EG-Series

Microprocessor-based bar graphic PID Controller

OPERATION GUIDE

Thank you for purchasing our EG-series bar graphic PID Controller.This Operation Guide primarily describe the information and knowledge required while using this product. Please read it through to acquire sufficient knowledge before you install and wiring it.Pleasealways keep this guide close to you for reference.

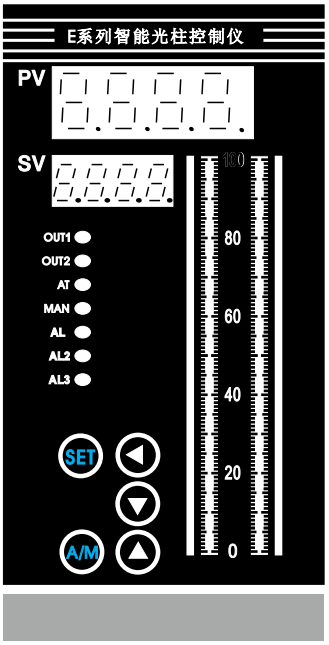
A、CAUTIONS

1、Do not operate this product in places where explosive or flammable gases may be present.
2、Make sure that applied AC(DC) power is within the allowed range befor applying the power to this controller.
3、Never disassemble, modify or repair this product.
4、For safety consideration,please do not operate this product in the places under the following conditions:
—places where temperature fluctuates dramatically.
—places where humidity is high and condensation may occur.
—places where there is danger of splashing of water, oil,or any chemicals.

B、GENERAL CHARACTERISTICS

Power supply: AC85V-265V,50/60Hz (DC input is optional)
Power consumption: 5VA max
Control method: PID, PI, PD, P, ON/OFF
Operating ambient temperature: 0-50℃
Operating ambient humidity: 50-80%RH
Input type supported: T/C, RTD, 4-20mA, 1-5VDC,0-10VDC
Output type supported: Relay, Pulse(for driving SSR), 4-20mA

C、DESCRIPTION OF FRONT PANEL



NO.	SYMBOL	DESCRIPTION
1	PV	Process value(present value)
2	SV	Set value(expected value)
3	OUT1	Output1 operation indicator
4	OUT2	Output2 operation indicator
5	AT	Auto tuning operation indicator
6	AL1	Alarm1 indicator
7	AL2	Alarm2 indicator
8	AL3	Alarm3 indicator
9	MAN	Manual operation indicator
10	▲	Up key
11	▼	Down key
12	◀	Shift key
13	SET	Mode/enter key
14	A/M	Auto/manual select key
15	Red bar graphic	Percentage of process value
16	Green bar graphic	Percentage of set value

Note:
- Eg10 is a single bar graphic meter,with one red bar graphic dispaly the percentage of process value.
- Eg20 is a double bar graphic meter,with one red bar graphic dispaly the percentage of process value.and one green bar graphic dispaly the percentage of set value.

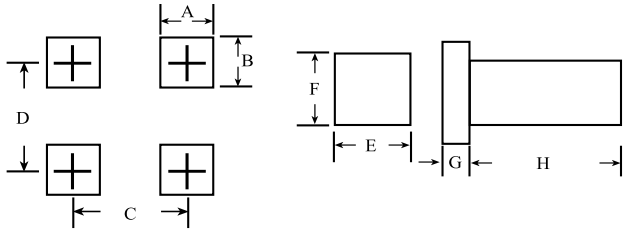
D、TABLE OF INPUT/ALARM MODE

input type	symbol	range
K	K	0-1370℃/0-2192° F
J	J	0-1200℃/0-2192° F
R	r	0-1760℃/0-3216° F
S	S	0-1760℃/0-3216° F
B	b	0-1820℃/0-3308° F
E	E	0-1000℃/0-1832° F
T	t	-199.9℃-400.0℃/-199.9-7520° F
DPT100	dPt	-199.9℃-600.0℃/-199.9-999.0° F
LN	Ln	ANALOGSIGNAL4-20MA、0-1V、0-50MV.0-100MV.0-5V.

Alarm code	Description
0	Deviation high alarm (OFF ▲ ON △ HIGH PV)
1	Deviation low alarm (ON △ OFF ▲ HIGH PV)
2	Absolute value high alarm (OFF LOW ON △ HIGH PV)
3	Absolute value low alarm (ON LOW OFF △ HIGH PV)
4	In-band alarm (OFF △ LOW ON ▲ OFF △ HIGH PV)

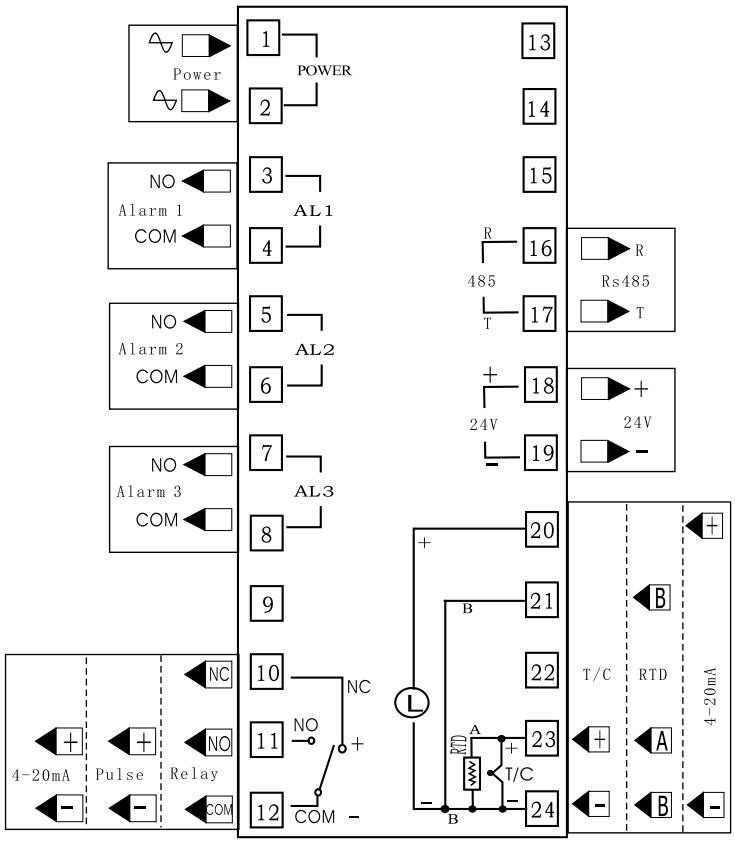
E、DIMENSION AND PANEL CUT OUT

- PANEL CUT OUT
- DIMENSIONS



dinen sions / type	A	B	C	D	E	F	G	H
EG10 EG20	74-0.5	152+0.5	110	188	80	160	14	80

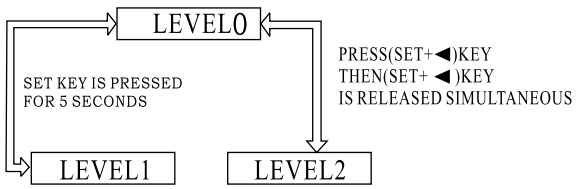
F、WIRING EXAMPLES



G、ERROR CODE FOR SELF-DIAGNOSTIC

Error code	Description	Possible cause
⊔⊔⊔1	Input signal higher than USP	Check input signal Input signal out-of-range No input signal
-⊓⊓.⊓	Input signal lower than LSP	Check input signal Input signal out-of-range No input signal
⊓⊔⊏E	Cold junction compensation failure	CJC diode broken CJC diode poor contact
⊔⊔⊔⊔	Broken Thermal Couple	Thermal Couple broken

H、MANIPULATION



1,Change between different levels

* in level 0, press SET key for 5 seconds to enter level 1
* in level 0, press SET key with◀key simultaneously and then release to enter level 2
* in level 1, press SET key for 5 seconds to back to level 0
* in level 2, press SET key with◀key and then release to back to level 0
* if there is no action for one minute in mode level 1 or level 2, it will back to level 0 automatically

2,Basic setup procedure

To use this controller is very easy, please follow the following steps to do the basic setup:

Step1: Setup input type

a、press SET key with◄key simultaneously and then release to enter level 2
b、find the menu INP
c、press◄key one time and will find the SV value blinking
d、press▲key or▼key to change the input type as needed
e、press SET key to enter new input type
f、press SET key with◄key simultaneously and then release to back to level 0

Step2: Setup the alarm mode Ad1(same procedure for Ad2 or Ad3)

a、press SET key for 5 seconds to enter level 1
b、press SET key several times to find menu Ad1
c、press◄key one time and will find the SV(alarm mode) value blinking
d、press▲key or▼key to change the alarm mode(0-9) as needed
e、press SET key to enter the alarm mode value
f、press SET key for 5 seconds to back to level 0

Step3: Setup the value for alarm AL1(same procedure for AL2 and Al3)

a、in level 0, press SET key several times to find AL1
b、press◄key one time and will find the SV value blinking
c、press▲key or▼key or◄key to setup the value needed
d、press SET key to enter the value

Step4: Setup the expected temperature (SV)

a、in level 0, press the◄key one time and will find the SV value blinking
b、press the▲key or▼key or◄key to setup the value needed
c、press SET key to enter the value

Step5: Activate Auto-Tuning(AT) in order to get proper PID value

a、in level 0, press SET key several times to find menu AT
b、press◄key one time and change the value from 0 to 1
c、press SET key to enter the value
d、the controller will now enter Auto-Tuning mode immediately, the AT indicator on the panel will be ON for several minutes. Do not interrupt it until the AT indicator is OFF
e、while the AT indicator is OFF, the Auto-Tuning process is completed. The basic setup for this controller is now completed

(NOTE1: when start the AT process, the PV value must be lower than SV value for at least 15℃ in order to get a proper tuning.
NOTE2: manual adjustment for P, I, D is probably required for some particular working environments.)

3,Advanced setup

Advanced setup is probably required for some particular environments.

a, Switching between Manually and Automatically output mode

Press the A/M key, the MAN indicator will be ON and enter the manually mode. The PV value in this mode represent measured value and the SV value represent the percentage of output power. Press the◄key and press▲key or▼key may adjust the output power. Press the A/M key again to back to automatically output mode.

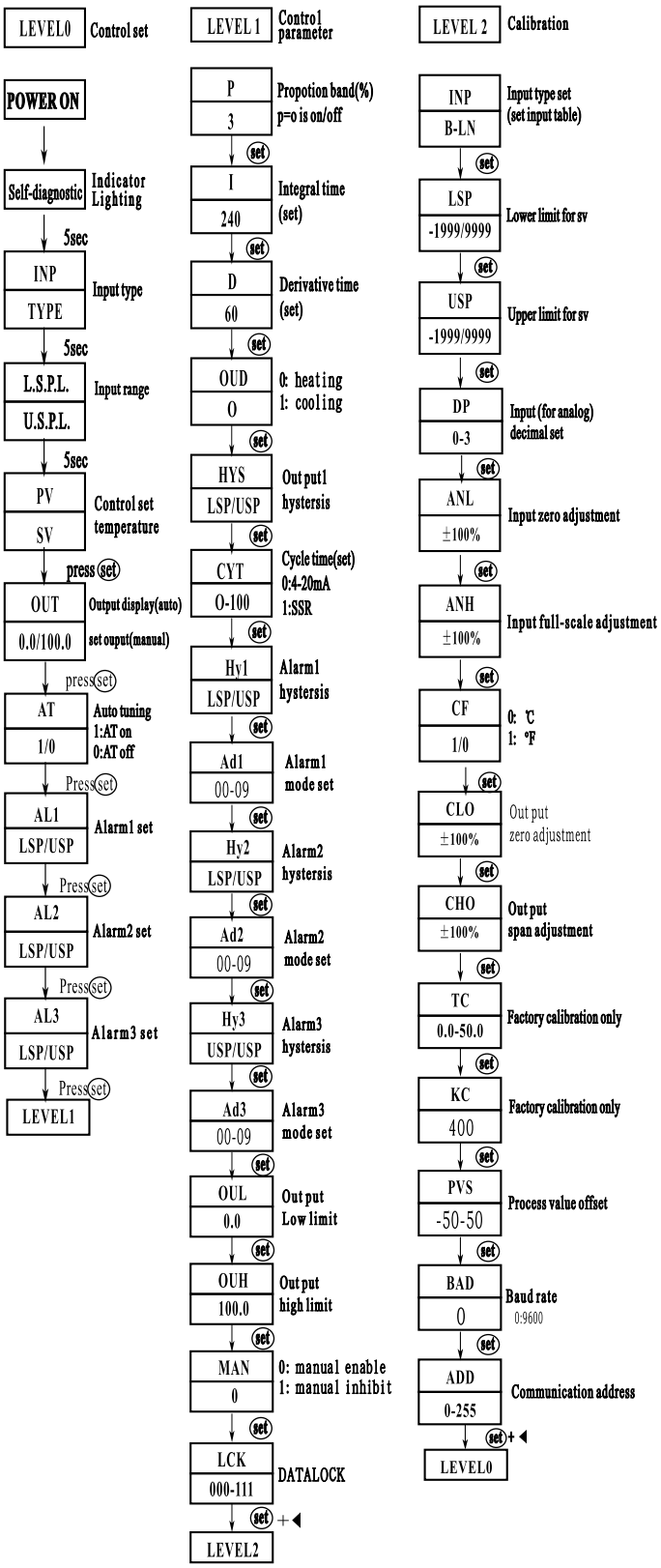
b, Adjust PID value manually

Manual adjustment for P, I, D values may be required for some particular working environments. Please enter mode level 1 and find the P, I, D value respectively and adjust them.

c, Temperature discrepancy adjustment

When you short the two pins of T/C input in the back panel of this controller, the PV value should be very close to the room temperature. If there is a discrepancy between PV value and room temperature, you may use menu PVS to correct it. Please enter the mode level 2 and find menu PVS, use◄key and▲key or▼key to put the corrective value.(plus or minus℃)

J、OPERATING FLOW-CHART



I、TYPE DISTINGUISHING

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Type	Code
80W×160H Single bar graphic	10
80W×160H Double bar graphic	20

Output method	Code
None	0
Relay	1
Pulse	2
4—20mA	3
1—5V	4

	Code
	0
	1
	0
	1

Transmit	Code
None	0
PV 4—20mA transmission	1

Input type	Code
T/C	1
RTD	2
4-20mA	3
1-5V	4

24V output	Code
None	0
24V output	1