

PS97 SERIES

High accuracy of $\pm 1\%$ F.S. (at 0 ~ 80 °C)
Wide variety for middle-high pressure range



*These products are purchased items.

FEATURES

- High precision and high reliability with an accuracy of $\pm 1\%$ F.S. at 0~80 °C (Diaphragm equivalent to SUS630, oil-less)
- Extended temperature range of -40~+125 °C
- Waterproof “IP67” with welded and integrated connector structure
- Wide variety of pressure range selections; 0~1.0/~2.5/~5.0/~10/~25/~40/~80 MPa
- Pressure setting range and Operating mode are beforehand set according to your requests. Hysteresis can be also set arbitrarily.

Please tell us the pressure setting range etc. you want.

The PS97 series accepts the settings you wish respect to the switch output, and we have registered the settings for the product at our factory and will ship it to you. When purchasing, Please let us know your confirmation decisions below, assuming that you choose the rated pressure range in advance.

1. Select the switch output points [Required]: 1 or 2
2. Select the Operating Mode [Required]: Select from the following two;
 - Normally Open: Switch ON where the pressure has reached any setting.
 - Normally Closed: Switch OFF where the pressure has reached your any setting.
 [*In case of switch output 2 selected, set it in each output. Following items are same too.]
3. Set Point (MPa) [Required]: The pressure setting range to operate switch must be set by your arbitrary, it must be set within 3 to 97 % F.S. of the rated pressure range.
4. Reset Point (% F.S.) [Optional]: Hysteresis can be set by your arbitrary at 2 % F.S. or higher of the Set Point above. If you don't want it, we'll set it at 2 % F.S.

*Please refer to Fig.1 on the right for the above confirmation.

MODEL NUMBER DESIGNATION

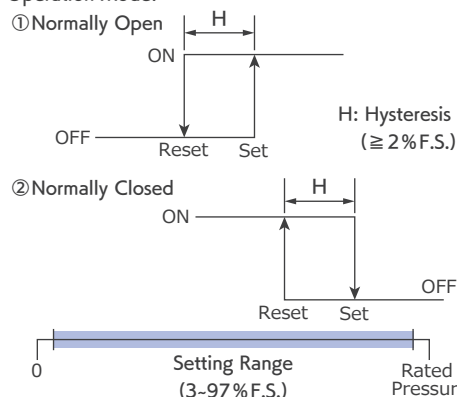
PS97-103		P-M	G2-J			
Series name	①	②	③	④	⑤	
① Rated pressure range	103	1.0 MPa (10 bar)	③ Connector	M	M12	
	253	2.5 MPa (25 bar)		D	DT04-3P	
	503	5.0 MPa (50 bar)	④ Fitting	G2	G 1/4	
	104	10 MPa (100 bar)		R2	R 1/4	
	254	25 MPa (250 bar)		⑤ Seal type	J	JIS O ring (G2)
	404	40 MPa (400 bar)			blank	No O ring (R2)
804	80 MPa (800 bar)					
② Pressure reference		P	Gauge (Positive)			

※1. R1/4 fitting is not available for 80MPa

※2. Please refer to our website for a List of Part Numbers.

[Fig.1 Setting range and hysteresis mode]

Operation Mode:



STANDARD SPECIFICATIONS

Pressure reference	Gauge (MPa)						
Model (Rated pressure)	103P	253P	503P	104P	254P	404P	804P
Rated pressure range	1.0	2.5	5.0	10.0	25.0	40.0	80.0
Maximum pressure	4.0	4.0	10.0	20.0	50.0	80.0	100.0
Break-down pressure	7.0	7.0	50.0	100.0	250.0	400.0	400.0
Operating temp. range	-40 ~ 125 °C, O-ring: -20 ~ 100 °C*1						
Storage temp. range	-40~125 °C (Atmospheric pressure, humidity 65%RH Max.), O-ring: -20~100 °C*1						
Operating humidity	95 % RH Max. (No condensation)						
Fitting material	SUS630						
Media	Corrosive gases/liquids compatible with SUS630						
Insulation resistance	100 MΩ Min. (Between the bundled electrical wirings and the pressure port at 500VDC)						
Pressure port (Fitting)	G 1/4, G 3/8, R 1/4 (JIS B 2351-1, JIS B 0203)						
Net weight	Approx. 50 g (without cable)						
Drip-proof structure	IP67						
Power							
Supply voltage (DC)	9 ~ 36 V						
Consumption current	10 mA Max.						

*1) Standard O-ring material is NBR. Please be aware of the medium and the temperature.

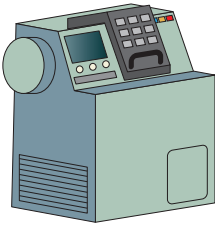
Switch output	
Number of output	2 (M12) or 1 (DT04-3P)
Output interface	NPN Open collector*2
Setting method	Adjustable by software
Adjustable range	3 ~ 97 % F.S.
Operating mode	Hysteresis [Refer to Fig.1 on the right]
Overall accuracy*3	$\pm 1.0\%$ F.S. (0 ~ 80 °C)
	$\pm 1.5\%$ F.S. (25 ~ 100 °C)
	$\pm 2.5\%$ F.S. (-40 ~ 125 °C)
Hysteresis	Adjustable by software (2% F.S. Max.)
Switching capacity	0.25A/1ch Max. (M12)
	0.5 A Max. (DT04-3P)
Residual voltage	0.65 V maximum
Output load	Vopr/(0.5 A x 0.5) Min., 10kΩ/Min.
Response	10 ms Max.
Optional (Sold separately)	
Cable	DT cable / M12 cable

*2) PNP open collector output can be considered, so please contact us separately.

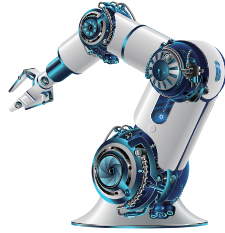
*3) Includes Linearity, Hysteresis, and Repeatability

APPLICATIONS

Ideal for use in general industrial equipment such as hydraulic equipment, machine tools, etc.. Typical applications are:



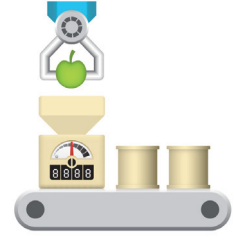
● Machining Center



● Industrial Robot



● Specially Equipped Vehicle

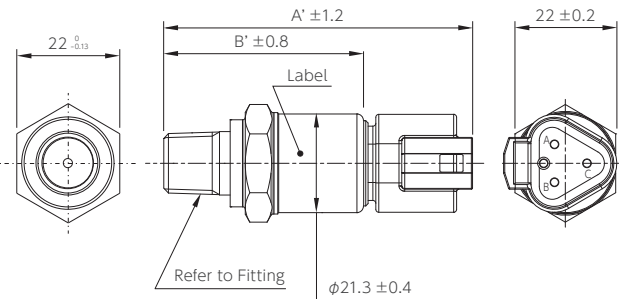


● Food Processing Equipment / Chiller

OUTLINE DIMENSIONS

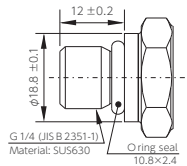
(Unit: mm)

● PS97-***P-D*2 (Connector: DT04-3P type)

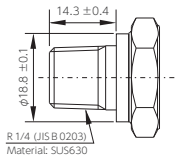


Fitting

● G 1/4



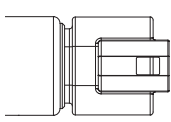
● R 1/4



※R1/4 fitting is not available for 80MPa
 ※Products for 5.0 MPa or more of the standard line-up are equipped with a snubber.

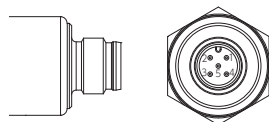
Pin Assignments

● DT04-3P



DT04-3P		
Pin A	Pin B	Pin C
Vcc	GND	SW

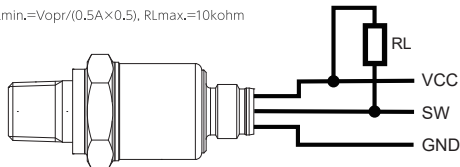
● M12



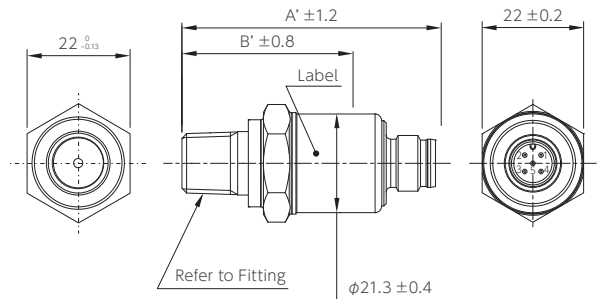
M12				
Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
Vcc	SW2	GND	SW1	N.C.

Wiring

Output Load: $RL_{min.} = Vopr / (0.5A \times 0.5)$, $RL_{max.} = 10k\Omega$



● PS97-***P-M*2 (Connector: M12 type)

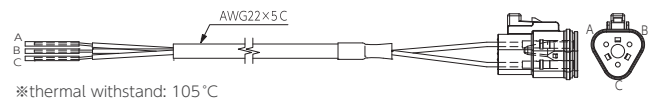


Detail Dimensions

Type of part number	A'	B'	Connector	Fitting
PS97-***P-DG2-J	64.2	40.75	DT04-3P	G 1/4
PS97-***P-DR2	66.5	43.05	DT04-3P	R 1/4
PS97-***P-MG2-J	52.25	40.75	M12	G 1/4
PS97-***P-MR2	54.55	43.05	M12	R 1/4

Cable (Sold separately)

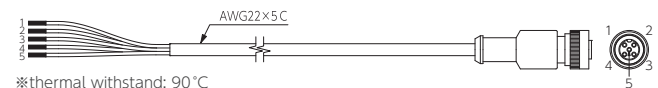
● DT cable: PS97-D152C (UL not recognized)



※thermal withstand: 105°C

No.	A	B	C
Wire color	Brown	Blue	White
Connection	Power	GND	SW1

● M12 cable: PS97-M152C (UL not recognized)



※thermal withstand: 90°C

No.	1	2	3	4	5
Wire color	Brown	White	Blue	Black	Gray
Connection	Power	SW2	GND	SW1	N.C.

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■ Specifications are subject to change without prior notice.

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