

PSAN Series

Small size, 1/2,000 resolution connector type digital pressure sensor

■ Features

- Ideal for a wide range of applications of gas, liquid, and oil.
(Inappropriate to corrosion environment for SUS316L)
- Enhanced environmental resistance with diaphragm
- 1/2,000 high resolution for indication
- Hold/Auto shift input function
(Only for models with Hold/Auto shift input type)
 - Hold : Holding instantaneous outputs and display value
 - Auto shift : Enable to output regardless of initial pressure change
- Hold function for instantaneous outputs and holding display value
- 2 independent outputs and NO/NC output selectable
- Forced-output mode embodied for easy operation test and monitoring
- One-touch connector type for easy maintenance
- Analog output (1/2,000 resolution, voltage : 1–5V, current : 4–20mA)
- Zero-point adjustment function, peak monitoring function, and chattering prevention function



Pneumatic type

Line-up

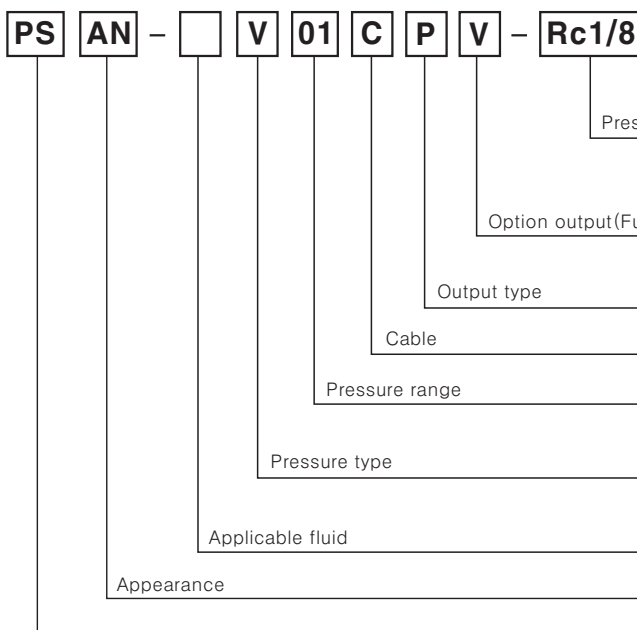


Fluid type

⚠ Please read "Caution for your safety" in operation manual before using.



■ Ordering information



R1/8	Standard (Fluid type)
Rc1/8	Standard (Pneumatic type)
NPT1/8	Option
7/16–20UNF	Option (Fluid type)
V	Analog voltage (1–5V) output
A	Analog current (4–20mA) output
H	Hold/Auto shift input
Blank	NPN open collector output
P	PNP open collector output
C	Connector type
01	100kPa
1	1MPa
Blank	Positive pressure type
V	Vacuum pressure type
C	Compound pressure type
Blank	Pneumatic type (Gas)
L	Fluid type (Gas, Liquid, Oil)
AN	Regular square New type (30mm × 30mm)
PS	Pressure Sensor

※ (★) In case of using M5 port, use PSO–Z01 (M5 Gender) together.

■ Pressure and Max. pressure display range

Type	kPa	kgf/cm ²	bar	psi	mmHg	inHg	mmH ₂ O
Vacuum pressure	0.0 to -101.3 (5.0 to -101.3)	0.000 to -1.034 (0.051 to -1.034)	0.000 to -1.013 (0.050 to -1.013)	0.00 to -14.70 (0.74 to -14.70)	0 to -760 (38.0 to -760.0)	0.0 to -29.9 (1.50 to -29.90)	0.0 to -103.4 (5.1 to -103.4)
Positive pressure	0.0 to 100.0 (-5.0 to 110.0)	0.000 to 1.020 (-0.051 to 1.122)	0.000 to 1.000 (-0.050 to 1.100)	0.00 to 14.50 (-0.72 to 15.96)	—	—	—
	0 to 1000 (-50 to 1100)	0.00 to 10.20 (-0.51 to 11.22)	0.00 to 10.00 (-0.50 to 11.00)	0.0 to 145.0 (-7.2 to 159.6)	—	—	—
Compound pressure	-101.3 to 100.0 (-101.3 to 110.0)	-1.034 to 1.020 (-1.034 to 1.122)	-1.013 to 1.000 (-1.013 to 1.100)	-14.70 to 14.50 (-14.70 to 15.96)	-760 to 750 (-760.0 to 824.0)	-29.9 to 29.5 (-29.88 to 32.58)	-103.4 to 102.0 (-103.4 to 112.2)

※ () is Max. pressure display range.

※ For using a unit mmH₂O, multiply display value by 100.

Pressure Sensor

■ Pressure conversion chart

from \ to	Pa	kPa	MPa	kgf/cm ²	mmHg	mmH ₂ O	psi	bar	inHg
1kPa	1000.000	1	0.001000	0.010197	7.500616	101.9689	0.145038	0.010000	0.2953
1kgf/cm ²	98066.54	98.066543	0.09806	1	735.5595	10000.20	14.22334	0.980665	28.95878
1mmHg	133.322368	0.133322	0.000133	0.001359	1	13.5954	0.019336	0.001333	0.039370
1mmH ₂ O	9.80665	0.00980	—	0.000099	0.0735578	1	0.00142	0.000098	0.002895
1psi	6894.757	6.89493	0.00689	0.070307	51.71630	703.07	1	0.068947	2.036074
1Pa	10000.0	100.0000	0.100000	1.019689	750.062	10196.89	14.50339	1	29.52998
1inHg	3386.417	3.386388	0.003386	0.034532	25.40022	345.31849	0.491158	0.033863	1

Ex) For calculating 760mmHg as kPa :

According to above chart, 1mmHg is 0.133322kPa, therefore 760mmHg will be 760×0.133322kPa=101.32472kPa.

■ Specifications

Pressure type		Gauge pressure							
		Vacuum pressure type	Positive pressure type		Compound pressure type				
Model (★1)	Analog voltage output	PSAN-(L)V01C(P)V-□	PSAN-(L)01C(P)V-□	PSAN-(L)1C(P)V-□	PSAN-(L)C01C(P)V-□				
	Analog current output	PSAN-(L)V01C(P)A-□	PSAN-(L)01C(P)A-□	PSAN-(L)1C(P)A-□	PSAN-(L)C01C(P)A-□				
	Hold/Auto shift input	PSAN-(L)V01C(P)H-□	PSAN-(L)01C(P)H-□	PSAN-(L)1C(P)H-□	PSAN-(L)C01C(P)H-□				
Rated pressure range		0.0 to -101.3kPa	0.0 to 100.0kPa	0 to 1,000kPa	-101.3kPa to 100.0kPa				
Display pressure range		5.0 to -101.3kPa	-5.0 to 110.0kPa	-50 to 1,100kPa	-101.3kPa to 110.0kPa				
Min. display unit (internal resolution)		0.1kPa (1/2,000)	0.1kPa (1/2,000)	1kPa (1/2,000)	0.1kPa (1/2,000)				
Max. pressure range		2 times of rated pressure		1.5 times of rated pressure	2 times of rated pressure				
Applicable fluid		<ul style="list-style-type: none"> • Pneumatic type ☞ Air, Non-corrosive gas • Fluid type ☞ Air, Non-corrosive gas and fluid that will not corrode SUS316L 							
Power supply		12V-24VDC ±10% (Ripple P-P:Max. 10%)							
Current consumption		Max. 50mA (Analog Current Output type Max 75mA)							
Control output		<ul style="list-style-type: none"> • NPN open collector output ☞ Max. sink current:Max. 100mA, Applied voltage:Max. 30VDC, Residual voltage:Max. 1V • PNP open collector output ☞ Max. source current:Max. 100mA, Residual voltage:Max. 2V 							
Hysteresis (★2)		Min. display range							
Repeat error		±0.2%F.S ± Min. display range							
Response time		Selectable 2.5ms, 5ms, 100ms, 500ms, 1000ms							
Short circuit protection		Built-in							
Analog output (★3)	Voltage output	<ul style="list-style-type: none"> • Output voltage:1-5VDC ±2% F.S • Zero point:Within 1VDC ±2% F.S • Resolution:1/2,000 (equal to display resolution) • Response Time:50ms 							
	Current output	<ul style="list-style-type: none"> • Output current:4-20mA ±2% F.S • Linear:Within ±1% F.S • Zero-point:Within 4mA ±2% F.S • Span:Within 16mA ±2% F.S • Resolution:1/2,000 (equal to display resolution) • Response Time:70ms 							
Display method		4 digit LED 7segment							
Min. Display interval (★4)	pressure unit \ resolution	1000	2000	1000	2000	1000	2000	1000	2000
	kPa	0.1	—	0.1	—	1	—	—	0.1
	kgf/cm ²	0.001	—	0.001	—	0.01	—	—	0.001
	bar	0.001	—	0.001	—	0.01	—	—	0.001
	psi	—	0.01	—	0.01	—	0.1	—	0.02
	mmHg	—	0.4	—	—	—	—	—	0.8
inHg	—	0.02	—	—	—	—	—	0.03	
mmH ₂ O	0.1	—	—	—	—	—	—	0.1	
Characteristic of control output and display temp.		Max. ±0.5% F.S. of display pressure at 25℃ within 0℃ to 50℃ ※Max. ±1% F.S. of display pressure at 25℃ under -10℃							
Analog output temp. characteristic		Max. ±2% F.S. of display pressure at 25℃ within 0℃ to 50℃							
Dielectric strength		1000VAC 50/60Hz for 1 minute							
Insulation resistance		Min. 50MΩ (at 500VDC megger)							
Ambient temperature		-10℃ to +50℃ (at non-dew status)							
Storage temperature		-20℃ to +60℃ (at non-freezing status)							
Ambient humidity		30 to 80%RH							
Storage humidity		30 to 80%RH							
Vibration		1.5mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z direction for 2 hours							
Protection		IP40 (IEC specification)							
Material		<ul style="list-style-type: none"> • Pneumatic type ☞ Front case : PC, Rear case : PC, Pressure port : Nickel Plated Brass • Fluid type ☞ Front case : PC, Rear case : PA6, Pressure port : SUS316L 							
Cable		Connector cable (φ4, 5P, Length: 2m, AWG 24, Insulator diameter: φ1)							
Approval		CE							
Unit weight		<ul style="list-style-type: none"> • Pneumatic type ☞ Approx. 84g • Fluid type ☞ Approx. 57.5g 							

※F.S : Rated pressure.

※(★1) (P) is PNP output type, □ of model name is as pressure port.

※(★2) In hysteresis output mode, detection difference is variable. ※(★3) It is allowed to select one analog output type only.

※(★4) Resolution (1000/2000) of min. Display interval is automatically selected depend on pressure units.

(A) Photo electric sensor

(B) Fiber optic sensor

(C) Door/Area sensor

(D) Proximity sensor

(E) Pressure sensor

(F) Rotary encoder

(G) Connector/Socket

(H) Temp. controller

(I) SSR/Power controller

(J) Counter

(K) Timer

(L) Panel meter

(M) Tacho/Speed/Pulse meter

(N) Display unit

(O) Sensor controller

(P) Switching power supply

(Q) Stepping motor & Driver & Controller

(R) Graphic/Logic panel

(S) Field network device

(T) Production stoppage models & replacement