

CG A8 Series Temperature Controller

Operation Instruction

Thank you for using **CG A8** series temperature controller.
This instruction describes product function, features and proper usage
Before using, please pay special attention to issues below:

- User should master enough electric knowledge
- User must read and understand this instruction well for right usage
- Please consider applicability to system, machine and equipment
- Please note and observe the prohibition of this product
- The examples in this instruction or other data are only for user reference. No guarantee of a certain action.
- When using this controller with other products, please confirm whether it is in conformity with the relevant specifications, principles, etc..

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A2	
Warning	
①	To avoid electric shock, DON'T touch the AC power supply terminals after power on
②	Before power on, please confirm voltage conformity in range of AC 85~265V, to avoid damage to controller
③	Never remove, retrofit or repair the product or contact any internal components
④	If the output relay exceeds its life span, the contacts may melt and burn.
⑤	Tighten screw with 0.74-0.90Nm torque, as loose screws may cause fire
⑥	Use appropriate fuse to ensure power supply line and input / output line to prevent current impact
⑦	Don't use the controller in occasion of flammable, explosive gas, discharge of steam
Note	
①	For heat radiation, leave space around the controller and do not jam the ventilation holes in the controller.
②	Keep enough space between the controller and equipment which generates high frequency and surge
③	Connect wires correctly
④	Use the controller under rated load and power supply
⑤	Use standard grade of alcohol to clean the controller; don't use paint thinner or similar chemicals
⑥	Read and understand this instruction carefully before using the controller
⑦	Don't use the controller in case the front panel peels off or breaks

A3 Electric Specifaciton	
rated voltage	180V~240V AC , 50HZ
power comsumption	≤5VA
working environment	Ambient temperature: 0℃~50℃ Relative humidity: 35%~85% (no condensation)
Storage temperature	-25℃~65℃ (Avoid ice or dew)
Resolution	1℃, 0.1℃ (adjustable)
Wiring method	terminals
accuracy	±0.5%FS
Memory protection	Non-volatile memory
installation environment	Installation type II, pollution grade 2 (IEC61010-1)
relay output	relay contacts AC220V/DC30V , 3A
logic level output	ON:DC12V, OFF: below DC0.5V; Max current: 30mA, Load resistance≥1K.

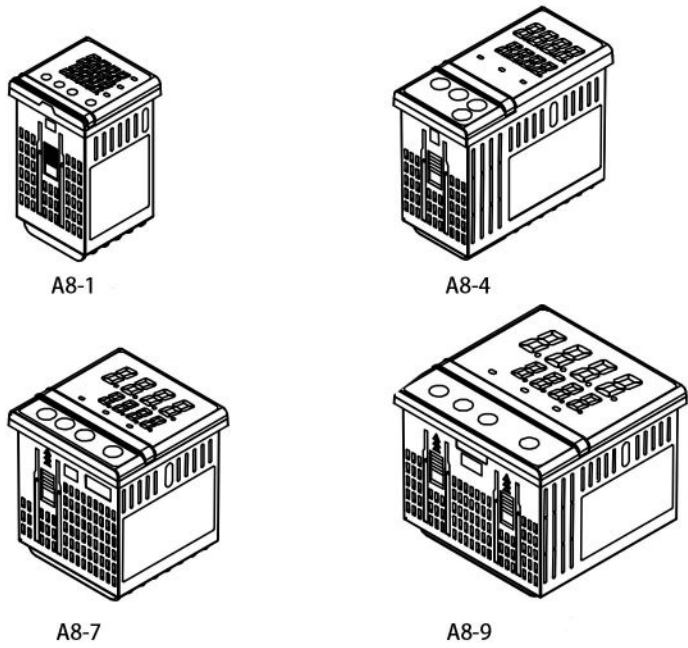
A4 Model selection

Model selection

A8 — ☐ ☐ ☐ ☐ ☐
① ② ③ ④ ⑤

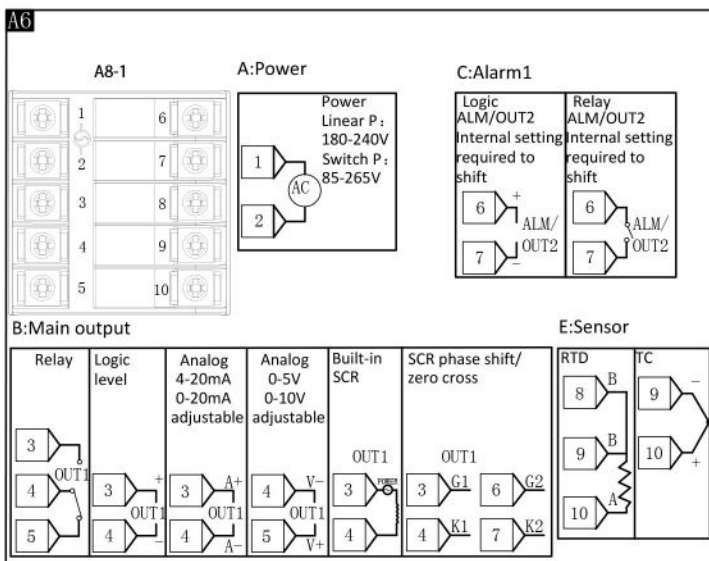
- ① Panel size
1: 48*48 4: 48*96 7: 72*72 9: 96*96
- ② Main output
R : relay Q : logic level
C : analog output K : SCR phase shift / zero cross output
- ③ Alarm output
0: no alarm 1: 1 relay alarm output 2: 2 relay alarm outputs
3: 1 logic level alarm output 4: 2 logic level alarm output
- ④ Input signal
TC: K, E, J, N, W3-25, W5-26 P: PT100
- ⑤ Power supply
L: Linear power supply
S: Switch power supply

A5 Outer dimension and install hole size

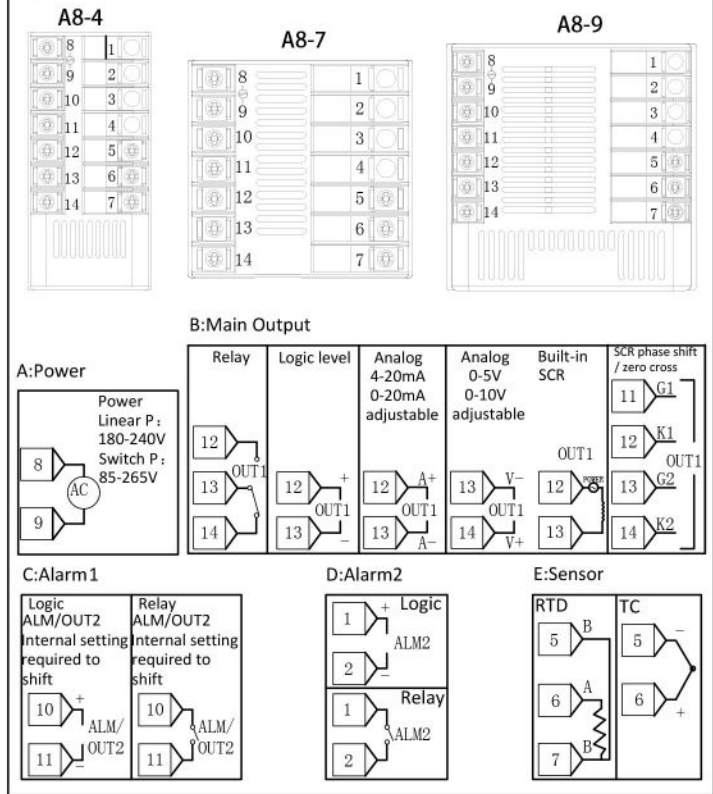


Unit: mm			
Model	Panel size	case size L×W×H	install hole size
A8-1	48×48	76×45×45	46×46
A8-4	48×96	72×44×90	45×91
A8-7	72×72	72×66×66	67×67
A8-9	96×96	72×90×90	91×91

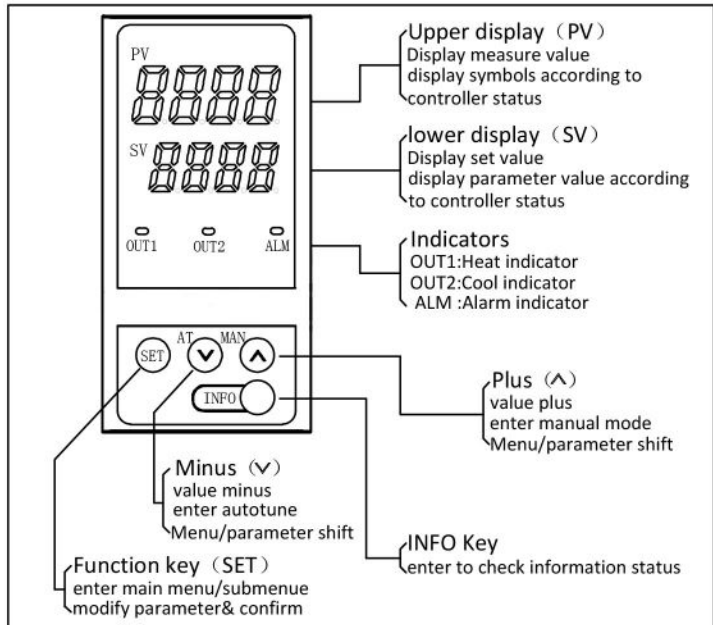
Wiring



B1



B2 Operation panel explanation



B3 Menu display explanation

Code	Menu Function	Default	Upper limit	Lower limit	Authority	Explanation
P00	data lock	0	900	0	0	0:0class authority 1:1class authority 18:2class authority 110:default to factory setting
P12	resolution	0	1	0	1	P12=0: No decimal point P12=1decimal poin available
P13	temperature compensation	0	P32 value	P33 value	1	To modify temperature affected by sensor position or other problem
P16	input sensor	valid type	11	0	1	please refer to 《C2 Sesor selection》
P17	Alm1 mode	1	24	0	1	Alarm1 type please refer to 《B4 ALM alarm type define》
P18	upper limit of ALM1	10	P32 value	P33 value	1	
P19	Lower limit of ALM1	0	P32 value	P33 value	1	
P20	Alm1 parameter	0	7	0	1	
P22	Alm2 mode	0	24	0	2	The setting of ALM2 is the same as ALM1, please refer to 《B4 ALM alarm type define》
P23	upper limit of ALM2	0	P32 value	P33 value	2	
P24	Lower limit of ALM2	0	P32 value	P33 value	2	
P25	ALM2 Parameter	0	7	0	2	

Code	Menu Function	Default	Upper limit	Lower limit	Authority	Explanation
P28	manaul output value	0	100	-100	0	manaul output value
P30	error output value	0	100	-100	2	error output value
P31	℃/°F shift	0	1	0	2	P31=0:℃ P31=1:°F
P32	Upper limit of set temperature for sensor	temperature range for sensor			2	Max temperature settable
P33	Lower limit of set temperature for sensor	temperature range for sensor			2	Min temperature settable
P36	Run time of motor	0.0	500.0	0.0	2	Run time of motor
P40	Brightness	4	7	0	2	only available with AK6-A series
P41	analog output mode	0	3	0	2	please refer to 《C6 analog mode define》
P42	analog output type	0	3	0	2	
P43	upper limit of temperature transmitting	0	P32 value	P33 value	2	
P44	lower limit of temperature transmitting	0	P32 value	P33 value	2	
P49	User variable	0	32767	-32768	0	User variable
P67	PID control mode	0	4	0	1	Please refer to 《C3 PID control mode selection》
P69	Dead zone vaule	0	Max	Min	2	Dead zone vaule
P70	Heat return difference	0.5	999.9	0	1	when P67=2, it is ON/OFF control , modify P70 to set heat return difference
P72	Auto tune AT	0	2	0	0	Automatically calculate most suitable PID parameter for customer's system.
P73	Overshoot suppression factor	0	20	0	2	Overshoot suppression factor
P74	Control intensity factor	1	3	0	2	Control intensity factor
P75	object model OBJ	0	5	0	2	object model
P76	Heat parameter P	10.0	Max	0.1	1	proportional band of heat
P77	Heat parameter I	240	Max	1	1	Integral time of heat (time for the next adjustment).
P78	Heat parameter D	60	Max	1	1	Derivative time of heat (time for advance adjustment)
P79	advance control value	5.0	10.0	0.1	2	start control in advance unit:degree
P80	heat cycle HT	20	100	1	1	Relay: 20 Logic level: 3
P87	min stop time	0	300	0	2	min stop time
P88	min start time	0	300	0	2	min start time
P89	Max output value	100	100	0	2	Max output value
P90	Min output value	-100	0	-100	2	Min output value
P91	Output variation	100	100	0	2	Output variation

Alarm

B4 ALM Alarm mode define - P17/P22		
P17/P22 Code	Alarm Name	Alarm output condition
0	No alarm	No alarm output
1	Deviation upper limit	when PV>SV+P18
2	Deviation lower limit	when PV<SV-P19
3	Deviation upper & lower limit	when PV>SV+P18 or PV<SV-P19
4	Deviation upper & lower limit range	when PV<SV+P18 and PV>SV-P19
5	Deviation upper limit (keeping)	when PV>SV+P18
6	Deviation lower limit (keeping)	when PV<SV-P19
7	Deviation upper & lower limit (keeping)	when PV>SV+P18 or PV<SV-P19
8	Deviation upper & lower limit range (keeping)	when PV<SV+P18 and PV>SV-P19
9	absolute value upper limit	when PV> P18
10	absolute value lower limit	when PV<P19
11	absolute value upper & lower limit	when PV>P18 or PV<P19
12	absolute value upper & lower limit range	when PV<P18 and PV>P19
13	absolute value upper limit (keeping)	when PV> P18
14	absolute value lower limit (keeping)	when PV<P19
15	absolute value upper & lower limit (keeping)	when PV>P18 or PV<P19
16	absolute value upper & lower limit Range (keeping)	when PV<P18 and PV>P19
17	Upper limit with return difference	when PV>SV+P18 alarm on, till PV<SV-P19 alarm off

