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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 SWITCHES WITH GAUGE

PS6



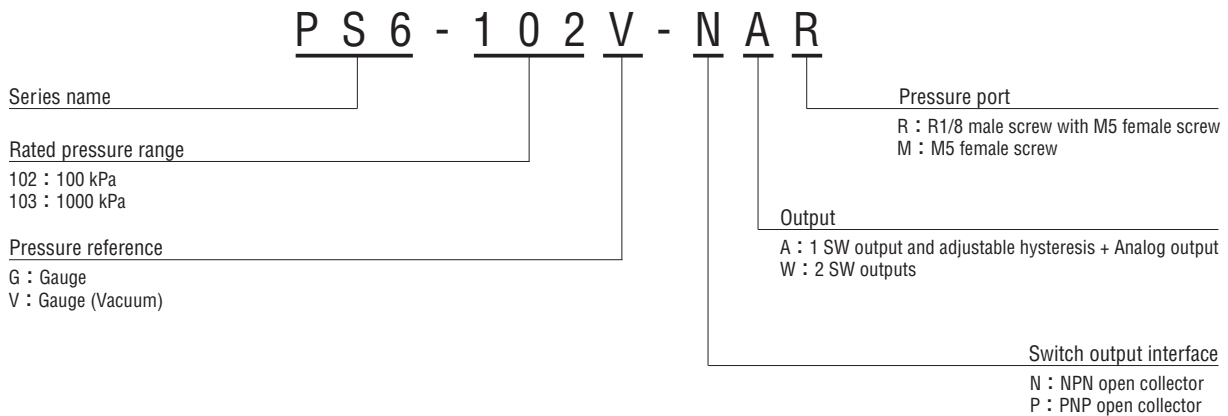
FEATURES

- Solidstate pressure switch with no mechanical moving parts
- 2 types of pressure ports are available
- Open collector output of either NPN or PNP is available
- Analog output type available

INTERNAL STRUCTURE (M5 female screw)

Part name	Material
① Pressure port	POM (Polyoxymethylene)
② Housing	PC (Polycarbonate)
③ "O" ring	Fluoro-rubber
④ Sensor module board	—
⑤ Protection panel	PET (Polyethyleneterephthalate)
⑥ Main panel	

MODEL NUMBER DESIGNATION



LIST OF MODEL NUMBERS

Pressure port	Outputs	Switch output	102V	102G	103G
			0 ~ -100 kPa	0 ~ 100 kPa	0 ~ 1000 kPa
R 1/8 male screw	Adjustable hysteresis switch output + Analog output	NPN open collector output	PS6-102V-NAR	PS6-102G-NAR	PS6-103G-NAR
		PNP open collector output	PS6-102V-PAR	PS6-102G-PAR	PS6-103G-PAR
	Switch outputs (2 points)	NPN open collector output	PS6-102V-NWR	PS6-102G-NWR	PS6-103G-NWR
		PNP open collector output	PS6-102V-PWR	PS6-102G-PWR	PS6-103G-PWR
M 5 female screw	Adjustable hysteresis switch output + Analog output	NPN open collector output	PS6-102V-NAM	PS6-102G-NAM	PS6-103G-NAM
		PNP open collector output	PS6-102V-PAM	PS6-102G-PAM	PS6-103G-PAM
	Switch outputs (2 points)	NPN open collector output	PS6-102V-NWM	PS6-102G-NWM	PS6-103G-NWM
		PNP open collector output	PS6-102V-PWM	PS6-102G-PWM	PS6-103G-PWM

※ Verify the above model numbers when placing orders.

PS6

PRESSURE SWITCHES WITH GAUGE

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	PS6			
		102V	102G	103G	
General specifications	Pressure reference	Gauge			
	Rated pressure range	kPa	0 ~ -100	0 ~ 100	0 ~ 1000
	Maximum pressure	kPa	200	200	1500
	Break-down pressure	kPa	500	500	2000
	Operating temp. range	°C	-10 ~ 60		
	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)		
	Dielectric strength		500 V AC, 60 s (Leakage current 1 mA maximum)		
	Pressure port		R 1/8 (M5 Female screw) or M5		
	Net weight	g	Approx. 50 (Including cable)		
Power	Supply voltage	V DC	12 ~ 24 V \pm 10 % (Including ripple percentage)		
	Consumption current	mA max.	35		
Display	Display element		2-digit LED		
	Rated display range		-0 ~ -99 kPa	0 ~ 99 kPa	.0 ~ .99 MPa
	Display accuracy 0 ~ 50°C (Reference temp. 25 °C)		\pm 3 %F.S. \pm 2counts		
	Resolution		1 count		
Switch output	No. of outputs		1 or 2		
	Output interface		Open collector output (NPN or PNP)		
	Setting method		Adjustable by VR	※1	
	Adjustable range		0 ~ 100 of rated pressure	※2	
	Display		Red LED ON (W type only : SW1 Red, SW2 Green)		
	Accuracy 0 ~ 50°C (Reference temp. 25 °C)	%F.S.	\pm 3		
	Switch hysteresis		Approx. 0 ~ 15 % of the set value (W type only 2 % F.S. maximum)		
	Switching capacity		30 V 80 mA maximum		
	Residual voltage	V maximum	0.8 (NPN), 1.2 (PNP)		
Response	ms	Approx. 2			
Analog output	Output voltage	V	1 ~ 5		
	Zero voltage	V	1 \pm 0.1		
	Span voltage	V	4 \pm 0.1		
	Output current	mA maximum	1 (Load resistance 5 kΩ minimum)		

※1 : Please set adjusting torque at 30 mN·m maximum.

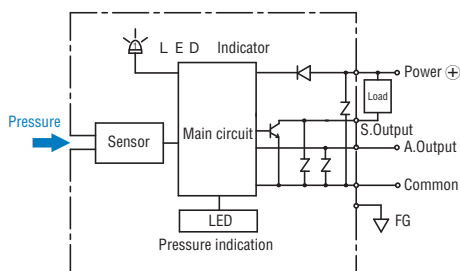
※2 : The actual setting range adjustable by VR has a little overrunning margin beyond the rated display of 0 through 99. This could cause the setting value of VR may be under "0" or over "99".

ENVIRONMENTAL CHARACTERISTICS

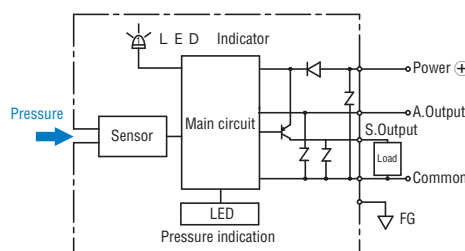
Test item	Test conditions	Permissible change
Vibration	10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s ² , 3 directions for 2 hours each	Pressure indication, switch operating pressure and analog output variation : ± 2 %F.S., maximum each after test
Shock	196 m/s ² , 3 directions for 3 times each	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	
Pressure cycling	0 ~ Rated pressure, 10 ⁶ cycles	
EMC	EMI : EN55011: 2007, A2 : 2007 Group 1, class B EMS : EN61326-1 : 2006 Table 2	Pressure indication, switch operating pressure and analog output variation : ± 5 %F.S., maximum during test

CIRCUIT DIAGRAMS

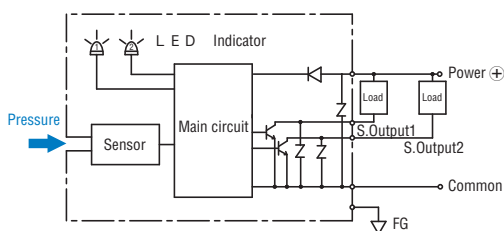
NAM, NAR (NPN/Adjustable hysteresis switch)



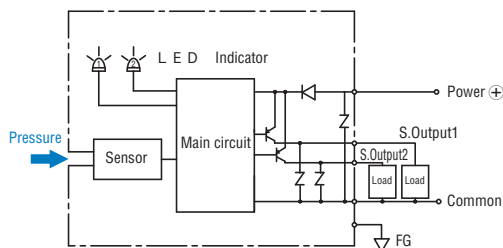
PAM, PAR (PNP/Adjustable hysteresis switch)



NWM, NWR (NPN/2 switch outputs)



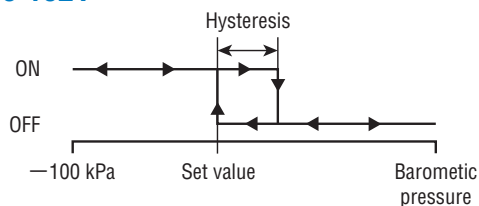
PWM, PWR (PNP/2 switch outputs)



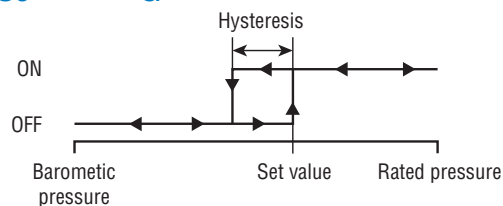
SWITCHING OPERATION

The switch turns on at the set pressure and turns off at the set pressure minus the hysteresis.

PS6-102V



PS6- * * * G



※ * A * is adjustable hysteresis type.

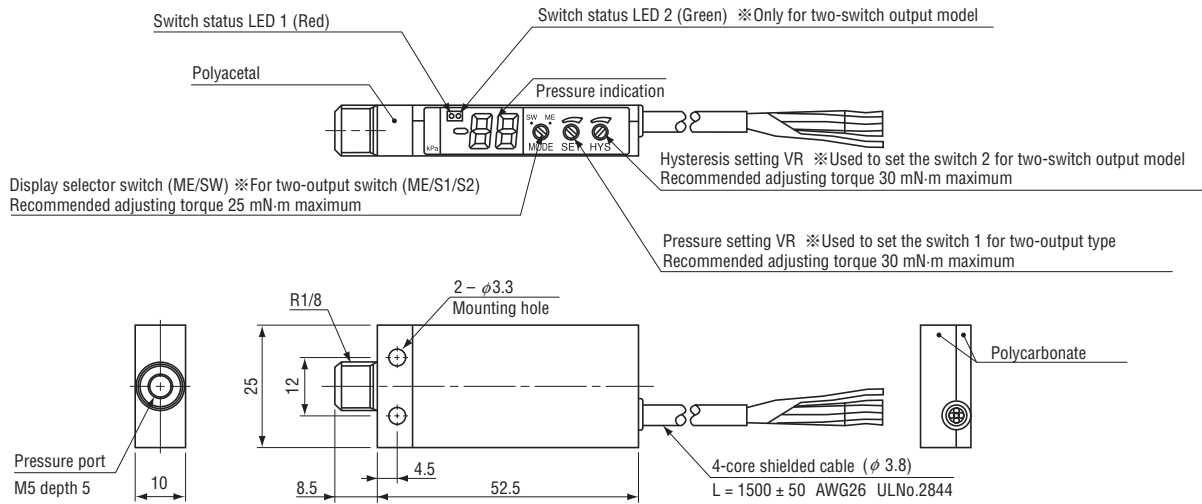
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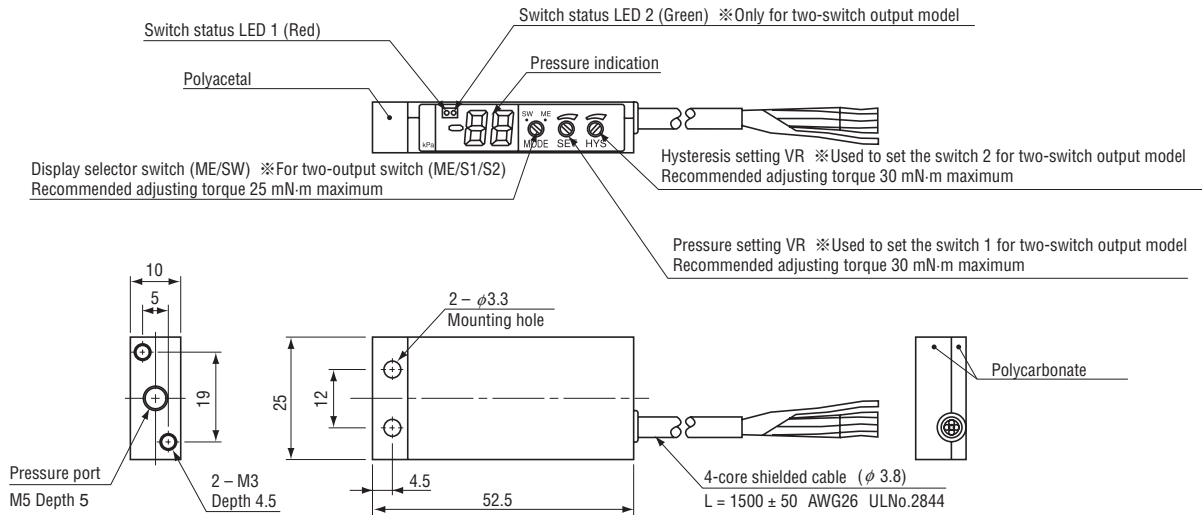
OUTLINE DIMENSIONS

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

R type (NAR, PAR, NWR, PWR)



M type (NAM, PAM, NWM, PWM)



PS6 (NAM, NAR, PAM, PAR)

Wire color	Connection
Brown	Power \oplus
Black	Switch output
White	Analog output
Blue	Common
Shield	N.C.

PS6 (NWM, NWR, PWM, PWR)

Wire color	Connection
Brown	Power \oplus
Black	Switch output 1
White	Switch output 2
Blue	Common
Shield	N.C.