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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.

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PRESSURE GAUGES

PG-30



FEATURES

Compact and lightweight general-purpose pressure gauges

Innovative general-purpose gauges of compact design (30mm sq.) and drip-proof structure (IP65).

- Clear indication by LED
 - Easy-to-see LED assures clear readings on the panel and even in a dark place.
- Various modes and units can be selected according to applications

Eight different pressure units Three analog output modes Eight switch output modes

Meet EMC standards

103: - 100 ~ 1000 kPa

- EN 55011 (EMI) EN 61326-1 (EMS)
- Low consumption by nondisplay mode
- Set data protection by panel lock function

INT	INTERNAL STRUCTURE					
l						
	Part name	Material				
1	Part name Pressure sensor	Material P-2000				
1 2						
	Pressure sensor	P-2000				
2	Pressure sensor Sensor "0" ring	P-2000 NBR				
② ③	Pressure sensor Sensor "O" ring Adaptor	P-2000 NBR Aluminum Die-casting				

MODEL NUMBER DESIGNATION

Non-corrosive gases type

Series name

Switch output interface

N: NNPN open collector
P: PNP open collector
P: PNP open collector
P: PNP open collector
P: PNP open collector
R: Compound pressure (Negative pressure ~ Positive pressure)

■ LIST OF MODEL NUMBERS

Pressure medium	Fitting	Pressure reference	Gauge			
Fressure ineutum		Switch output interface Rated pressure range	−10 ~ 10 kPa	−100 ~ 100 kPa	−100 ~ 1000 kPa	
Non correcive goods	Rc 1/8	NPN	PG-30-101R-N	PG-30-102R-N	PG-30-103R-N	
Non-corrosive gases		PNP	PG-30-101R-P	PG-30-102R-P	PG-30-103R-P	

^{*} Verify the above model numbers when placing orders.

■ ACCESSORIES (Sold separately)

Name	Series name	Contents	Applicable model	
Rear panel bracket set	ACPG-001	Rear panel bracket and M 3×4 male screw (2pcs.)	PG-30	
Panel bracket set	ACPG-002	Panel bracket and M 3 × 4 male screw (2pcs.)	PG-30	
Panel holder set	ACPG-003	Panel holder cover Panel holder Panel stopper (2pcs.)	PG-30 · PG-35 · PG-75 · PG-35H · PG-35L	
Holder cover set (For protecting gauge operating panel)	ACPG-004	Panel holder cover Panel holder	PG-30 · PG-35 · PG-75 · PG-35H · PG-35L	

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-30						
	item Moder number		101R	101R 102R					
	Pressure reference		Gauge						
	Pressure medium		Non-corrosive gases						
	Rated pressure range	kPa	−10 ~ 10	−100 ~ 100	−100 ~ 1000				
	Maximum pressure	kPa	20	200	1500				
	Break-down pressure	kPa	50	500	2000				
SII	Operating temp. range	°C		−10 ~ 50					
specifications	Compensated temp. range	°C	0 ~ 50						
iii	Operating humidity	%RH	35 ~ 85						
bec	Protection grade			In accordance with IEC IP65					
	Pressure port			2-Rc 1/8					
General	Material of pressure por	t attachment	Aluminum die-casting, silicone						
Ge	Net weight	g		Approx. 80 (Including 2 m cable)					
	Thermal error			±3 %F.S. (0 ~ 50 °C)					
	Insulation resistance		100 MΩ minimum (DC500 V)						
	Dielectric strength		1 minute (Leakage current 1 mA maximum)						
	Input voltage		10.8 ~ 30 V DC (Including ripple percentage)						
	Consumption current		50 mA maximum						

STANDARD SPECIFICATIONS

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

	Model number		PG-30				
	Item Model number	101R	102R	103R			
	Display element	Full 3-digit LED					
a A	Rated display range kPa	- 9.99 ~ 9.99	- 99.9 ~ 99.9	− 100 ~ 999			
Display	Multiplier settings		Max. 11 settings				
	Negative pressure display		Red LED is ON.				
	Display accuracy		± 1 %				
	Output status		NPN/PNP				
	Output status	2-point output (Transistor, Open collector output)					
Ħ	Output mode	Separate mode / window comparator mode					
l th	Switching capacity	30 V DC 100 mA Short-circuit protection					
 	Residual voltage	1.2 V maximum (NPN), 2.2 V maximum (PNP) (At load current of 100 mA)					
Switch output	State indication	Output 1 (Green LED), Output 2 (Red LED) Lighted when output is ON.					
S	Switch hysteresis		0 ~ 300 counts (Adjustable)				
	Repeatability	± 0.2 %F.S. ± 1 count (± 0.3 %F.S. maximum)					
	Response	Approx. 5, 25, 250, 2500 ms Adjustable					
=	Output mode	,	3 modes				
Analog output	Output voltage V zero : Pin=0, V span : Pin=0 ∼ Pin (H)	1 ~ 5 V G/V mode ZERO : 1 ± 0 R mode ZERO : 3 ± 0	0.2 V, SPAN : 4 ± 0.2 V) 103 R 0.2 V, SPAN : 2 ± 0.2 V)	(R mode) ZERO : 1.36 ± 0.2 V SPAN : 3.64 ± 0.2 V			
log	Impedance	10 kΩ					
√na	Resolution	1/204					
	Response	Approx. 5, 25, 250, 2500 ms Adjustable					
	Accessories	S	eal screw, M 5 connecting joint scre	W			

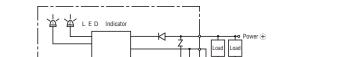
ENVIRONMENTAL CHARACTERISTICS

Test item	Test conditions	Permissible change
Vibration	$10 \sim 500$ Hz, $98.1~\text{m/s}^2$ or $1.5~\text{mm}$ P-P, $3~\text{directions}$ for $2~\text{hours}$ each	
Shock	490 m/s², 3 directions for 3 times each	± 2 %F.S. maximum after test ※ 1 Amount of analog output fluctuation is permitted
Pressure cycling	0 ~ Rated pressure \ 106 cycles	by adding conversion error of 20 mV.
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 : \pm 5 %F.S. maximum during test \pm 1

PNP

■ INTERNAL ELECTRICAL SCHEMATICS

NPN





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

■ SELECTION OF DISPLAY MULTIPLIER

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

Die	nlov	multiplier	Pressure range $(-Pr \sim + Pr)$					
פום	Display multiplier		101R	102R	103R			
	1	×1	– 9.99 ~ 9.99	- 99.9 ~ 99.9	– 100 ~ 999			
	2	× 0.0102			- 1.02 ~ 9.99			
	3	× 10.2	– 99.9 ~ 99.9	– 999 ~ 999				
용	4	× 7.501	− 75.0 ~ 75.0	− 750 ~ 750				
00	5	× 102	– 999 ~ 999					
اقا	6	× 0.01			− 1.00 ~ 9.99			
Selection	7	× 10	- 99.9 ~ 99.9	– 999 ~ 999				
Se	8	× 0.145	− 1.45 ~ 1.45	– 14.5 ~ 14.5	– 14 ~ 145			
	9	× 0.000145						
	Α	× 0.001			− 0.10 ~ 1.00			
	b	× 0.2953	− 2.95 ~ 2.95	– 29.5 ~ 29.5	– 29 ~ 295			

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 "1" prior to shipment.

ANALOG OUTPUT MODE

Pressure range		–Pr ≪	Pr	
Display		`		
1	R mode	1 V ———		——> 5 V
2	G mode		1 V ———	——> 5 V
3	V mode	5 V ←	——— 1 V	

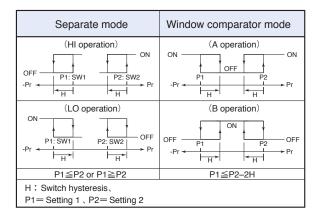
When shipped from our factory-101R: R mode is set at "1", 102R: V mode is set at "3" and 103R: G mode is set at "2". The above 3 types can be set at "1", "2" or "3". However, the accuracy at V mode of 103R can't be guaranteed.

■ SWITCH OUTPUT MODE

Output	SW1				SW2			
Mode	Separate		Window comparator		Separate		Window comparator	
Operation	НІ	LO	Α	В	НІ	LO	Α	В
S-1 S-2 S-3 S-4	00	00			0	0		
C-5 C-6 C-7 C-8			00	00			0	0 0
Pressure setting (Operating point)	Setting 1		1,	t): Setting 1 t): Setting 2	Setti	ng 2	(Lower limit	:) : Setting 1

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

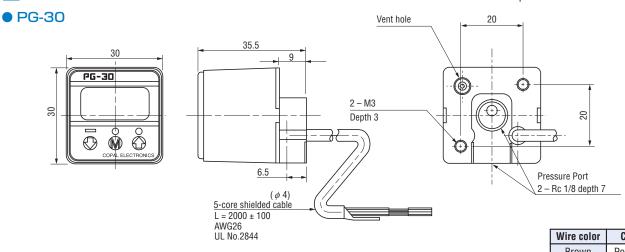
Note 2. In the Window Comparator Mode, the minimum value for SW1 and SW2 corresponds to Setting 1 and the maximum value corresponds to Setting 2.



PG-30PRESSURE GAUGES

OUTLINE DIMENSIONS

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



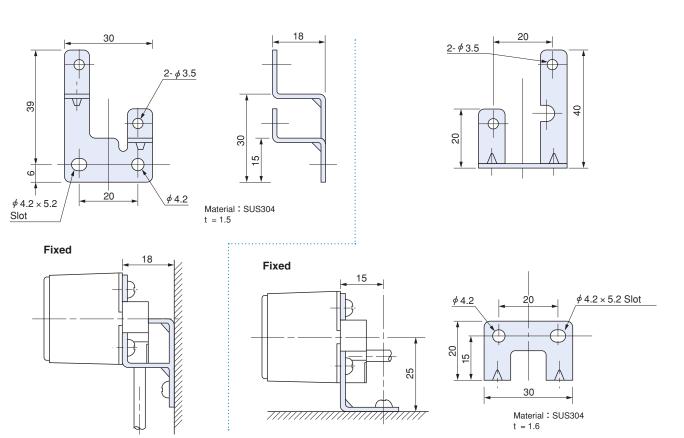
Wire colorConnectionBrownPower ⊕GrayAnalog outputBlackSwitch output 1WhiteSwitch output 2BlueCommonShieldFitting

■ HOW TO MOUNT OPTIONAL ACCESSORIES (Sold separately)

(Unit: mm)

PG-30 Rear panel mounting bracket

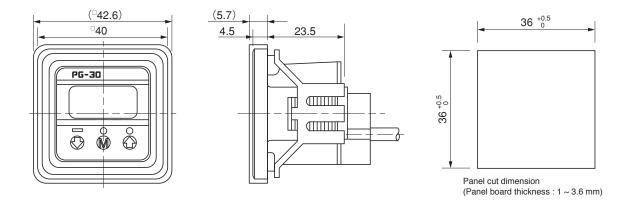
PG-30 Panel mounting bracket



■ HOW TO MOUNT OPTIONAL ACCESSORIES (Sold separately)

(Unit: mm)

● PG-30 · PG-35 · PG-35H · PG-35L · PG-75 Panel cut holder set & holder cover set



Panel holder cover set

