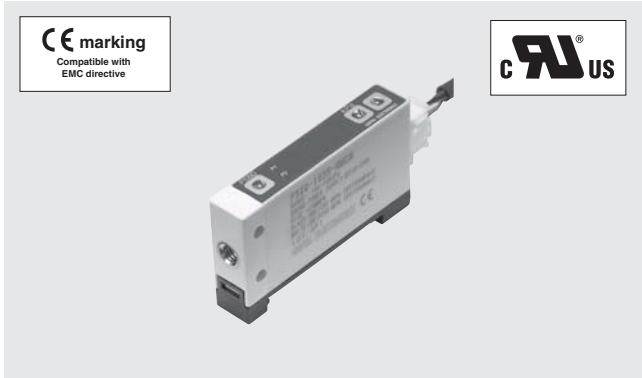


# PRESSURE SWITCHES WITH GAUGE

# PS60



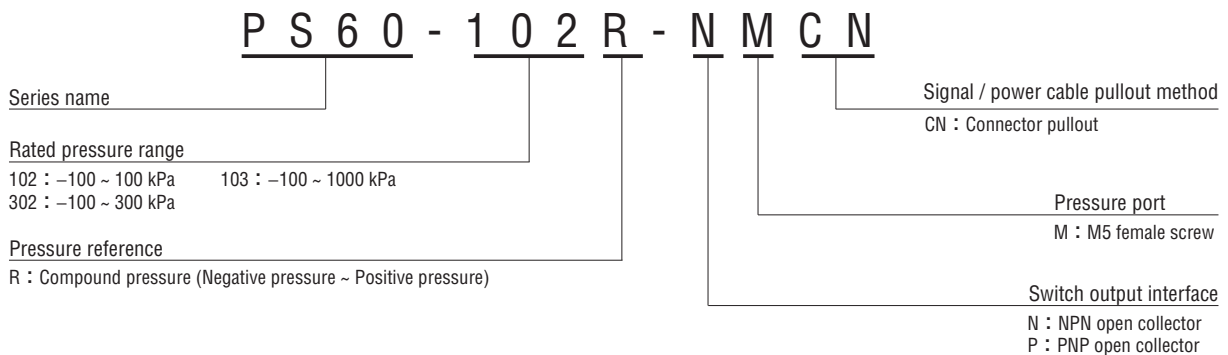
## FEATURES

- Applicable for negative through positive pressure with 10 mm thick slim housing
- Suitable for use in clean rooms with easy-to-use push keys
- Plug-in connector is provided for easy installation and maintenance
- Space saving and mountable on DIN rails
- Data protection by panel lock system
- Low consumption by nondisplay mode

**INTERNAL STRUCTURE**

Part name	Material
① Pressure port	Polyamide (Resin of MXD6 series) Brass (Ni-plated)
② "O" ring	Fluoro-rubber
③ Sensor module board	—
④ Housing	PBT (Polybutyleneterephthalate)
⑤ Display board	—
⑥ Operation panel seet	Polyester

## MODEL NUMBER DESIGNATION



## LIST OF MODEL NUMBERS

Pressure port	Switch output	102R	302R	103R
		-100 ~ 100 kPa	-100 ~ 300 kPa	-100 ~ 1000 kPa
M 5 female screw	NPN open collector output	PS60-102R-NMCN	PS60-302R-NMCN	PS60-103R-NMCN
	PNP open collector output	PS60-102R-PMCN	PS60-302R-PMCN	PS60-103R-PMCN

※ Verify the above model numbers when placing orders.

# PS60

## PRESSURE SWITCHES WITH GAUGE

### STANDARD SPECIFICATIONS

● Unless otherwise specified, the specs are defined at an ambient temperature of  $25 \pm 5$  °C and excitation voltage of 24 V DC.

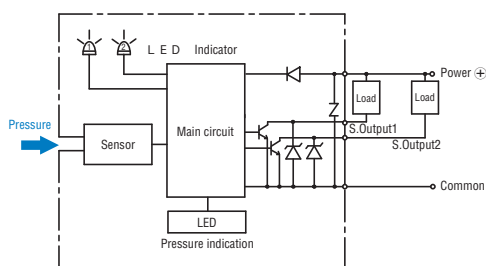
Item	Model number	PS60			
		102R	302R	103R	
General specifications	Pressure reference	Gauge			
	Rated pressure range	kPa	-100 ~ 100	-100 ~ 300	-100 ~ 1000
	Maximum pressure	kPa	200	600	1500
	Break-down pressure	kPa	500	1000	2000
	Operating temp. range	°C	-10 ~ 50		
	Compensated temp. range	°C	0 ~ 50		
	Operating humidity	%RH	35 ~ 85 (No condensation)		
	Storage temp.	°C	-20 ~ 70 (Atmospheric pressure, humidity 65 %RH maximum)		
	Pressure medium		Non-corrosive gases		
	Insulation resistance	MΩ min.	100 (500 V DC)		
	Thermal error		± 3 %F.S. (0 ~ 50 °C)		
	Dielectric strength		500 V AC, 60 s (Leakage current 1 mA maximum)		
	Pressure port		M5 Female screw		
	Net weight	g	Approx. 50 (Including cable)		
Power	Supply voltage	V DC	12 ~ 24 V ± 10 % (Including ripple percentage)		
	Consumption current	mA max.	30		
Display	Display element		3-digit LED		
	Rated display range		-100 ~ 100 kPa	-100 ~ 300 kPa	-0.10 ~ 1.00 MPa
	Display accuracy 0 ~ 50 °C (Reference temp. 25 °C)		± 1 %F.S.		
	Resolution		1 count		
Switch output	No. of outputs		2		
	Output interface		Open collector output (NPN or PNP)		
	Setting method		Adjustable by panel switch		
	Adjustable range		-110 kPa (approx.) ~ "999" counts		
	Display		Red LED ON		
	Repeatability		± 0.3 %F.S. maximum		
	Switch hysteresis		0 ~ 30 counts		
	Switching capacity		30 V 100 mA maximum		
	Residual voltage	V maximum	1.2 (NPN), 2.2 (PNP)		
	Response	ms	Approx. 5, 25, 250		
Accessories		PS60 cable, DIN rail adaptor			

### ENVIRONMENTAL CHARACTERISTICS

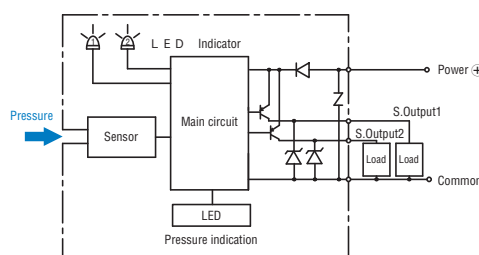
Test item	Test conditions	Permissible change
Vibration	10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s <sup>2</sup> , 3 directions for 2 hours each	Pressure indication and switch operating output : ± 2 %FS., maximum each after test
Shock	490 m/s <sup>2</sup> , 3 directions for 3 times each	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	
Pressure cycling	0 ~ Rated pressure, 10 <sup>6</sup> cycles	
EMC	EMI : EN55011: 2007, A2 : 2007 Group 1, class B EMS : EN61326-1 : 2006 Table 2	Pressure indication and switch operating output, analog output : ± 5 %FS., maximum during test

### CIRCUIT DIAGRAMS

#### ● NPN open collector

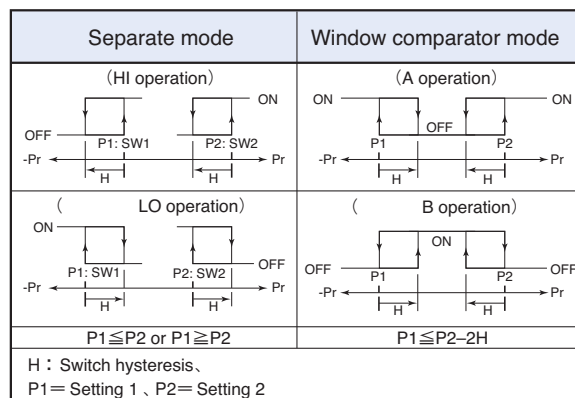


#### ● PNP open collector



### SWITCH OUTPUT MODE

Output	SW1		SW2	
	Separate	Window comparator	Separate	Window comparator
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.

### DISPLAY RANGE

● Display range can be selected as the table.

Note) “—” on the table indicates that it is not selectable in relation to resolution and display lines.

※ : In terms of setting display range, please verify the default mode.

Number	Rated pressure range		
	102R	302R	103R
1 (kPa)	-100 ~ 100	-100 ~ 300	—
2 (MPa)	—	—	-0.10 ~ 1.00
3	-75 ~ 75	-75 ~ 225	—
4	-1.00 ~ 1.00	-1.00 ~ 3.00	-1.0 ~ 10.0
5	-14.5 ~ 14.5	-14.5 ~ 43.5	-14 ~ 145
6	29.5 ~ 0.0*	29.5 ~ 0.0*	—

※ Atmospheric pressure

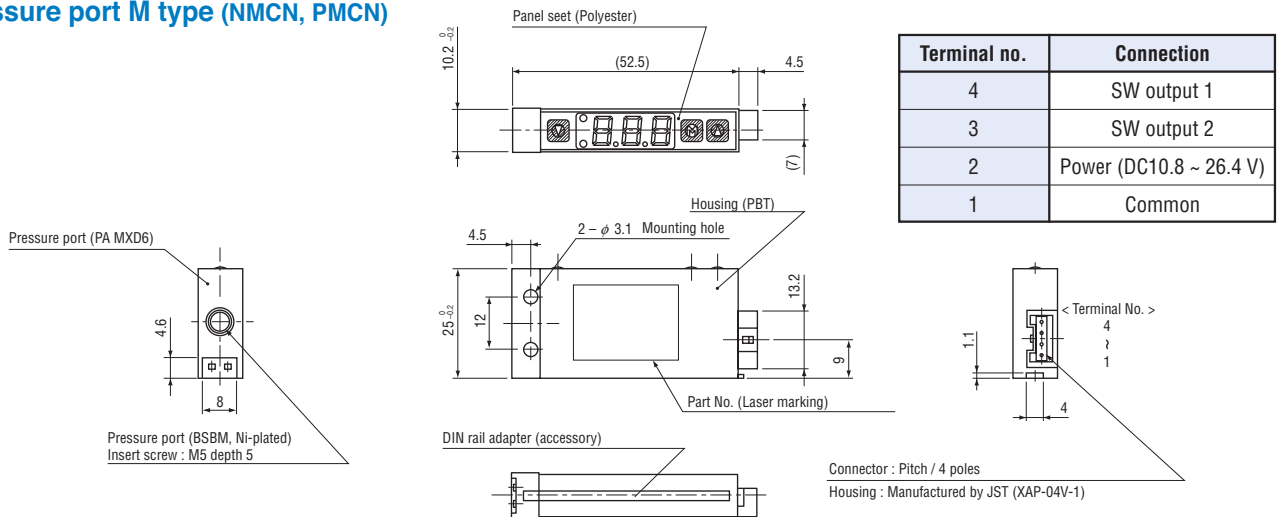
# PS60

## PRESSURE SWITCHES WITH GAUGE

### OUTLINE DIMENSIONS

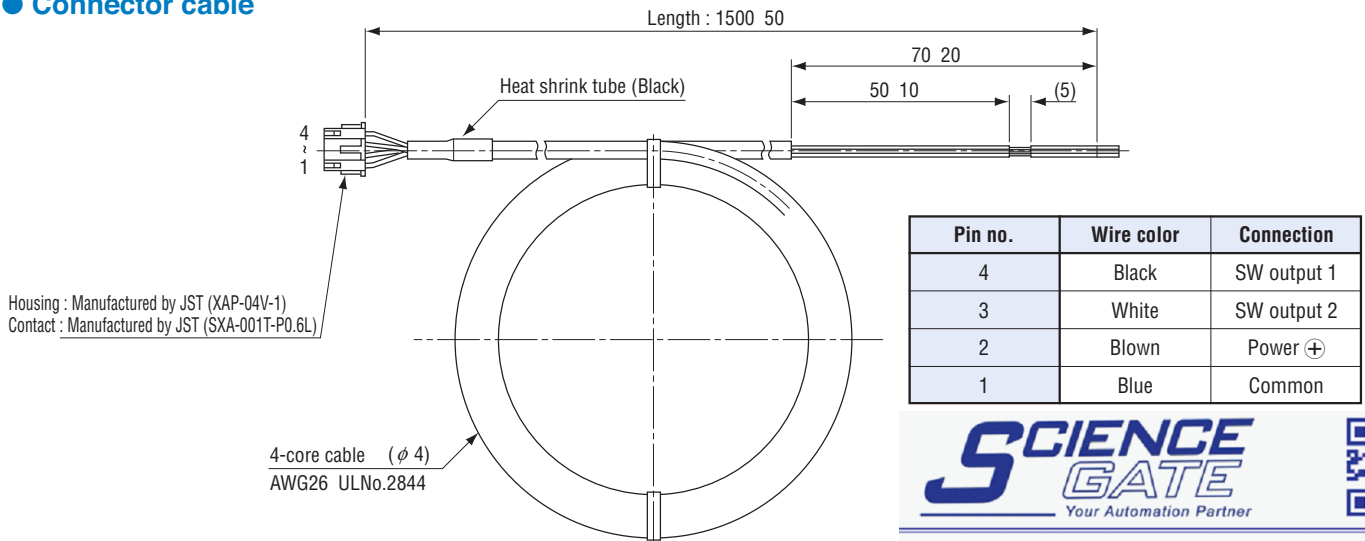
#### Pressure port M type (NMCN, PMCN)

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

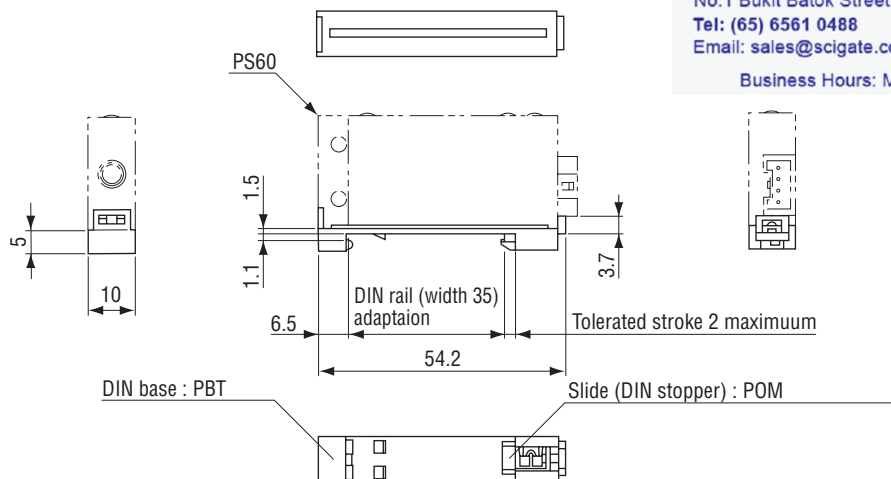


### Accessories

#### Connector cable



#### DIN rail adapter



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