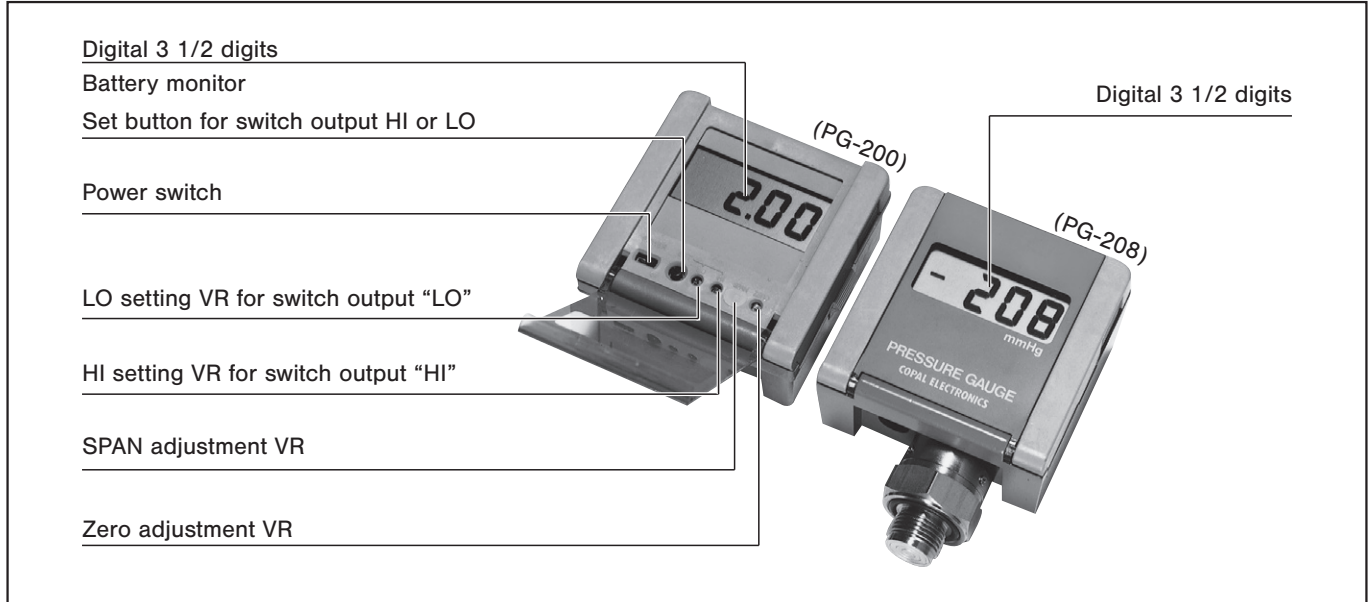


# PRESSURE GAUGES

# PG-200/PG-208



## FEATURES

### ● Excellent stability

A semiconductor chip is used as pressure a sensing element. State of the art circuit technology guarantees excellent temperature compensation.

### ● Low power consumption

Approx. 9000 hours (one year) continuous operation by 3.6 V lithium battery is expected due to the adoption time sharing operation method.

### ● Easy reading with a large LCD display

### ● With pressure switches function

Two independent pressure setting points of HI and LO

### ● With analog output (0 ~ 1 V)

### ● Meets DIN sizes <sup>W</sup>72 × <sup>H</sup>72 × <sup>D</sup>40 mm

### ● PG-200 is for non-corrosive gases.

### ● PG-208 is corrosion resistant due to the use of stainless steel diaphragm.

## MODEL NUMBER DESIGNATION

P G - 2 0 0 - 1 0 2 G P - 3 - P

Series name

PG-200, PG-208

Rated pressure range

101 : 0 ~ 9.81 kPa {0 ~ 0.1 kgf/cm<sup>2</sup>} 0 ~ 10 kPa (When displayed in the unit of Pa)  
 102 : 0 ~ 98.1 kPa {0 ~ 1 kgf/cm<sup>2</sup>} 0 ~ 100 kPa (When displayed in the unit of Pa)  
 103 : 0 ~ 981 kPa {0 ~ 10 kgf/cm<sup>2</sup>} 0 ~ 1 MPa (When displayed in the unit of Pa)

Pressure reference

G : Gauge  
 VH : Gauge (Vacuum)  
 AH : Absolute  
 GP : Gauge  
     Pa unit display  
 GMP : Gauge (103 type only)  
     Pa unit display  
 VP : Gauge (Vacuum)  
     Pa unit display  
 AP : Absolute  
     Pa unit display

Installation

P : Panel type  
 Except for PG-208  
 S : Stand type

Power

Blank : Battery  
 3 : External power  
 (Analog output is available)

# PG-200/PG-208

## PRESSURE GAUGES

### LIST OF MODEL NUMBERS

<Pa version>

	Pressure reference		Gauge				Absolute
	Rated pressure range		0 ~ 10	0 ~ 100	0 ~ 1000	0 ~ - 100	0 ~ 100 kPa abs
Pressure medium	Unit of display		kPa				kPa abs
For non-corrosive gases	Panel type	Battery	PG-200-101GP-P	PG-200-102GP-P	PG-200-103GP-P	PG-200-102VP-P	PG-200-102AP-P
		External power	PG-200-101GP-3-P	PG-200-102GP-3-P	PG-200-103GP-3-P	PG-200-102VP-3-P	PG-200-102AP-3-P
	Stand type	Battery	PG-200-101GP-S	PG-200-102GP-S	PG-200-103GP-S	PG-200-102VP-S	PG-200-102AP-S
		External power	PG-200-101GP-3-S	PG-200-102GP-3-S	PG-200-103GP-3-S	PG-200-102VP-3-S	PG-200-102AP-3-S
For corrosive gases or liquids	Stand type	Battery	/	PG-208-102GP-S	PG-208-103GP-S	PG-208-102VP-S	/
		External power	/	PG-208-102GP-3-S	PG-208-103GP-3-S	PG-208-102VP-3-S	/
Pressure medium	Unit of display		MPa				
For non-corrosive gases	Panel type	Battery	/	/	PG-200-103GMP-P	/	/
		External power	/	/	PG-200-103GMP-3-P	/	/
	Stand type	Battery	/	/	PG-200-103GMP-S	/	/
		External power	/	/	PG-200-103GMP-3-S	/	/
For corrosive gases or liquids	Stand type	Battery	/	/	PG-208-103GMP-S	/	/
		External power	/	/	PG-208-103GMP-3-S	/	/

	Pressure reference		Gauge				Absolute
	kPa {kgf/cm <sup>2</sup> } Rated pressure range		0 ~ 9.81 {0 ~ 1000 mmH2O}	0 ~ 98.1 {0 ~ 1}	0 ~ 981 {0 ~ 10}	0 ~ - 98.1 {0 ~ - 735 mmHg}	0 ~ 98.1 kPa abs {0 ~ 735 mmHg abs}
Pressure medium	Unit of display		mmH2O	kgf/cm <sup>2</sup>		mmHg	
For non-corrosive gases	Panel type	Battery	Ⓢ PG-200-101G-P	Ⓢ PG-200-102G-P	Ⓢ PG-200-103G-P	Ⓢ PG-200-102VH-P	Ⓢ PG-200-102AH-P
		External power	Ⓢ PG-200-101G-3-P	Ⓢ PG-200-102G-3-P	Ⓢ PG-200-103G-3-P	Ⓢ PG-200-102VH-3-P	Ⓢ PG-200-102AH-3-P
	Stand type	Battery	Ⓢ PG-200-101G-S	Ⓢ PG-200-102G-S	Ⓢ PG-200-103G-S	Ⓢ PG-200-102VH-S	Ⓢ PG-200-102AH-S
		External power	Ⓢ PG-200-101G-3-S	Ⓢ PG-200-102G-3-S	Ⓢ PG-200-103G-3-S	Ⓢ PG-200-102VH-3-S	Ⓢ PG-200-102AH-3-S
For corrosive gases or liquids	Stand type	Battery	/	Ⓢ PG-208-102G-S	Ⓢ PG-208-103G-S	Ⓢ PG-208-102VH-S	/
		External power	/	Ⓢ PG-208-102G-3-S	Ⓢ PG-208-103G-3-S	Ⓢ PG-208-102VH-3-S	/

Ⓢ : Not available

※ Verify the above model numbers when placing orders.

The products marked Ⓢ are manufactured upon receipt of order basis.

<Option>

● DC3.6 V lithium battery — Order item: Lithium battery

( The battery is an expendable item.  
The first one is provided with the unit. )

# PG-200/PG-208

## PRESSURE GAUGES

### STANDARD SPECIFICATIONS

〈Pa version〉

● Unless otherwise specified, the specs are defined at an ambient temperature of  $25 \pm 5$  °C, excitation voltage of 12 VDC and battery of 3.6 VDC.

Item		PG-200					PG-208				
General specifications	Pressure reference	Gauge					Absolute	Gauge			
	Model number	101GP	102GP	103GP 103GMP	102VP		102AP	102GP	103GP 103GMP	102VP	
	Rated pressure range	kPa	10	100	1000	- 100	100 kPa abs	100	1000	- 100	
	Maximum pressure	kPa	20	200	1500	200	200 kPa abs	200	2000	200	
	Break-down pressure	kPa	50	500	2000	500	500 kPa abs	300	3000	300	
	Operating temp., range	°C	0 ~ 50								
	Compensated temp. range	°C	0 ~ 50								
	Operating humidity	%RH	35 ~ 85 (No condensation)								
	Storage temp.	°C	- 20 ~ 70 (Atmospheric pressure, humidity 65 %RH maximum)								
	Pressure medium		Non-corrosive gases					Corrosive gases/liquids compatible with SUS316 and SUS316L			
	Gravitational effect (From vertical position to horizontal position) <sup>1</sup> % F.S.		—					Approx. 0.5	Approx. 0.05	Approx. 0.5	
	Pressure port	Panel type	M 5					—			
		Stand type	R 1/4(PT 1/4)					G 3/8(PF 3/8)			
	Net weight	Panel type	Approx. 130					—			
		Stand type	Approx. 330					Approx. 390			
	Power	Battery type	Lithium battery DC 3.6 V (ER6VM) Battery life 9000 h minimum								
External power		(Selectable by electrical terminals only in case of stand type) Consumption current : 20 mA maximum									
Display	No. of digits	3 1/2									
	Display element	LCD									
	Rated display range	kPa	0.00 ~ 10.00	00.0 ~ 100.0	000 ~ 1000 .000 ~ 1.000 (MPa)	00.0 ~ - 100.0	00.0 ~ 100.0	00.0 ~ 100.0	000 ~ 1000 .000 ~ 1.000 (MPa)	00.0 ~ - 100.0	
	Display cycle	Approx. 3 times/s									
	Display accuracy	maximum	$\pm 0.5$ %F.S. $\pm 2$ counts (at $25 \pm 5$ °C)								
	Thermal error	ZERO maximum	$\pm 0.1$ % F.S./°C $\pm 2$ counts	$\pm 0.05$ % F.S./°C $\pm 2$ counts				$\pm 0.1$ % F.S./°C $\pm 2$ counts			
		SPAN	$\pm 0.05$ % Reading/°C $\pm 2$ counts								
Resolution		1 count									

※ 1 : Pressure medium will be limited to the ones compatible with Fluoro rubber when an O-ring supplied as an accessory is used and also compatible with the material of the joints.

# PG-200/PG-208

## PRESSURE GAUGES

### STANDARD SPECIFICATIONS

<Pa version>

● Unless otherwise specified, the specs are defined at an ambient temperature of  $25 \pm 5$  °C, excitation voltage of 12 VDC and battery of 3.6 VDC.

Item		PG-200					PG-208			
Switch	Model number	101GP	102GP	103GP 103GMP	102VP	102AP	102GP	103GP 103GMP	102VP	
	No. of setting points	2 points of HI and LO (one point of HI only for the external power supply version)								
	Switching capacity	30 V DC, 40 mA (NPN open collector)								
	Residual voltage	1.2 V DC (When current inflow is 40 mA)								
	Output conditions	Measured press $\geq$ LO set press. $\rightarrow$ LO output ON, Measured press. $\geq$ HI set press. $\rightarrow$ HI output ON.								
	Setting method	When the SET button is pressed, HI set pressure is displayed for about 20 seconds first, then LO set pressure is displayed for about 20 seconds. Therefore, high and low pressure settings can be made by VR watching the display.								
	Pressure setting range	kPa	0.00 ~ 10.00	00.0 ~ 100.0	000 ~ 1000 0.000 ~ 1.000 (MPa)	00.0 ~ - 100.0	00.0 ~ 100.0	00.0 ~ 100.0	000 ~ 1000 0.000 ~ 1.000 (MPa)	00.0 ~ - 100.0
	Switch state indication	Indicated by an LCD display (HI or LO) when the switch output is ON.								
	Response	Approx. 100 ms								
	Switching hysteresis	4 counts 以下 4 counts maximum								
Analog voltage output ※ 2	Voltage output: 0 ~ 1 V, Accuracy: $\pm 1$ %F.S. (at $25 \pm 5$ °C), Load: 1 k $\Omega$ minimum									
Additional function	Low battery indication (LO BAT)									
Accessories (for panel type only)	Attachments : Half union (for a tube of $\phi$ 6 O.D.), and Barb fitting (for a tube of $\phi$ 4 I.D.), one piece each. (Panel type only)						—			

※ 2 : Available only for external power type.

# PG-200/PG-208

## PRESSURE GAUGES

### STANDARD SPECIFICATIONS

〈Non SI unit version〉

● Unless otherwise specified, the specs are defined at an ambient temperature of  $25 \pm 5$  °C, excitation voltage of 12 VDC and battery of 3.6 VDC.

Item		PG-200					PG-208				
General specifications	Pressure reference	Gauge					Absolute	Gauge			
	Model number	101G	102G	103G	102VH	102AH	102G	103G	102VH		
	Rated pressure range	kPa {kgf/cm <sup>2</sup> }	9.81 {1000 mmH <sub>2</sub> O}	98.1 {1}	981 {10}	- 98.1 {- 735 mmHg}	98.1 kPa abs {735 mmHg abs}	98.1 {1}	981 {10}	- 98.1 {- 735 mmHg}	
	Maximum pressure	kPa {kgf/cm <sup>2</sup> }	19.6 {2000 mmH <sub>2</sub> O}	196 {2}	1471 {15}	196 {1471 mmHg}	196 kPa abs {1471 mmHg abs}	196 {2}	1961 {20}	196 {1471 mmHg}	
	Break-down pressure	kPa {kgf/cm <sup>2</sup> }	49.0 {5000 mmH <sub>2</sub> O}	490 {5}	1961 {20}	490 {3678 mmHg}	490 kPa abs {3678 mmHg abs}	294 {3}	2941 {30}	294 {2206 mmHg}	
	Operating temp., range	°C	0 ~ 50								
	Compensated temp. range	°C	0 ~ 50								
	Operating humidity	%RH	35 ~ 85 (No condensation)								
	Storage temp.	°C	- 20 ~ 70 (Atmospheric pressure, humidity 65 %RH maximum)								
	Pressure medium		Non-corrosive gases					Corrosive gases/liquids compatible with SUS316 and SUS316L ※ 1			
	Gravitational effect (From vertical position to horizontal position)	% F.S.	—					Approx. 0.5	Approx. 0.05	Approx. 0.5	
	Pressure port	Panel type	M 5					—			
		Stand type	R 1/4(PT 1/4)					G 3/8(PF 3/8)			
	Net weight	Panel type	Approx. 130					—			
		Stand type	Approx. 330					Approx. 390			
	Power	Battery type	Lithium battery DC 3.6 V (ER6VM) Battery life 9000 h minimum								
External power		(Selectable by electrical terminals only in case of stand type) Consumption current : 20 mA maximum									
Display	No. of digits	3 1/2									
	Display element	LCD									
	Rated display range	000 ~ 1000 mmH <sub>2</sub> O	0.000 ~ 1.000 kgf/cm <sup>2</sup>	0.00 ~ 10.00 kgf/cm <sup>2</sup>	000 ~ - 735 ※2 mmHg	000 ~ 735 ※2 mmHg	0.000 ~ 1.000 kgf/cm <sup>2</sup>	0.00 ~ 10.00 kgf/cm <sup>2</sup>	000 ~ - 735 ※2 mmHg		
	Display cycle	Approx. 3 times/s									
	Display accuracy	maximum	± 0.5 %F.S. ± 2 counts (at 25 ± 5 °C)								
	Thermal error	ZERO maximum	± 0.1 % F.S./°C ± 2 counts	± 0.05 % F.S./°C ± 2 counts				± 0.1 % F.S./°C ± 2 counts			
		SPAN	± 0.05 % Reading/°C ± 2 counts								
Resolution		1 count									

※ 1 : Pressure medium will be limited to the ones compatible with Fluoro rubber when an O-ring supplied as an accessory is used and also compatible with the material of the joints.

※ 2 : Measurement can be made up to "- 760 mmHg" for 102VH and up to "760 mmHg" for 102AH (Accuracy not guaranteed beyond the rated pressure.).

# PG-200/PG-208

## PRESSURE GAUGES

### STANDARD SPECIFICATIONS

#### 〈Non SI unit version〉

● Unless otherwise specified, the specs are defined at an ambient temperature of  $25 \pm 5$  °C, excitation voltage of 12 VDC and battery of 3.6 VDC.

Item		PG-200					PG-208		
Switch	Model number	101G	102G	103G	102VH	102AH	102G	103G	102VH
	No. of setting points	2 points of HI and LO (one point of HI only for the external power supply version)							
	Switching capacity	30 V DC, 40 mA (NPN open collector)							
	Residual voltage	1.2 V DC (When current inflow is 40 mA)							
	Output conditions	Measured press $\geq$ LO set press. → LO output ON, Measured press. $\geq$ HI set press. → HI output ON.							
	Setting method	When the SET button is pressed, HI set pressure is displayed for about 20 seconds first, then LO set pressure is displayed for about 20 seconds. Therefore, high and low pressure settings can be made by VR watching the display.							
	Pressure setting range	000 ~ 1000	.000 ~ 1.000	0.00 ~ 10.00	000 ~ - 735 ※3	000 ~ 735 ※3	.000 ~ 1.000	0.00 ~ 10.00	000 ~ - 735 ※3
	Switch state indication	Indicated by an LCD display (HI or LO) when the switch output is ON.							
	Response	Approx. 100 ms							
	Switching hysteresis	4 counts 以下 4 counts maximum							
Analog voltage output	Voltage output: 0 ~ 1 V, Accuracy: $\pm 1$ %F.S. (at $25 \pm 5$ °C), Load: 1 k $\Omega$ minimum								
Additional function	Low battery indication (LO BAT)								
Accessories (for panel type only)	Attachments : Half union (for a tube of $\phi$ 6 O.D.), and Barb fitting (for a tube of $\phi$ 4 I.D.), one piece each. (Panel type only)						—		

※ 3 : Pressure setting can be made up to “- 760 mmHg” for 102VH and up to “760 mmHg” for 102AH (Accuracy not guaranteed beyond the rated pressure.).

※ 4 : Available only for external power type.

### ENVIRONMENTAL CHARACTERISTICS

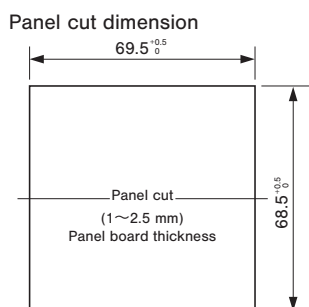
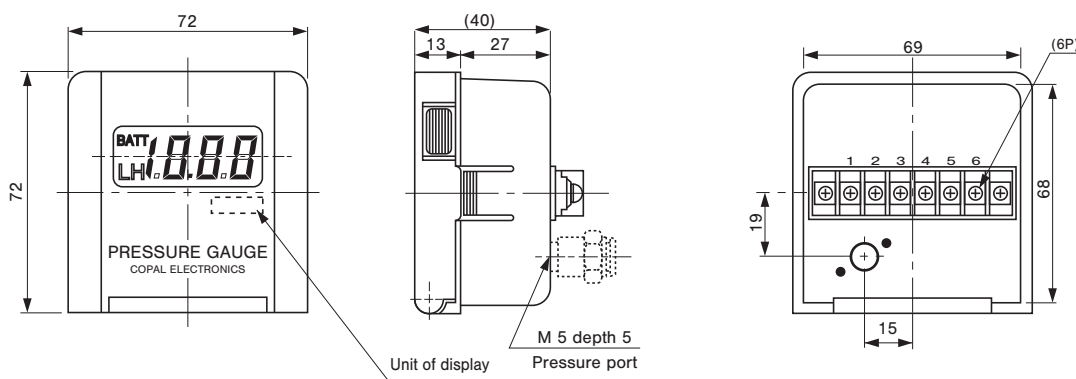
Test item	Test conditions	Permissible change
Vibration	Amplitude 1.5 mm P-P, 10 ~ 55 Hz, 3 directions for 2 hours each (packed)	Pressure indication, switch setting and analog output (zero and span) variation: $\pm 1$ %F.S. maximum each. (Note: No analog output for the battery type.)
Shock	98.1 m/s <sup>2</sup> , 3 directions for 3 times each (packed)	
Pressure cycling	0 ~ Rated pressure	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	

# PG-200/PG-208 PRESSURE GAUGES

## OUTLINE DIMENSIONS

Unless otherwise specified, tolerance :  $\pm 0.5$  (Unit: mm)

### PG-200 Panel type For non-corrosive gases

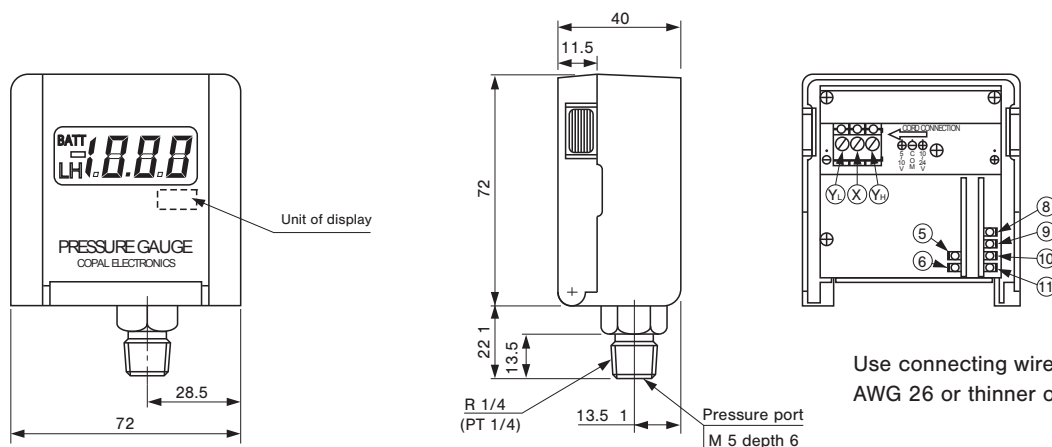


#### <PG-200 Panel type> Electrical connection

	1	2	3	4	5	6
Battery type	Switch HI ⊕	Switch LO ⊖	⊕	⊖		
External power	Voltage output ⊕	Switch HI ⊖	⊕	Switch LO ⊖		

### PG-200 Stand type For non-corrosive gases

Electrical terminals are located inside.



Use connecting wires  
AWG 26 or thinner one.

#### Electrical connection

	D	E	F	⑤	⑥	⑧	⑨	⑩	⑪
Battery type						Switch HI ⊕	Switch LO ⊖		
						⊖	⊕		
External power	External power			Voltage output		Switch HI	Switch LO		
DC5 ~ 10 V	⊕	⊖		⊖	⊕	⊖	⊕	⊖	⊕
DC10 ~ 24 V		⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕

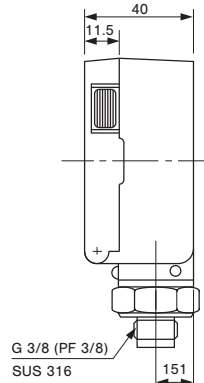
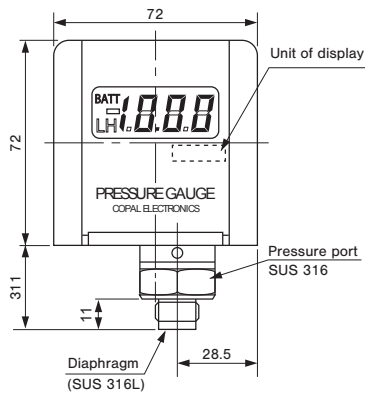
※ External power should be connected to proper terminals depending on the voltage.

# PG-200/PG-208 PRESSURE GAUGES

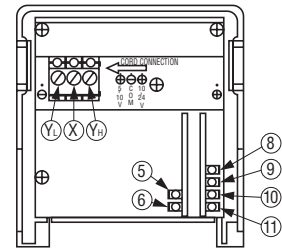
## OUTLINE DIMENSIONS

● PG-208  
Stand type  
For corrosive  
gases or liquids

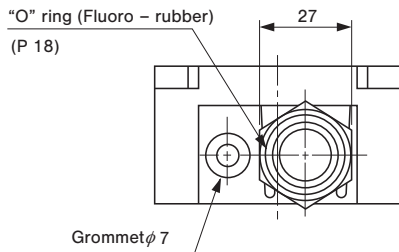
Unless otherwise specified, tolerance : ± 0.5 (Unit: mm)



Electrical terminals are located inside.



Use connecting wires AWG 26 or thinner one.



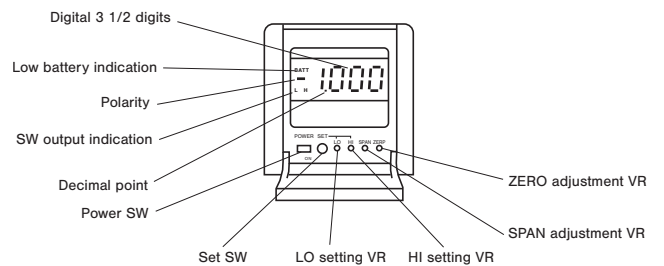
### Electrical connection

	D	E	F	(5)	(6)	(8)	(9)	(10)	(11)
Battery type						Switch HI		Switch LO	
						⊖	⊕	⊖	⊕
External power	External power			Voltage output		Switch HI		Switch LO	
	⊕	⊖		⊖	⊕	⊖	⊕	⊖	⊕
DC5 ~ 10 V	⊕	⊖		⊖	⊕	⊖	⊕	⊖	⊕
DC10 ~ 24 V		⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕

※ External power should be connected to proper terminals depending on voltage.

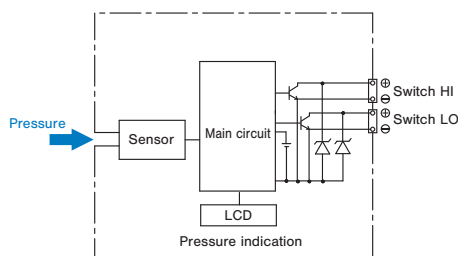
⚠ Extra care should be taken with the diaphragm part. Do not touch the diaphragm directly to avoid damaging the diaphragm.

## INSIDE OF A PANEL

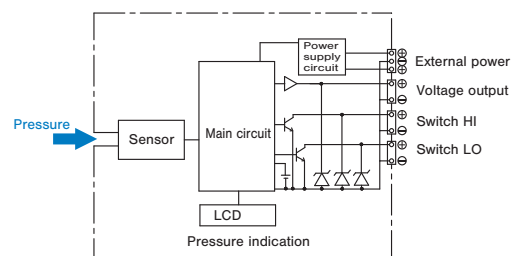


## INTERNAL ELECTRICAL SCHEMATICS

### Battery type



### External power type



※ No Switch LO as to Panel type.