



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

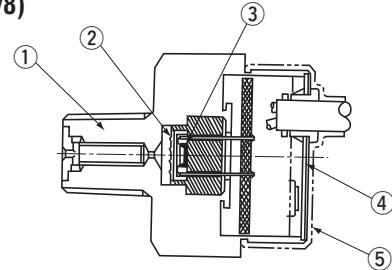
PS86/PS87



FEATURES

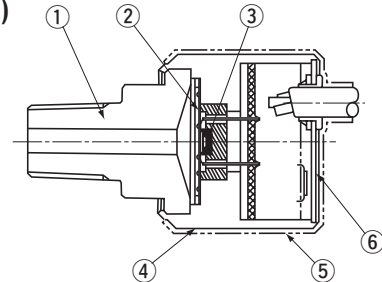
- Solidstate pressure switch with no mechanical moving parts
- Isolated output via a photo-coupler
- Switching pressure adjustable and hysteresis band adjustable
- Resistant against surge pressure (PS86)
- SUS 316L welded stainless steel diaphragm (PS86)
- High corrosion resistance by Hastelloy® diaphragm (PS87)

INTERNAL STRUCTURE PS86 (G 3/8)



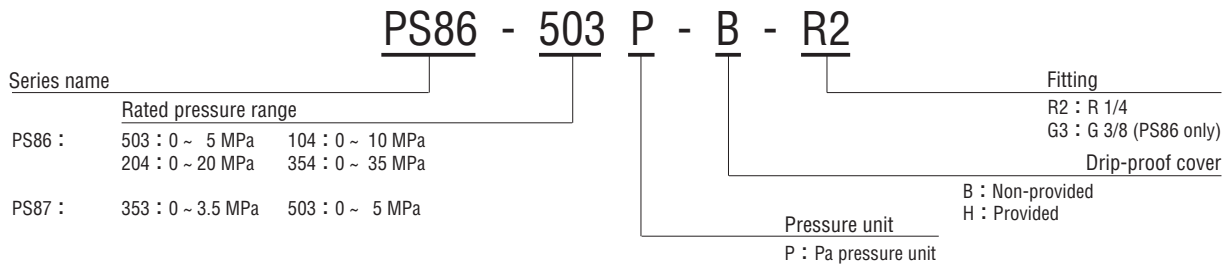
Part name	Material
① Fitting	Iron, Ni-plated
② Stainless steel diaphragm	SUS 316L
③ Sensor chip	Silicone
④ Back cover	SUS 303
⑤ Drip-proof cover	Silicone rubber

INTERNAL STRUCTURE PS87 (R 1/4)



Part name	Material
① Fitting	SUS 316
② Stainless steel diaphragm	Hastelloy® C-22
③ Sensor chip	Silicone
④ Housing	SUS 316
⑤ Drip-proof cover	Silicone rubber
⑥ Back cover	SUS 303

MODEL NUMBER DESIGNATION



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

※Hastelloy® is a resistered trade name of Haynes International Inc.

PS86/PS87

PRESSURE SWITCHES

LIST OF MODEL NUMBERS

Pressure medium	Fitting	Pressure reference Drip-proof cover / MPa Rated pressure range	Gauge				
			0 ~ 3.5	0 ~ 5	0 ~ 10	0 ~ 20	0 ~ 35
Hydraulic oil	R2 (R 1/4)	Non-provided	/	PS86-503P-B-R2	PS86-104P-B-R2	PS86-204P-B-R2	PS86-354P-B-R2
		Provided	/	PS86-503P-H-R2	PS86-104P-H-R2	PS86-204P-H-R2	PS86-354P-H-R2
	G3 (G 3/8)	Non-provided	/	PS86-503P-B-G3	PS86-104P-B-G3	PS86-204P-B-G3	PS86-354P-B-G3
		Provided	/	PS86-503P-H-G3	PS86-104P-H-G3	PS86-204P-H-G3	PS86-354P-H-G3
Gases/Liquids	R2 (R 1/4)	Non-provided	PS87-353P-B-R2	PS87-503P-B-R2	/	/	/
		Provided	PS87-353P-H-R2	PS87-503P-H-R2	/	/	/

☐: Not available

※ 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	PS86				PS87		
		503P	104P	204P	354P	353P	503P	
General specifications	Pressure reference	Gauge ※1						
	Rated pressure range	MPa	5	10	20	35	3.5	5
	Maximum pressure	MPa	10	20	40	52.5	7	10
	Operating temp. range	°C	- 10 ~ 75					
	Compensated temp. range	°C	0 ~ 50					
	Operating humidity	%RH	35 ~ 85 (No condensation)					
	Storage temp.	°C	- 20 ~ 90 (Atmospheric pressure, humidity 65 %RH maximum)					
	Pressure medium ※2		Hydraulic oil				Corrosive gases/liquids compatible with Hastelloy C-22 and SUS 316	
	Insulation resistance	MΩ minimum	100 (500 V DC)					
	Dielectric strength		350 V AC, 60 s (Leakage current 0.5 mA maximum)					
	Pressure port		R 1/4、G 3/8				R 1/4	
	Net weight	g	Approx. 170				Approx. 190	
	Protection grade		Without drip-proof cover : IP-54, With drip-proof cover : IP-65					

※1 The transducer measures gauge pressure using an absolute pressure sensing element.

※2 Hydraulic oil is used as a measurement medium at the time of delivery inspection.

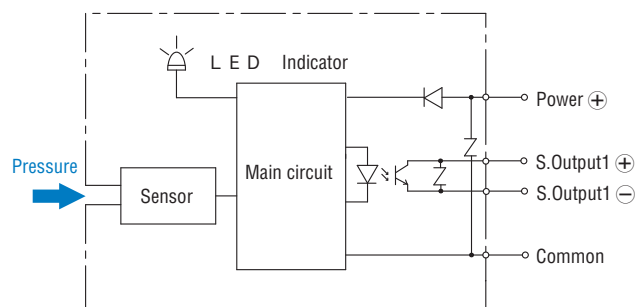
PS86/PS87 PRESSURE SWITCHES

Item	Model number	PS86				PS87	
		503P	104P	204P	354P	353P	503P
Power	Supply voltage	12 ~ 24 V ± 10 %					
	Consumption current	maximum 15 mA					
Switch output	No. of outputs	1					
	Output interface	Open collector output which insulated a photo-coupler					
	Setting method	Adjustable by VR					
	Adjustable range	5 ~ 105 % of rated pressure range					
	Display	Red LED ON					
	Accuracy 0 ~ 50 °C(Reference temp.: 25 °C)	%F.S. ± 3					
	Hysteresis	%F.S. Approx. 1 ~ 10 % of setting range					
	Switching capacity	35 V DC 100 mA					
	Residual voltage	V maximum 1.2					
	Response	ms				Approx. 20	

ENVIRONMENTAL CHARACTERISTICS

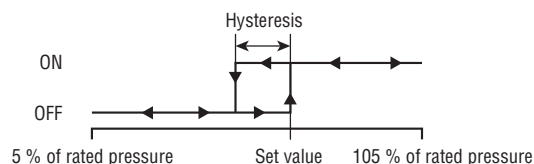
Test item	Test conditions (At 25 ± 5 °C)	Permissible change
Vibration	10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s ² , 3 directions for 2 hours each	Switch output setting: ± 3 %F.S. maximum
Shock	490 m/s ² , 3 directions for 3 times each	
Pressure cycling	10 ⁶ cycles Rated pressure range	
Moisture resistance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

INTERNAL ELECTRICAL SCHEMATICS



SWITCH OUTPUT SCHEMATICS

● PS86/87- * * * P



※ Adjustable hysteresis

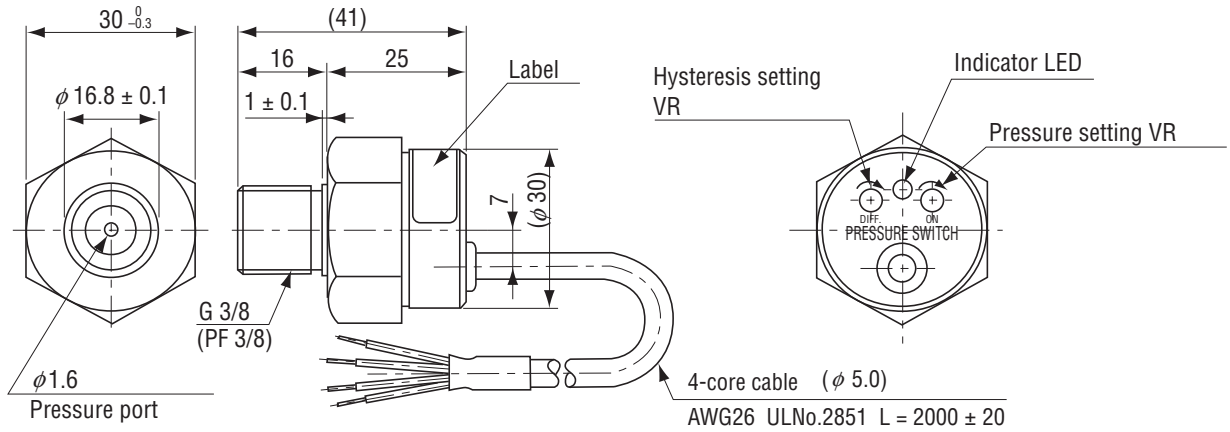
PS86/PS87

RESSURE SWITCHES

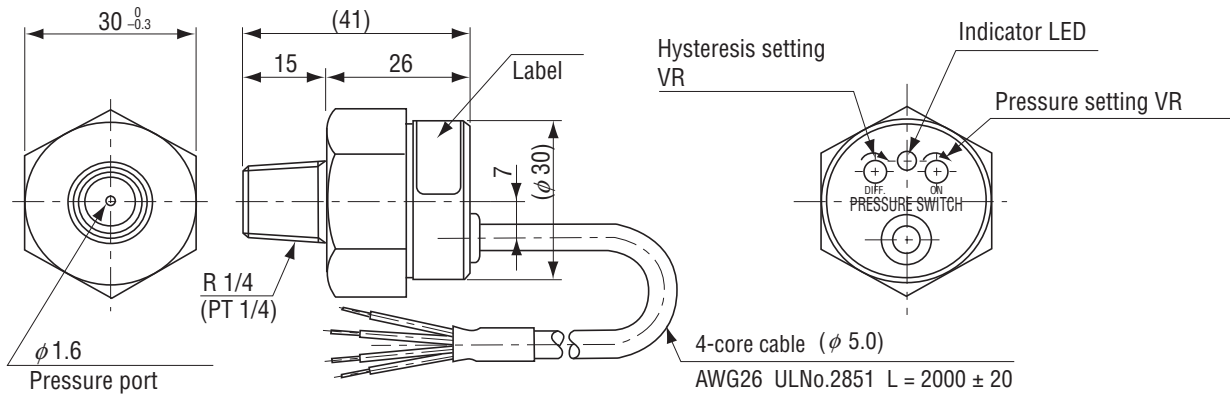
OUTLINE DIMENSIONS

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

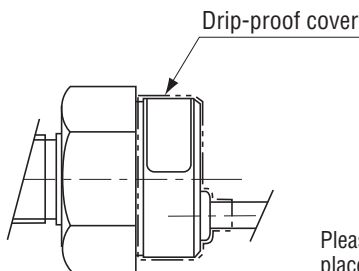
Configurations of joint G3 (G 3/8) type



Configurations of joint R2 (R 1/4) type



Drip-proof cover type



Please make sure that the drip-proof cover is properly placed over the main body and the cable.

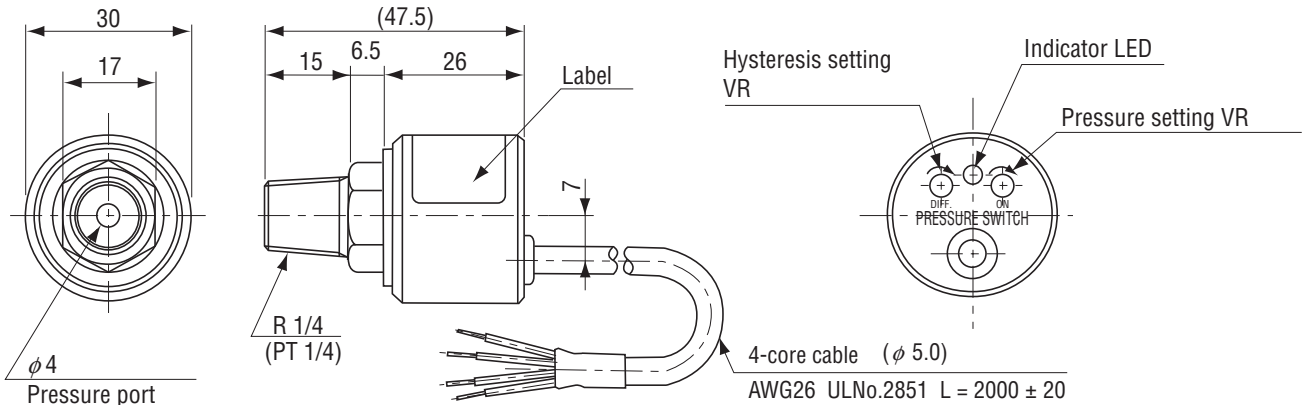
Wire color	Connection
Red	Power ⊕
Black	Power ⊖
White	Output ⊕
Green	Output ⊖

PS86/PS87 PRESSURE SWITCHES

OUTLINE DIMENSIONS

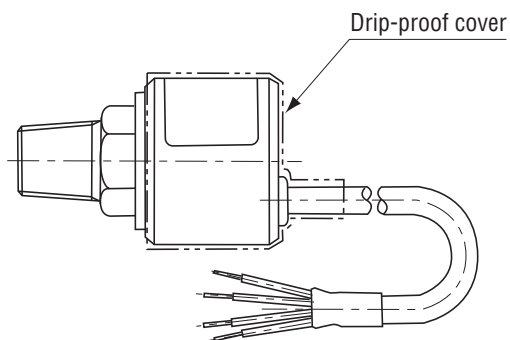
Unless otherwise specified, tolerance : ± 0.5 (Unit: mm)

● PS87



Wire color	Connection
Red	Power \oplus
Black	Power \ominus
White	Output \oplus
Green	Output \ominus

● Drip-proof cover type



Please make sure that the drip-proof cover is properly placed over the main body and the cable.