Discontinue

Electronic pressure switch (pressure switch)

PSW Series

High precision pressure switch with semiconductor pressure sensor.

RoHS CAD

Overview

This product is a reliable pressure switch developed for pneumatics/vacuum systems. Due to a semiconductor pressure sensor, high precision and high speed response are achieved.

Features

- Fast response time (10 ms)
- With no movable parts, high reliability and long durability are achieved.
- Using multi rotation trimmer and operational indicator lamp, setting is easily done.
- Accuracy ±3% F.S.

Specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	PSW-P01	PSW-P10	PSW-V01
Pressure sensitive element	Diffusion semiconductor pressure sensor		
Applicable fluid	Air/non-corrosive gas		
Rated pressure	0 to 100 kPa	0 to 1 MPa	0 to -100 kPa
Proof pressure	F.S. x 1.5 times		
Accuracy	±3% F.S. (0 (32°F) to 50°C (122°F))		
Indicator lamp	Red LED lit when ON		
Hysteresis	2% F.S. or less		
Operating ambient temperature	0 (32°F) to 50°C (122°F)		
Storage ambient temperature	-20 (-4°F) to 80°C (176°F) (no freezing)		
Response time	10 ms or less		
Switch output	NPN transistor open collector MAX30 V 80 mA		
Analog output Note	1 to 5 VDC (0 to F.S.) ±3% F.S. (25°C)		
Power supply voltage	11 to 26 VDC 30 mA (ripple rate 1% or less)		
Vibration resistance	10 to 55 Hz compound amplitude 1.5 mm 2 hours per X, Y, Z direction		
Lead wire	1.5 m Shielded wire		
Weight	Approx. 80 g (body: approx. 60 g, mounting bracket: approx. 20 g)		

Note: Voltage of analog output may vary within 1±0.4 VDC to 5±0.8 VDC per product.

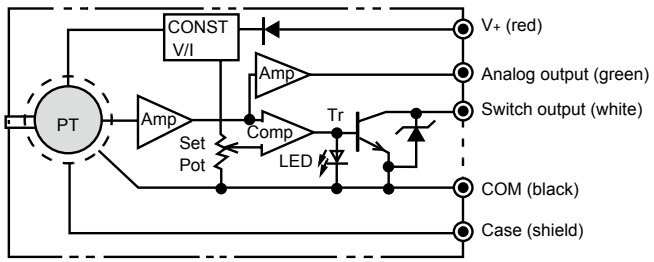
How to order

PSW – P01

Ⓐ Pressure range

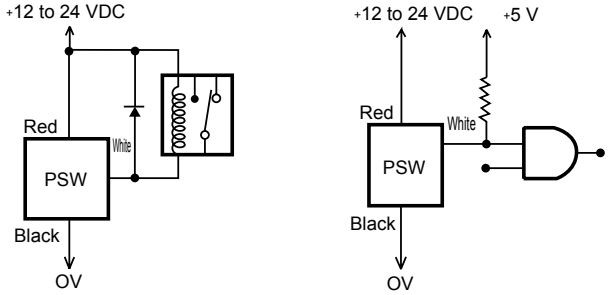
Code	Description
Ⓐ **Pressure range**	
P01	0 to 100 kPa
P10	0 to 1 MPa
V01	-100 to 0 kPa

Configuration diagram

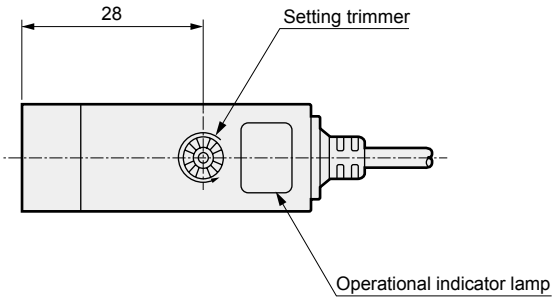


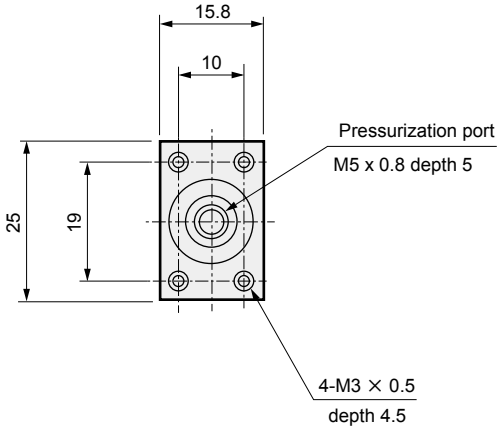
- Red LED lights when turning ON.
- Care must be taken when handling lead wire.

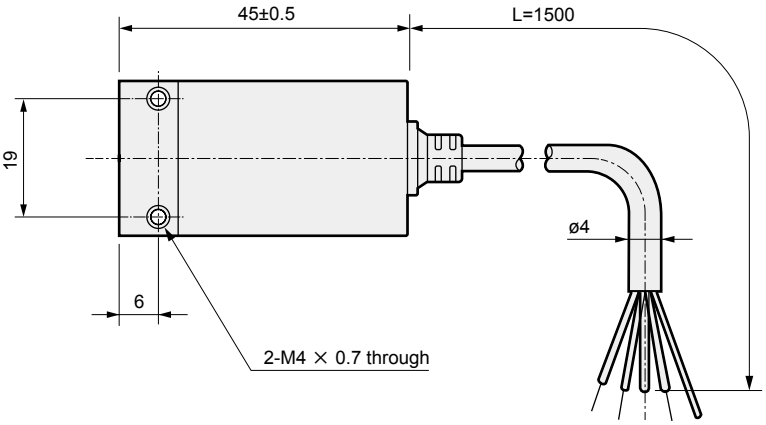
Example of wiring



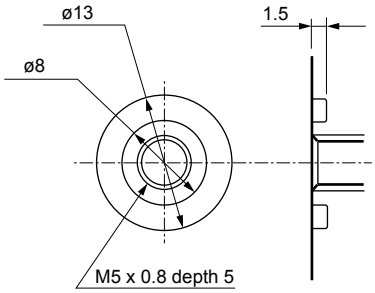
Dimensions





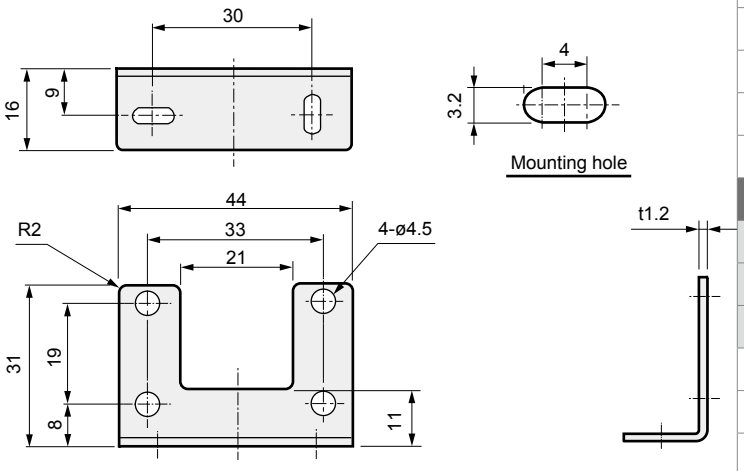


● Pressure port section details (Note)



(Note) Compatible O-ring (JIS B2401)
For positive pressure: P10
For negative pressure: P8

● Mounting bracket (accessory)



Material : SPCC
Treatment: Ni plating
Weight : Approx. 20 g

Refer to Safety precautions PSW Series on page 1224 for details.

Product-specific cautions: Electronic pressure switch PSW Series

Mounting, installation and adjustment

⚠ CAUTION

- When connecting an inductive load, install a surge suppressor within 0.5 m of the load, and eliminate noise at the source.
- Load impedance of analog output must be 10 kΩ and over.

Product-specific cautions: Electronic pressure sensor with digital display PPG-D Series

Design/selection

⚠ CAUTION

- Environment inspection is only available for “RoHS certificate” and “REACH certificate”. Detailed data at the parts level is not supported.

Mounting, installation and adjustment

⚠ CAUTION

- As degree of protection IP65 is used, be sure to assemble the protector (parts) attached with the product for use. When constantly exposed to water, introduce normal atmosphere with a long tube.