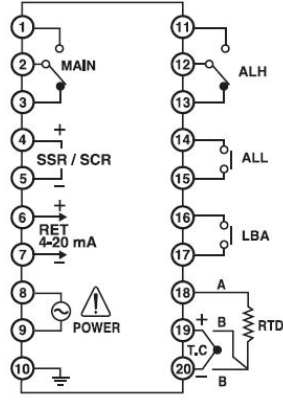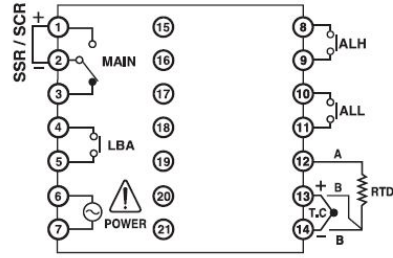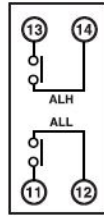
● KX2N ● KX3N ● KX7N ● KX9N
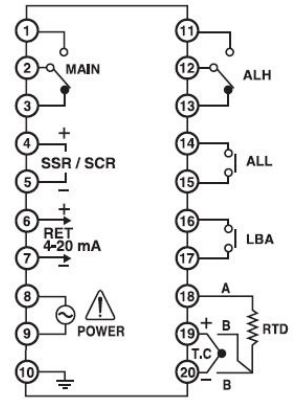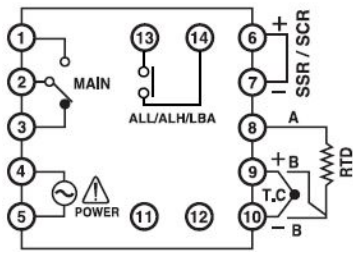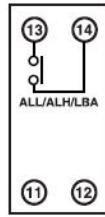
● KX4N •Basic(C) •Alarm 2 contacts(E) •Basic(C) + Retransmission(A) ● KX4S
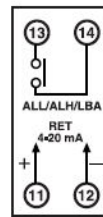
Parameter composition

Power In

Control mode
- Display model
- Display version
- Process value(PV) indicator
- Set value(SV) indicator

[▽]+[△] more than 3 sec
[SET] more than 3 sec

Standard mode
5H1	(Set value 1)	*1
5H2	(Set value 2)	*1
ALH	(High alarm)	
ALL	(Low alarm)	
P	(Proportional band) (ON/OFF control)	
I	(Integral time)	
d	(Differential time)	
LbA	(Loop break)	*5
C	(Proportional time)	*3
HYS	(ON/OFF range)	*4
F-r	(Retransmission high)	*2
U-r	(Retransmission low)	*2
LoC	(Setting lock)	

System mode
SL 1	(Input selection)
SL 2	(Unit/decimal)
SL 3	(Alarm/retransmission)
SL 4	(Decimal point)
SL 5	(Input correction)
SL 6	(High alarm HYS)
SL 7	(High setting)
SL 8	(Low setting)
SL 9	(Output action)
SL 10	(Low alarm HYS)
SL 11	(Input filter)
SL 12	(High scale)
SL 13	(Low scale)
SL 14	(High alarm delay)
SL 15	(Low alarm delay)
SL 16	(HYS type)

[SET] more than 3 sec

Main functions

Main functions

LBA function starts to measure time from the moment when the control output obtained by P.I.D operation becomes 0 % or 100 %. Also, from this point, this function detects heater break, sensor break, manipulator malfunction and etc by comparing the changed amount of measured value in each set time. Also, it can set the LBA dead band in order to prevent any malfunction to happen in the normal control loop.

1. When control output obtained by P.I.D operation is 100 %, LBA will be ON only when process value does not rise more than 2 ℃ in the LBA setting time

2. When control output obtained by PID operation is 0 %, LBA will be ON only when process value does not drop more than 2 ℃ in the LBA setting time

Auto tuning(AT) function

Auto tuning function measures, computes and sets the optimum P.I.D or ARW constant to the temperature control automatically. After supplying power in and while temperature is increasing, press the [SET] key and [△] key

synchronously to begin the auto tuning. When auto tuning is finished, tuning operation will be ended automatically.

ON/OFF control setting method

Usually temperature controller performs the temperature control by "PID control method" which is by the PID auto-tuning. However, ON/OFF control method is used when controlling refrigerator, fan, solenoid valve and etc. When users want to set the temperature controller as ON/OFF control mode, set the set value of proportional band as 0 in the "standard mode". At this time, HY5 (hysteresis) parameter will be displayed. It prevents frequent ON/OFF operation with setting a proper ON/OFF operating range.

CAUTION

- If you run Auto tuning in the ON/OFF control mode, the control mode will be changed to PID.

Parameter symbol	Name	Setting range	Default value
P (ON/OFF)	Proportional band	0 ~ 100 % of F.S	20 °C
HY5	Hysteresis	0 ~ 10 % of F.S	1 °C

Set data lock function

The set data lock function is used to prevent the changing of each setvalue by the front key and the activation of the auto-tuning function, i.e., prevent misoperation after setting has ended. For set data lock, display LOC by pressing the 🔲SET key, then set the following value in accordance with setting procedure thereby enabling data lock ON or OFF.

- **0000:** No set data locked.
- **0001:** Only set-value (SV) can be changed with the set data locked.
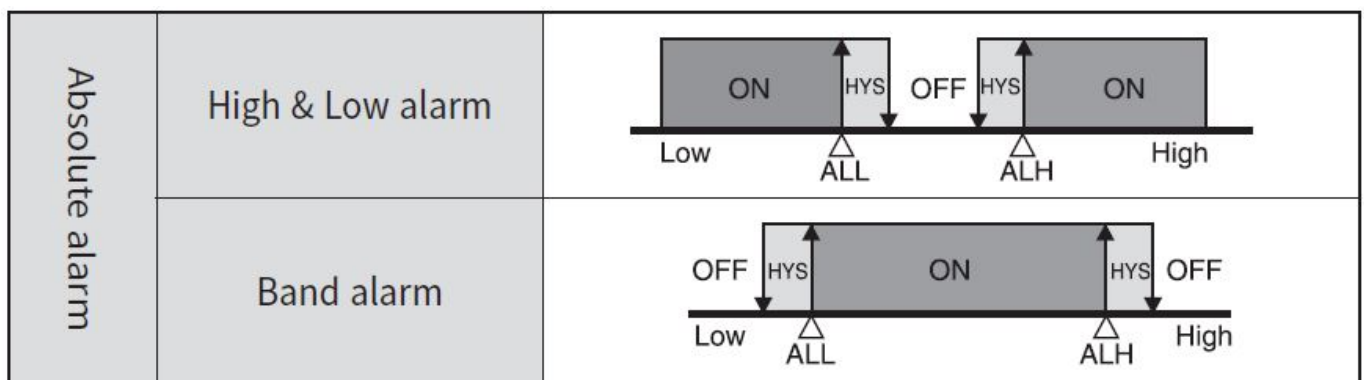- **0010/0011:** All set data locked.

Alarm Funtion

Deviation alarm

※ Each alarm could be set as below table (▲ : Set-value (SV) △: alarm set-value)

Hysteresis

Deviation alarm	**High & Low alarm**	ON HYS OFF HYS ON Low ALL SV ALH High
	Band alarm	OFF HYS ON HYS OFF Low ALL SV ALH High

Absolute alarm

Absolute alarm	**High & Low alarm**	ON HYS OFF HYS ON Low ALL ALH High
	Band alarm	OFF HYS ON HYS OFF Low ALL ALH High
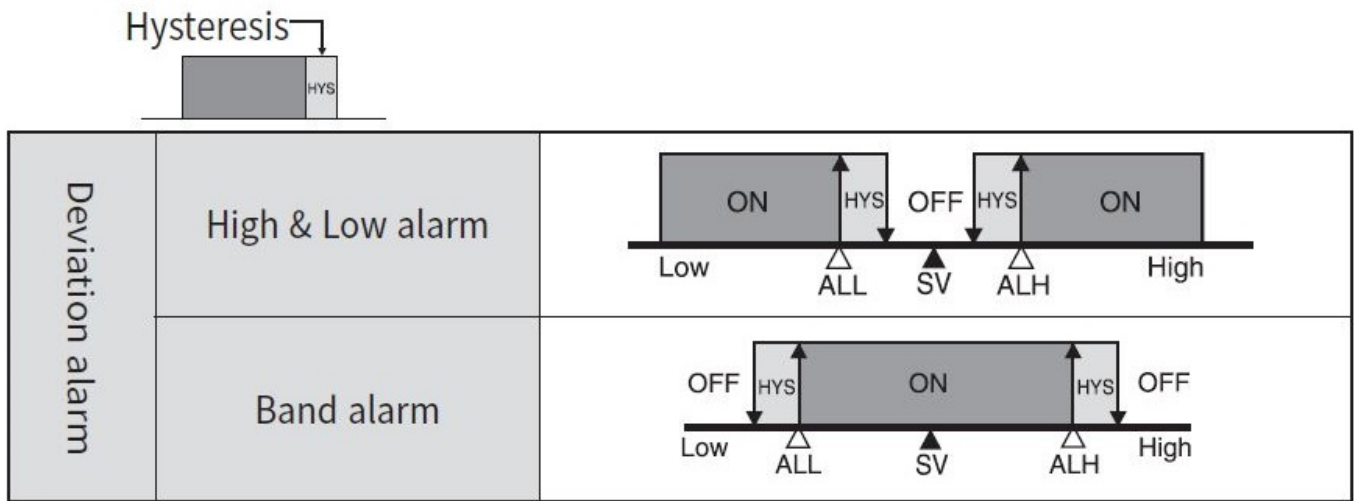
Note

- Regardless of the set-value, the high or low alarm is activated at the alarm set- value.
- For the band alarm, the relay of the low alarm (**ALL**) is not activated but the relay of the high alarm (**ALH**) is activated.

HYS Selection

HYS selection in case of ON/OFF control

5L 16= 0

•Reverse action (5L 9 = 0)
PV HYS SV
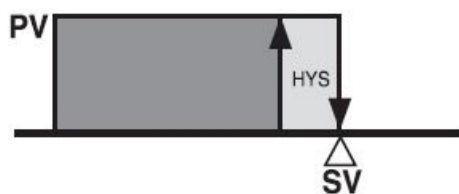
•Direct action (5L 9 = 1)
HYS SV PV
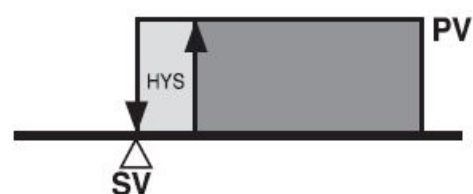
- According to its control direction, HYS can be set shown as below.

5L 16= 1
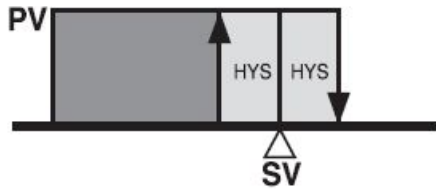
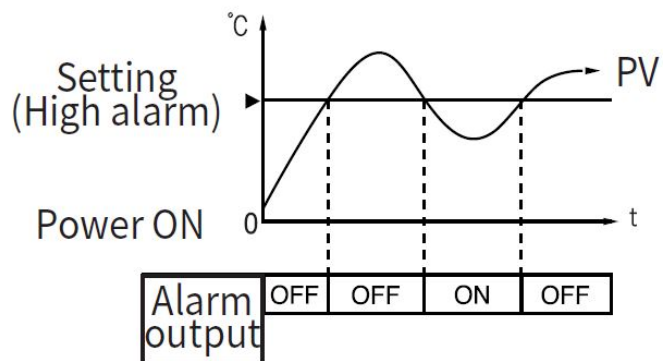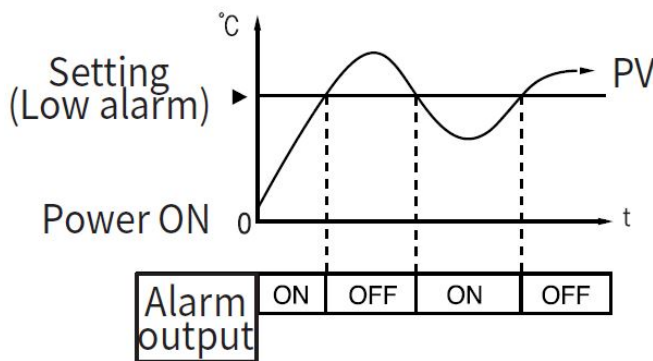•Reverse action ($SL9$ = 0)   •Direct action ($SL9$ = 1)
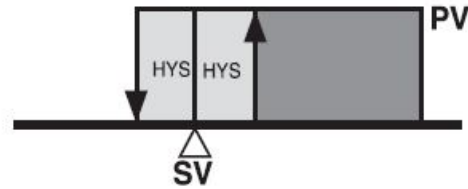
- Regardless of control direction, HYS can be set shown as below.
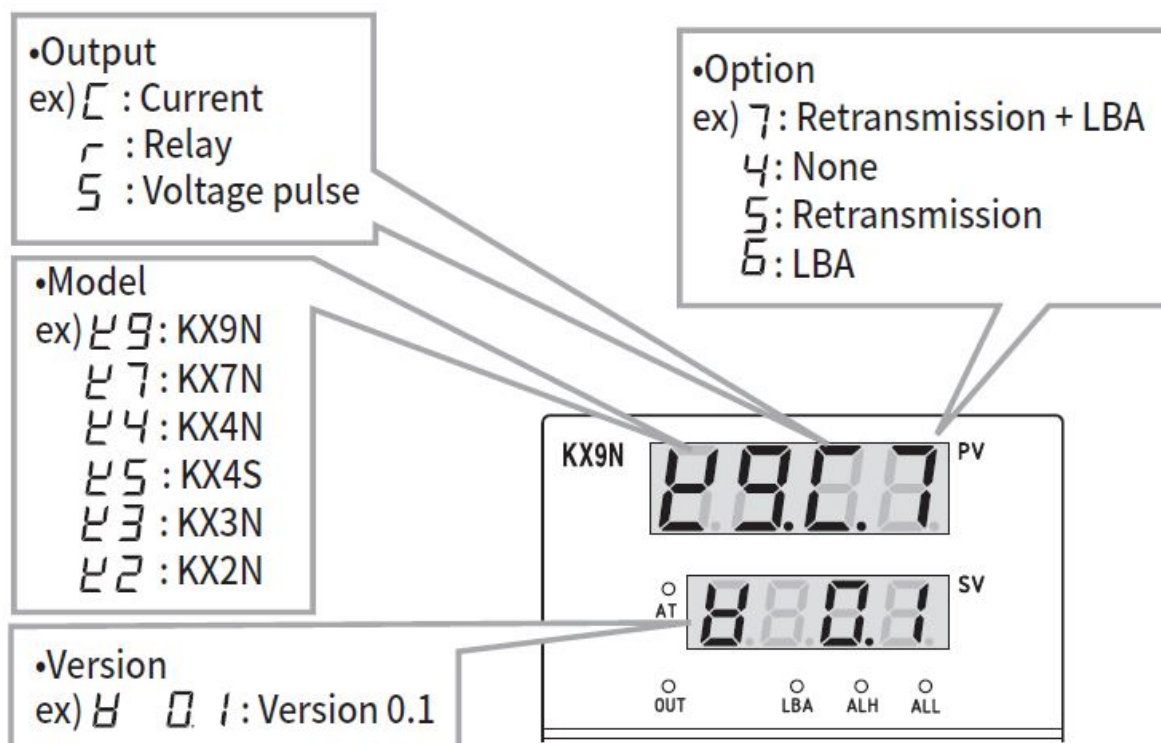
Alarm hold operation on/off

When the power is being supplied and the process value (PV) is within the alarm range, this function is used to turn off the alarm output until the process value (PV) reaches the out of the alarm range. This is used for low alarm and other applicable alarms when turning on the power and the alarm is not needed to turn on while the process value (PV) is increasing to reach the set value (SV) for first time.

Up scale and down scale

- If the process value exceeds the upper limit of input range due to upscale, etc., the process value(PV) display unit flashes overscaledisplay "⌐⌐⌐⌐ "
- If the process value becomes below the lower limit of input range due to downscale, etc., the process value(PV) display unit flashes underscale display "⌐⌐⌐⌐ "

Model number when power is on

•Output
ex) 匚 : Current
    г : Relay
    5 : Voltage pulse

•Model
ex) 巳9 : KX9N
    巳7 : KX7N
    巳4 : KX4N
    巳5 : KX4S
    巳3 : KX3N
    巳2 : KX2N

•Option
ex) 7 : Retransmission + LBA
    4 : None
    5 : Retransmission
    6 : LBA

•Version
ex) 8 0.1 : Version 0.1

Control direction

Reverse action (heating) or direct action (cooling) can be selected in the internal parameter (5L9).

1. **Reverse [0]:** Control output ON when PV < SV
2. **Direct [1]:** Control output ON when PV > SV

Input filter

- Input filter time can select from 5L 11.
- When PV value becomes unstable due to effects of noise, the filter helps to eliminate the unstable status (If select [0], Input filter is off)

Input scale

- In case of DCV input, it's a setup range of input range
- Example, **5LI** =0000 (1 – 5V DCV),5L 12 =100.0, 5L 13=0.0, Input scale is as follows.

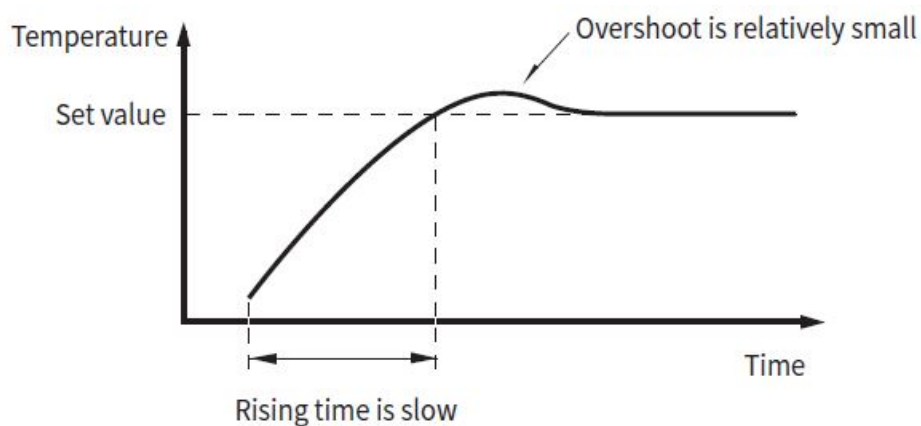| Input voltage	1 V	3 V	5 V
Display	0.0	50.0	100.0

Alarm delay time

- Delay time of High alarm and low alarm can set from 5L 14 and 5L 15.
- If user set it, alarm will be ON after passing delay time.
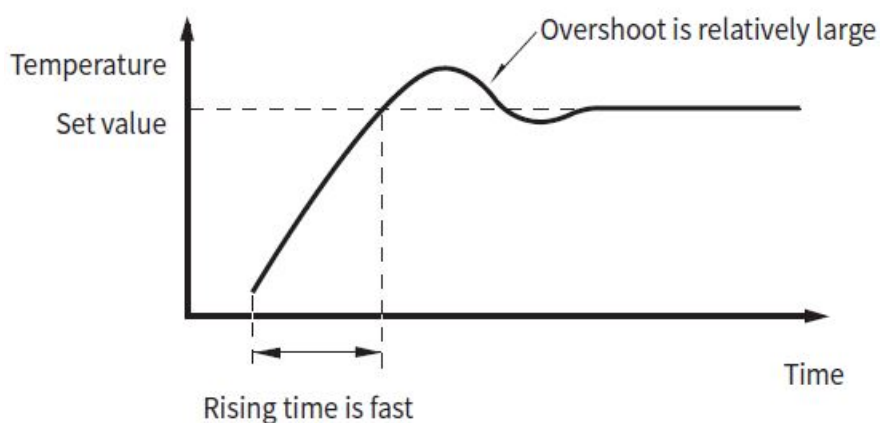- (Turning off the alarm has nothing to do with delay time)

Anti-reset windup (ARW)

Set anti-reset windup from "A" parameter to prevent over – integral.
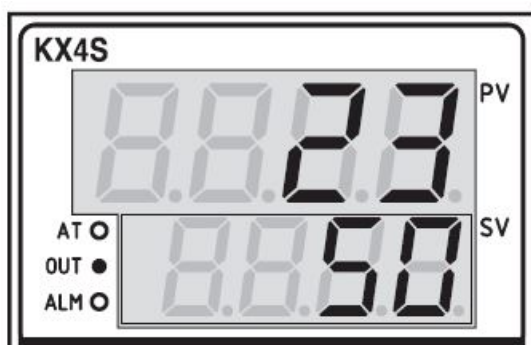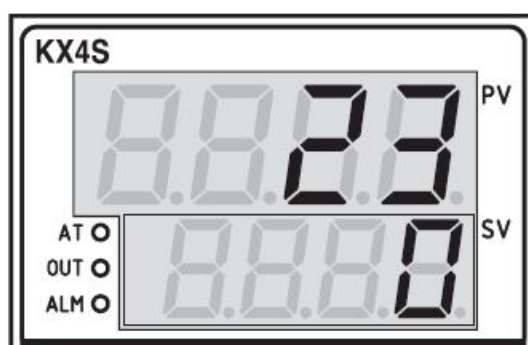
A = Auto (0)

A = set value

- If ARW value is too small or too big, overshoot or undershoot will happen. Please use same value as P (Proportional band)

Select set value (only for KX4S)

Select a set value (5 8 1 or 5 8 2) by external contact input

[Picture 1]   [Picture 2]

1. External contact input is OFF ($5 \; \unicode{0x48} \; 1$ =OFF)
   - Display $5 \; \unicode{0x48} \; 1$, start control according to the [Picture 1].
2. External contact input is ON $5 \; \unicode{0x48} \; 2$ (=ON)
   - Display $5 \; \unicode{0x48} \; 2$, start control according to the [Picture 2].

Parameter setting

Set value (S.V) setting

After completing the wiring setup and turning on the power, it shows the model and firmware version of the temperature controller for a moment then it displays the process value and the set value. This mode is called "control mode". In "control mode", if **SET** key is pressed then the set value in the SV display unit is blinking. The set value can be changed with using ▽ key and △key and moving the placement of the digits by pressing ◁key. After adjusting the desired value, press **SET** key to set the desired value to the set value. After setting the set value, please execute the auto-tuning by pressing **SET** key and△ key at the same time.

Standard mode setting

Standard mode is a setting mode that has frequently used functions by a user such as alarm parameters, ON/OFF operation, hysteresis (control operation range) and others. Each parameter can be set according to its application. But, performing the PID auto-tuning will automatically set **P** (proportional band), **I** (integral time), **d** (differential time), **A** (anti reset wind up), **LbA** (control loop break alarm) and etc.

Press SET the key continuously for 3 sec

Press SET key

Parameter symbol	Name	Setting range	Default value	
*1 5ꋅ1	Set value 1	within input range	-50 °C	*1 is only available in KX4S (not displayed in other models)
*1 5ꋅ2	Set value 2		-50 °C	
ALH	High alarm	within input range (ALL < ALH)	1300 °C	
ALL	Low alarm		-50 °C	
P (ON/OFF)	Proportional band	0 ~ 100 % of F.S	20 °C	*2 is optional (If the model does not have retransmission output then not displayed)
		ON - OFF "0"	(0 °C → ON/OFF)	
A	Anti reset wind up	0 ~ 100 % of F.S	20 °C	*3 varies the default value depending on the control input (relay output: 20 sec, SSR output: 2 sec)
I	Integral time	0 ~ 3600 sec	240 sec	
d	Differential time	0 ~ 3600 sec	60 sec	* 4 is displayed only when P (proportional band) is set to "0" and it is used to set the hysteresis of ON/OFF control operation
*5 LbA	Control loop break alarm	0 ~ 7200 sec	0 sec	
C	Proportional cycle	1 ~ 100 sec	*3	
*4 HYS	hysteresis	0 ~ 10 % of F.S	1 °C	*5 is LbA parameter that if it is set to "0", LbA function is OFF
*2 F-r	High Retransmission output	within input range (F-r > U-r)	1300 °C	
*2 U-r	Low Retransmission output		-50 °C	
LoC	Set data lock	0 ~ 3	0000	

System mode setting

System setting mode is a setting mode that a user (or an engineer) set its parameters for the first time to use it properly since KX series temperature controller has many functions.

1. In the control mode press △ and ▽ keys at the same time for 3 seconds to enter into the system setting mode

2. Press the SET key for 3 seconds to return to the control mode (PV/SV)

Symbol (PV display unit)	List	Information	Default value (SV display unit)	
SL 1 ▢▢▢▢	Input selection	Multi input, Please refer to "input code" table	0001 (K Thermocouple)	
SL 2 ▢▢▢▢	Output selection	0 : Current output 1 : Relay, voltage output	1111	
	Decimal point function selection	0 : Without decimal point 1 : With decimal point		
	Temperature unit selection	0 : None 1 : Celsius(°C)		
	Indicator/controller selection	0 : Temperature indicator 1 : Temperature controller		
SL 3 ▢▢▢▢	Alarm hold operation selection	0 : With hold operation 1 : None	1111	
	Retransmission output (option)	0 : With retransmission output 1 : None		
	Alarm type selection	0 : Band alarm 1 : High and low alarm		
	Deviation/ absolute alarm selection	0 : Deviation alarm 1 : Absolute alarm		
SL 4	Decimal point position election	0 → 0000 1 → 000.0 2 → 00.00 3 → 0.000	0	
SL 5	Input correction value	± 100 % of F.S	0	
SL 6	Hysteresis of high alarm(ALH)	0 ~ 10 % of F.S	1	
SL 7	Upper limit of temperature setting range	Within Input range (SL7 > SL8)	1300	
SL 8	Lower limit of temperature setting range		-50	
SL 9	Control direction	0 : Reverse action 1 : Direct action	0	
SL 10	Hysteresis of Low alarm(ALL)	0 ~ 10 % of F.S	1 °C	
SL 11	Input filter	0 ~ 100 sec	0	
SL 12	Max. Input scale	9999	9999	
SL 13	Min. Input scale	-1999	-1999	
SL 14	Delay time of High alarm(ALH)	0 ~ 100 sec	0 sec	
SL 15	Delay time of Low alarm (ALL)	0 ~ 100 sec	0 sec	
SL 16	HYS Selection	0 : Hysteresis is applied under set value 1 : Hysteresis is applied over and under set value	0	

Press SET key

⚠ CAUTION
When you select input type, please make sure that your sensor type and input selection setting are the same. Otherwise, it may be a cause of product malfunction or lead to a serious problem.

※ If the values of SL 1 , SL 2 are changed, all parameters of temperature will be initialized. So SL 1 and SL 2 have to be set first.

※ In case of DCV input, if the values of SL 12 , SL 13 are changed, SL 7 and SL 8 will be initialized.

※ If the alarm type is changed in SL 3 , the value of alarm (ALH , ALL) will be changed.

Contact

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Documents / Resources

 HANYOUNG nux KXN Series LCD Digital Temperature Controller [pdf] Instruction Manual
KXN Series LCD Digital Temperature Controller, KXN Series, LCD Digital Temperature Controller, Digital Temperature Controller, Temperature Controller, Controller

References

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