CONTROLLER

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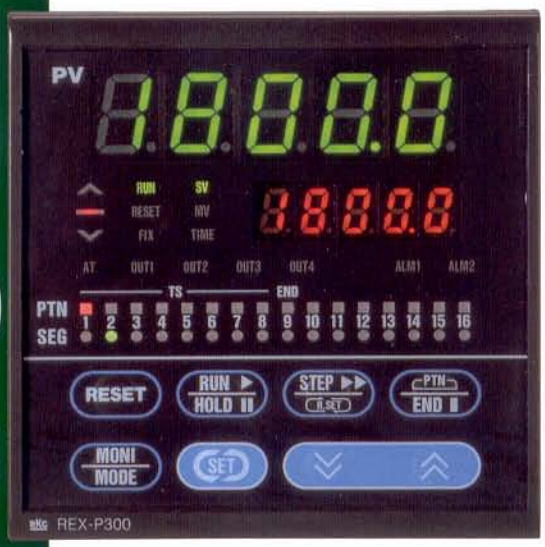
PROGRAM CONTROLLER REX-P300



RKC INSTRUMENT INC.

Simple but High Performance !

REX-P300

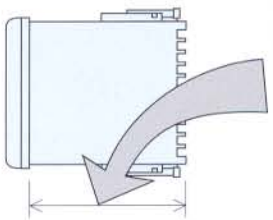
Program Controller

5-digit display

Even in high temperature surroundings, the temperature display with the resolution of 0.1℃ is possible. The setting of scaling and decimal point can be done freely to the voltage and current inputs. Thus, this controller can be used in various kind of applications.

Compact size

Compact size with the depth of 100 mm was realized.



Just ***100 mm***

±0.1% of Accuracy

High accuracy control in the high response process is realized by the accuracy of ±0.1% and the sampling cycle of 0.1 sec.

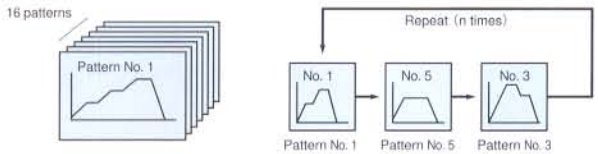
Simple operation

The key arrangement is easy for the operation and the description on each key is simple to confirm as the result of the pursuance for high performance and simple operation.

Main Functions

16 Segments · 16 Patterns

The maximum of 16 segments per pattern can be memorized, and the maximum of 16 patterns can be memorized. Further, each patterns can be linked together (Pattern link function). So, the setting of the pattern with more than 16 segments (256 segment maximum) is possible. The linking order of the pattern can be set freely.



3 Mode Control (Program, Fixed set point, Manual)

The following 3 types of control modes are available.

1. Program Control Mode (16 patterns, 16 segments, Linking is possible)

   The control is carried out by changing the set value according to the pre-set program pattern.

2. Fixed Set Point Control Mode

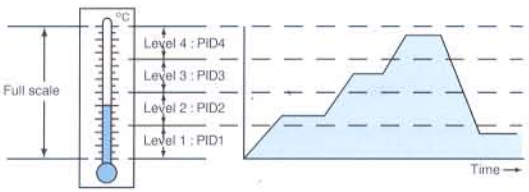
   The control is carried out based on a pre-set value. Can be used just like the conventional single loop controller.

3. Manual Mode

   The controlled output value is pre-set, and by this output the control is carried out.

Level PID

The full scale of input is divided into 4 levels and the PID constants can be set independently for each level. Thus, the simple and fine control is realized.

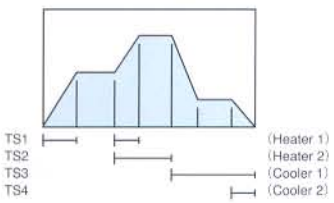


Abundant Additional Outputs (Option)

2 kinds of alarms can be selected from among process alarm (high, low), deviation alarm (high, low, high/low, band), set value alarm (high, low), and fail. In addition, apart from the alarm outputs, the maximum of 3 kinds (depends on combination with other optional functions) of outputs can be selected as option from among process alarm (high, low), set value alarm (high, low), pattern-end status signal, soak status signal, hold status signal, and run status signal.

Time Signal Output

The "Time Signal Output" is used for the ON/OFF of an auxiliary heater or cooler by setting the ON and OFF times according to the program progress. Maximum 16 settings per pattern are possible. Output is 4 or 8 points of open collector type. (When CVM-4 or CVM-3C is used, the output type is relay contact.)



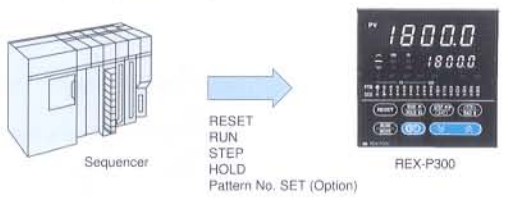
Communication Function, Analog Output (Option)

The communication function and analog output, which are indispensable for the process control and management, are available. The maximum 31 sets of REX-P300 can be managed by the communication function. Either of the process value (PV), set value (SV), manipulation value (MV), deviation value (DEV) or segment value (TIME) can be output as DC voltage or current.

Contact Input

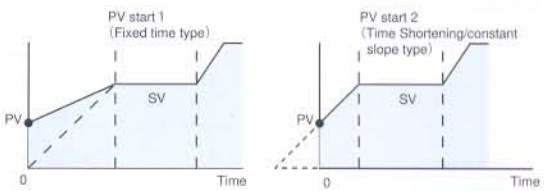
The setting of RESET, RUN, STEP, HOLD and PATTERN No. can be done by the contact input to the rear terminal in addition to the setting on the front panel. The contact signal from outside (sequencer, switch, etc.) can be used for the automation of each manufacturing process and for the prevention of mis-operation.

* The contact input for pattern setting is optional.



PV Start

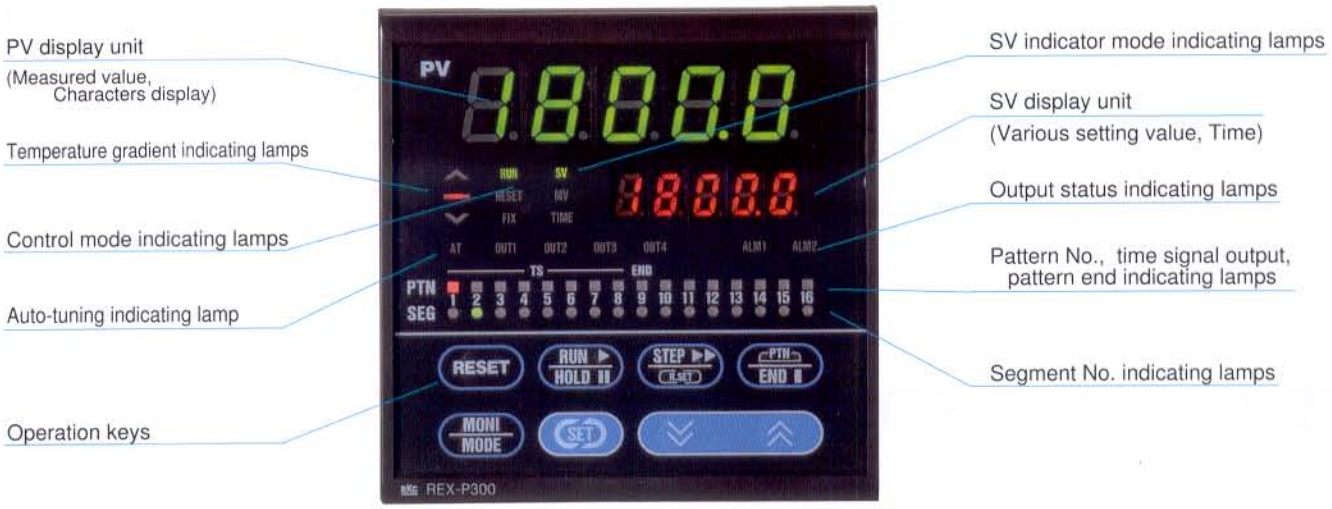
In case of a PV (Measured value) being at a certain level already when the control is started, the starting level of the program can be set to this PV. 2 types of PV Start are available. The one is PV start 1, in which the segment time is fixed. Another one is PV start 2, in which the segment slope is constant.



Other Functions

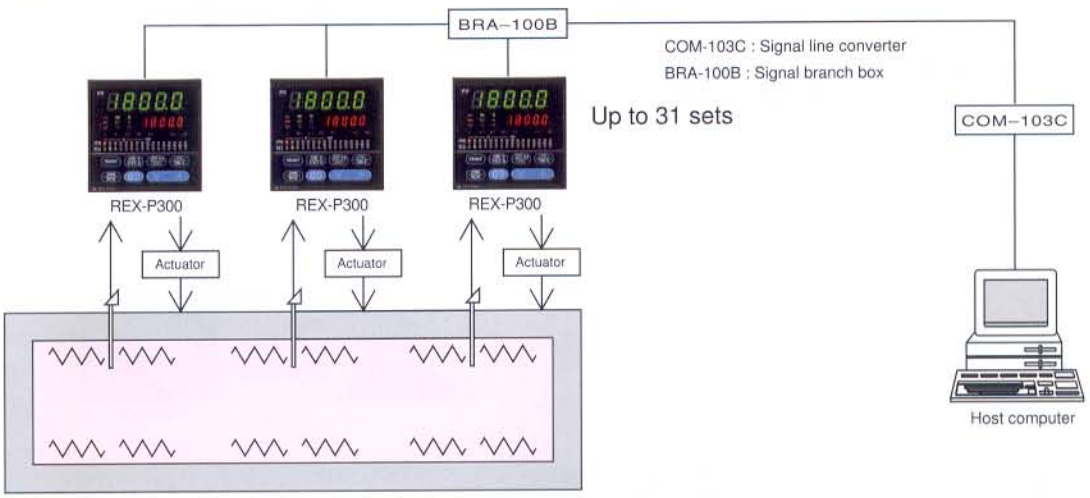
- ★ Universal input
- ★ PV bias / PV ratio
- ★ Input digital filter (Variable between 0 to100 sec, "OFF" at 0 setting)
- ★ Square-root extractor (Only for voltage, current input)
- ★ Hold/Wait/Step
- ★ Pattern-end output time setting
- ★ Output limitter
- ★ Balanceless bumpless (At the switching of Manual←→ Auto)
- ★ Fuzzy function (At fixed set point control mode)
- ★ Position proportional control (No need of feed-back resistance)
- ★ Heat/cool control
- ★ Conforming to various kinds of international safety standard

Name of Each Part

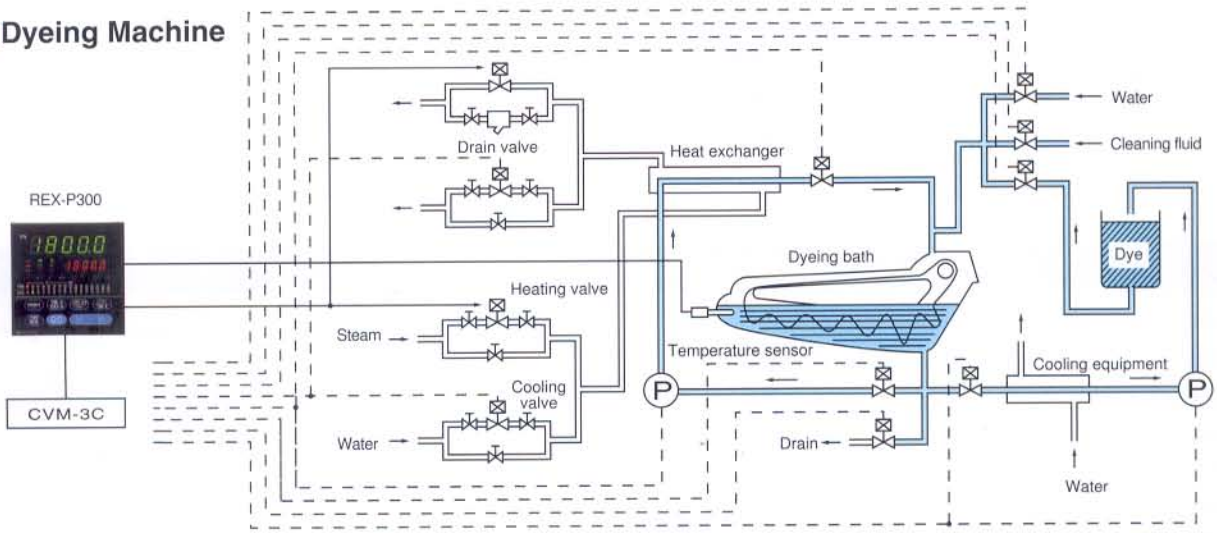


Application

Electric furnace



Dyeing Machine



Specifications

1. Input

Measured input (Universal input)

(1) Input :
- a) Thermocouple : K, J, R, S, B, E, T, N (JIS/IEC)
  PLII(NBS), U, L (DIN)
  W5Re/W26Re(ASTM)
  Pt・40%Rh-Pt・20%Rh
- b) R T D : Pt100(JIS/IEC), JPt100(JIS)
- c) DC low voltage input group : 0 to 10mV, 0 to 100mV, 0 to 1V, 0 to 5V 1 to 5V, -100 to 100mV, -1 to 1V, -5 to 5V
- d) DC high voltage input group : 0 to 10V, -10 to 10V
- e) DC current input group : 0 to 20mA, 4 to 20mA

* Refer to Input, Range code.
* DC voltage / current type is with square-root extractor.

(2) Sampling time : 0.1 sec

(3) Input impedance :
- a) Thermocouple : More than 1MΩ
- b) DC low voltage : More than 1MΩ
- c) DC high voltage : Approx. 1MΩ
- d) DC current : Approx 250Ω

(4) Sensor current : 300μA (RTD)

(5) Resistance effect on input signal : Approx. 0.4μV/Ω (TC)

(6) Effect of input resistance : Approx. less than 10Ω per wire (RTD)

(7) Input break action :
- a) Thermocouple : Up scale or down scale (selectable)
- b) RTD : Up scale
- c) DC low voltage : Down scale
- d) DC high voltage : Indicate a value around zero
- e) DC current : Down scale

(8) Allowable input voltage : Less than ±7V (DC high voltage : Less than ±14V

(9) PV bias :
- a) Temperature input : -10.0 to 10.0℃(℉)
- b) DC voltage, DC current : -10.0 to 10.0% of span

(10) PV ratio : 0.001 to 9.999

2. Performance

(1) Measuring accuracy :
- a) Thermocouple (0.1% of reading or 1℃[℉] whichever is larger) ±1 digit
  * Type Pt・40%Rh-Pt・20%Rh : (0.1% of reading or 10μV whichever is larger)±1 digit
  * Accuracy is not guaranteed between 0 to 400℃ (0 to 752℉) for type B, Pt・40%Rh-Pt・20%Rh and 0 to 32℉ for N, PLII W5Re/W26Re.
  * For a thermocouple input, please be minded about cold junction compensation error.
- b) RTD (0.1% of reading or 0.5℃[℉] whichever is larger) ±1 digit
- c) DC voltage, DC current (0.1% of span) ±1 digit

(2) Cold junction compensation error : Within ±0.5℃(Between 0 to 50℃ [32 to 122℉])
(As far as the measured value is above -100℃. Below -100℃, out of guarantee.)

(3) Time accuracy : ±0.01% of displayed value

(4) Insulation resistance : More than 20MΩ (500V DC) between input and ground
More than 20MΩ (500V DC) between power and ground

(5) Dielectric strength : 1000V AC for one minute between input and ground
1500V AC for one minute between power and ground

3. Program

(1) Storage program patterns : Max. 16 patterns. (Max. 16 segments per pattern.)
Storage segments : Max.256 segments. (16 segments×16 patterns.)
(Possible linkage : Max.16 patterns)

(2) Segment time : 00 hr 00 min to 99 hrs 59 min or
00 min 00 sec to 99 min 59 sec (Selectable by front key)

(3) Program repeat : 1 to 1000 times or continuous.
* If 1000 is set, the program is carried out endlessly.

(4) Wait zone : -10.0 to 10.0℃(℉) (Individual setting up and down side)

4. Control

(1) Control method :
- a) PID action with autotuning
  - Direct/Reverse action (Selectable)
  - ON-OFF, P, PI, PD action are available
- b) Heat/Cool PID action with autotuning
- c) Position proportioning action without feedback resistance

(2) Setting range :
- a) Proportional band : Temperature input : 0.1 to span(℃/℉)
  DC voltage, current input : 0.1 to 1000.0% of span (ON/OFF action when 0 is set. Differential gap ±1℃[℉]))
- b) Integral time : 1 to 3600 sec
  (PD action when 0 is set .)
- c) Derivetive time : 1 to 3600 sec
  (PI action when 0 is set.)
- d) Proportional cycle : 1 to 100 sec
- e) Output limier : -5.0 to 105.0%
  (Possible to set high and low output)
- f) Anti-reset-windup : 1 to 100% of proportional band

(3) PID value storage : 4 groups (Level PID)

(4) Output :
- a) Relay contact output : 250V AC 3A (Resistive load)
- b) Voltage pulse output : 0/12V DC
  (Load resistance : More than 800Ω)
- c) Current output : 0 to 20mA, 4 to 20mA DC
  (Load resistance : Less than 600Ω)
- d) Continuous voltage output : 0 to 5V, 0 to 10V, 1 to 5V DC
  (Load resistance : More than 1kΩ)

5. External Contact Input

(1) Type :
- a) Standard function
  Reset, Run, Hold, Step
- b) Optional function
  Pattern No. set

(2) Input rating : Non voltage contact input
- a) OPEN : 500kΩ or more
- b) CLOSE : 10Ω or less

6. Pattern End Output

(1) Setting time : 00 min 00 sec to 99 min 59 sec
* When pattern end output set 0 min 00 sec, keep on output until the power is OFF or reset.

(2) Output : Open collector output
- a) Rating : Max. 24V DC 50mA
- b) ON voltage : Max. 2V

7. Time Signal Output

(1) Number of output : 4 points or 8 points (Specify)

(2) Storage pattern : 16 patterns (16 times ON/OFF per pattern)

(3) Output : Open collector output
- a) Rating : Max. 24V DC 50mA
- b) ON voltage : Max. 2V

8. Alarm output

(1) Number of alarm : 2 points

(2) Alarm types : Programmable
Deviation alarm (High limit, Low limit, High/low limit, Band)
Process alarm (High limit, Low limit)
Set value alarm (High limit, Low limit) FAIL
* Hold function can be programmed.
* Energized/de-energized alarm
(Selectable but FAIL alarm is only de-energized alarm)

(3) Differential gap : 0.0 to 10.0℃ [℉] (Temperature)
0.0 to 10.0% of span (Voltage/Current)

(4) Alarm delay : 0 to 600 sec.

(5) Output : Relay contact output, 250V AC 0.5A (Resistive load)

9. Auxiliary output (Option)

(1) Number of output : Max. 3 points
* When heat/cool control (released soon) or position proportioning control (released soon) is specified, 1 point (OUT2) is used for the control output. Thus the points available for use decreases.
* When the analog output is specified which uses 1 point (OUT4), the available points decreases.

(2) Output types : Programmable optional types for each output types
Process alarm (High limit, Low limit),
Set value alarm (High limit, Low limit),
Pattern end status signal, Soak status signal, Hold status signal, RUN status signal

(3) Output : Relay contact output, 250V AC 0.5A (Resistive load)

10. Analog output (Option)

(1) Number of output : 1 point

(2) Output signal : 0 to 10mV, 0 to 100mV DC
(Load resistance : More than 20kΩ)
0 to 1V, 0 to 5V, 0 to 10V, 1 to 5V DC
(Load resistance : More than 1kΩ)
0 to 20mA, 4 to 20mA DC
(Load resistance : Less than 600Ω)

(3) Output types : Programmable optional type for each output types
Measured value (PV), Set value (SV), Deviation value (DEV) Manipulated value (MV), Segment time (TIME)
(Outputs the segment time in percentage.)

(4) Output scaling : High limit and low limit are available.
* Manipulated value (MV) and segment time (TIME) are not scaling.
Scaling range is -19999 to 32000 digit.

(5) Output accuracy : 0.1% of span

(6) Output resolution : 11 bits or more

11. Digital communication (Option)

(1) Communication method : RS-485 (2-wire), RS-422A(4-wire), RS-232C(2-wire)

(2) Synchronous method : Asynchronous method

(3) Communication speed : 1200, 2400, 4800, 9600, 19200 BPS

(4) Bit configuration : Start bit : 1, Data bit : 7 or 8
Parity bit : "with" or "without", even or odd in case of "with" parity
Stop bit : 1 or 2

(5) Max. connection : 31 sets, But I set, in case of RS-232C

12. General Specifications

(1) Power supply voltage : 90 to 264V AC including power voltage fluctuation
(100 to 240V AC rating) 50/60 Hz selectable by front key

(2) Power consumption : Less than 17 VA (at 240V AC)

(3) Momentary power failure : Not affected by power failure shorter than 50 msec.

(4) Memory backup : EEP-ROM and Non-volatile RAM(Approx. 10 years)

(5) Ambient temperature : 5 to 40℃ (41 to 104℉)

(6) Ambient humidity : 20 to 80% RH

(7) Net weight : Approx. 500g

(8) External dimensions : 96×96×100 mm (H×W×D)

(9) Environment : Should be free from corrosive and flammable gas and dust.

(10) Other conditions : Free from external noise, vibration, shock and exposure to direct sunlight.

13. Optional approvals (please specify if required)

(1) UL compatible model
(2) CSA compatible model
(3) CE marked model

Accessories

● 4 Points Time Signal Output Converter CVM-4 (Sold separately)

CVM-4 converters the 4 points of time signal output from REX-P300 and also converts the open collector output of pattern end to the contact output.

■ Specifications

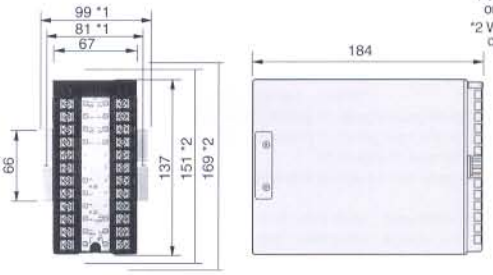
Input : Open collector output from REX-P300
Output : Time signal output 4 points
Relay contact output 250V AC 2A (Resistive load)
Pattern end output 1 point
Relay contact output 250V AC 2A (Resistive load)
Ambient temperature : 0 to 50℃(32 to122˚F)
Ambient humidity : 45 to 85% RH
Power supply voltage : 100/110V AC, 120V AC, 200/220V AC, 240V AC
Specify either (50/60 Hz, Common use)
Power supply voltage variation : Within ±10% of rating
Power consumption : Less than 6 VA
Insulation resistance : More than 20MΩ (500V DC) between input and ground
More than 20MΩ (500V DC) between power and ground
Dielectric strength : 1000V AC for one minute between input and ground
1500V AC for one minute between power and ground
Net weight : Less than 1.5 kg
External dimension : Refer to the figure above right

■ Model Code

Specifications	Code		
	CVM-4	-2	□
Pattern end output	With pattern end output	2	
Power supply voltage	100/110V AC		1
	120V AC		2
	200/220V AC		3
	240V AC		4
	Others		9

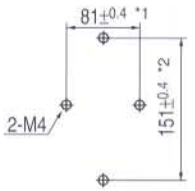
* REX-P300 connection cable is to be prepared by customers. (MAX. 2m)

■ External Dimensions (Unit : mm)



●Mounting Dimensions

*1 When mounting brackets are supplied on both sides.
*2 When mounting brackets are supplied on top and bottom.



■ Rear Terminals

No.	Description		No.	Description	
1	⏚ G	Earth	13	END NO	Pattern end output (Relay contact)
2	200/220V or 100/110V	Power supply	14		
3			15		
4			16		
5	END	Input (Open collector)	17	TS1 NO	Time signal output (Relay contact)
6			18		
7	TS 1		19	TS2 NO	
8	TS 2		20		
9	TS 3		21	TS3 NO	
10	TS 4		22		
11	COM		23	TS4 NO	
12			24		

● 8 Points Time Signal Output Converter CVM-3C (Sold separately)

CVM-3C converters the 8 points of time signal output from REX-P300 and also converts the open collector output of pattern end to the contact output.

■ Specifications

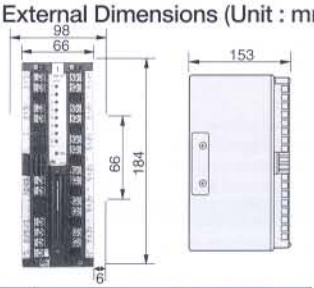
Input : Open collector output from REX-P300
Output : Time signal output 8 points
Relay contact output 250V AC 3A (Resistive load)
Pattern end output 1 points
Relay contact output 250V AC 2A (Resistive load)
Ambient temperature : 0 to 50℃(32 to 122˚F)
Ambient humidity : 45 to 85% RH
Power supply voltage : 100/110V AC and 200/220V AC, 120V AC and 240V AC Specify either (50/60 Hz common use)
Power supply voltage variation : Within ±10% of rating
Power consumption : Less than 8 VA
Insulation resistance : More than 20MΩ (500V DC) between input and ground
More than 20MΩ (500V DC) between power and ground
Dielectric strength : 1000V AC for one minute between input and ground
1500V AC for one minute between power and ground
Net weight : Less than 1.6 kg
External dimension : Refer to the figure above right

■ Model Code

Specifications	Code	
	CVM-3C	-□
Power supply voltage	100/110V AC and 200/220V AC	1
	120V AC and 240V AC	2
	Others	9

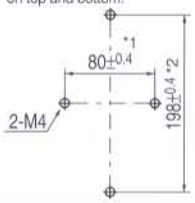
* REX-P300 connection cable (RKC's twist cable) is sold separately.
Model code : W-AT-01-3000

■ External Dimensions (Unit : mm)



●Mounting Dimensions

*1 When mounting brackets are supplied on both sides.
*2 When mounting brackets are supplied on top and bottom.



No.	Description		No.	Description	
1	NO	Time signal output (Relay contact)	17	NO	Time signal output (Relay contact output)
2	C TS 7		18	C TS 1	
3	NC		19	NC	
4	NO		20	NO	
5	C TS 8		21	C TS 2	
6	NC		22	NC	
7			23	NO	
8			24	C TS 3	
9	NO END	Pattern end output (Relay contact)	25	NC	
10	C		26	NO	
11			27	C TS 4	
12			28	NC	
13	200/220V AC 100/110V AC	Power supply	29	NO	
14	0V ※		30	C TS 5	
15			31	NC	
16	⏚ G	Earth	32	NO	
			33	C TS 6	
			34	NC	

※ 240V AC and 120V AC are available.

● Pattern No. Selector SP-1-16 (Sold separately)

SP-1-16Y is the pattern number selector.

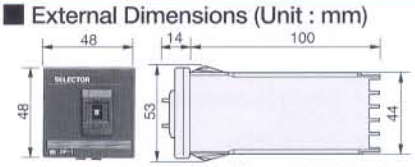
■ Specifications

Setting : Digital switch (2-button type), Push switch (Non-lock type)
Setting range : 1 to 16.
Performance : Contact resistance : Less than 200Ω
Ambient temperature : -10 to 50℃(14 to 122˚F) No dew condensation
Ambient humidity : 45 to 85% RH
Net weight : Approx. 110g
External dimension : 48 × 48 ×100 mm (H × W ×D)

■ Model Code

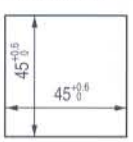
SP-1-16Y (Pattern setting button provided)
SP-1-16N (Pattern setting button not provided)

■ External Dimensions (Unit : mm)



(Panel thickness : 1 to 2.3mm)

●Panel Cutout



■ Rear Terminals

No.	Description		No.	Description
6	P SET	P.SET output	7	
1	COM		8	
2	1	Binary contact signal	9	
3	2			
4	4			
5	8			

Note :
Use solder less terminal lugs smaller than 6.2 mm.

Model Code

	Specification	dModel Coe
Type	96×96 mm size Program Controller	REX-P300 □ □ □ - □ □ - □ * D - □ □ □ □ - □
Control Action	PID Action with Autotuning	F
	Heat / Cool PID Action with Autotuning (Released soon)	W
	Position Proportioning Action Without Feed Back Resistance Input (Released soon)	Z
Input Type	Refer to Input Range Code	□
Input Range	Refer to Input Range Code	□
Control Output (Heating)	Relay Contact	M
	Voltage Pulse	V
	DC Voltage/Current (Code number 4 to 8 : Specify signal code)	□
Control Output (Cooling)	None (When control action is F type)	N
	Relay Contact	M
	Voltage Pulse	V
	DC Voltage/Current (Code No. 4 to 8 : Specify signal code) *1	□
Power Supply	24V AC/DC (Released soon)	3
	100 to 240V AC	4
Alarm	Dual Alarm	D
Pattern Set Contact Input	None	N
	Supplied	1
Time Signal Output	4 points Time Signal Output	4
	8 points Time Signal Output	8
Auxiliary Output	None	N
	Supplied *2	S
Analog Output	None	N
	Analog output 1 point (Code No. 1 to 8 : Specify signal code)	□
Digital Communication	None	N
	RS-232C	1
	RS-422A	4
	RS-485	5

*1 : Analog output cannot be selected when the cooling side output is continuous voltage / current output in heat / cool PID with autotuning.

*2 : The output number of auxiliary output is 3 points. But this number differs in the following specifications.

Specifications	Number of points
PID action with autotuning and with analog output	2 points
Heat / Cool PID action with autotuning	2 points
Heat / Cool PID action with autotuning and with analog output	1 point
Position Proportioning Action without Feed Back Resistance Input	2 points
Position Proportioning Action without Feed Back Resistance Input and with analog output	1 point

* Sub output is 3 points except above specification.

Input Range Code

Thermocouple

Input	Code		Range
K	K	35	–200.0 to 400.0°C
	K	23	0.0 to 1300.0°C
	K	A4	0.0 to 800.0°F
	K	B4	0.0 to 2400°F
J	J	27	–200.0 to 400.0°C
	J	16	0.0 to 1200.0°C
	J	B6	0.0 to 800.0°F
	J	B5	0.0 to 2100.0°F
R	R	05	0.0 to 1700.0°C
	R	A5	0.0 to 3200.0°F
S	S	04	0.0 to 1700.0°C
	S	A5	0.0 to 3200.0°F
B	B	04	0.0 to 1800.0°C
	B	A9	0.0 to 3200.0°F
E	E	17	–200.0 to 200.0°C
	E	08	0.0 to 1000.0°C
	E	A6	0.0 to 1800.0°F
N	N	05	0.0 to 1300.0°C

Input	Code		Range
N	N	A4	0.0 to 2300.0°F
T	T	13	–200.0 to 200.0°C
	T	19	–200.0 to 400.0°C
	T	06	0.0 to 400.0°C
	T	B7	-300.0 to 700.0°F
	T	A7	0.0 to 700.0°F
W5Re/W26Re	W	06	0.0 to 1200.0°C
	W	04	0.0 to 2300.0°C
	W	A6	0.0 to 2200.0°F
	W	A8	0.0 to 4200.0°F
PLII	A	05	0.0 to 1300.0°C
	A	A5	0.0 to 2300.0°F
U	U	04	0.0 to 600.0°C
	U	B1	0.0 to 1100.0°F
L	L	04	0.0 to 900.0°C
	L	A6	0.0 to 1600.0°F
PR20-40	F	01	0.0 to 1800.0°C
	F	A1	0.0 to 3200.0°F

* Type B, PR20-40 inputs : Accuracy is not guaranteed between 0 to 400°C (0 to 752°F)

* Type N, PLII, W5Re/W26Re inputs : Accuracy is not guaranteed between 0 to 32°F.

RTD

Input	Code		Range
Pt100	D	21	–200.0 to 200.0°C
	D	25	–200.0 to 600.0°C
	D	B8	–300.0 to 1200.0°F
JPt100	P	21	–200.0 to 200.0°C
	P	26	–200.0 to 600.0°C

Voltage / Current DC

Input	Code		Range
0 to 10 mV	1	01	Scale range is programmable in the range of -19999 to 32000 digits (Default : 0.0 to 100.0)
0 to 100 mV	2	01	
–100 to 100 mV	9	01	
0 to 1 V	3	01	
–1 to 1 V	9	02	
0 to 5 V	4	01	
–5 to 5 V	9	03	
1 to 5 V	6	01	
0 to 10 V	5	01	
–10 to 10 V	9	04	
0 to 20 mA	7	01	
4 to 20 mA	8	01	

Signal Code

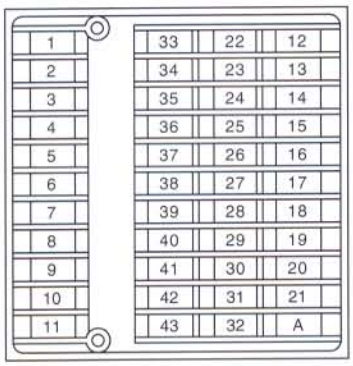
Code	Type
1	0 to 10mV DC
2	0 to 100mV DC
3	0 to 1V DC
4	0 to 5V DC

Code	Type
5	0 to 10V DC
6	1 to 5V DC
7	0 to 20mA DC
8	4 to 20mA DC

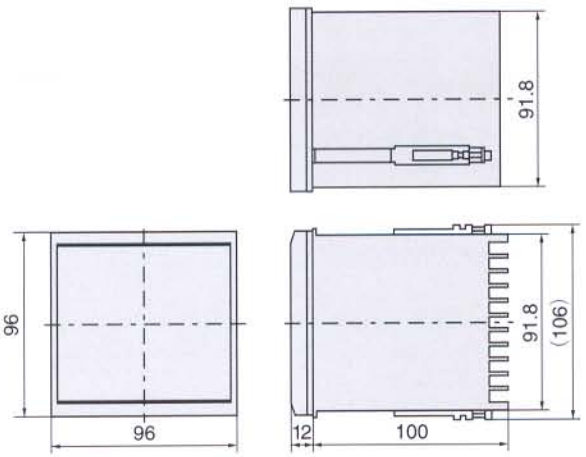
* Specify code 4 to 8 for heat or cool output.

External Dimensions , Rear Terminals

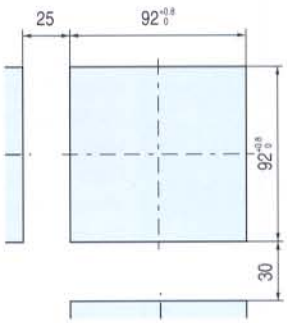
Rear terminals



External Dimensions (Unit : mm)



Panel Cutout



Terminal Configuration

No.	Description		
1	AC 100–240V / AC/DC + 24V −		Power supply
2			
3	Relay	V, mA DC	Control output
4	NO	+	
5	NC	−	
6	COM		Time signal, Pattern end output (Open collector)
7	TS1		
8	TS2		
9	TS3		
10	TS4		
11	END		

No.	Description		
33	COM		Time signal output (Open collector)
34	TS5		
35	TS6		
36	TS7		
37	TS8		
38	NO	OUT2	Auxiliary output or analog output
39			
40	NO	OUT3	
41			
42	OUT4 NO	AO +	
43		−	

No.	Description			
	RS-422A	RS-485	RS-232C	
22	SG	SG	SG	Digital communi-cation
23	T(A)	T/R(A)	SD	
24	T(B)	T/R(B)	RD	
25	R(A)			
26	R(B)			
27	COM			Contact input Pattern set
28	PTN.1			
29	PTN.2			
30	PTN.4			
31	PTN.8			
32	P.SET			

No.	Description			
12	ALM1 NO			Alarm output (Relay contact)
13				
14	ALM2 NO			
15	DI	COM		Contact input RESET RUN STEP HOLD
16		RESET		
17		RUN		
18		STEP		
19		HOLD		
20	TC	RTD	mV, V, mA DC	Input
21	+ TC −	A B B	+ −	
A				

Safety Warning

- Before operating this product, read the instruction manual carefully to avoid incorrect operation.
- This product is intended for use with industrial machines, test and measuring equipment. It is not designed for use with medial equipment.
- If it is possible that an accident may occur as a result of the failure of the product or some other abnormality, an appropriate independent protection device must be installed.
- When installing this product, avoid the following:
  - ※ Direct exposure to sunlight.
  - ※ The ambient temperature is lower than 0°C degrees or higher than 50°C
  - ※ In areas subject to high humidity. Ambient humidity should not be lower than 45% or higher than 85%RH.
  - ※ Direct contact with water.
  - ※ Corrosive environments.
  - ※ Hazardous areas containing explosive or flammable gases.
  - ※ Vibration or shock.
  - ※ Areas subject to electrical noise caused by inductive interference, static electricity or magnetic fields.

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Due to continuous product improvement, product specifications are subject to change without prior notice.

C300P-E