

## CZ-200P PG500 PCT-300



Resin pressure sensor : CZ-200P



Resin pressure indicator PG500



Output converter : PCT-300

## General Description

RKC's resin pressure measuring system is suitable for monitoring and control of resin pressure for extruders. The combination of resin pressure sensor (CZ-200P), the resin pressure indicator (PG500), the output converter (PCT-300) to the improvement of productivity and quality of products. The CZ-200P has new features such as built-in thermocouple while retaining high reliability of CZ-100P. The features of CZ-200P includes a wide selection of screw type, UNF, PF and M14/16 type screws, Low pressure type (0 to 0.5MPa, 0 to 1MPa), built-in thermocouple. A push-rod method is used in CZ-200P. There is no risk of mercury contamination in case of accident, so CZ-200P suits food processing application.

## Features

### Resin Pressure Sensor CZ-200P

- ☆ The total loop accuracy of 0.5%  
(combination with RKC converter PCT-300)
- ☆ High reliability and stability
- ☆ Wide selection of the range from 1MPa to 150MPa
- ☆ Various screw types, UNF, PF and M14/16
- ☆ Optional built-in thermocouple



### Supports high temperatures (SPRON Diaphragm Type)

A SPRON diaphragm with a maximum operating temperature of 550°C and excellent corrosion resistance on the level of Hastelloy C has been added to our lineup. Suitable for pressure measurement of high-function resins (high-temperature melted resins) such as polymer resins.

\* 450°C when using a J-type thermocouple temperature sensor.



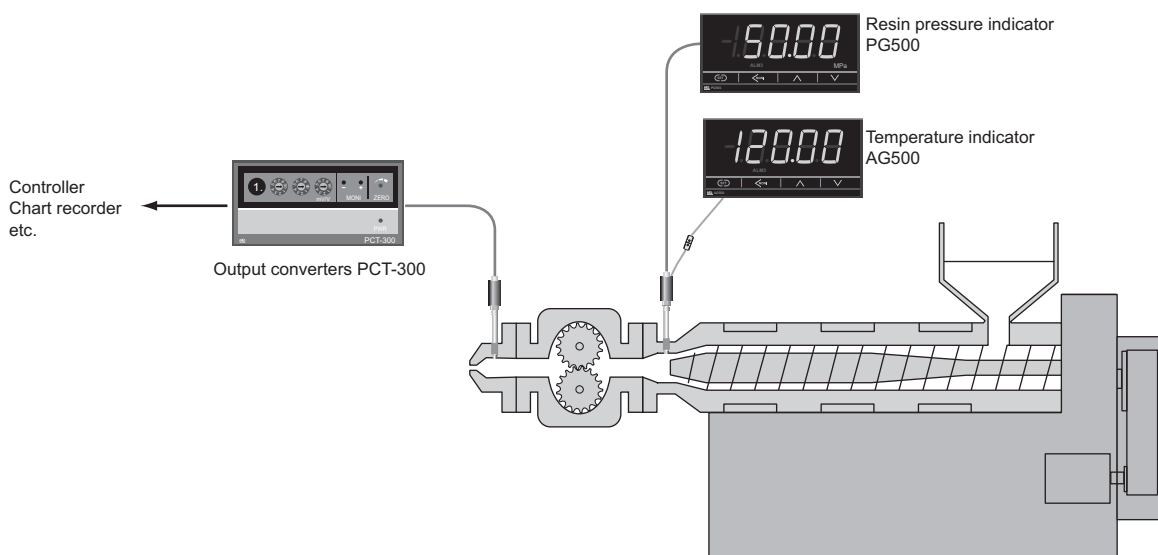
Max.550°C

### Output Converter PCT-300

- ☆ Signal converter for CZ-200P
- ☆ Up to four analog outputs
- ☆ Linearization function

### Resin Pressure Indicator PG500

- ☆ Easy-to-read large LED
- ☆ 100msec sampling cycle time
- ☆ Optional communication (RS422A/RS-485), retransmission output, up to two alarms







## Specifications

### Resin Pressure Sensor CZ-200P

#### Construction

4 sides adhered strain gauge type wheatstone bridge

#### Rated Pressure

General specification: 0 to 10, 0 to 20, 0 to 35, 0 to 50, 0 to 70 MPa  
 0 to 100 MPa  
 High pressure type : 0 to 150 MPa (CZ-200P-H type only)  
 Low pressure type : 0 to 1, 0 to 5 MPa (CZ-200P-L type only)

#### Rated Output :

1.0 to 1.8mV/V [At 150°C of diaphragm temperature] \*1  
 • SPRON type (Code : PN) : At 250°C

#### Bridge Impressed Voltage :

10V DC (at PCT-300, CT-300)  
 7.7V DC (at PG500, REX-PG410)

#### Accuracy :

SUS630 type (At 150°C of diaphragm temperature)  
 Within  $\pm 1\%$  of full scale  
 Within  $\pm 2\%$  of full scale (Over 70 MPa)  
 SPRON type  
 Less than 70MPa : Within  $\pm 1\%$  of full scale  
 More than 480°C of 10,20,70MPa : Within  $\pm 2\%$  of full scale  
 More than 100MPa : Within  $\pm 2\%$  of full scale  
 More than 480°C of 100MPa : Within  $\pm 4\%$  of full scale  
 HASTELLOY C type : Contact to RKC

#### Linearity :

SUS630 type (At 150°C of diaphragm temperature)  
 Within  $\pm 1\%$  of full scale  
 Within  $\pm 2\%$  of full scale (Over 70 MPa)  
 SPRON type  
 Less than 70MPa : Within  $\pm 1\%$  of full scale  
 More than 480°C of 10,20,70MPa : Within  $\pm 2\%$  of full scale  
 More than 100MPa : Within  $\pm 2\%$  of full scale  
 More than 480°C of 100MPa : Within  $\pm 4\%$  of full scale  
 HASTELLOY C type : Contact to RKC

#### Hysteresis :

SUS630 type  
 Within  $\pm 0.5\%$  of full scale  
 Within  $\pm 1\%$  of full scale (Over 50 MPa)  
 Within  $\pm 2\%$  of full scale (Over 70 MPa)  
 Within  $\pm 0.2\%$  of full scale (1MPa type)  
 SPRON type  
 Less than 70MPa : Within  $\pm 1\%$  of full scale  
 More than 480°C of 10,20,70MPa : Within  $\pm 2\%$  of full scale  
 More than 100MPa : Within  $\pm 2\%$  of full scale  
 More than 480°C of 100MPa : Within  $\pm 4\%$  of full scale  
 HASTELLOY C type : Contact to RKC

#### Reproducibility :

Within  $\pm 0.2\%$  of span  
 • More than 480°C of 10,20MPa : Within  $\pm 2\%$  of full scale

#### Zero Balance :

$\pm 0.6\text{mV/V}$  (Within  $\pm 40\%$  of span)

#### Bridge Resistance :

350 $\Omega$  $\pm$ 5 $\Omega$  (Input resistance)  
 350 $\Omega$  $\pm$ 5 $\Omega$  (Output resistance) \*2

#### Allowable Maximum Temperature of the Diaphragm :

400°C (SPRON type : 550°C)

#### Allowable Maximum Temperature of the Strain Gauge : 200°C \*3

#### Zero Point Temperature Effect (To the temperature of the diaphragm)

SUS630 type :  $\pm 0.2\%/10^\circ\text{C}$   
 $\pm 0.3\%/10^\circ\text{C}$  (10MPa, 150MPa)  
 SPRON type :  $0.1\pm 0.2\%/10^\circ\text{C}$   
 HASTELLOY C type : Contact to RKC

#### Output Temperature Effect

Output temperature effect is an equal value as zero point.  
 • SPRON type :  $0.15\pm 0.2\%/10^\circ\text{C}$

#### Effect of Wind (Without lead pipe cover)

Within  $\pm 1\%$  of full scale (at wind of 4m/sec)

#### Allowable Overload :

Within 120% of rated pressure  
 Within 500% of rated pressure (1MPa type)  
 Within 1000% of rated pressure (0.5MPa type)

#### Marginal Overload :

Within 150% of rated pressure  
 Within 1000% of rated pressure (1MPa type)

#### Lead Pipe Cover material : SUS630

#### Recommended Tightening Torque :

Fixed nut type: 30 N·m (300 kgf·cm)  
 Loose nut type: 60 N·m (600 kgf·cm)

#### Output effect of tightening torque :

Within  $\pm 0.2\%$  of full scale (at recommended tightening torque)  
 • M14, PF1/4, 1/2-UNF screw type :  $\pm 1\%$

\*1 The output of each sensor becomes a specific value within the range of 1.0 to 1.8 mV/V.

\*2 As the input side of bridge resistance, the 374 $\Omega$  $\pm$ 10 $\Omega$  type is also available.

This type is interchangeable with the 350 $\Omega$  $\pm$ 5 $\Omega$  type.

\*3 When the temperature at the bottom of outer tube (nut side) is more than 180°C, the temperature at the strain gauge exceed 200°C.  
 If the temperature at the strain gauge exceed 200°C, the performance cannot be assured. Therefore, cover the heat source with a heat insulating material so that the above temperature does not exceed 200°C.  
 The temperature at the strain gauge can be expected not to rise when:

- the long type of sensor is used or
- the sensor is installed a slant or transversely.

If any of the above measures can be taken, take it.

#### <Temperature Sensor Function>

Sensor type : Thermocouple : K or J ( Ungrounded junction, Class2)  
 Maximum Temperature : 550°C (Thermocouple K), 450°C (Thermocouple J)  
 Response time : Approx. 90 sec (room temperature to 100°C, 98 % response)  
 Cable length : 100mm (Standard, Maximum length 1 m )  
 Temperature detection position : Internally 2mm from a diaphragm

### Output Converter PCT-300

#### Input

RKC's resin pressure sensor CZ-200P (CZ-100P)

#### Gain Setting

Setting range : 10.00 to 19.99 mV/V  
 Setting accuracy : Within  $\pm 0.2\%$  of full scale

#### Output

Number of points : Up to 4 points (standard : 2 points)

#### Output Signal

No.1 output : 0 to 10V DC (Load resistance : More than 2k $\Omega$ )  
 No.2 output : 0 to 10mV DC (Load resistance : More than 10k $\Omega$ )  
 No.3 output : 1 to 5V DC (Load resistance : More than 1k $\Omega$ )  
 No.4 output : 4 to 20mA DC (Load resistance : Less than 600 $\Omega$ )

#### < General Specifications >

##### Supply Voltage

- 90 to 264V AC (Including supply voltage variation)  
 [Rating : 100 to 240V AC] (50/60Hz common use)
- 21.6 to 26.4V AC (Including supply voltage variation)  
 [Rating : 24V AC] (50/60Hz common use)
- 21.6 to 26.4V DC (Ripple rate 10% p-p or less)  
 [Rating : 24V DC]

##### Power Consumption

Less than 12.5VA (100 to 240V AC)  
 Less than 8VA (24V AC)  
 Less than 190mA (24V DC)

##### Operating Environments

0 to 50°C [32 to 122°F] , 45 to 85% RH

##### Net Weight

Approx. 290g

##### External Dimensions (W x H x D)

96 x 48 x 100mm





## Specifications

### Resin Pressure Indicator PG500

#### Input

- Strain gauge type pressure sensor
- a) Pressure sensor gain setting range : 0.500 to 1.999mV/V  
-6.0mV to 15.9mV (Including zero point adjustment range)
- b) Pressure sensor gain setting range : 1.000 to 1.999mV/V  
-9.8mV to 25.9mV (Including zero point adjustment range)
- c) Pressure sensor gain setting range : 2.000 to 2.999mV/V  
-12.3mV to 32.6mV (Including zero point adjustment range)
- d) Pressure sensor gain setting range : 3.000 to 4.000mV/V  
-16.1mV to 42.5mV (Including zero point adjustment range)

#### Gain Setting

- a) Gain setting decimal point position:  
Three decimal place, Four decimal place
- b) Setting range: 0.500 to 4.000mV/V (Three decimal place)  
0.5000 to 1.9999mV/V (Four decimal place)

#### Shunt resistance output value

40.0 to 100.0% (Functions when a resistance for sensitivity adjustment built-in pressure sensor is used)

**Input impedance :** More than 1MΩ

**Input break action :** Up-scale/Down-scale (Selectable)

**Sensor power supply :** 7.7V DC±3% (Within 30mA DC)

**Sampling Time :** 0.1 sec.

#### Input adjustment

- a) Zero point adjustment
  - 1. Manual setting : -Input span to +Input span
  - 2. Auto-zero function : -5.0 to +5.0mV (Input conversion)
- b) Ratio setting
  - 1. Manual setting (Gain adjustment setting) : 0.500 to 1.500
  - 2. Automatic calibration function  
Auto calibration is used to automatically set the PV ratio so that the measured value (PV) will be the pressure of the shunt resistance output value.  
(Functions when a resistance for sensitivity adjustment built-in pressure sensor is used)
- c) Linearize :  
Use to correct the non-linear nature of pressure sensor CZ-100P/CZ-200P.  
• Select the linearizing type symbol engraved on the rated nameplate attached to the CZ-100P or CZ-200P housing.
- d) Digital filter : 0.0 to 100.0 sec (OFF when 0 is set.)

**Input Accuracy :** ± (0.1% of full scale + 1 digit)

#### Influence of ambient temperature

- a) Input : ±0.006% of Input span/°C
- b) Sensor power supply : ±0.013% of Output span/°C4

**Display :** 5-digits (The most significant digit : -1 or 1)

#### < Standard function >

##### Contact Input

- Number of input : 3 points, Non-voltage contact input  
(OPEN : 500kΩ or more, CLOSE : 10Ω or less)
- Function :  
DI1 : Auto-zero DI2: Hold reset,  
DI3 : Alarm interlock reset

##### Hold Function

- Peak hold : Holds maximum pressure value
- Bottom hold : Holds minimum pressure value
- The held values can be reset manually, by external contact signal or by communication after the confirmation by the operator.
- Data is not backed up when the instrument power supply is off.

#### < Optional function >

##### Analog Output

- Number of point : 1 point (PV value)
- Output signal :
  - a) 0 to 1V DC, 0 to 5V DC, 1 to 5V DC, 0 to 10V DC  
Load resistance : More than 1kΩ  
Output impedance : Less than 0.1Ω
  - b) 0 to 10mV DC, 0 to 100mV DC  
Load resistance : More than 20kΩ  
Output impedance : Less than 10Ω
  - c) 4 to 20mA DC, 0 to 20mA DC  
Load resistance : Less than 600Ω  
Output impedance : More than 1MΩ
- Output accuracy : ± 0.1% of span
- Output resolution : More than 12 bits

##### Alarm Output

- Number of points : Up to 4 points
- Alarm action : High or low alarm (Available for hold function)
- Output : Relay output, Form A contact, 250V AC 0.5A  
(resistive load)
- Other functions :
  - a) Energized/de-energized action is configurable.
  - b) Delay timer : 0.0 to 600.0 sec)
  - c) Interlock (latch) function is configurable.

##### Digital Communications

- Communication method : RS-422A (4-wire), RS-485 (2-wire)
  - a) ANSI X3.28 sub-category 2.5A4 (RKC standard)
  - b) MODBUS-RTU
    - Selectable
- Communication speed : 1200, 2400, 4800, 9600, 19200 BPS
- Bit format :
  - Start bit : 1
  - Data bit : 7 or 8 • MODBUS 8 bits only
  - Parity bit : Without, Odd or Even
  - Stop bit : 1 or 2
- Maximum connection : 31 units

#### < General Specifications >

##### Waterproof/Dustproof

- NEMA4X, IP66
- Waterproof/Dustproof protection only effective from the front in panel mounted installation.

##### Supply Voltage

- a) 90 to 264V AC (Including supply voltage variation)  
[Rating : 100 to 240V AC] (50/60Hz common use)
- b) 21.6 to 26.4V AC (Including supply voltage variation)  
[Rating : 24V AC] (50/60Hz common use)
- c) 21.6 to 26.4V DC (Ripple rate 10% p-p or less)  
[Rating : 24V DC]

##### Power Consumption

- Less than 10VA (100 to 240V AC)
- Less than 7.0VA (24V AC)
- Less than 210mA (24V DC)

##### Rush Current

- Less than 12A

##### Memory Backup

- Backed up by non-volatile memory (FRAM)
- Data retaining period : Approx. 10 years
- Number of writing : Approx. 10,000,000,000 times.  
(Depending on storage and operating conditions.)

##### Insulation resistance

- More than 20MΩ (500V DC) between measured terminals and ground
- More than 20MΩ (500V DC) between power terminals and ground

##### Dielectric voltage

- 1500V AC for one minute between measured terminals and ground
- 1500V AC for one minute between power terminals and ground

##### Operating Environments

- 10 to +50°C [14 to 122°F] , 5 to 95% RH (Non condensing)

##### Net Weight

- Approx. 200g

##### External Dimensions (W x H x D)

- 96 x 48 x 60mm



# Resin Pressure Measuring System CZ-200P

## Intrinsic Safety

### Intrinsically Safe Explosionproof Construction Resin Pressure Meter (For Indoor, outdoor)

The qualification No. of the intrinsically safe explosionproof construction resin pressure meter obtained from the ministry of Labor, Japan, is T565821 (For indoor use) T56658 (For outdoor use). The explosion class and ignition group of the objective gases and steam are i2G3. The qualified consists of the pressure sensor CZ-200P and safety barrier (RZB-001), but the output converter is not subject to qualification testing as a general sending/receiving instrument.

For indoor use, the standard connector or the waterproof connector can be selected. For outdoor use, the waterproof connector must be used.

### Resin Pressure Sensor CZ-200P

#### Construction

4 sides adhered strain gauge type wheatstone bridge

#### Rated Pressure

General specification: 0 to 10, 0 to 20, 0 to 35, 0 to 50, 0 to 70 MPa

High pressure type : 0 to 150 MPa (CZ-200P-H type only)

Low pressure type : 0 to 1, 0 to 5 MPa (CZ-200P-L type only)

#### Rated Output :

1.0 to 1.8mV/V [At 150°C of diaphragm temperature] \*1

SPRON type (Code : PN) : At 250°C

Bridge Impressed Voltage : 10V DC (at PCT-300, CT-300)

7.7V DC (at PG500, REX-PG410)

SUS630 type (At 150°C of diaphragm temperature)

Within ±1% of full scale

Within ±2% of full scale (Over 70 MPa)

SPRON type

Less than 70MPa : Within ±1% of full scale

More than 480°C of 10,20,70MPa

: Within ±2% of full scale

More than 100MPa : Within ±2% of full scale

More than 480°C of 100MPa

: Within ±4% of full scale

#### Linearity :

HASTELLOY C type : Contact to RKC

SUS630 type (At 150°C of diaphragm temperature)

Within ±1% of full scale

Within ±2% of full scale (Over 70 MPa)

SPRON type

Less than 70MPa : Within ±1% of full scale

More than 480°C of 10,20,70MPa

: Within ±2% of full scale

More than 100MPa : Within ±2% of full scale

More than 480°C of 100MPa

: Within ±4% of full scale

#### Hysteresis :

HASTELLOY C type : Contact to RKC

SUS630 type

Within ±0.5% of full scale

Within ±1% of full scale (Over 50 MPa)

Within ±2% of full scale (Over 70 MPa)

Within ±0.2% of full scale (1MPa type)

SPRON type

Less than 70MPa : Within ±1% of full scale

More than 480°C of 10,20,70MPa

: Within ±2% of full scale

More than 100MPa : Within ±2% of full scale

More than 480°C of 100MPa

: Within ±4% of full scale

#### Reproducibility :

HASTELLOY C type : Contact to RKC

Within ±0.2% of span

• More than 480°C of 10,20MPa : Within ±2% of full scale

±0.6mV/V (Within ±40% of span)

#### Zero Balance :

#### Bridge Resistance :

350Ω±5Ω (Input resistance)

350Ω±5Ω (Output resistance) \*2

#### Allowable Maximum Temperature of the Diaphragm :

400°C (SPRON type : 550°C)

#### Allowable Maximum Temperature of the Strain Gauge : 200°C \*3

#### Zero Point Temperature Effect (To the temperature of the diaphragm)

SUS630 type : ±0.2%/10°C

±0.3%/10°C (10MPa, 150MPa)

SPRON type : 0.1±0.2%/10°C

HASTELLOY C type : Contact to RKC

#### Output Temperature Effect

Output temperature effect is an equal value as zero point.

• SPRON type : 0.15±0.2%/10°C

#### Effect of Wind (Without lead pipe cover)

Within ±1% of full scale (at wind of 4m/sec)

#### Allowable Overload :

Within 120% of rated pressure

Within 500% of rated pressure (1MPa type)

Within 1000% of rated pressure (0.5MPa type)

#### Marginal Overload :

Within 150% of rated pressure

Within 1000% of rated pressure (1MPa type)

#### Lead Pipe Cover material :

#### Recommended Tightening Torque :

Fixed nut type : 30 N·m (300 kgf·cm)

Loose nut type : 60 N·m (600 kgf·cm)

#### Output effect of tightening torque :

Within ±0.2% of full scale (at recommended tightening torque)

• M14, PF1/4, 1/2-UNF screw type : ±1%

\*1 The output of each sensor becomes a specific value within the range of 1.0 to 1.8 mV/V.

\*2 As the input side of bridge resistance, the 374Ω±10Ω type is also available.

This type is interchangeable with the 350Ω±5Ω type.

\*3 When the temperature at the bottom of outer tube (nut side) is more than 180°C,

the temperature at the strain gauge exceed 200°C.

If the temperature at the strain gauge exceed 200°C, the performance cannot be

assured. Therefore, cover the heat source with a heat insulating material so that

the above temperature does not exceed 200°C.

The temperature at the strain gauge can be expected not to rise when:

• the long type of sensor is used or

• the sensor is installed a slant or transversely.

If any of the above measures can be taken, take it.

#### <Temperature Sensor Function>

Sensor type : Thermocouple : K or J (Ungrounded junction, Class2)

Maximum Temperature : 550°C (Thermocouple K), 450°C (Thermocouple J)

Response time : Approx. 90 sec (room temperature to 100°C, 98 % response)

Cable length : 100mm (Standard, Maximum length 1 m)

Temperature detection position :

Internally 2mm from a diaphragm

### Safety Barrier Specifications

Explosionproof construction : Intrinsically safe explosionproof construction (i2G3)

Use rated : Power supply circuit 9V 50mA,

Signal circuit 6V 50mA,

Thermocouple circuit 6V 50mA

Rating for maintaining safety : 250V AC, 50/60Hz, 250V DC

Allowable inductance : Wiring between the resin pressure sensor and safety

barrier : 0.6 mH or less

Allowable capacitance : Wiring between the resin pressure sensor and safety

barrier : 0.1μF or less

Ambient temperature : -10 to +40°C (14 to 104°F)

Ambient humidity : 45 to 85% RH (Non condensing)

Cover : Iron (Coating)

Busbar : Brass (Nickel plating)

Ground requirement : Ground this safety barrier so that its grounding

resistance will be less than the grounding reference

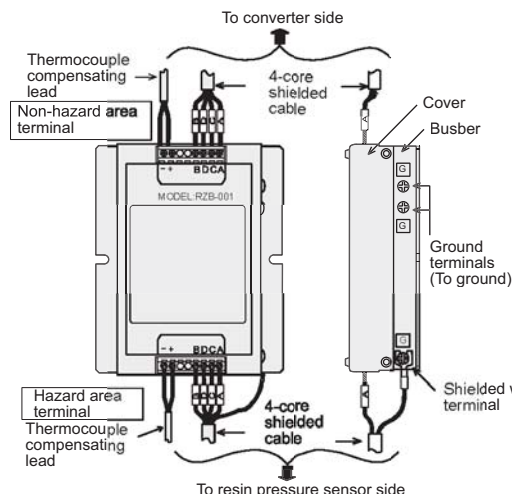
resistance value of shunt diode type safety barriers

(e.g. less than 1Ω) conforming to each national

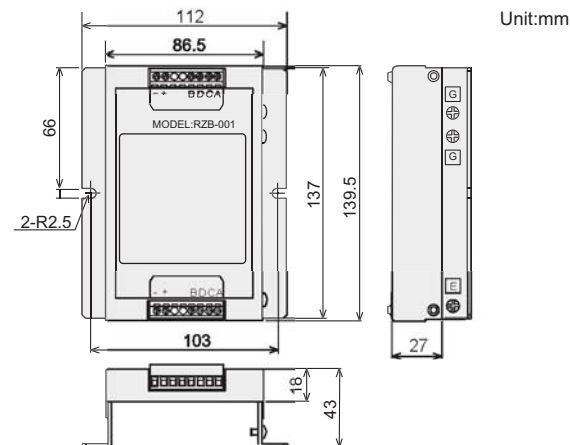
standard. (Requirements)

Weight : Approx. 850g

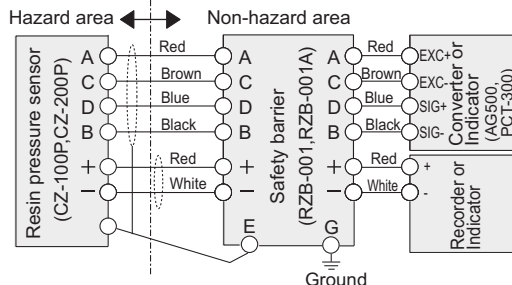
### Terminal Configuration



### External Dimensions



### External Wiring







## Model and Suffix Code

### ■ CZ-200P

Specifications	Model and Suffix Code															
Model	CZ-200P - □ □ □ □ □ □ □ □ □ □ □ □ □ □															
Screw type	Fixed nut type PF3/8	Tip diameter : 10mm	H													
	Loose nut type PF3/4	Tip diameter : 18mm	L													
	Fixed nut type 1/2-20UNF	Tip diameter : 7.8mm	U													
	Fixed nut type PF1/2	Tip diameter : 10mm	J													
	Fixed nut type PF1/4	Tip diameter : 7.8mm	V													
	Fixed nut type M14X1.5	Tip diameter : 10mm	W													
Load-pipe length	Under nut : L=120mm	• Not available for SPRON type	A													
	Under nut : L=150mm		B													
	Under nut : L=180mm		C													
	Under nut : L=210mm		D													
Diaphragm material	SUS630 (Standard)		S													
	Hastelloy C		H													
	SPRON		P													
Diaphragm surface treatment	Standard	• Not available for SPRON type	N													
	Ceramic kanigen plating		K													
Intrinsically safe	Non-intrinsic safety (Standard)		N													
	Intrinsic safety (For indoor use)		G													
	Intrinsic safety (For outdoor use)		H													
Pressure range	See Pressure Range Code Table									□ □ □ □						
Linearization function *1	Not supplied									N						
	For AG500/REX-PG410 (Available for PG410 with S/N 98A□ □ □ □ □ or later)										G					
	For PCT-300□ □ □ L (PCT-300 should have linearization function)											T				
Lead-pipe cover	Not supplied	• Not available for SPRON and fixed nut type *3								N						
	With lead-pipe cover		C													
Cable connection connector	Standard connector type	• Not available for SPRON type								N						
	Waterproof, connector type, equivalent to IP67 (Not available for built-in sensor type or SPRON type)										P					
	Waterproof, direct connection type, equivalent to IP67 (Not available for built-in sensor type)		*4									Q				
Temperature sensor	Not supplied												N			
	K type thermocouple (Not available for waterproof connector)													K		
	J type thermocouple (Not available for waterproof connector)														J	
Thermocouple lead length *2	Standard 100mm (Possible to specify by each 100mm. Maximum 1m.)														□ □ □ □	

\*1 : Linearization function is not available for pressure range of 0 - 70MPa or more, hastelloy C diaphragm .

\*2 : The model code after " " is not necessary if there is no option specified after " " .

\*3 : For a fixed nut type with a SPRON diaphragm, the lead-pipe cover is always included.

\*4 : The cable length on the SUS630 (standard) with a Hastelloy C diaphragm is 3 m. Please specify whether or not a flexible cover tube is to be included.

### Pressure Range Code Table

\* ( ) : Range code

Specifications	Range
Fixed nut type	0 to 10MPa (010P), 0 to 20MPa (020P), 0 to 35MPa (035P), 0 to 50MPa (050P), 0 to 70MPa (070P), 0 to 100MPa (100P), 0 to 150MPa (150P)*1
Loose nut type *2	0 to 1MPa (001P), 0 to 2MPa (002P), 0 to 3MPa (003P), 0 to 5MPa (005P), 0 to 10MPa (010P), 0 to 20MPa (020P), 0 to 35MPa (030P), 0 to 50MPa (050P), 0 to 70MPa (070P), 0 to 100MPa (100P)

\*1 For pressure range of 0 - 150MPa, only the SUS630 diaphragm is available.

\*2 For pressure range of 0 - 0.5MPa with loose nut and the range of 0 - 5MPa with fixed nut, contact RKC agent. (Rated output : 0.5 to 0.9mV/V, Special amplifier type)  
Minimum range of HASTELLOY C and SPRON diaphragm are 10MPa.

### Cable for Thermocouple

Specifications			Model Code
Compensation wire (Stainless steel shielded cable)	CZ-200P ↔ Temperature controller/Indicator (Length : 5m)	Type K	W-BL-K2EXA-TMA-005000
		Type J	W-BL-J2EXA-TMA-005000

### Cable for Pressure

· For cables with specifications other than those below, please contact RKC agent.

Specifications			
Standard Type	CZ-200P ↔ PG500 (Length : 5m) : Y-shaped terminal lugs (M3)	Heat-resistant glass coated cable	W-AB-N□ -PA-5000
		Silicon coated cable	W-AB-N□ -PA-5000
	CZ-200P ↔ PCT-300 (Length : 5m) : Y-shaped terminal lugs (M3)	Heat-resistant glass coated cable	W-AB-N□ -PP-5000
		Silicon coated cable	W-AB-N□ -PP-5000

The letter in the □ indicates the cable coating type. Select from the three types below.

G: Heat-resistant glass coated cable, V: Vinyl coated cable, S: Silicon coated cable

### ■ Safety Barrier

Specification	Model Code	Specification	Model Code
Intrinsic Safety (For indoor)	RZB-001A1	Connection cable	W-AB-Y□-PB-5000
Intrinsic Safety (Built-in thermocouple circuit, For indoor)	RZB-001N1		
Intrinsic Safety (For outdoor)	RZB-001A2	Non-intrinsically safe circuit side (Non hazard area)	W-AB-N□-DA-1000
Intrinsic Safety (Built-in thermocouple circuit, For outdoor)	RZB-001N2		

· This product has passed the qualification test of intrinsically safe explosion proof when combined with our resin pressure sensor (CZ-100P/CZ-200P).  
Always combine and use this product with our resin pressure sensor.



# Resin Pressure Measuring System CZ-200P

## Model and Suffix Code

### PG500

No.	Specifications	Model and Suffix Code	Hardware coding only Quick start code									
			①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
		<b>PG500</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
①	Input type	Standard type Intrinsic safety type Standard type (Loose Nut : 0.0 to 0.5MPa, Fixed Nut : 0 to 5MPa) Intrinsic safety type (Loose Nut : 0.0 to 0.5MPa, Fixed Nut : 0 to 5MPa) For 3.33mV/V output type	A									
			B									
			C									
			D									
			X									
②	Power supply	100 to 240V AC 24V AC/DC	4									
			3									
③	Alarm	Not supplied Number of alarm output (Specify 1 to 4)	N									
④	Analog output	Not supplied See Analog Output Signal Code Table, Code : 1 to 8)	N									
⑤	Communication	Not supplied RS-422A RS-485	N									
			4									
			5									
⑥	Initial setting	No quick start code (Default setting) Specify quick start code	N									
			1									
⑦	Alarm 1	See Alarm Code Table										
⑧	Alarm 2	See Alarm Code Table										
⑨	Alarm 3	See Alarm Code Table										
⑩	Alarm 4	See Alarm Code Table										

● Terminal cover (Sold separately)

Model Code : KFB400-58

### ● Analog Output Signal Code Table

1	0 - 10mV DC	7	0 - 20mA DC
2	0 - 100mV DC	8	4 - 20mA DC
3	0 - 1V DC		
4	0 - 5V DC		
5	0 - 10V DC		
6	1 - 5V DC		

### ● Alarm Code Table

N	No alarm
H	Process High
J	Process Low
K	Process High with Alarm Hold
L	Process Low with Alarm Hold

### PCT-300

Specifications	Model and Suffix Code	
Model	PCT-300	N - <input type="checkbox"/> <input type="checkbox"/>
Type	Standard type	N
Number of output	2 outputs (0 to 10V DC, 0 to 100mV DC)	2
	3 outputs (0 to 10V DC, 0 to 100mV DC, 1 to 5V DC)	3
	4 outputs (0 to 10V DC, 0 to 100mV DC, 1 to 5V DC, 4 to 20mA DC)	4
Option	Not supplied	No symbol
	Gain change switch ( x1 or x2)	G
	Linearization function	L

### Supply Voltage

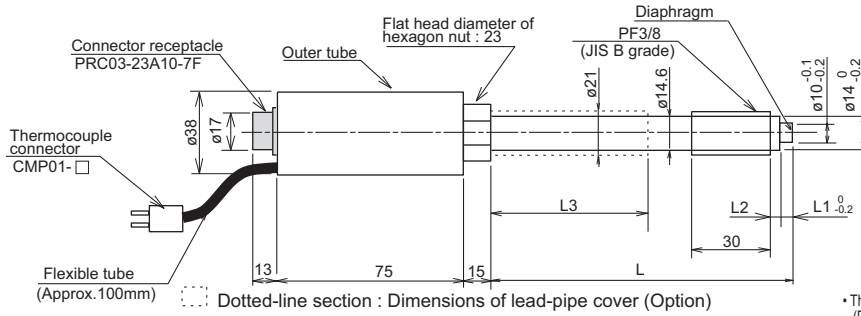
100 - 240V AC	24V AC	24V DC
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## External Dimensions and Rear Terminals

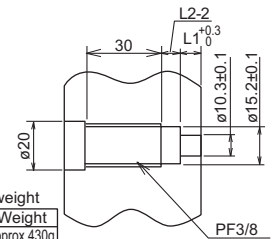
(Unit : mm)

For fixed nut type (CZ-200P-H type)



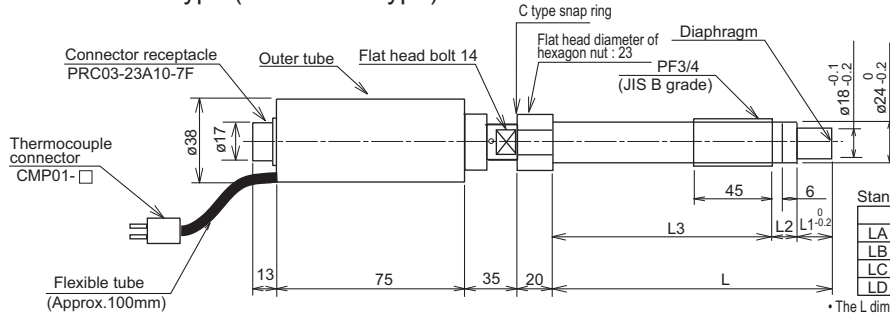
	L	L1	L2	L3	Weight
HA	120	8	6	60	Approx.43
HB	150	8	6	90	Approx.47
HC	180	8	6	120	Approx.51
HD	210	8	6	150	Approx.55

- The L dimension can be up to a maximum of 250 mm.  
(Please contact RKC agent)



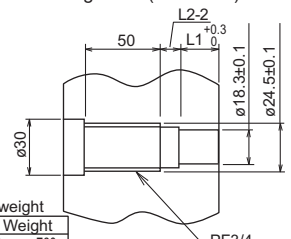
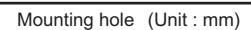
- Element finished to JIS B grade. Install the sensor so that each screw is smoothly inserted.

For loose nut type (CZ-200P-L type)



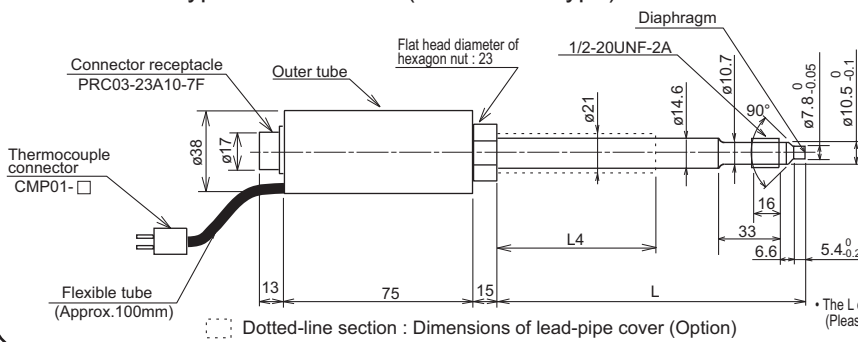
	L	L1	L2	L3	Weight
LA	120	20	10	90	Approx. 76
LB	150	20	10	120	Approx. 83
LC	180	20	10	150	Approx. 90
LD	210	20	10	180	Approx. 100

- The L dimension can be up to a maximum of 230 mm.  
(Please contact RKC agent)



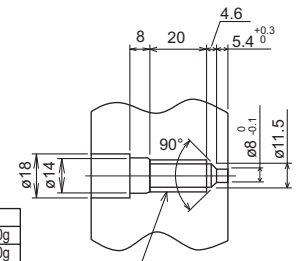
- Element finished to JIS B grade. Install the sensor so that each screw is smoothly inserted.

For fixed nut type unified thread (CZ-200P-U type)



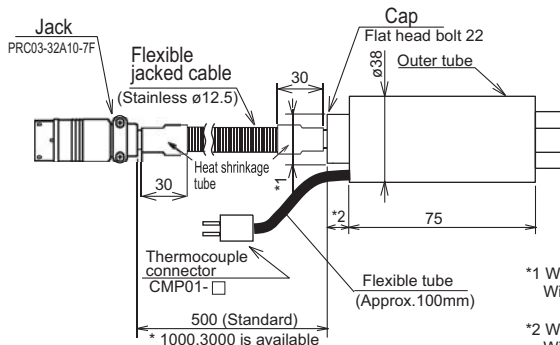
Standard dimensions and weight			
	L	L4	Weight
UA	120	80	Approx.410g
UB	150	90	Approx.450g
UC	180	120	Approx.490g
UD	210	150	Approx.530g

- The L dimension can be up to a maximum of 250 mm.  
(Please contact RKC agent)



- Element finished to JIS B grade.  
Install the sensor so that each screw is smoothly inserted.

- When the diaphragm material is SPRON, the cable type is direct connection.



- In the case of a loose nut type or fixed nut type unified screws, the outer tube and cable are as shown at left.
- Mounting hole dimensions are the same as on the standard product.
- Unit dimensions are the same as the dimensions of the standard product; however, the lead unit (L) dimension 120 mm (HA, LA, UA) is not possible.
- The fixed-nut type is only available with a lead-pipe cover.

\*1 With thermocouple connector :  $\varnothing 20$   
Without thermocouple connector :  $\varnothing 26$

\*2 With thermocouple connector : 12  
Without thermocouple connector : 15

Reference : Screw dimension tolerances

Screw type		PF1/4,PF3/8	PF1/2,PF3/4	M14 x 1.5, M16 x 1.5	1/2-20UNF
Class					
JIS B grade (Class 2, 2B)	Inner diameter tolerances of female screw	0 to +0.445	0 to +0.541	0 to +0.300	0 to +0.278
JIS B grade (Class 2, 2B)	Effective diameter tolerances of female screw	0 to +0.250	0 to +0.284	0 to +0.150	0 to +0.141

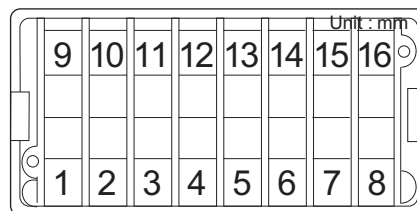
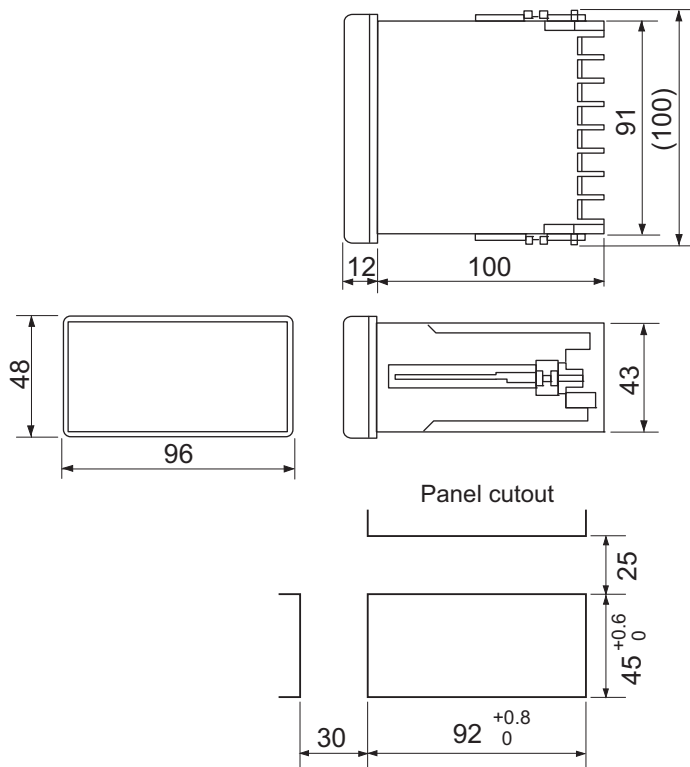




## External Dimensions

PCT-300

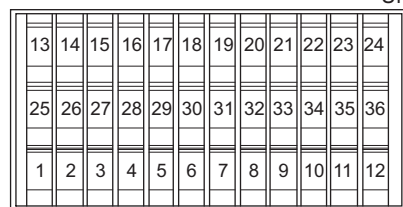
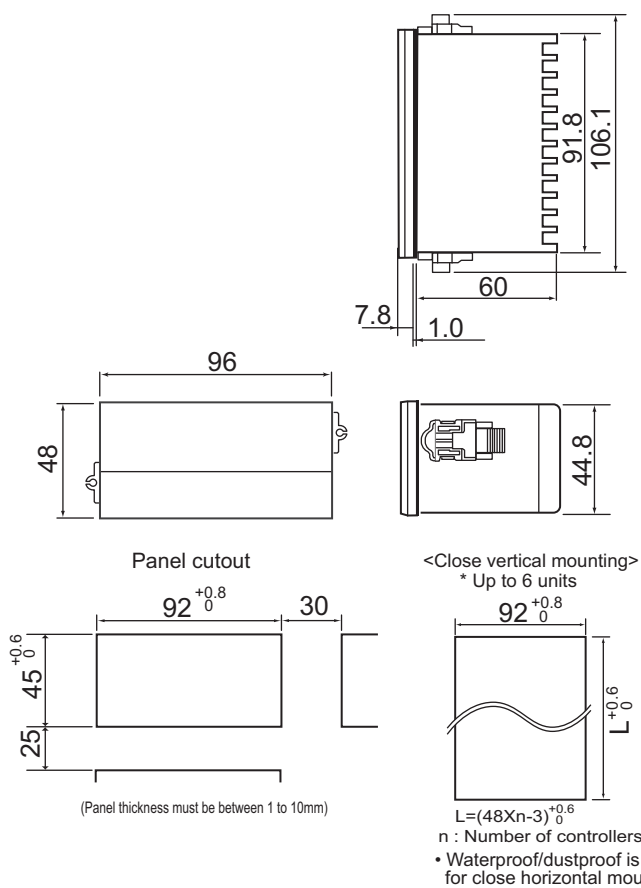
Unit:mm



9	10	11	12	13	14	15	16
			SHD	EXC+	EXC-	SIG+	SIG-
Analog output			Sensor input				
1	2	3	4	5	6	7	8
Ground	Power supply			Analog output		Analog output	

PG500

Unit:mm



• Use a solderless terminal for screw size M3X6.

13	14	15	16	17	18	19	20	21	22	23	24
				SHD EXC+ EXC- SIG+ SIG- (Red) (Brown) (Blue) (Black)							
COM DI 1 DI 2 DI 3				CZ-200P CZ-100P							
Digital input				Sensor input							

25	26	27	28	29	30	31	32	33	34	35	36
SG	T(A)	T(B)	R(A)	R(B)							
RS-422A											
SG	T/R(A)	T/R(B)	RS-485		Communication				Analog output		

1	2	3	4	5	6	7	8	9	10	11	12
AC		COM		COM		COM		CAL+ CAL-			
AC		ALM1 ALM2		ALM3 ALM4		ALM3 ALM4					
DC											
		Alarm 1, 2 output		Alarm 3, 4 output		Relay contact output		Calibration output			
Power supply											