



Display Type Pressure Sensors

PSAN Series

PRODUCT MANUAL

Be sure to follow the instructions and precautions in the instruction manual, other manuals, and the Autonics website.

The specifications, dimensions, and other information in this document are subject to change without notice for product improvement. Certain models may be discontinued without notice.

Safety Precautions

- 'Safety Precautions' are provided to ensure safe and proper use of the product and to prevent accidents or hazards. Please make sure to follow them carefully.
- ⚠ symbol indicates a caution, warning of potential hazards under certain conditions.

⚠ Warning Failure to follow instructions may result in serious injury or death.

- 01. Fail-safe device must be installed when using the product in applications that may cause serious injuries or property loss. (E.g. nuclear control systems, medical equipment, ships, vehicles, railroads, aircraft, combustion devices, safety devices, security systems, disaster prevention devices, etc.)**
Failure to do so may result in personal injury, property loss or fire.
- 02. Do not use or store the product in environments containing flammable, explosive, or corrosive gases, or in places exposed to high humidity, direct sunlight, radiant heat, vibration, shock, or salt.**
Failure to do so may result in explosion or fire.
- 03. Install on a device panel or to a pressure port directly to use.**
Failure to do so may result in fire.
- 04. Do not connect, repair, or inspect the product while connected to a power source.**
Failure to do so may result in fire.
- 05. Check the connection diagram before wiring.**
Failure to do so may result in fire.
- 06. Do not disassemble or modify the product without authorization.**
Failure to do so may result in fire or electric shock.

⚠ Caution Failure to follow instructions may result in injury or product damage.

- 01. Use the product within its rated specifications and performance limits.**
Failure to do so may result in fire or product damage.
- 02. Use a dry cloth to clean the product. Do not use water or organic solvents.**
Failure to do so may result in fire.
- 03. This product is designed to detect the pressure of noncorrosive medium. Do not use for corrosive medium.**
Failure to do so may result in product damage.
- 04. Prevent metal, dust, wiring debris, and other foreign material from entering the product.**
Failure to do so may result in fire or product damage.

Cautions During Use

- Make sure to follow the instructions in 'Cautions During Use'.
Failure to do so may result in unexpected accidents.
- Power input should be supplied from an isolated and limited voltage/current source, or from a Class 2 or SELV power supply.
- Wait at least 3 seconds after applying power before using the product.
- When supplying power with an SMPS, ground the F.G. terminal and connect a noise suppression capacitor between the 0 V and F.G. terminals.
- To prevent surges and inductive noise, separate the wiring from high-voltage and power lines, and keep wiring lengths as short as possible.
- This product may be used in the following environmental conditions.
 - Indoors (within rated environmental performance specifications)
 - Altitude: up to 2,000 m
 - Pollution Degree 3
 - Installation Category II

Ordering Information

P S A N - ① ② ③ ④ ⑤ - ⑥

1 Medium / Port fitting position **4 Control output**

No mark: Pneumatic type (gas) / Rear
D: Pneumatic type (gas) / Bottom
B: Fluid type (liquid, gas) / Rear
L: Fluid type (liquid, gas) / Bottom

No mark: NPN open collector output
P: PNP open collector output

5 Option input / output

2 Pressure type and Range

	Pressure	Rated range
①	0.1 MPa	0.1 MPa
②	0.2 MPa	0.2 MPa
③	0.4 MPa	0.4 MPa
④	0.6 MPa	0.6 MPa
⑤	1.0 MPa	1.0 MPa
⑥	1.6 MPa	1.6 MPa
⑦	2.5 MPa	2.5 MPa
⑧	4.0 MPa	4.0 MPa
⑨	6.3 MPa	6.3 MPa
⑩	10.0 MPa	10.0 MPa
⑪	16.0 MPa	16.0 MPa
⑫	25.0 MPa	25.0 MPa
⑬	40.0 MPa	40.0 MPa
⑭	63.0 MPa	63.0 MPa
⑮	100.0 MPa	100.0 MPa
⑯	160.0 MPa	160.0 MPa
⑰	250.0 MPa	250.0 MPa
⑱	400.0 MPa	400.0 MPa
⑲	630.0 MPa	630.0 MPa
⑳	1000.0 MPa	1000.0 MPa

	Pressure	Rated range

H: External input

01	Static	0.0 to 100.0 kPa	6 Pressure port <table><tr><th>Medium Port</th><th>Pneumatic</th><th>Fluid</th></tr><tr><td>R1/8</td><td></td><td></td></tr></table>	Medium Port	Pneumatic	Fluid	R1/8		
Medium Port		Pneumatic		Fluid					
R1/8									
1	0 to 1,000 kPa								
V01	Negative	0.0 to -101.3 kPa							
C01	Compound	-101.3 to 100.0 kPa							

No mark: Cable type (fluid type)	7/16-20UNF	-	○
C: Connector type	9/16-18UNF	-	○

Figure 1 illustrates the experimental design, showing a sequence of events: Stimulus presentation, Response, Feedback, and Inter-trial interval (ITI). The sequence is repeated for Trial 1 and Trial 2.

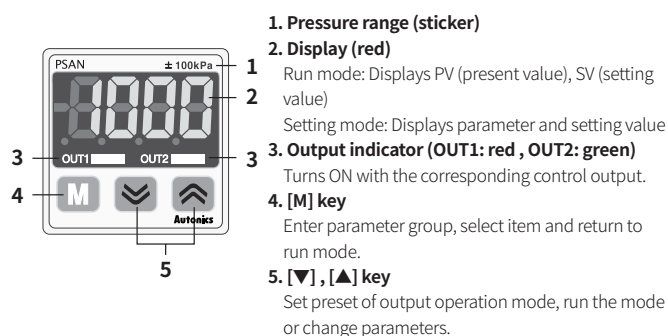
Product Components

- Product
- Instruction manual
- Unit sticker
- Connector type: Bracket A / B, Connector wiring (PSO-C01)
- Cable type: Bracket C

Sold Separately

- Front cover (PSO-P01), Panel bracket (PSO-B02 / B03)
- Pneumatic type: M5 gender (PSO-Z01)

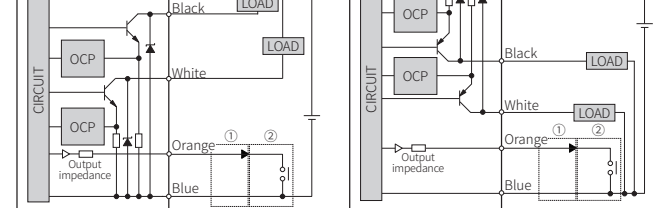
Unit Description
Unit 1: Introduction to the course and the importance of mathematics in science and technology. Unit 2: Review of basic algebra and geometry concepts. Unit 3: Introduction to trigonometry and its applications in physics and engineering. Unit 4: Study of functions and their graphs, including linear, quadratic, and exponential functions. Unit 5: Introduction to calculus, covering limits, derivatives, and integrals. Unit 6: Applications of calculus in physics, such as motion, work, and energy. Unit 7: Study of vectors and their applications in physics and engineering. Unit 8: Introduction to differential equations and their solutions. Unit 9: Review of the course material and preparation for the final exam.



Connections

Color	Function
Brown	+V
Blue	0 V
Black	OUT 1
White	OUT 2
Orange	Option input / output

■ NPN Open Collector Output ■ PNP Open Collector Output

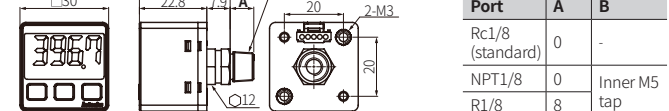


- ①: Voltage / current output option model, ②: External input option model
- OCP: overcurrent protection circuit
- Short circuit protection circuit not present. Do not connect directly to power or capacitive loads.
- If the control output terminal is short-circuited or supplied with a current exceeding the rated current, the protection circuit will prevent the normal control signal from being output.
- Pay attention to the input impedance of the connected device when using analog voltage output. Be careful of voltage drops due to the resistance of the wiring when extending the wiring.

Dimensions

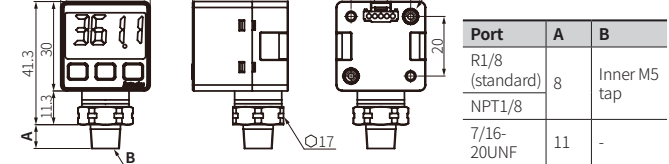
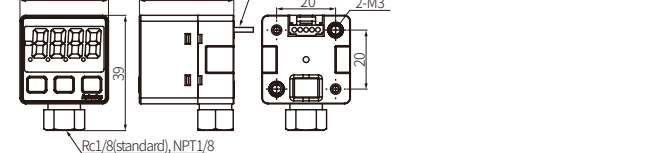
- **Pneumatic Type, Rear Port, Connector Type**

☐ 20 30.7 22.8 7.0 **B**

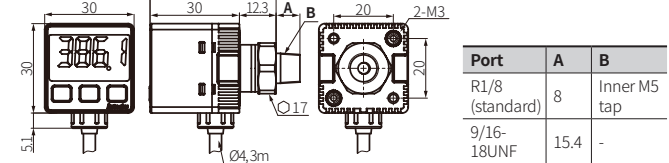


■ Pneumatic Type, Bottom Port, Connector Type

$\square 30$ 32 $\sqrt{\text{cable}}$ 30 3 M2



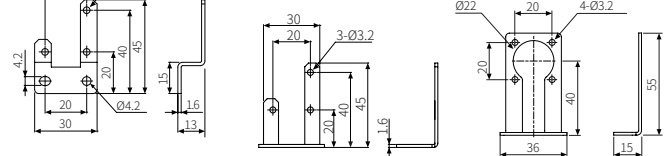
■ Fluid Type, Rear Port, Cable Type



■ Bracket A ■ Bracket B ■ Bracket C

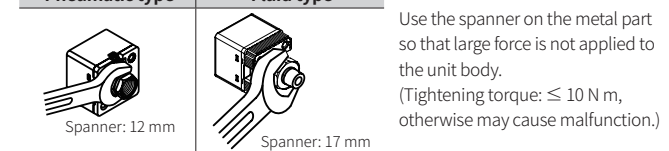
Technical drawing of a plate with dimensions 1.2, 30, and 2. The drawing shows a top view and a cross-section. The top view is a rectangle with a width of 1.2 and a length of 30. The cross-section shows a thickness of 2.

Technical drawing of a mechanical part with dimensions: 10, 25, 35, Ø4.2, 3.5, and 22.



Installation

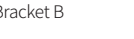
Pneumatic type	Fluid type
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■ Bracket

Use spring washers and hexagon wrench bolts (tightening torque: $\leq 3 \text{ N m}$) to install a

selected bracket suitable for the usage environment.

Connector type		Cable type
Bracket A 	Bracket B 	Bracket C 

- Do not pull the wiring with a force of more than 30 N.

Specifications				
Model	PSAN- □V01C□□-□	PSAN- □01C□□-□	PSAN-□1□□□-□	PSAN- □C01□□□-□
Pressure type	Pneumatic type model: Gauge pressure Fluid type model: Gauge pressure ⁰¹⁾ or sealed gauge pressure ⁰²⁾			
Pressure	Negative	Static		Compound
Min. display unit	0.1 kPa	0.1 kPa	1 kPa	0.1 kPa
Rated pressure range	0.0 to -101.3 kPa	0.0 to 100.0 kPa	0 to 1,000 kPa	-101.3 to 100.0 kPa
Display & setting pressure range	5.0 to -101.3 kPa	-5.0 to 110.0 kPa	-101.3 to 1,100 kPa	-101.3 to 110.0 kPa
Display type	7-Segment LED, 4 ½ digit			
Display accuracy	-10 to 0 °C: ≤ ±1% F.S., 0 to 50 °C: ≤ ±0.5% F.S.			
Max. pressure	Rated pressure ×2	Rated pressure ×2	• Pneumatic type: Rated pressure ×1.5 • Fluid type: Rated pressure ×2	Rated pressure ×2

01) Only for static pressure, rated pressure range 100.0 kPa model
02) The unit is sealed structure. It is based on atmospheric pressure 101.3 kPa.

Applicable medium	Pneumatic type (air, non-corrosive gas)	Fluid type (non-corrosive gas and fluid that do not corrode stainless steel 316L)
Connection type	Connector type	Cable type / connector type
Cable	Ø 4 mm, 5-core, 2 m	Connector type: Ø 4 mm, 5-core, 2 m Cable type: Ø 4 mm, 5-core, 3 m
Wire specification	AWG24 (0.08 mm, 40-core), insulator diameter: Ø 1 mm	
Material	Front case: PC Back case: (rear port) PC / (bottom port) PBT+GF15% Pressure port: Brass-nickel plated	Front case: PC Back case: PA6 Pressure port: SUS304/SUS316L
Protection rating	Connector type: IP40 (IEC standard)	Connector type: IP40 (IEC standard) Cable type: IP65 (IEC standard)
Certification	CE UKCA	
Unit weight (packaged)	Rear port: ≈ 80 g (≈ 165 g) Bottom port: ≈ 85 g (≈ 170 g)	Connector type: ≈ 88 g (≈ 173 g) Cable type: ≈ 90 g (≈ 167 g)

Power supply	12 - 24 VDC≡ (ripple P-P: ≤ 10%)
Allowable voltage range	90 to 110% of rated voltage
Current consumption	≤ 50 mA ⁰¹⁾
Control output	NPN open collector output / PNP open collector output model
Load voltage	≤ 30 VDC≡
Load current	≤ 100 mA
Residual voltage	NPN: ≤ 1 VDC≡, PNP: ≤ 2 VDC≡
Hysteresis	According to output operation mode ⁰²⁾
Repeat error	±0.2% F.S. ±min display interval
Response time	2.5, 5, 100, 500, 1000 ms
Protection circuit	Output short over-current protection circuit
Insulation resistance	≥ 50 MΩ (500 VDC≡ megger)
Dielectric strength	Between the charging part and the case: 1,000 VAC~ 50 / 60 Hz for 1 min 1.5 mm amplitude at frequency of 10 to 55Hz in each X, Y, Z direction for 2 hours
Vibration resistance	
Ambient temperature	-10 to 50 °C, Storage: -20 to 60 °C (no freezing or condensation)
Ambient humidity	30 to 80%RH, Storage: 30 to 80%RH (no freezing or condensation)

01) Current output: ≤ 75 mA
02) Refer to 'Output Operation Mode'. ±1 digit error may occur due to pressure unit operation.

Analog output	Voltage (1 - 5 VDC≡ ±2% F.S)	Current (DC 4 - 20mA ±2% F.S)
Output impedance	1 kΩ	-
Linearity	≤ ±1% F.S	≤ ±1% F.S
Zero-point	≤ 1 VDC≡ ±2% F.S.	≤ DC 4 mA ±2% F.S.
Span	≤ 4 VDC≡ ±2% F.S.	≤ DC 16 mA ±2% F.S.
Resolution	1/1000 or 1/2000 (different by pressure type and display unit)	
Response time	50 ms	70 ms

Minimum Display Interval								
Pressure	Negative		Static				Compound	
Min display interval	0.1 kPa		0.1 kPa		1 kPa		0.1 kPa	
Resolution Display unit	1/1000	1/2000	1/1000	1/2000	1/1000	1/2000	1/1000	1/2000
MPa	-	-	0.001	-	0.001	-	-	-
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 ⁰¹⁾	0.1	-					-	0.1

01) Multiply display value by 100.

Mode Settings				
RUN	[M] for over 3 sec	→	Parameter group	[M] for over 3 sec →
	[M]	→	Preset setting	[M] →
	[▼]+[▲] for over 1 sec after removing the external pressure	→	Zero-point adjustment	Displays 0.0 and returns automatically →
	[▲] for over 3 sec	→	Max / Min monitoring / Auto shift ⁰¹⁾	[M] →
				Reset or set: [▼]+[▲] for over 1 sec →

01) Max. / Min. pressure value can be monitored.
[Option external input model] Auto shift judgment level checking / setting is available when P-9 External input terminal is set as SHFT. (no input: displays 0)

Parameter Settings	
- Some parameter are activated or deactivated depending on other parameters. Refer to the description of each parameter. - The setting item name and setting value are displayed in turn on the display area. - Returns to RUN mode when there is no additional key input for 60 seconds in each parameter group. - Guaranteed write life: 100,000 times [M] key: Save setting value and move to next parameter [▼], [▲] key: Select setting value	

Parameter	Display	Default	Setting Range
P-1 Display unit	Unit	Pressure	[Negative / Compound pressure model] kPa, KGc: kgf/cm ² , bar, psi, mmHg, inHg, H2O: mmH ₂ O
		Static pressure	[Static pressure model] MPa, kPa, KGc: kgf/cm ² , bar, psi
P-2 OUT operation mode	Output	Hysteresis	HYS.M: Hysteresis WIN: Window comparison output HY-W: Hysteresis-Window comparison output AUTO: Auto sensitivity setting F.OUT: Forced output control
P-3 Output type	Output	Output	OUT1
			OUT2
			1020 Normally open
			102C Normally open
			1C20 Normally closed
P-4 Response time	SPd	2.5	2.5, 5.0, 100, 500, 1,000 ms
P-5 Voltage low limit scale	Pressure low limit	0.0	[Option voltage output model] Min. rated pressure ≤ Low limit scale ≤ 90% of rated pressure
P-6 Voltage high limit scale	Pressure high limit	100.0	[Option voltage output model] Low limit scale setting value + 10% of rated pressure ≤ High limit scale ≤ Max. rated pressure
P-7 Current low limit scale	Pressure low limit	0.0	[Option current output model] Min. rated pressure ≤ Low limit scale ≤ 90% of rated pressure
P-8 Current high limit scale	Pressure high limit	100.0	[Option current output model] Low limit scale setting value +10% of rated pressure ≤ High limit scale ≤ Max. rated pressure
P-9 External input terminal	External input	Hold shift	[Option external input model] HOLD: Hold SHFT: Auto shift
P-10 Auto shift output ⁰¹⁾	Auto shift	Output	[Option external input model] OUT1, OUT2, ALL
P-11 Lock	Lock	OFF	LOC1: Parameter, preset, zero-point adjustment setting lock / Monitoring value reset lock LOC2: Parameter lock (available to check setting value) OFF

01) Condition: P-9. External input terminal SHFT setting

Preset Settings

■ Setting Method

- The setting item name and value are displayed in turn on the display area.
- Set the operation mode in P-2 OUT operation mode.
- Enter the preset setting mode by pressing [M] key from RUN mode.
- Select the setting item by [M] key and change the preset using [▼] or [▲] key.
- Press [M] key to save settings and return to RUN mode. When no key input for 60 secs, returns to RUN mode without saving settings. (except forced output control mode)

■ Preset Settings by Operation Mode

Operation Mode	Preset	Setting Range
Hysteresis	Pressure detection level 1	5 E 1
	Hysteresis level 1	H Y 5 1
	Pressure detection level 2	5 E 2
	Hysteresis level 2	H Y 5 2
Window comparison output ⁰¹⁾	Pressure detection low limit 1	L O - 1
	Pressure detection high limit 1	H I - 1
	Pressure detection low limit 2	L O - 2
	Pressure detection high limit 2	H I - 2
Hysteresis-Window comparison output ⁰²⁾	Pressure detection level 1	5 E 1
	Hysteresis level 1	H Y 5 1
	Pressure detection low limit	L O 0
	Pressure detection high limit	H I 0 H
Auto sensitivity setting	Pressure level 1	5 E 1
	Pressure level 2 ⁰³⁾	5 E 2
	Pressure detection level	5 E E
Forced output control ⁰⁴⁾	F o U E	-

01) Hysteresis: 1 (minimum display interval, fixed)

02) ST1 = HYS1, actual hysteresis is 1 (minimum display interval)

03) If an error appears, check setting conditions and set proper setting values.

04) [Option external input model] Forced output does not support external input terminal.

■ Precautions

- When changing the P-2 OUT operation mode, it will change to the preset value (previous value) of the new operation mode.
- When P-1 Display unit is changed, the preset value is automatically converted to the new unit.
- Preset value is reset when changing P-9 External input terminal setting.

■ Default Setting Values

Operation Mode	Preset	Negative	Static		Compound
		0.1 kPa	0.1 kPa	1 kPa	0.1 kPa
Hysteresis	5 E 1	-50.0	50.0	500	50.0
	H Y 5 1	0.0	0.0	0	-50.0
	5 E 2	-50.0	50.0	500	50.0
	H Y 5 2	0.0	0.0	0	-50.0
Window comparison output	L O - 1	0.0	0.0	0	-50.0
	H I - 1	-50.0	50.0	500	50.0
	L O - 2	0.0	0.0	0	-50.0
Hysteresis-Window comparison output	H I - 2	-50.0	50.0	500	50.0
	5 E 1	-50.0	50.0	500	50.0
	H Y 5 1	0.0	0.0	0	-50.0
	L O 0	0.0	0.0	500	-50.0
Auto sensitivity setting	H I 0 H	-50.0	50.0	0	50.0
	5 E 1	0.0	0.0	0	-50.0
	5 E 2	-50.0	50.0	500	50.0
Forced output control	5 E E	-25.0	25.0	250	0.0
	F o U E	-	-	-	-

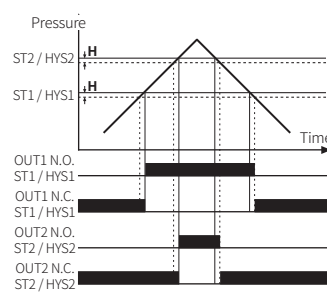
Output Operation Mode

Change the output operation mode to change pressure detection method.

ON: OFF: H: Hysteresis A: Min. display interval

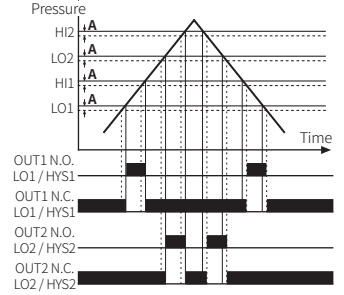
■ Hysteresis

- Set the hysteresis for pressure detection manually.
- Setting: Pressure detection level (ST1, ST2), Hysteresis (HYS1, HYS2)



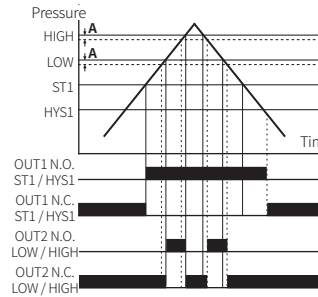
■ Window Comparison Output

- Only detects pressure at the desired range.
- Hysteresis is fixed as min. display interval.
- Setting: High limit (HI1, HI2), Low limit (LO1, LO2)



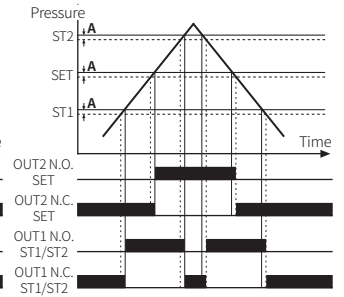
■ Hysteresis - Window Comparison Output

- Used when both hysteresis mode and window comparison output mode operations are required.
- Setting: Pressure detection level (ST1), Hysteresis (HYS1), High limit (HIGH), Low limit (LOW)



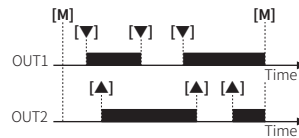
■ Auto Sensitivity Setting

- Used to set the proper position (SET) automatically by applied pressure from two positions (ST1, ST2).
- Setting: $SET = \frac{ST1 + ST2}{2}$
- Hysteresis is fixed as min. display interval.



■ Forced Output Control

- Comparison output is forcibly kept OFF, and current pressure value is displayed regardless of setting value.
- Manual output control is possible using [M], [▼] or [▲] keys during forced output control operation.



Auto-Shift Preset Settings

■ Setting Method

[Parameter setting]

1. Select P-9 External input terminal: SHFT.
2. Press the [▲] key for over 3 sec. in RUN mode to enter Max / Min monitoring / Auto shift menu.
3. Press the [M] key to enter Auto shift setting mode and press the [▼] or [▲] keys to change the preset.
4. Press the [▼] + [▲] keys for over 1 sec to delete the set correction value.

[External input setting]

1. At the desired preset value pressure, maintain low level for over 1 ms of Auto shift input (orange).
2. The pressure is measured at this time is applied after 7.5 ms and is stored in the auto shift correction value.

Operation Mode	Preset	Default	Setting Range
Auto-shift	SHFT	Auto-shift correction	SHIN
			0
			Min. preset setting < SH.IN ≤ Max. preset setting
			Pressure
			Setting range (after correction)
Auto-shift	SHFT	Auto-shift correction	SHIN
			0
			Min. preset setting < SH.IN ≤ Max. preset setting
			Negative
			Setting range (after correction)
Auto-shift	SHFT	Auto-shift correction	SHIN
			0
			Min. preset setting < SH.IN ≤ Max. preset setting
			Static
			Setting range (after correction)
Auto-shift	SHFT	Auto-shift correction	SHIN
			0
			Min. preset setting < SH.IN ≤ Max. preset setting
			Compound
			Setting range (after correction)

■ Precautions

- Auto shift correction value is reset to 0 when changing P-2 OUT operation mode or preset value.
- Preset setting range is wider than the rated pressure with the source pressure fluctuations.
- When in forced output control mode or when PV is HHHH/LLLL, Auto shift function will not operate.

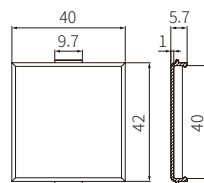
Errors

Display	Cause	Troubleshooting
Err1	When external pressure is input while adjusting zero point.	Try again after removing external pressure.
Err2	When overload is applied on control output	Remove the overload.
Err3	When 'ST1', 'ST2' setting range is not met in auto sensitivity setting mode.	Check setting conditions and set proper setting values.
HHHH	When applied pressure exceeds high-limit of display pressure range.	Apply pressure within display pressure range.
LLLL	When applied pressure exceeds low-limit of display pressure range.	
-HH-	Auto shift correction value error.	Set the corrected setting value within setting pressure range.
-LL-		
-HL-		

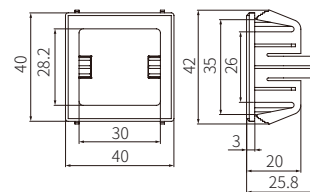
Sold Separately: Front Cover, Panel Bracket

- Unit: mm (Refer to the CAD files from the Autonics website for exact dimensions)

■ Front Cover: PSO-P01

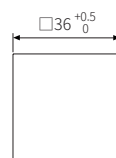


■ Panel Bracket: PSO-B02 / B03



- PSO-B02 (white): Pneumatic type, Fluid type (connector type)
- PSO-B03 (black): Fluid type (cable type)

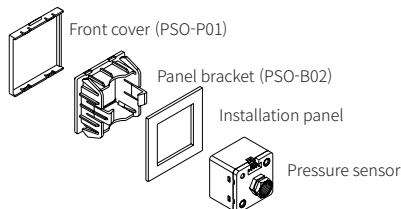
- Panel cut-out



Panel thickness: 0.8 to 3.5 mm

Installation Configuration

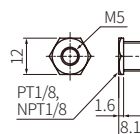
- Panel thickness: 0.8 to 3.5 mm



Sold Separately: M5 Gender

- Unit: mm (Refer to the CAD files from the Autonics website for exact dimensions)

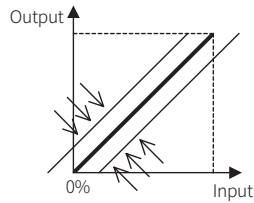
■ PSO-Z01 (Pneumatic Type)



Zero-Point Adjustment

With the pressure port open, the deviation is removed and the current pressure display value is forcibly set to zero. Zero-point adjustment may affect analog output.

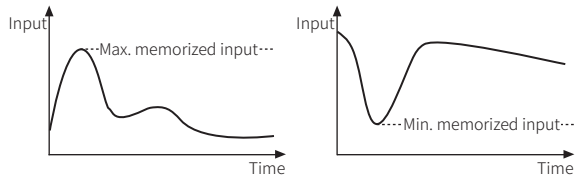
- For precise measurement, execute zero-point adjustment periodically.



Maximum / Minimum Value Monitoring

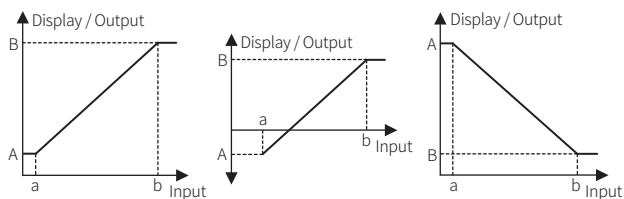
In order to identify abnormal conditions of the system that are not easily identified or to diagnose the max. / min. input that has occurred, the value is saved and notified.

- When the memorized max. / min. pressure is higher or lower than the rated pressure, 'HHHH' / 'LLLL' will be displayed.



Display / Output Scale

Customizes the scale of display / output value from rated output range. If the measured input is a, b, and the arbitrary values to be displayed are A, B, the display / output value are outputted for input a and b linearly ($a = A$, $b = B$).

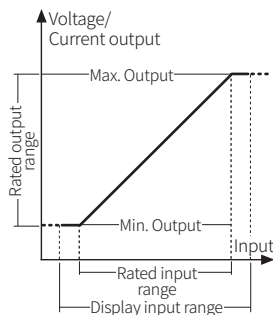


Response Time

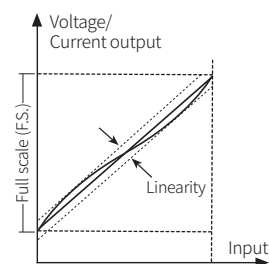
Prevents chattering of the output by changing the response time of the control output and pressure display value. When the response time is longer, the number of digital filters increase and stable measurement is possible, but the measured value may differ from the actual input value.

Analog Output Characteristics

Input - Output



Linearity



External Input

Auto-Shift

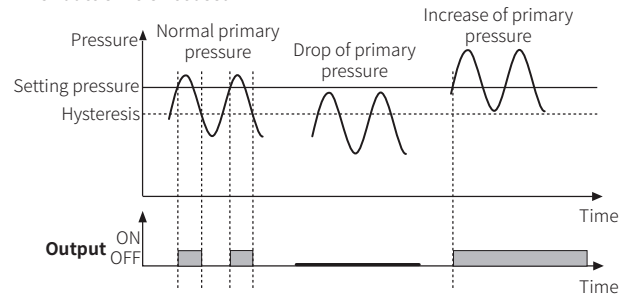
The pressure at the time of external input signal application is used as the reference pressure to correct the judgment level.

Correction set value $ST1 = ST1 + SH.IN$

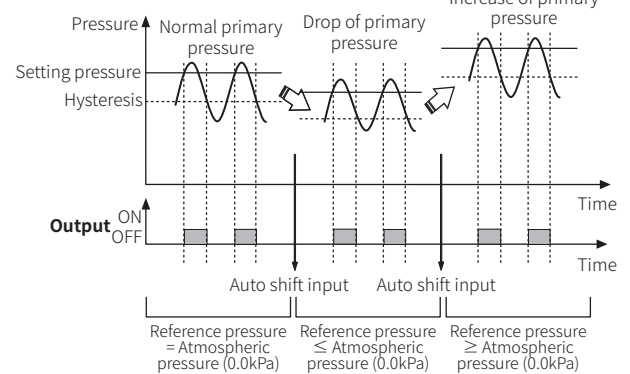
Correction set value $HYS1 = HYS1 + SH.IN$

SH.IN is the reference pressure set by Auto shift input.

When auto shift is not used



When auto shift function is used



Remote Zero

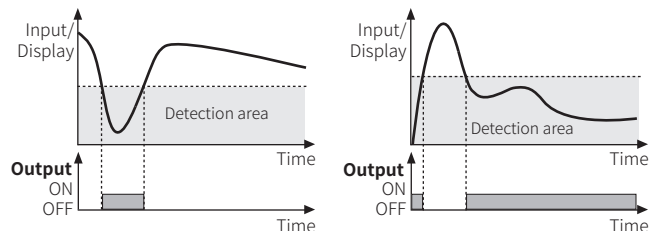
Executes zero-point adjustment function when external input signal is applied.

Hold

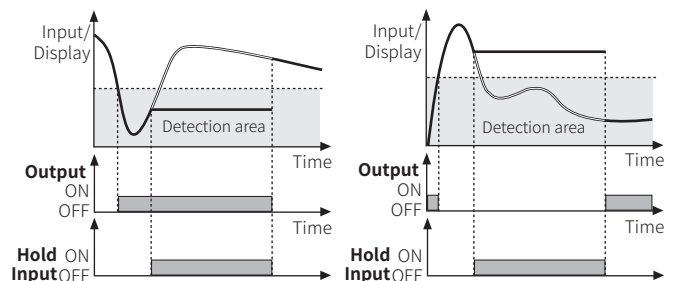
Holds current display value and control output when external input signal is applied.

Input: ———— Display: ————

When hold function is not used



When hold function is used



Pressure Conversion Chart							
	Pa	kgf/cm ²	mmHg	mmH ₂ O	psi	bar	inHg
Pa	1	0.000010197	0.007501	0.101972	0.00014504	0.00001	0.0002953
kgf/cm ²	98066.5	1	735.5592	10000.0005	14.223393	0.980665	28.959025
mmHg	133.3224	0.001359	1	13.595099	0.019337	0.001333	0.039370
mmH ₂ O	9.80665	0.000099	0.073556	1	0.00142	0.000098	0.002896
psi	6894.733	0.070307	51.71475	703.016716	1	0.068947	2.036014
bar	100000.0	1.019716	750.062	10197.1626	14.503824	1	29.529988
inHg	3386.388	0.034532	25.40022	345.315507	0.491156	0.033864	1

• 1,000,000 Pa = 1,000 kPa = 1 MPa

Segment Table

The actual display on the product represents the following letters and numbers. The display may differ depending on the product.

7-Segment				11-Segment				12-Segment				16-Segment			
0	0	I	I	0	0	I	I	0	0	I	I	0	0	I	I
1	1	J	J	1	1	J	J	1	1	J	J	1	1	J	J
2	2	K	K	2	2	K	K	2	2	K	K	2	2	K	K
3	3	L	L	3	3	L	L	3	3	L	L	3	3	L	L
4	4	M	M	4	4	M	M	4	4	M	M	4	4	M	M
5	5	N	N	5	5	N	N	5	5	N	N	5	5	N	N
6	6	O	O	6	6	O	O	6	6	O	O	6	6	O	O
7	7	P	P	7	7	P	P	7	7	P	P	7	7	P	P
8	8	Q	Q	8	8	Q	Q	8	8	Q	Q	8	8	Q	Q
9	9	R	R	9	9	R	R	9	9	R	R	9	9	R	R
A	A	S	S	A	A	S	S	A	A	S	S	A	A	S	S
b	B	T	T	b	B	T	T	b	B	T	T	ᐁ	B	T	T
c	C	U	U	c	C	U	U	c	C	U	U	c	C	U	U
d	D	V	V	d	D	V	V	d	D	V	V	ᐃ	D	V	V
E	E	W	W	E	E	W	W	E	E	W	W	E	E	W	W
F	F	X	X	F	F	X	X	F	F	X	X	F	F	X	X
G	G	Y	Y	G	G	Y	Y	G	G	Y	Y	G	G	Y	Y
H	H	Z	Z	H	H	Z	Z	H	H	Z	Z	H	H	Z	Z