



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!



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# PRESSURE SWITCHES

# PS83



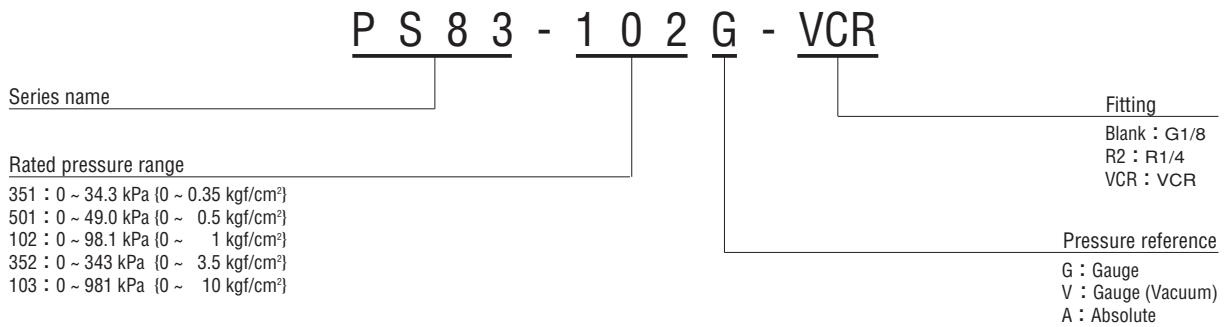
## FEATURES

- Solidstate pressure switch with no mechanical moving parts
- High corrosion resistance by double diaphragm structure
- Two pressure setting points
- Wide pressure medium compatibility
- Can be attached with a \*VCR® fitting

**INTERNAL STRUCTURE (G 1/8)**

Part name	Material
① Fitting	SUS 316L
② "O" ring(P15 or P12.5)	Fluoro-rubber
③ Housing	Aluminum
④ Compensation resistor board	Ceramic
⑤ Sealed liquid	Silicone oil

## MODEL NUMBER DESIGNATION



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

※ VCR® is a registered trade name of Cajon Co. CAJON® is a registered trade name of Swagelok Co.

Note: For handling of VCR fittings, please contact a service center of Swagelok Co.

### LIST OF MODEL NUMBERS

Pressure reference Pressure port	kPa {kgf/cm <sup>2</sup> } Rated pressure range	Gauge					Absolute	
		0 ~ 49.0 {0 ~ 0.5}	0 ~ 98.1 {0 ~ 1}	0 ~ 343 {0 ~ 3.5}	0 ~ 981 {0 ~ 10}	0 ~ -98.1 {0 ~ -1}	0 ~ 34.3 {0 ~ 0.35}	0 ~ 98.1 {0 ~ 1}
G 1/8(PF 1/8)		PS83-501G	PS83-102G	PS83-352G	PS83-103G	PS83-102V	PS83-351A	PS83-102A
R 1/4 (PT 1/4)		PS83-501G-R2	PS83-102G-R2	PS83-352G-R2	PS83-103G-R2	PS83-102V-R2	PS83-351A-R2	PS83-102A-R2
VCR(9/16-18UNF)		PS83-501G-VCR	PS83-102G-VCR	PS83-352G-VCR	PS83-103G-VCR	PS83-102V-VCR	PS83-351A-VCR	PS83-102A-VCR

※ Verify the above model numbers when placing orders.

### 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	PS83							
		501G	102G	102V	352G	103G	351A	102A	
General specifications	Pressure reference	Gauge					Absolute		
	Rated pressure range	kPa {kgf/cm <sup>2</sup> }	49.0 {0.5}	98.1 {1}	-98.1 {-1}	343 {3.5}	981 {10}	34.3 (abs) {0.35}	98.1 (abs) {1}
	Maximum pressure	kPa {kgf/cm <sup>2</sup> }	98.1 {1}	196 {2}		686 {7}	1961 {20}	103 (abs) {1.05}	196 (abs) {2}
	Break-down pressure	kPa {kgf/cm <sup>2</sup> }	147 {1.5}	294 {3}		1030 {10.5}	2941 {30}	147 (abs) {1.5}	294 (abs) {3}
	Operating temp. range	°C	-20 ~ 70						
	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		Corrosive gases/liquids compatible with SUS 316L ※1						
	Insulation resistance	MΩ minimum	100 (500 V DC)						
	Dielectric strength		500 V AC, 60 s (Leakage current 1mA maximum)						
	Sealed liquid		Silicone oil						
	Pressure port		G 1/8 (PF 1/8) ※2, R 1/4 (PT 1/4), 1/4 VCR®						
	Net weight	g	Approx. 140						
Power	Supply voltage	V DC	12 ~ 24 ± 10 %						
	Ripple content	maximum	10 % (P-P) maximum						
	Consumption current	maximum	20 mA						

※1 : Also compatible with SUS316 in case of PS83-□□□□-VCR.

※2 : In case of G 1/8 type, An "O" ring is supplied as accessory.  
(P15 for positive press., P12.5 for negative / absolute press.)

# PS83

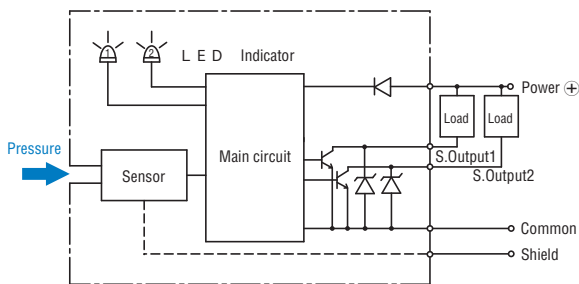
## PRESSURE SWITCHES

Item	Model number	PS83						
		501G	102G	102V	352G	103G	351A	102A
Switch output	No. of output	2						
	Output interface	NPN open collector output						
	Setting method	Adjustable by VR						
	Adjustable range	Zero through rated pressure, minimum						
	Display	Red LED (lighted when output is ON.)						
	Accuracy 0 ~ 50 °C (Reference temp.: 25 °C) % F.S.	± 3						
	Hysteresis % F.S. maximum	2						
	Switching capacity	30 V DC 80 mA maximum						
	Residual voltage V maximum	0.8						
	Response ms	Approx. 2						

### ENVIRONMENTAL CHARACTERISTICS

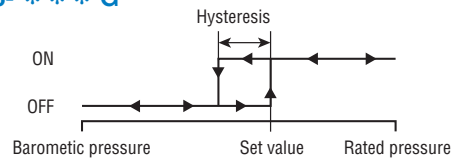
Test item	Test conditions (At 25 ± 5 °C)	Permissible change
Vibration	10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s <sup>2</sup> , 3 directions for 2 hours each	Switch output setting: ± 1 %F.S. maximum
Shock	490 m/s <sup>2</sup> , 3 directions for 3 times each	
Pressure cycling	0 ~ Rated pressure, 10 <sup>6</sup> cycles	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	

### INTERNAL ELECTRICAL SCHEMATICS

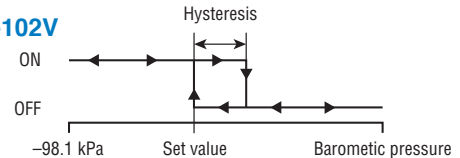


### SWITCHING OPERATION

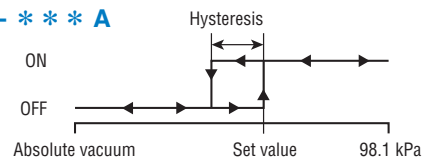
#### ● PS83-\*\*\*G



#### ● PS83-102V



#### ● PS83-\*\*\*A



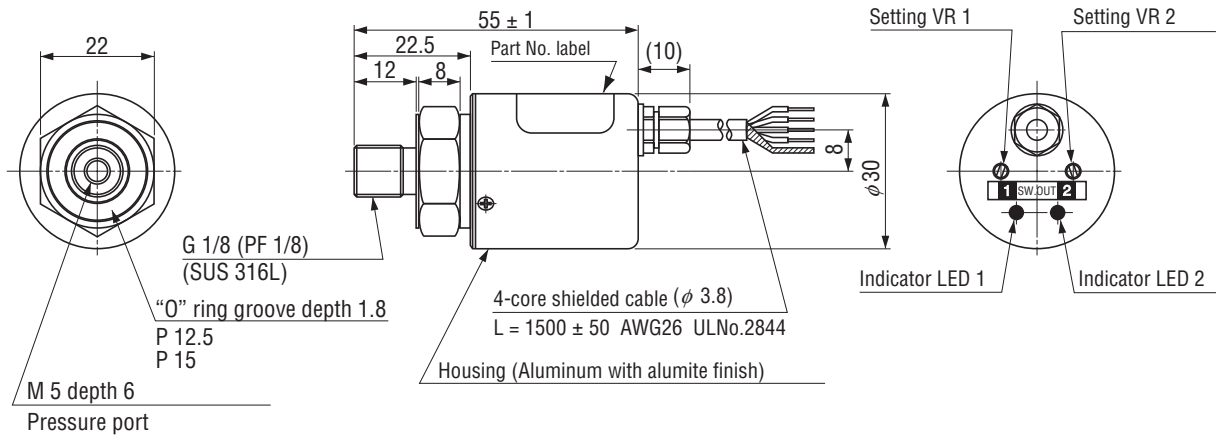
※ 2 switches show same performance.



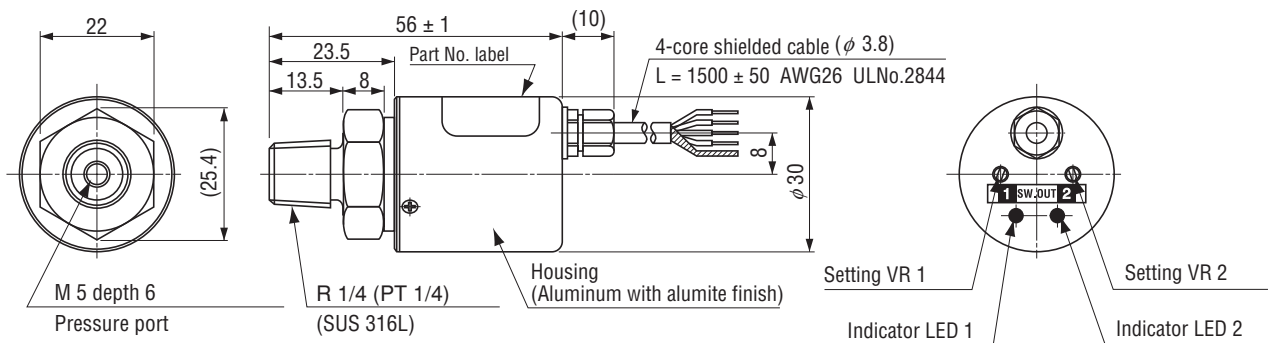
## OUTLINE DIMENSIONS

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

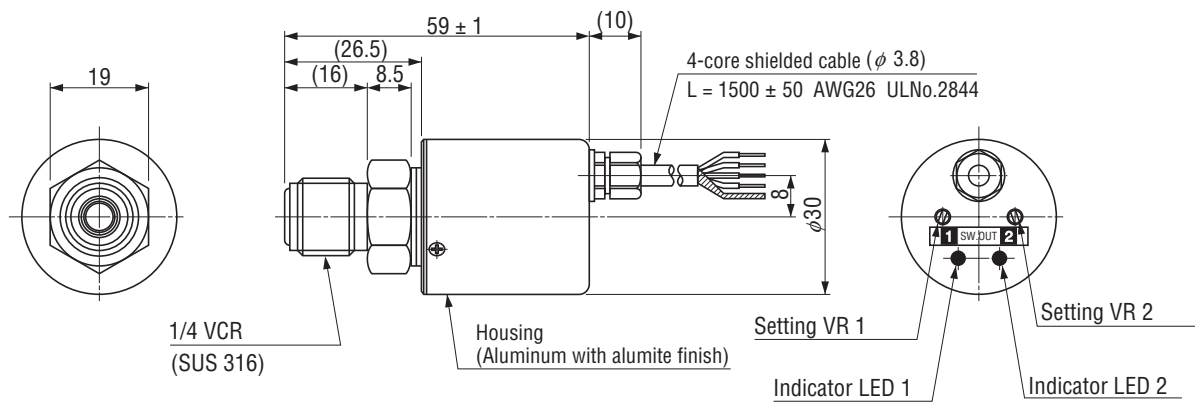
### PS83 (G 1/8 type)



### PS83 (R1/4 type)



### PS83 (VCR type)



Wire color	Connection
Red	Power $\oplus$
Green	Output 1
White	Output 2
Black	Common
Shield	Fitting