



Model PC10 Pressure Controller

OUTLINE

An pneumatic servo valve and a high-precision sensor are built in this pressure controller, various types of air pressure patterns based on the manual and automatic mode can be generated. This pressure controller is appropriate for research laboratory application, pressure generation in automatic lines, adjustment of pressure installation and inspection equipment.

FEATURES

- Twelve positive pressure types (maximum 1 MPa), 5 compound pressure types (maximum 400 kPa) and an absolute pressure type are provided.
- Equally divided dividers from 1 to 20 can be set.
- Sweeping and pressure holding time can be selected from 10 types (1.2 seconds to 20 minutes).
- Up to 21 points, an optional point can be set.
- Sweeping and pressure holding time between points can be set respectively, generating pressures randomly.
- A repetition up to 99 and infinite times in the automatic mode can be set. Step sending in the manual mode can be possible.
- Four types of unit changeover can be possible.
- The GP-1B type recorder output terminal is provided.

SPECIFICATION 1

Fluid:

Dry air, N₂

Operating condition:

Under the normal condition, where there is no inflammable gas or liquid which cause the ignition or explosion.

Generating pressure range:

0 ~ 4kPa → 0 ~ 1MPa -80 ~ 0 → -80 ~ 400kPa
120 ~ 1500mmHg abs.

Pressure detecting unit material :

316 st.st.

Connection:

Rc1 /4 (PT female)

Accuracy:

High accuracy type

±0.1 % F.S. or ±0.2 % F.S. (23°C±3°C)

General type

±0.2 % F.S. or ±0.3 % F.S. (23°C±3°C)
(Depending on range)

Minimum setting resolution:

1/800 ~ 1/6000

Selling function:

Unit	kPa, MPa, kgf/cm ² , mmHg, mmH ₂ O
Upper and lower limit	Up to 4 figures
Number of divisions	1 ~ 20 (Equal percent or an arbitrary point)
Sweep speed	10 selections within 20min./point
Step time	10 selections within 20min.
Repeat times	As desired between 1 ~ 99 or infinity

Mode of operation:

Manual operation (UP.DOWN.HOLD), Automatic sweep

Display:

Pressure output value, Set and operating monitor

Analog output:

4VDC/F.S. (Terminal blockM3)

Outside interface:

GP-IB

Remote control terminal :

No voltage a contact input

(A function of UP.DOWN.RESET are available.Terminal blockM3)

Response time:

3s or less (Load volume less than 120 ml)

Supply pressure:

Every each machine appoints need minimum pressure

Consumption air capacity:

Approx. 30 L / min (Normal)or less

(Depending on pressure output range and supply range)

Operating temperature:

5 ~ 40°C

Power supply requirement:

100V AC±10% 50/60Hz

Weight:

Approx. 12 kg

Dimensions:

W480×D400×H199

SPECIFICATION 2

Max. display and minimum setting resolution:

Outbreak pressure range	Max. display	Minimum setting resolution	Accuracy	
			General type	High accuracy type
0 ~ 4kPa	4.000	1/4000	±0.2%F.S.	—
0 ~ 10kPa	10.00	1/1000	±0.2%F.S. (23±3°C)	±0.1%F.S. (23±3°C)
0 ~ 20kPa	20.00	1/2000		
0 ~ 30kPa	30.00	1/3000		
0 ~ 40kPa	40.00	1/4000		
0 ~ 60kPa	60.00	1/6000		
0 ~ 100kPa	100.0	1/1000		
0 ~ 200kPa	200.0	1/2000		
0 ~ 300kPa	300.0	1/3000		
0 ~ 400kPa	400.0	1/4000		
0 ~ 600kPa	600.0	1/6000		
0 ~ 1MPa	1.000	1/1000		
-80 ~ 0kPa	-80.00	1/800	±0.3%F.S. (23±3°C)	±0.2%F.S. (23±3°C)
-80 ~ 100kPa	100.0	1/2000		
-80 ~ 200kPa	200.0	1/3000		
-80 ~ 300kPa	300.0	1/4000		
-80 ~ 400kPa	400.0	2/5000		
120 ~ 1500mmHg abs.	1500	1/1500		

CONSTRUCTION AND PRINCIPLE

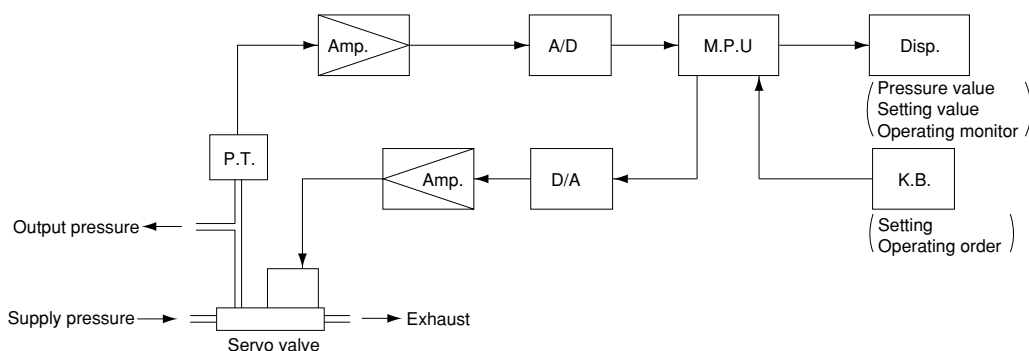
The following is a block diagram showing the construction of the unit. A feedback control system equipped with a servo valve with an orifice and an ejector mechanism is used to control any desired pressure for the air supplied.

The servo valve is regulated to nullify the difference between the signal set by the servo amplifier and the feedback signal detected by the pressure sensor so that the pressure controlled corresponds to the signal set.

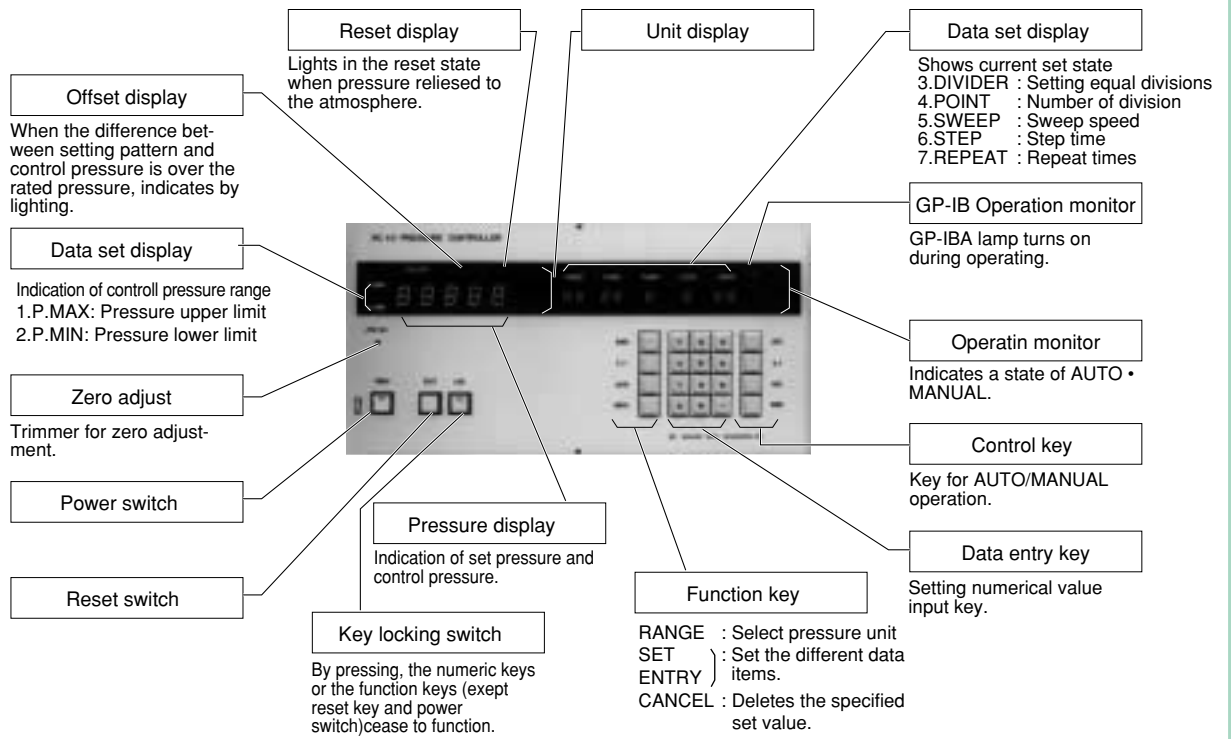
The set signal for the pressure pattern controlled is fed through the keyboard, processed by a microcomputer (MPU), then stored in the memory. The value is given as output at the servo amplifier as the analog signal in response to cammands corresponding to the different modes.

The microcomputer converts the signals specified by the pressure sensor into the unit specified, and display them.

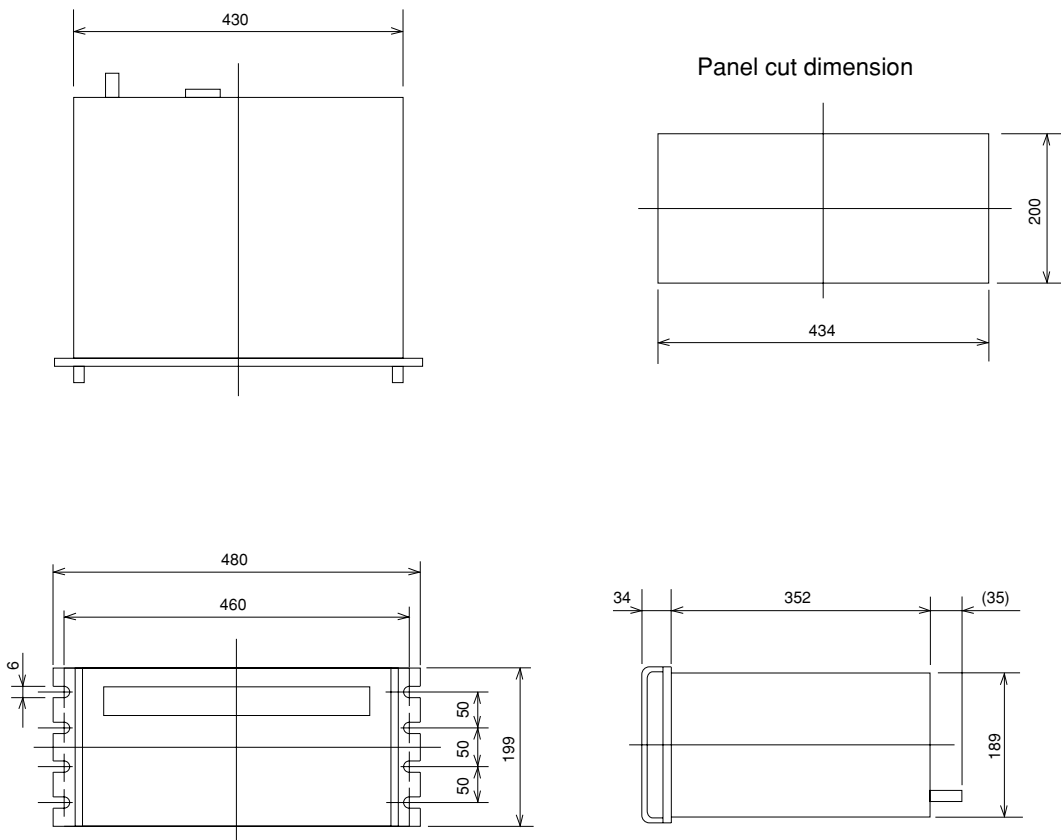
Block diagram of pressure controller



FRONT PANEL



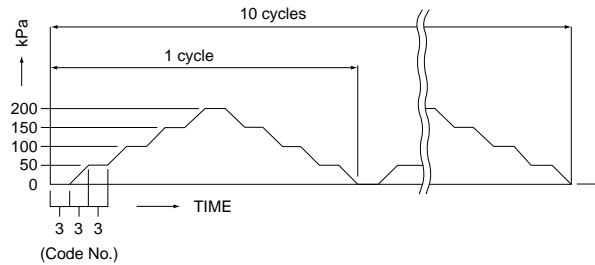
DIMENSIONS



PROGRAM PATTERN EXAMPLE OF EQUAL DIVISION SETTING

RANGE	1.P.MAX	2.P.MIN	3.DIVIDER
kPa	200.0	000.0	4

5.SWEEP	6.STEP	7.REPEAT
3	3	10



Type No. constitution

Please specify Type No., each specification and range when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.

Pressure controller

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

PC 10 - 7 3 - X X X - X X X X X X X X

Type No.

1 Type

1	General type ($\pm 0.2\%$ F.S. or $\pm 0.3\%$ F.S.)
2	Highly accuracy type ($\pm 0.1\%$ F.S. or $\pm 0.2\%$ F.S.)

2 Connection

7	Rc1/4
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3 Wetted parts material

3	316st.st. Pressure detecting unit
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Selection spec.

4 Pressure range

(When ordering, please specify pressure range & unit.)

	Pressure range	Accuracy (%F.S.)	
		General type	Highly accuracy type
1	0 ~ 4kPa (General type only)	± 0.2	-
2	0 ~ 10, 20, 30, 40, 60kPa 0 ~ 100, 200, 300, 400, 600kPa	± 0.2	± 0.1
3	0 ~ 1MPa	± 0.2	± 0.1
4	-80 ~ 0, 100, 200, 300, 400kPa	± 0.3	± 0.2
5	120 ~ 1500mmHg abs.	± 0.3	± 0.2

Additional spec. (Option)

8 Other additional spec.

0	Nil
1	Please specify your requirement GP-IB Interface

15 Document

0	Nil
1	Please specify your requirement Drawing one sheet, Instruction manual, Inspection procedure, Mill sheet, Test report

The contents in the catalogue are subject to change without notice.

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