Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

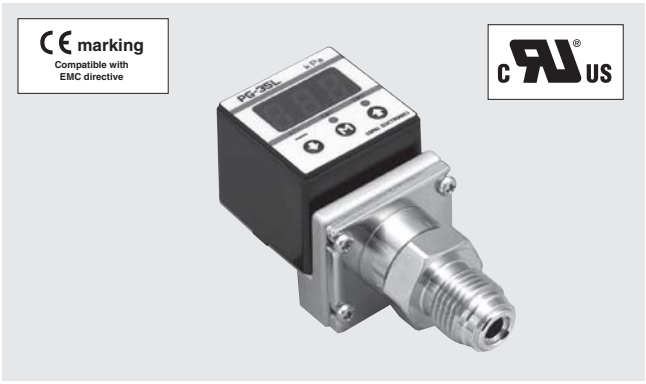
We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

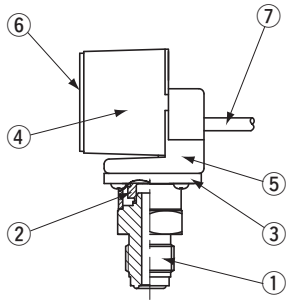
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

PRESSURE GAUGES

PG-35L



INTERNAL STRUCTURE (9/16-18UNF)



	Part name	Material
①	Fitting	SUS316L
②	Sensor module (oil less)	
③	Sensor holder	
④	Housing (Aluminum coating)	PBT (UL-94-HB)
⑤	Adapter	ADC 10, 12
⑥	Panel sheet	Polyester (UL746)
⑦	Shielded cable	Vinyl chlorid resin (UL2844)

FEATURES

- For high vacuum 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

MODEL NUMBER DESIGNATION

P G - 3 5 L - 1 0 2 R - N V C

Series name

Pressure range
102 : – 100 ~ 100 kPa
103 : – 100 ~ 1000 kPa

Pressure reference
R : Compound pressure (Negative pressure ~ Positive pressure)

Fitting
R2 : R 1/4
G2 : G 1/4
VC : 9/16 - 18 UNF (Gusket joint)

Switch output interface
N : NPN open collector
P : PNP open collector

LIST OF MODEL NUMBERS

Fitting	Pressure reference: Switch output interface	Pressure reference: Rated pressure range	Gauge: –100 ~ 100 kPa	Gauge: –100 ~ 1000 kPa
R2 (R 1/4)	NPN		PG-35L-102R-NR2	PG-35L-103R-NR2
	PNP		➔ PG-35L-102R-PR2	➔ PG-35L-103R-PR2
G2 (G 1/4)	NPN		PG-35L-102R-NG2	PG-35L-103R-NG2
	PNP		➔ PG-35L-102R-PG2	➔ PG-35L-103R-PG2
VC (9/16-18 UNF)	NPN		PG-35L-102R-NVC	PG-35L-103R-NVC
	PNP		➔ PG-35L-102R-PVC	➔ PG-35L-103R-PVC

※ Verify the above model numbers when placing orders.

Marked ➔ is manufactured upon receipt of order basis.

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-35L	
			102R	103R
General specifications	Pressure reference		Gauge	
	Pressure medium		Corrosive gases/liquids compatible with SUS 316L	
	Rated pressure range	kPa	– 100 ~ 100	– 100 ~ 1000
	Maximum pressure	kPa	200	1500
	Break-down pressure	kPa	300	2000
	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 1/4, VC (9/16 - 18 UNF)	
	Material of pressure port attachment		SUS 316L	
	Net weight	g	Approx. 150 (Including 2 m cable)	
	Thermal error		± 3 %F.S. (0 ~ 50 °C)	
	Insulation resistance		50 MΩ minimum	
	Dielectric strength		125 V DC 1 minute	
	Vacuum working pressure		1.4×10^{-4} Pa abs minimum	
	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	kPa	– 99.9 ~ 99.9	– 100 ~ 999
	Multiplier settings		Max. 11 settings	
	Display cycle		Approx. 4 times/s	
	Negative pressure display		"–" LED is ON	
	Display accuracy		± 1 %	
Switch output	Output status		NPN/PNP	
			2-point output (Transistor, Open collector output)	
	Output mode		Separate mode / window comparator mode	
	Switching capacity		30 V DC 100 mA maximum	
	Residual voltage		1.2 V maximum (NPN), 2.2 V maximum (PNP)	
	State indication		Output 1 (Green LED), Output 2 (Red LED) Lighted when output is ON.	
	Switch hysteresis		0 ~ 300 counts Adjustable	
	Repeatability		± 0.2 %F.S. ± 1 count	
	Response		Approx. 5, 25, 250, 2500 ms adjustable	
Analog output	Output mode		3 modes	
	Output voltage V zero : Pin=0, V span : Pin=0 ～ Pin (H)		1 ~ 5 V (G/V mode ZERO : 1 ± 0.2 V, SPAN : 4 ± 0.2 V / R mode ZERO : 3 ± 0.2 V, SPAN : 2 ± 0.2 V)	103 R (R mode) ZERO : 1.36 ± 0.2 V SPAN : 3.64 ± 0.2 V
	Impedance		10 kΩ	
	Resolution		1/204 (Approx. 4.9mV/ Approx.0.123% F.S.)	

ENVIRONMENTAL CHARACTERISTICS

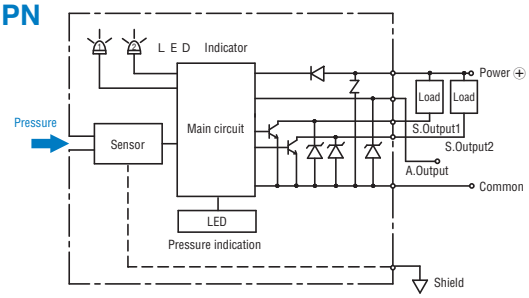
Test item	Test conditions	Permissible change
Vibration	10 ~ 500 Hz, 98.1 m/s² or 1.5 mm P-P, 3 directions for 2 hours each	[± 2 %F.S. maximum after test ※1 Amount of analog output fluctuation is permitted by adding conversion error of 20 mV.]
Shock	490 m/s², 3 directions for 3 times each	
Pressure cycling	0 ~ Rated pressure、10^6 cycles	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	
EMC	EMI : EN55011: 2007, A2 : 2007 Group 1, class B EMS : EN61326-1: 2006 Table 2	Pressure indication, switch operating pressure and analog output : ± 5 %F.S. maximum during test ※1

※ 1 Change in the pressure indication, switch operating points and analog output.

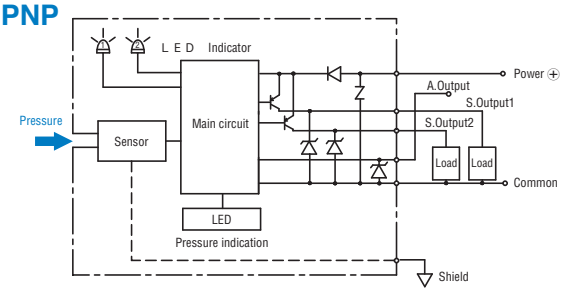
PG-35L
PRESSURE GAUGES

■ 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)	
			102R	103R
Selection code	1	× 1	– 99.9 ~ 99.9	– 100 ~ 999
	2	× 0.0102		– 1.02 ~ 9.99
	3	× 10.2	– 999 ~ 999	
	4	× 7.501	– 750 ~ 750	
	5	× 102		
	6	× 0.01		– 1.00 ~ 9.99
	7	× 10	– 999 ~ 999	
	8	× 0.145	– 14.5 ~ 14.5	– 14 ~ 145
	9	× 0.000145		
	A	× 0.001		– 0.10 ~ 1.00
	b	× 0.2953	– 29.5 ~ 29.5	– 29 ~ 29.5

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

Display \ Pressure range		–Pr	0	Pr
1	R mode	1 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			
Mode	Separate		Window comparator		Separate		Window comparator	
Operation	HI	LO	A	B	HI	LO	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.

Separate mode	Window comparator mode
(HI operation) ON / OFF P1: SW1 / P2: SW2 -Pr … Pr H	(A operation) ON / OFF P1 / P2 -Pr … Pr H
(LO operation) ON / OFF P1: SW1 / P2: SW2 -Pr … Pr H	(B operation) ON / OFF P1 / P2 -Pr … Pr H
P1≦P2 or P1≧P2	P1≦P2–2H

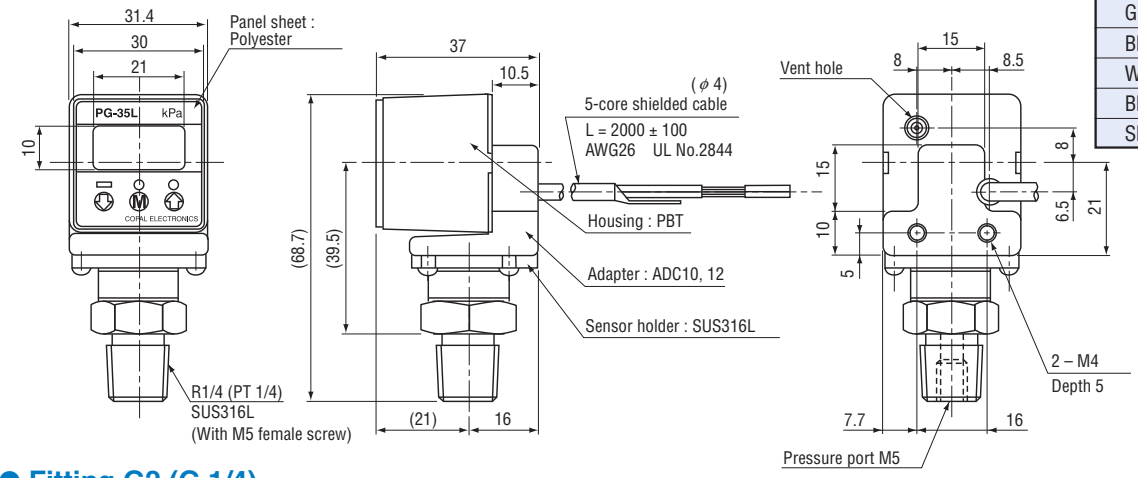
H : Switch hysteresis、
P1 = Setting 1 、P2 = Setting 2

OUTLINE DIMENSIONS

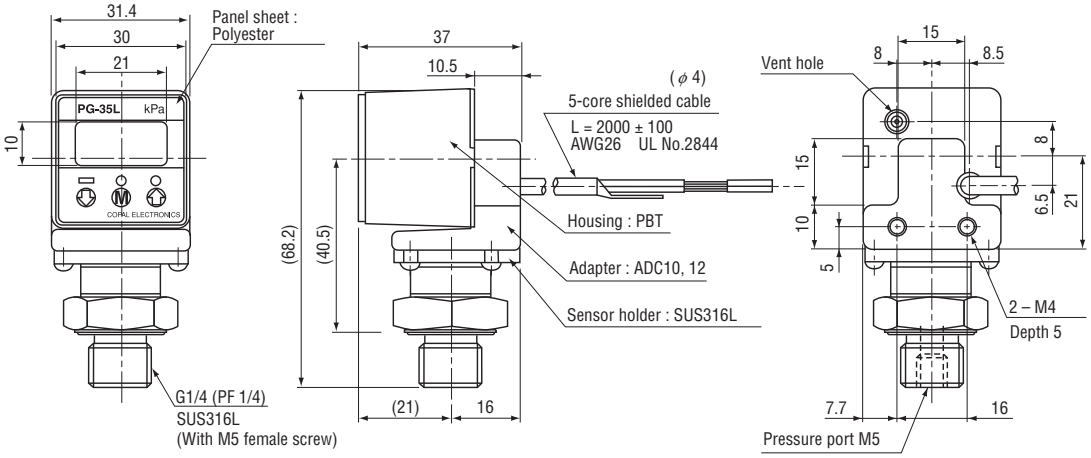
Unless otherwise specified tolerance : ± 0.5 (Unit: mm)

● Fitting R2 (R 1/4)

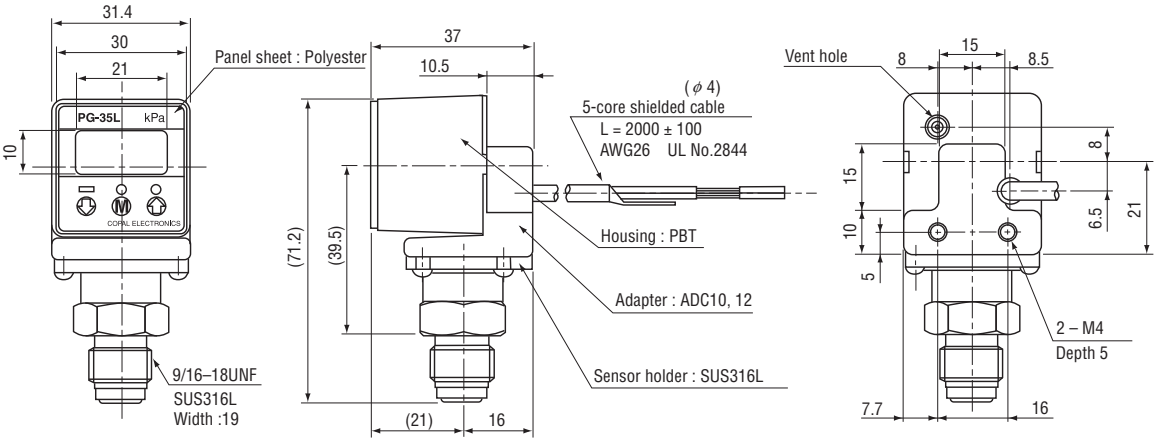
Wire color	Connection
Brown	Power ⊕
Gray	Analog output
Black	Switch output 1
White	Switch output 2
Blue	Common
Shield	Fitting



● Fitting G2 (G 1/4)



● Fitting VC (9/16 - 18 UNF)



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