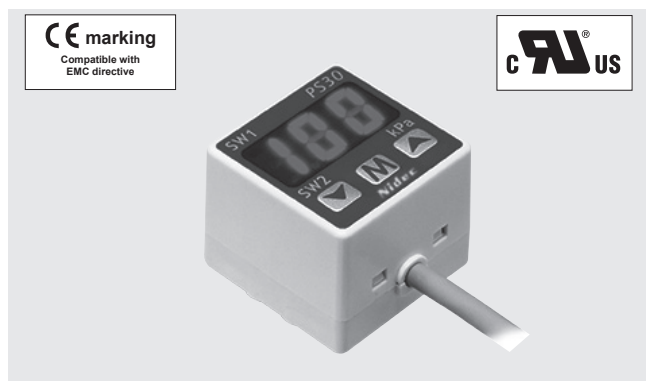


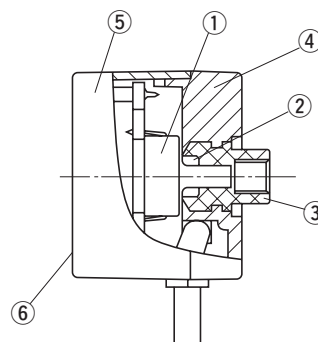
PRESSURE SWITCHES WITH GAUGES **PS30**



FEATURES

- Optimum for pneumatic equipment and semiconductor manufacturing equipment
- Larger size display and high luminance LED for best visibility
- Eight switch output modes
- Low consumption by nondisplay mode

INTERNAL STRUCTURE



Part name		Material
①	Pressure transducer	P-2000
②	"O" ring	Fluoro-rubber
③	Pressure port	Brass (Ni-plated)
④	Base	ABS (Acrylonitrile-butadiene-styrene)
⑤	Housing	
⑥	Panel sheet	Polyester

MODEL NUMBER DESIGNATION

P S 3 0 - 1 0 2 R - N

Series name

Rated pressure range

102R : -100 ~ 100 kPa
103R : -0.1 MPa ~ 1.00 MPa

Switch output interface

N : NPN open collector
P : PNP open collector

LIST OF MODEL NUMBERS

Switch output interface	Pressure reference	Gauge	
	Rated pressure range	-100 ~ 100 kPa	-100 ~ 1000 kPa
NPN		PS30-102R-N	PS30-103R-N
PNP		PS30-102R-P	PS30-103R-P

※ Please refer to the LIST OF MODEL NUMBERS when placing orders.

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PRESSURE SWITCHES WITH GAUGE

STANDARD SPECIFICATIONS

● Unless otherwise specified, the specs are defined at an ambient temperature of $25 \pm 5^\circ\text{C}$ and excitation voltage of 24 VDC.

Item		Model number	PS30	
			102R	103R
General specifications	Pressure reference		Gauge	
	Rated pressure range	kPa	- 100 ~ 100	- 100 ~ 1000
	Maximum pressure	kPa	200	1500
	Break-down pressure	kPa	500	2000
	Operating temp. range	°C	- 10 ~ 50	
	Compensated temp. range	°C	0 ~ 50	
	Thermal error		± 3 %F.S. (0 ~ 50 °C)	
	Operating humidity	%RH	35 ~ 85 (No condensation)	
	Storage temp.	°C	- 20 ~ 70 (Atmospheric pressure, humidity 65 %RH maximum)	
	Pressure medium		Non-corrosive gases	
	Insulation resistance	MΩ minimum	100 (DC 500 V)	
	Dielectric strength		500 VAC, 60 s (Leakage current 1 mA maximum)	
	Pressure port		M5 female screw, "O" ring groove (P8)	
	Net weight		Approx. 60 (Including 1.5 m cable)	
	Power	Supply voltage		VDC
Consumption current		mA maximum		
Display	Display element		LED (2 and 1/2 digit)	
	Rated display range	kPa	- 100 ~ 100	_____
		MPa	_____	- 0.10 ~ 1.00
	Display accuracy		± 1 %F.S.	
	Resolution		1 count	
Switch output	No. of outputs		2	
	Output interface		Open collector output (NPN or PNP)	
	Display		Output 1 (SW1), Output 2 (SW2) Light on when output is ON.	
	Repeatability	%F.S.	± 0.3 maximum	
	Switch hysteresis		0 ~ 30 counts (Adjustable)	
	Switching capacity		30 VDC 100 mA maximum Short-circuit protection	
	Residual voltage	V maximum	1.2 V (NPN), 2.2 V (PNP)	
	Response		ms	
		Approx 5, 25, 250 (Adjustable)		

ENVIRONMENTAL CHARACTERISTICS

Test item	Test conditions	Permissible change
Vibration	10 ~ 500 Hz, 98.1 m/s ² or 1.5 mm P-P, 3 directions for 2 hours each	$\pm 2\%$ F.S. maximum after test ※ 1
Shock	490 m/s ² , 3 directions for 3 times each	
Pressure cycling	0 ~ Rated pressure, 10 ⁶ cycles	
Moisture resistance	40 $^\circ\text{C}$, 90 ~ 95 %RH, 240 hrs.	
EMC	EMI : EN55011: 2007, A2 : 2007 Group 1, class B EMS : EN61326-1 : 2006 Table 2	Switch operating pressure : $\pm 5\%$ F.S., maximum during tset ※ 1

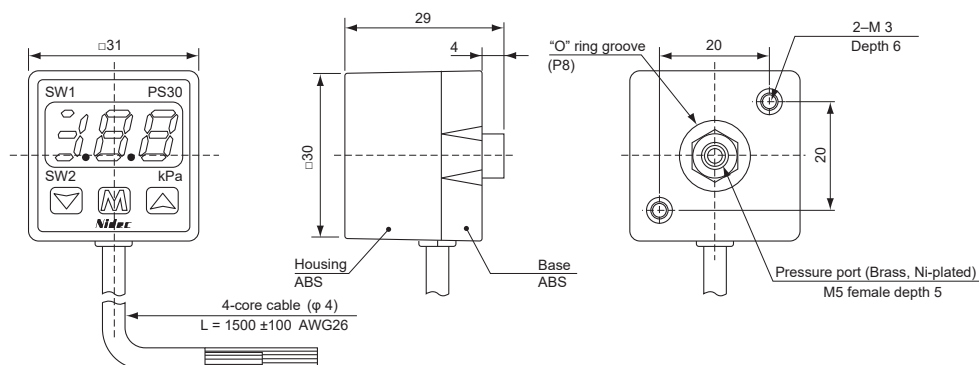
※ 1 Change in the pressure indication, switch operating points.

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PRESSURE SWITCHES WITH GAUGES

OUTLINE DIMENSIONS

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

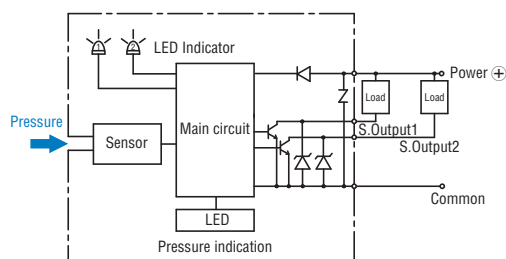


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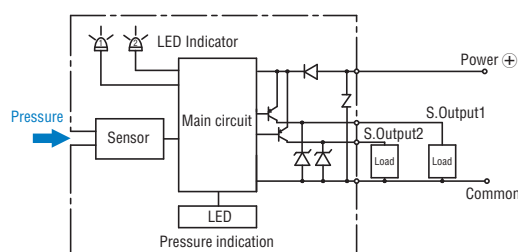
Wire color	Connection
Brown	Power ⊕
Black	Switch output 1
White	Switch output 2
Blue	Common

INTERNAL ELECTRICAL SCHEMATICS

● NPN open collector



● PNP open collector



SELECTION OF DISPLAY MULTIPLIER

Please refer to the right list.

(Note) Diagonal column : No unit can be selected due to resolution and number of digits.

Selection number	102R		103R	
	Display multiplier	Display range	Display multiplier	Display range
0	$\times 1$	-100 ~ 100		
1			$\times 1$	-0.10 ~ 1.00
2	$\times 0.75$	75 ~ 75		
3	$\times 0.01$	-1.00 ~ 1.00	$\times 10$	-1.0 ~ 10.0
4	$\times 0.145$	-14.5 ~ 14.5	$\times 145$	-14 ~ 145

SWITCH OUTPUT MODE

Output		SW 1				SW 2			
Mode		Separate		Window comparator		Separate		Window comparator	
Operation		HI	LO	A	B	HI	LO	A	B
Selection number	0	○				○			
	1	○					○		
	2		○			○			
	3		○				○		
	4			○				○	
	5			○				○	○
	6				○			○	
	7				○				○
		Setting 1 Note 1		Lower limit : Setting 1 Upper limit : Setting 1 Note 2		Setting 1 Note 1		Lower limit : Setting 1 Upper limit : Setting 1 Note 2	

Separate mode	Window comparator mode
(HI operation) (LO operation) $P1 \leq P2$ or $P1 \geq P2$	(A operation) (B operation) $P1 \leq P2 + 2H$
P1 : Setting 1, P2 : Setting 2, H : Switch hysteresis	

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

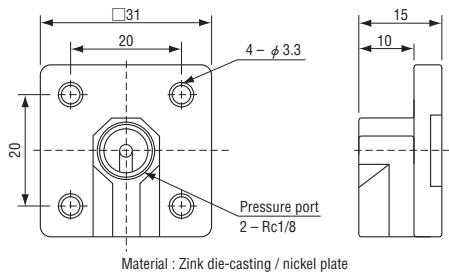
(Note 2) In the Window Comparator Mode, the minimum value for SW1 and SW2 corresponds to Setting 1 and the maximum value corresponds to Setting 2.

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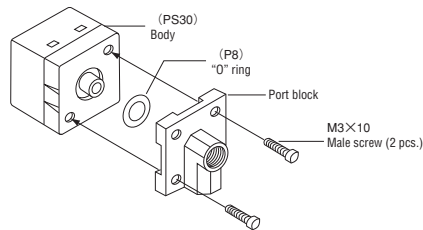
PRESSURE SWITCHES WITH GAUGES

■ HOW TO MOUNT OPTIONAL ACCESSORIES (Sold separately)

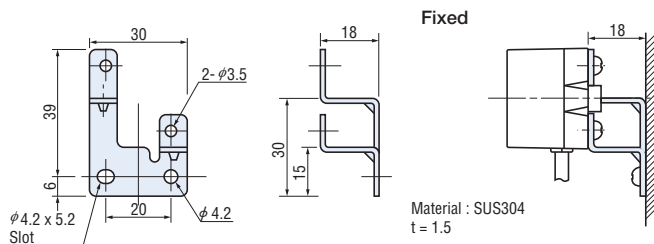
● Port block



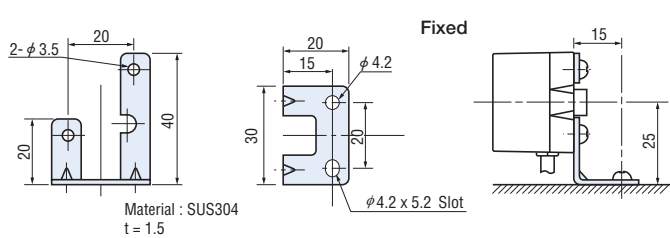
● How to mount port block



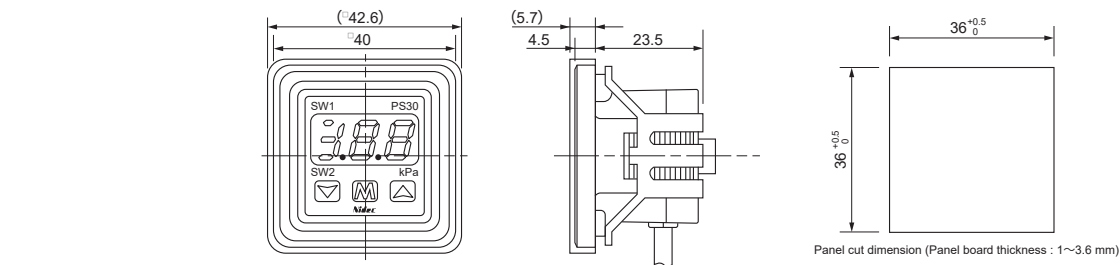
● Rear panel mounting bracket(ACPG-001)



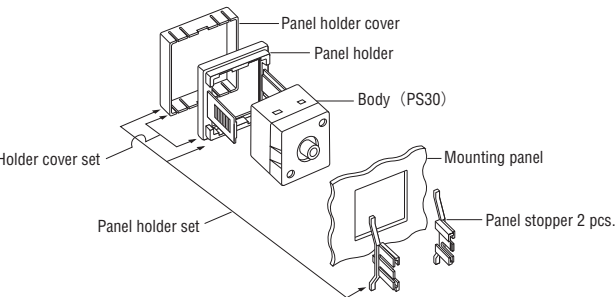
● Panel mounting bracket (ACPG-002)



● Panel mounting bracket (Option)



● How to mount panel holder cover set



Name	Description	Contents	Applicable model
ACPG-001	Rear panel bracket set	Rear panel bracket and M3 x 4 male screw (2 pcs.)	PG-30·PS30
ACPG-002	Panel bracket set	Panel bracket and M3 x 4 male screw (2 pcs.)	PG-30·PS30
ACPG-003	Holder cover set (For protecting operating panel)	Panel holder cover Panel holder Panel stopper (2 pcs.)	PG-30·PG-35 PG-75·PG-35H PG-35L·PS30
ACPG-004	Holder cover set (For protecting operating panel)	Panel holder cover Panel holder	PG-30·PG-35 PG-75·PG-35H PG-35L·PS30
ACPG-005	Port block	Port block "O" ring (P8) M3 x 10 Male screw 2 pcs. Seal screw 1 pc.	PS30
ACPG-007	Holder stopper set	Panel holder Panel stopper (2pcs.)	PG-30·PG-35 PG-75·PG-35H PG-35L·PS30