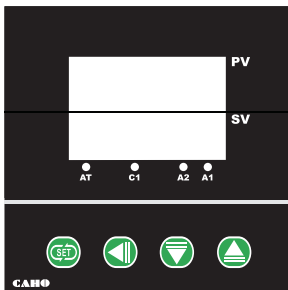




N-SERIES PID CONTROLLER INSTRUCTION MANUAL



Panel Description

Code	Description
PV	Process Value Display
SV	Set Value Display
	Set / Confirm Key
	Shift / Modify Key
	Down / Decrease Value Key
	Up / Increase Value Key
A1	Alarm 1 Led Indicator
A2	Alarm 2 Led Indicator
C1	Output 1 Led Indicator
AT	PID Autotuning Led Indicator

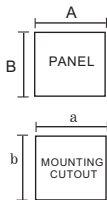
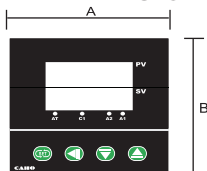
Alarm Mode Setting (Table 1)

Code	Mode Description	Diagram
0	No Alarm	
1	Deviation High Alarm	
2	Deviation Low Alarm	
3	Process High Alarm	
4	Process Low Alarm	
5	Outband Alarm	
6	Inband Alarm	

A and B Special Alarm Contact Setting (Table 2)

Code	Contact Setting Description
0	Normal
1	Alarm with normal-close contact
2	Latch
3	Alarm with latch and normal -close contact
4	Alarm with inhibit
5	Alarm with inhibit and normal - close contact
6	Alarm with inhibit and latch
7	Alarm with inhibit ,latch,normal-close contact

DIMENSION

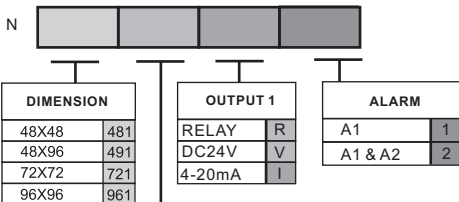


PANEL CUTOUT

(UNIT : mm)

MODEL	A	B	a	b
N961	96	96	91 ^{+0.5} -0.5	91 ^{+0.5} -0.5
N721	72	72	68 ^{+0.5} -0.5	68 ^{+0.5} -0.5
N491	48	96	46 ^{+0.5} -0.5	91 ^{+0.5} -0.5
N481	48	48	46 ^{+0.5} -0.5	46 ^{+0.5} -0.5

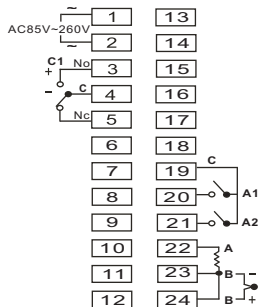
ORDERING CODE



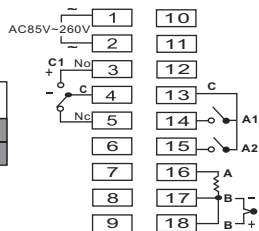
INPUT	
0°C~1200°C	K
0°C~1000°C	J
0°C~1700°C	R
0°C~1700°C	S
-200°C~600°C	P (DIN)
-200°C~500°C	Q (JIS)

*All units are fitted with 1 Alarm (Standard)

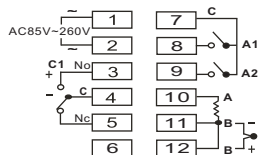
WIRING DIAGRAM



N961/N491



N721



N481

PARAMETER LEVEL DESCRIPTION

PARAMETER	DESCRIPTION	SETTING RANGE	DEFAULT VALUE	REMARKS	
LEVEL 1	<i>Rt</i>	PID Autotuning	YES / NO	NO	
	<i>AL1S</i>	ALARM 1 set value	-200~200	10	
	<i>AL1L</i>	ALARM 1 LOW set value	0~200	10	<i>AL1F</i> = 5 or 6
	<i>AL1H</i>	ALARM 1 HIGH set value	0~200	10	<i>AL1F</i> = 5 or 6
	<i>AL2S</i>	ALARM 2 set value	-200~200	10	
	<i>AL2L</i>	ALARM 2 LOW set value	0~200	10	<i>AL2F</i> = 5 or 6
	<i>AL2H</i>	ALARM 2 HIGH set value	0~200	10	<i>AL2F</i> = 5 or 6
USER	<i>PvOFF</i>	Pv offset	-200~200	0	
	<i>SvOFF</i>	Sv offset	-200~200	0	
LEVEL 2	<i>P1</i>	Output 1 proportional band	0.0~3000	12.0	FROM P = 0 CHANGED TO ON/OFF CONTROL
	<i>I1</i>	Output 1 integral time	0~7200	240	DISPLAYS DURING THE ABSENCE OF P = 0
	<i>D1</i>	Output 1 derivative time	0~1800	60	DISPLAYS DURING THE ABSENCE OF P = 0
	<i>CT1</i>	Output 1 cyclic time	0~150	15	RELAY = 15 SEC, SSR=1 SEC, SCR=0 SEC
	<i>HSt1</i>	Output 1 hysteresis	0.0~200.0	0.1	DISPLAYS WHEN CONTROL P = 0
	<i>RtOFF</i>	Autotuning offset	-200~200	0	
	<i>Rr</i>	Anti-reset windup	0~100.0%	100.0	
LEVEL 3	<i>AL1F</i>	Alarm 1 mode setting	(refer to TABLE 1)	1	
	<i>AL1H</i>	Alarm 1 hysteresis	0.0~200.0	0.0	
	<i>AL1n</i>	Special alarm contact setting	(refer to TABLE 2)	0	
	<i>AL2F</i>	Alarm 2 mode setting	(refer to TABLE 1)	0	
	<i>AL2H</i>	Alarm 2 hysteresis	0.0~200.0	0.0	
	<i>AL2n</i>	Special alarm contact setting	(refer to TABLE 2)	0	
	OUTPUT	<i>Rct</i>	Heat/Cool control setting	HEAT/COOL	HEAT
<i>Q1LS</i>		Output 1 low scale	0.0~100.0%	19.0	DISPLAYS WHEN CT = 0
<i>Q1HS</i>		Output 1 high scale	0.0~100.0%	97.0	DISPLAYS WHEN CT = 0
LEVEL 4	<i>INP1</i>	Input type selection	(refer to TABLE 3)	K2	
	<i>LoSP</i>	Low temperature setting limit	(refer to TABLE 3)	0	
	<i>HiSP</i>	High temperature setting limit	(refer to TABLE 3)	400	
	<i>UNITC</i>	Temperature unit of measurement	°C/°F	°C	
	INPUT	<i>dP</i>	Decimal point	0/0.0	0
<i>FLt</i>		Digital filter	0.001~1.000	0.600	

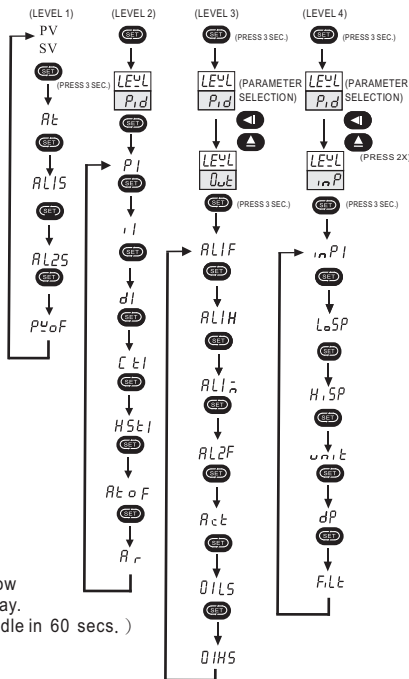
PARAMETER CHARACTER TABLE

A	B	C	D	E	F	G	H	I	J	K	L	M
R	b	c	d	e	f	g	h	i	j	k	l	m
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
n	o	p	q	r	s	t	u	v	w	x	y	z

INPUT TYPE SELECTION CODE


CODE	TEMPERATURE RANGE °C	CODE	TEMPERATURE RANGE °C
<i>t1</i>	0~200	<i>J5</i>	0~1200
<i>t2</i>	0~400	<i>r</i>	0~1700
<i>t3</i>	0~800	<i>S</i>	0~1700
<i>t4</i>	0~1000	<i>Pt1</i>	-50~50
<i>t5</i>	0~1200	<i>Pt2</i>	0~100
<i>J1</i>	0~200	<i>Pt3</i>	0~200
<i>J2</i>	0~400	<i>Pt4</i>	0~400
<i>J3</i>	0~800	<i>Pt5</i>	0~400
<i>J4</i>	0~1000	<i>JPt</i>	-200~500

PARAMETER PROCESS



ERROR DESCRIPTION

<i>i n I E</i>	Disconnected input or short circuit
<i>P V</i> flashes	Pv exceeds from set ranges
<i>A L O F</i>	Auto tuning failed

* While in the parameter setting process, pressing the  key for 2 secs. will allow the program to revert to its original display. (display will automatically restore if left idle in 60 secs.)

ATTENTION:

- Do not mix the thermocouple wires with the power cables to avoid interference.
- In case of accident cause by unusual performance of the controller and alarm failure, it is recommended to set up an independent alarm to prevent from causing any serious damage.
- Refrain from operating in an ambient temperature of above 55 degrees celsius. This will shorten the controller's life span.

SAFETY CAUTIONS

- A fault operation of controller might cause explosion, fire or serious damage.
- Refrain from touching the terminal wiring which can cause electric shock.
- Avoid dust or any conducting material inside the controller that may cause any operation failure or burnout.
- Always recheck wiring and power voltage before power on.
- A continuous outputting could cause a controller to malfunction. Please provide additional protection to avoid any serious damage.