DIGITAL CONTROLLER

REX SERIES
INSTRUCTION MANUAL

1. GENERAL INTRODUCTION

REX series PID Temperature Controller is the new product developed by our company. It adopts special microcomputer adjusting meter that employs switching power and surface mount technology (SMT), therefore, the controller is quite smart and reliable. Its special functions like auto diagnosing, auto setting and intelligent control. It can be used widely in the display and control of the parameter of the temperature, pressure, flow, and liquid level.

2. MAIN TECHNICAL INDEX

2.1 Input:

Thermocouple(TC),Resistance Temperature Detect（RTD）
Standard Current and voltage signals.

2.2 Display:

Process Value（PV）、 Setting Value(SV):-1999~+1999
Output（OUT1、OUT2）Alarm（ALM1、ALM2）Auto setting(AT)
Display: LED

2.3 Control way

(1).PID Control(including ON/OFF, position PID and continuous PID)
(2).Auto Setting Control

2.4 Accuracy

Measurement Accuracy:0.5%FS
Compensation error of cold terminal: 2 ℃(amend within 0~50℃ by soft)
Resolution:14bit. Sampling period:0.5Sec.

2.5 Setting Range:

Setting Value(SV): same range with PV
Proportional Band(P):0~full range(ON/OFF Control when set to 0)
IntegrationTime(I):0~3600Sec(no integral action when set to 0)
Derivative Time(D):0~3600Sec(no derivative action when set to 0)
Proportional Period:1~100Sec
On-off control output hysteretic loop width:1~100℃(or other PV units)

2.6 Control Output

(1)Currency output: DC 0~10Ma,4~20mA(RL<500Ω)
(2)Voltage output: DC 0-5V,1-5V(RL>10K)
(3)Relay output: Contact capacity:250V AC 3A(resistive load)
(4)Voltage Impulse output:0-12V(applicable for solid state relay SSR)
(5)Silicon Controlled Rectifier(SCR) output: zero-cross triggering or phase-shift triggering(resistive load)
(6)Alarming function output: 2 groups output at most,12 modes
Output Contact Capacity:250V AC 3A

2.7 Other Parameters

(1)Insulation resistance:>50MΩ(500V DC)
(2)Insulation strength:1500V AC/min
(3)Power consumption:<10V
(4)Service environment:0~50℃,30~85RH,no corrosive gas
(5)Weight:abt.0.5Kg(C900type)

3. OUTLINE MOUNTING BORING

Outline & boring size

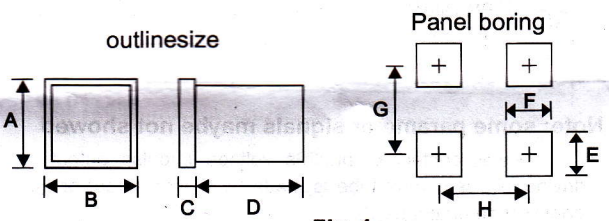
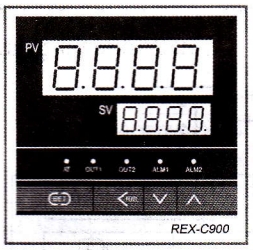


Fig. 1

Form 1

	A	B	C	D	E	F	G	H
C100	48	48	10	100	45	45	80	80
C400	96	48	10	100	92	45	116	80
C410	48	96	10	100	45	92	80	116
C700	72	72	10	100	68	68	96	96
C900	96	96	10	100	92	92	116	116

4. PANEL NAME AND FUNCTION



PV: Measured value / mode display value
SV: Setting value/mode display value
AT: PID auto calculation indicator lamp
OUT1: Output 1 indicator lamp
OUT2: Output 2 indicator lamp
ALM1: Alarm 1 indicator lamp
ALM2: Alarm 2 indicator lamp

SET: Setting mode key ＜R/S: Shift key V: Up key Λ: Down key

5. MODEL DESCRIPTION AND MODEL SELECTION

REX-C□00 - □ □ □□ - □ □ * □ □
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

E.g.: REX- C 100 - F K 02 - M * A N

① Outline size(See Form 1)
② Control type
F:PID operation and auto calculation(Reverse operation)
D:PID operation and auto calculation(Forward operation)
③ Input type: refer to the Input Range Table (See Form2)
④ Range Code: refer to the Input Range Table (See Form2)
⑤ First Control Output(OUT1)(Heating side)
M: Relay contact output 8:Current output(DC 4~20mA)
V: Voltage impulse output (SSR)
T: Hydration driving output
⑥ Second Control Output(OUT2)(Cooling side)
Null: if it doesn't have second output.
M: Relay Contact output 8: Current output(DC 4~20mA)
V: Voltage impulse output (SSR) T: Hydration driving output
⑦ First Alarm(ALM1) ⑧ Second Alarm(ALM2)
N: No alarm
A: Upper-Limit bias alarm
B: Lower-Limit bias alarm
C: Upper/Lower Limit bias alarm
D: Alarm in area
E: Standby upper-limit bias alarm attached
F: Standby lower-limit bias alarm attached
G: Standby upper/lower limit bias alarm attached
H: Upper-Limit input value alarm
J: Lower-limit input value alarm
K: Standby upper-limit input value alarm attached
L: Standby lower-limit input value alarm attached

Form2: Input Range Table

Input type		Code	Input range	Code	Input range	Code	Input range
Thermocouple (TC)	K	K01	0-200℃	K02	0-400℃	K03	0-600℃
		K04	0-800℃	K05	0-1000℃	K06	0-1200℃
		K07	0-1372℃	K13	0-100℃	K14	0-300℃
	J	J01	0-200℃	J02	0-400℃	J03	0-600℃
		J04	0-800℃	J05	0-1000℃	J06	0-1200℃
	R *1	R01	0-1600℃	R02	0-1769℃	R03	0-1350℃
	S *1	S01	0-1600℃	S02	0-1769℃		
	B *1	B01	100-1800℃	B02	0-1769℃		
	E	E01	0-800℃	E02	0-1000℃		
	N	N01	0-1200℃	N02	0-1300℃		
	T *2	T01	-199.9-400℃	T02	-199.9-100℃	T03	-100-200℃
		T04	0-350℃				
RTD	PT100	D01	-199.9-649.0℃	D02	-199.9-200.0℃	D03	-100.0-50.0℃
		D04	-100.0-100.0℃	D05	-100.0-200.0℃	D06	0.0-50.0℃
		D07	0.0-100.0℃	D08	0.0-200.0℃	D09	0.0-300.0℃
		D10	0.0-500.0℃				
	Cu50	P01	-199.9-649.0℃	P02	-199.9-200.0℃	P03	-100.0-50.0℃
		P04	-100.0-100.0℃	P05	-100.0-200.0℃	P06	0.0-50.0℃
		P07	0.0-100.0℃	P08	0.0-200.0℃	P09	0.0-300.0℃
		P10	0.0-500.0℃				
Voltage	0-5V	401	0.0-100.0℃				
	1-5V	601	0.0-100.0℃				
Current	0-20mA	701	0.0-100.0℃				
	4-20mA	801	0.0-100.0℃				

＊1, 0-399 ℃: Accuracy is not guaranteed.
＊2, -199.9-100 ℃: Accuracy is not guaranteed.