

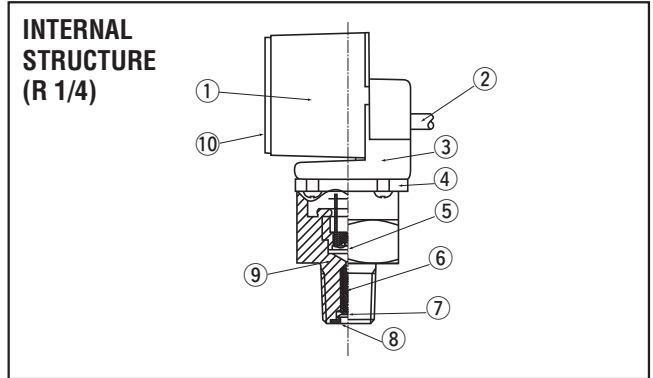
# PRESSURE GAUGES

# PG-35H



## FEATURES

- For high pressure
- For corrosive gases and liquids compatible with SUS316L stainless steel diaphragm
- Compact • Light weight • Drip-proof structure (30 mm sq • 200 g • IP65)
- Low consumption by nondisplay mode
- Set data protection by panel lock function



Part name	Material
① Shield case	PBT (Polybutyleneterephthalate)
② Push cable	Vinyl chlorid resin
③ Adaptor	Aluminum
④ Sensor holder	SUS316L
⑤ Diaphragm	SUS316L
⑥ M4 screw	SUS303 (R2 only)
⑦ Push nut	Spring steel (R2 only)
⑧ Plug	SUS303 (R2 only)
⑨ Fitting	R2 : Iron, Nickel G3 : SUS316
⑩ Panel sheet	Polyester

## MODEL NUMBER DESIGNATION

**PG-35H-104R-NR2**

Series name

Pressure range

104 : -0.1 ~ 10 MPa  
354 : -0.1 ~ 35 MPa

Pressure reference

R : Compound pressure (Negative pressure ~ Positive pressure)

Fitting

R2 : R 1/4  
G3 : G 3/8

Switch output interface

N : NPN open collector  
P : PNP open collector

## LIST OF MODEL NUMBERS

Fitting	Pressure reference		Gauge	
	Switch output interface	Rated pressure range	-0.1 ~ 10 MPa	-0.1 ~ 35 MPa
R2 (R 1/4)	NPN		PG-35H-104R-NR2	PG-35H-354R-NR2
	PNP		➡ PG-35H-104R-PR2	➡ PG-35H-354R-PR2
G3 (G 3/8)	NPN		PG-35H-104R-NG3	PG-35H-354R-NG3
	PNP		➡ PG-35H-104R-PG3	➡ PG-35H-354R-PG3

※ Verify the above model numbers when placing orders.

Marked ➡ is manufactured upon receipt of order basis.

# PG-35H

## PRESSURE GAUGES

### STANDARD SPECIFICATIONS

● Unless otherwise specified, the specs are defined at an ambient temperature of 25±5 °C and excitation voltage of 12 V DC.

Item		Model number	PG-35H	
			104R	354R
General specifications	Pressure reference		Gauge	
	Pressure medium	R2	Corrosive hydraulic oil compatible with Iron or Nickel	
		G3	Corrosive gases/liquids compatible with SUS 316 and SUS 316L	
	Rated pressure range	MPa	- 0.1 ~ 10	- 0.1 ~ 35
	Maximum pressure	MPa	20	50
	Break-down pressure	MPa	40	50
	Operating temp. range	°C	- 10 ~ 50	
	Compensated temp. range	°C	0 ~ 50	
	Operating humidity	%RH	35 ~ 85 (No condensation)	
	Protection grade		IP65	
	Type of mounting		R 1/4, G 3/8	
	Material of pressure port attachment		SUS 316L	
	Net weight	g	Approx. 200 (Including 2 m cable)	
	Thermal error		± 3 %F.S. (0 ~ 50 °C)	
	Insulation resistance		100 MΩ minimum	
	Dielectric strength		500 V AC 1 minute	
	Input voltage		10.8 ~ 30 V DC (Including ripple percentage)	
Consumption current		50 mA maximum		
Display	Display element		Full 3-digit LED	
	Rated display range	MPa	- 0.10 ~ 9.99	- 00.1 ~ 35.0
	Multiplier settings		Max. 11 settings	
	Display cycle		Approx. 4 times/s	
	Negative pressure display		“-” LED is ON	
	Display accuracy		± 2 %	
Switch output	Output status		NPN/PNP	
	Output mode		2-point output (Transistor, Open collector output)	
	Switching capacity		Separate mode / window comparator mode	
	Residual voltage		30 V DC 100 mA maximum	
	State indication		1.2 V maximum (NPN), 2.2 V maximum (PNP)	
	Switch hysteresis		Output 1 (Green LED), Output 2 (Red LED) Lighted when output is ON.	
	Repeatability		0 ~ 300 counts Adjustable	
	Response		± 0.2 %F.S. ± 1 count	
Analog output	Output mode		Approx. 5, 25, 250, 2500 ms adjustable	
	Output voltage		3 modes	
	V zero : Pin=0, V span : Pin=0 ~ Pin (H)		1 ~ 5 V ( R mode 104R-ZERO : 1.04 ± 0.2 V, SPAN : 3.96 ± 0.2 V, 354R-ZERO : 1.01 ± 0.2V, SPAN : 3.99 ± 0.2 V ) G mode ZERO : 1 ± 0.2 V, SPAN : 4 ± 0.2 V ※The accuracy at V mode is not guaranteed.	
	Impedance		10 kΩ	
Resolution		1/204		

### ENVIRONMENTAL CHARACTERISTICS

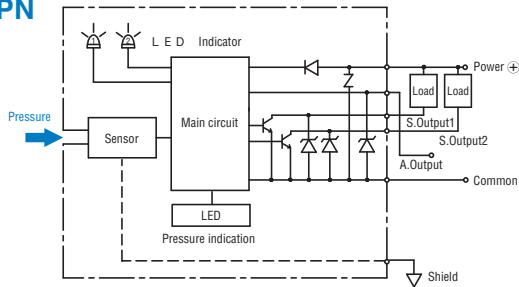
Test item	Test conditions	Permissible change
Vibration	10 ~ 500 Hz, 98.1 m/s <sup>2</sup> or 1.5 mm P-P, 3 directions for 2 hours each	Pressure indication, switch operating points and analog output variation : ± 2 %F.S. maximum each after test
Shock	490 m/s <sup>2</sup> , 3 directions for 3 times each	
Pressure cycling	0 ~ Rated pressure, 10 <sup>6</sup> cycles	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	

# PG-35H

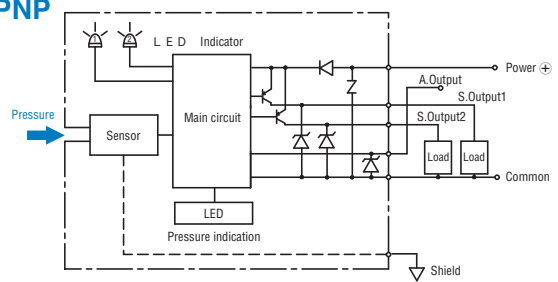
## PRESSURE GAUGES

### INTERNAL ELECTRICAL SCHEMATICS

#### NPN



#### PNP



### SELECTION OF DISPLAY MULTIPLIER

The last digit/letter represents the selection code : Blinking red LED indicates negative pressure.

Display multiplier	Pressure range (-Pr ~ +Pr)	
	104R	354R
1 × 1		
2 × 0.0102	- 1.0 ~ 99.9	- 1 ~ 350
3 × 10.2		
4 × 7.501		
5 × 102		
6 × 0.01	- 1.0 ~ 99.9	- 1 ~ 350
7 × 10		
8 × 0.145		
9 × 0.000145	- 0.01 ~ 1.45	- 0.01 ~ 5.07
A × 0.001	- 0.10 ~ 9.99	- 00.1 ~ 35.0
b × 0.2953		

Diagonal column: Display multiplier cannot be selected due to resolution and number of digits. (Selection code is not indicated either.) Selection code is set at "A" prior to shipment.

### ANALOG OUTPUT MODE

Pressure range		-Pr	0	Pr
		Display		
1	R mode	1 V	5 V	5 V
2	G mode	1 V → 5 V		

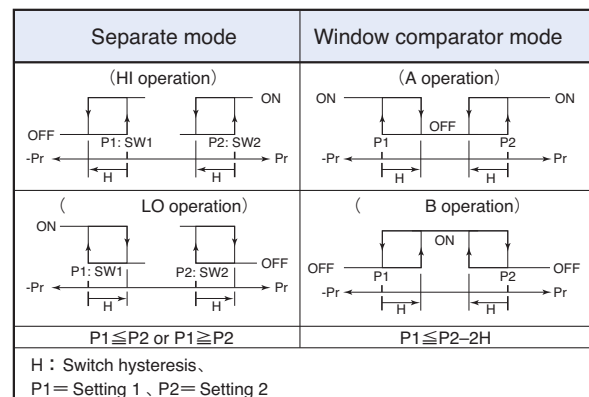
Selection code is set at "G" prior to shipment.

### SWITCH OUTPUT MODE

Output	SW1		SW2	
	Separate	Window comparator	Separate	Window comparator
Mode	HI	LO	HI	LO
Operation	A	B	A	B
S-1	○		○	
S-2	○		○	
S-3		○		○
S-4		○		○
C-5		○		○
C-6		○		○
C-7				○
C-8				○
Pressure setting (Operating point)	Setting 1	(Lower limit) : Setting 1 (Upper limit) : Setting 2	Setting 2	(Lower limit) : Setting 1 (Upper limit) : Setting 2

Note 1. In the Separate Mode, setting 1 corresponds to SW1, and Setting 2 corresponds to SW2.

Note 2. In the Window Comparator Mode, the minimum value for SW1 and SW2 corresponds to Setting 1 and the maximum value corresponds to Setting 2.

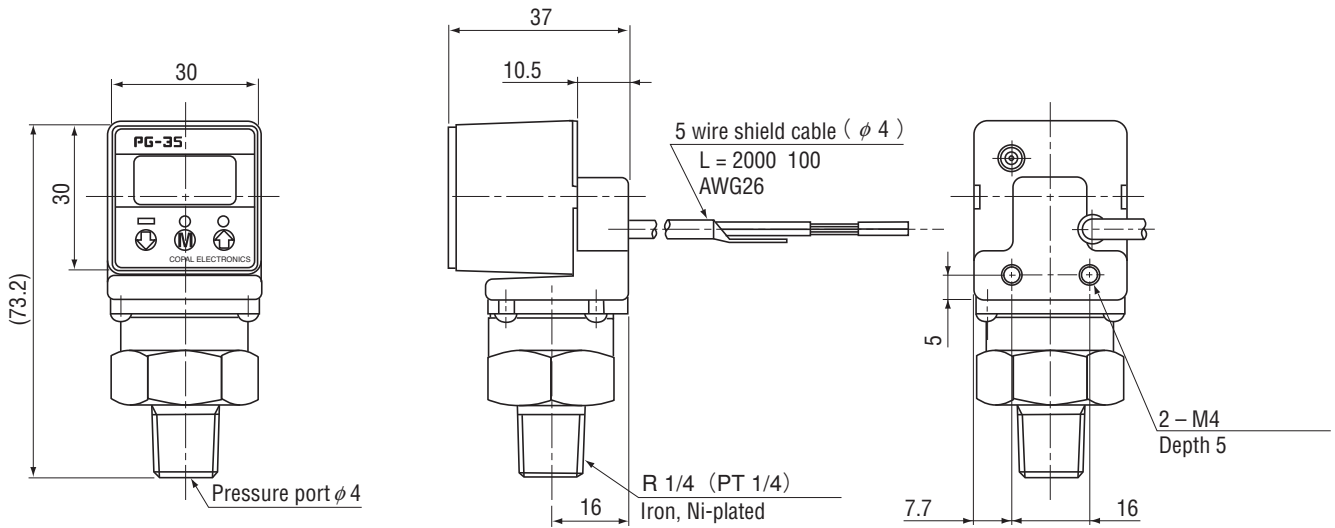


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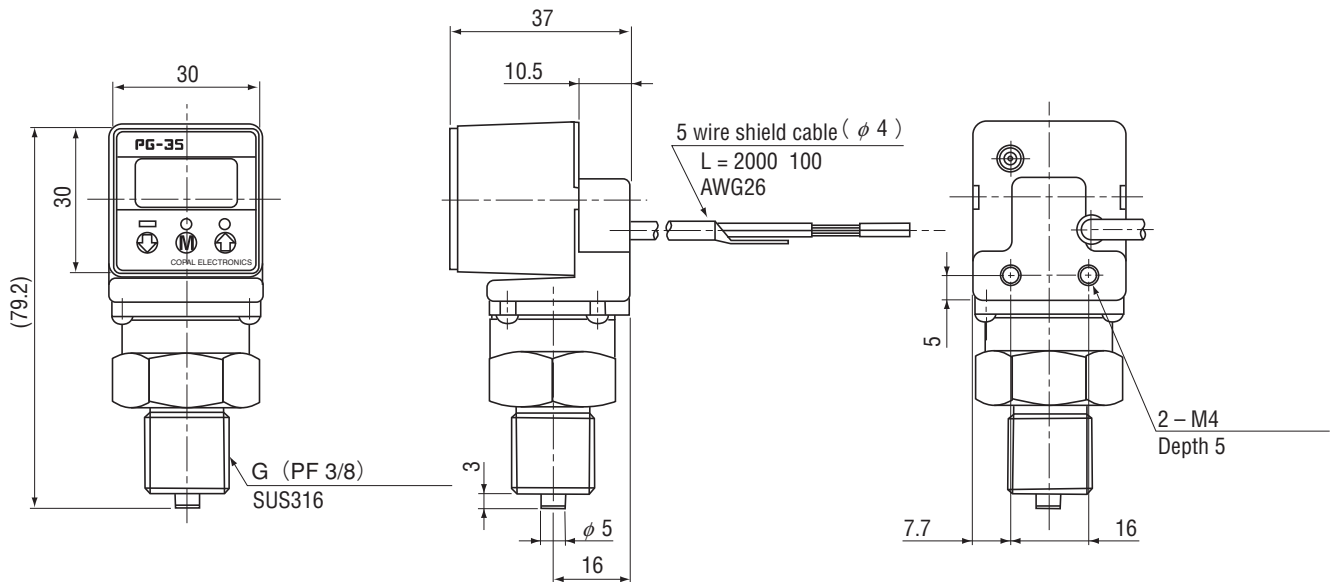
## OUTLINE DIMENSIONS

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

### ● Fitting R2 (R 1/4)



### ● Fitting G3 (G 3/8)



Wire color	Connection
Brown	Power $\oplus$
Gray	Analog output
Black	Switch output 1
White	Switch output 2
Blue	Common
Shield	Fitting

※ Accessories (sold separately) are available for common use with PG-30, PG-35, PG-75 series. (P.173)