

# PRESSURE SWITCHES

## PS1 · PS2

- The pressure area uses a highly reliable bellows to accurately detect the set pressure.
- There are two types, a differential pressure fixed type and a differential pressure adjustable type. The differential pressure adjustable type can be set to the desired ON and OFF ranges.
- Models with indicators are optional and enable immediate confirmation of the appropriateness of the pressure used.

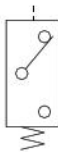


PS1



PS2

### Symbol



### Specifications

Item	Model	PS1	PS2
		Differential pressure fixed type	Differential pressure adjustable type
Media		Air	
Temperature range (ambient or media) <sup>(Note 1)</sup> °C		-20~70	
Maximum pressure MPa [kgf/cm <sup>2</sup> ]		1.47 [15.0]	
Proof pressure MPa [kgf/cm <sup>2</sup> ]		2.21 [22.5]	
Airtight pressure <sup>(Note 2)</sup> MPa [kgf/cm <sup>2</sup> ]		1.62 [16.5]	
Pressure regulation range <sup>(Note 3)</sup> MPa [kgf/cm <sup>2</sup> ]		0.1~0.6 [1.0~6.1]	0.1~1.0 [1.0~10.2]
Differential pressure regulation range MPa [kgf/cm <sup>2</sup> ]		—	0.1~0.3 [1.0~3.1]
Hysteresis MPa [kgf/cm <sup>2</sup> ]		0.05±0.02 [0.5±0.2]	—
Repeatable accuracy MPa [kgf/cm <sup>2</sup> ]		±0.02 [0.2]	
Shock resistance m/s <sup>2</sup> [G]		9.8 [1.0]	
Insulation resistance MΩ		100 min. (500V megger)	
Contact point withstand voltage		AC1500V 1 minute	
Connection type		Lead wire type, length: 500mm <sup>(Note 4)</sup>	Crimping terminal type
Lead wire port	Standard	Grommet	
	Optional	—	With adaptor for conduit tube
Indicator	Optional	LED for both AC and DC	Neon lamp for AC, LED for DC
Mounting bracket		None	Standard attachments
Mounting direction		Free	
Pressure area material		Copper alloy bellows	
Mass g		150	300

- Notes: 1. In cases where freezing does not occur below 0°C.  
 2. Airtight pressure at pressure area (bellows).  
 3. For a summary of pressure regulations, see page 329.  
 4. Also available for order: 1000, 2000 and 3000mm.

### Current Range

Current range	Model Rated voltage	PS1			PS2		
		AC125V	AC250V	DC24V	AC125V	AC250V	DC24V
Induction load	Continuous	0.02~2	0.02~1	0.02~0.5	0.01~8.5	0.005~4.5	0.01~3
	Rush	8 max.	4 max.	2 max.	40 max.	20 max.	10 max.
Non-induction load		0.02~2	0.02~1	0.02~0.5	0.01~10	0.005~5	0.01~5

### Order Codes

#### ● Differential Pressure Fixed Type

PS1 -

- Indicator  
 Blank \_\_\_\_\_ No indicator  
 AL \_\_\_\_\_ With indicator for AC100V  
 BL \_\_\_\_\_ With indicator for AC200V  
 DL \_\_\_\_\_ With indicator for DC24V

Differential pressure fixed type pressure switch

#### ● Differential Pressure Adjustable Type

PS2 -  -

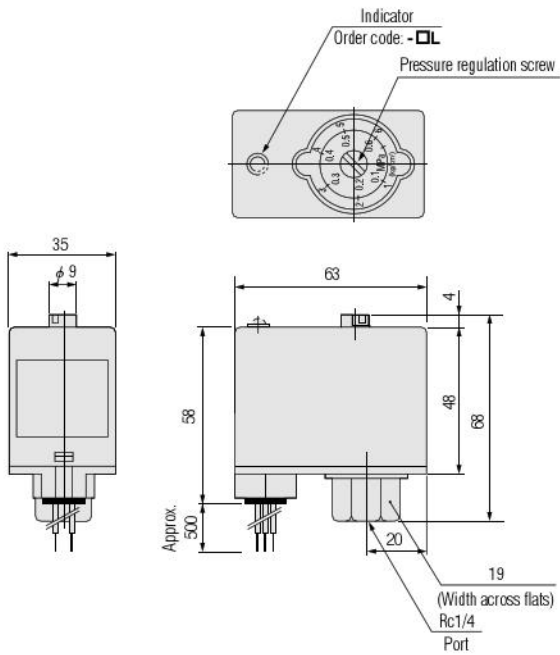
- Lead wire port  
 Blank \_\_\_\_\_ Grommet  
 T \_\_\_\_\_ With adaptor for conduit tube

- Indicator  
 Blank \_\_\_\_\_ No indicator  
 AL \_\_\_\_\_ With indicator for AC100V, 200V  
 DL \_\_\_\_\_ With indicator for DC24V

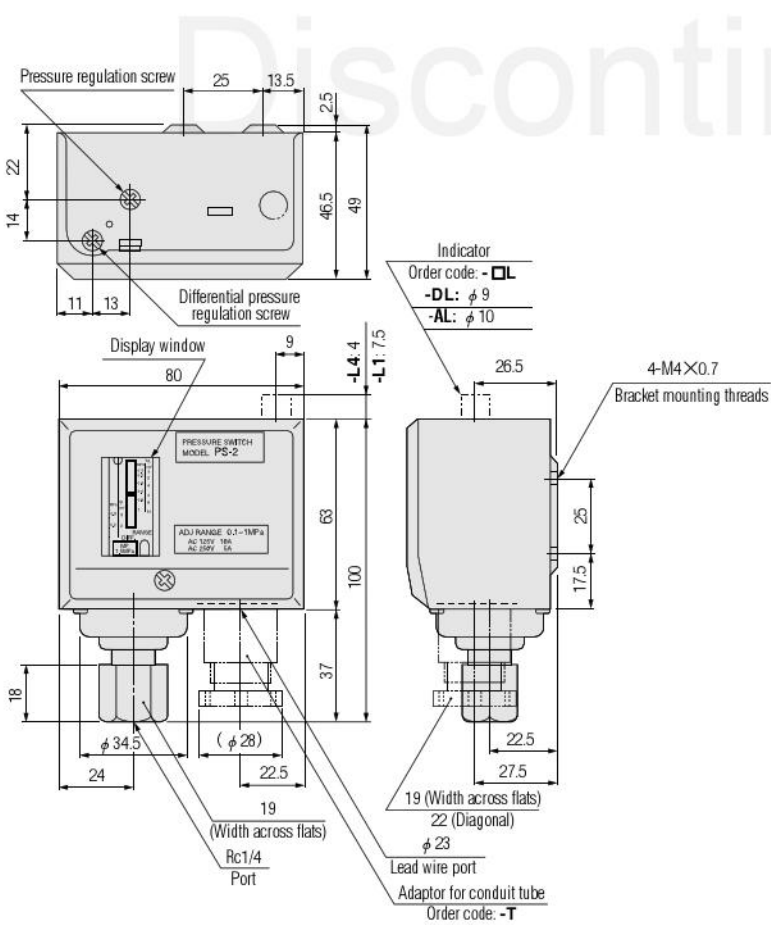
Differential pressure adjustable type pressure switch

# Dimensional Drawings (Unit: mm)

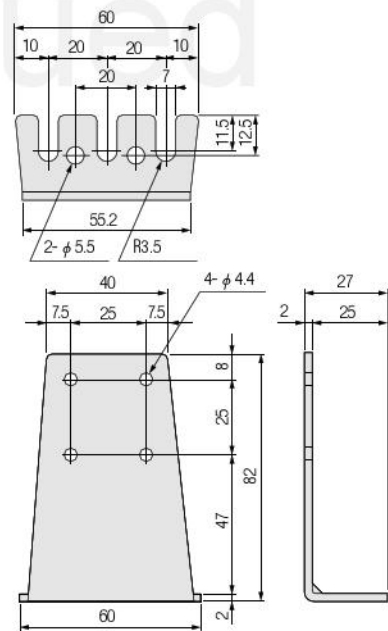
## ● PS1



## ● PS2



## Mounting bracket



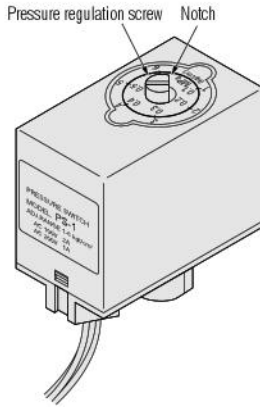
● The mounting bracket can be used on the PS2 in either direction.

# Proper Handling and Precautions

## Pressure regulation

### ●PS1

Set the set pressure by turning the pressure regulation screw to bring the pressure regulation screw notch into alignment with the numbers on the dial. When the air pressure rises to the set pressure, the switch shuts off, lowering the pressure at the set pressure to  $-0.05\text{MPa}$ , then reset.

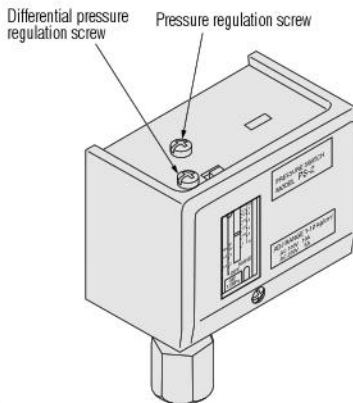


Caution: Use the pressure indicator dial for measurement. For more precise pressure regulation, connect a pressure gauge to do the measurements.

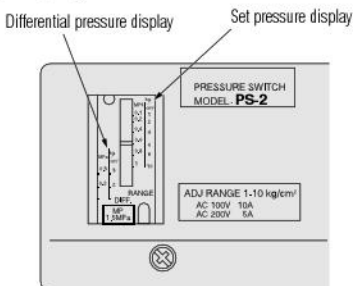
### ●PS2

Since **PS2** is a differential pressure regulation type, pressure differential switching can be set within the range of set pressure  $-0.1 \sim -0.3\text{MPa}$ .

First, turn the pressure regulation screw to set the set pressure, then turn the differential pressure regulation screw to set the ON, OFF differential pressure. At this time, the set pressure and the differential pressure are displayed in a window dial on the front of the pressure switch body, with RANGE standing for the set pressure, and DIFF for the differential pressure.



### ●Display window



Caution: The number indicated on the dial can be in error for up to  $0.05\text{MPa}$ . For fine adjustment, confirm switch operation by adding compressed air to the set pressure.

## Connection summary

### ●PS1

**PS1** connections are according to the lead wire type. Use the colors to connect the NC, NO contacts to the lead wires. The upward-pointing arrow in the diagram shows the direction of the rising pressure. The indicator light turns out when the pressure rises past the set pressure, and lights up as a warning when it falls below the set pressure.

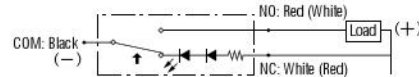
### ●Standard



### ●With indicator AC100V, AC200V



### DC24V



Caution: For units with indicators, always connect the load on the NO side.

Note: In 1993, the lead wire colors were changed to the colors shown in parentheses ( ).

### ●PS2

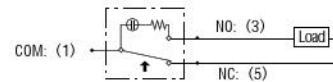
**PS2** connections are according to the crimping terminal type. Use the terminal numbers to connect the NC, NO contacts to the terminals. The figure in parentheses ( ) in the diagram shows the terminal number, and the upward-pointing arrow  $\uparrow$  shows the direction of rising pressure.

The indicator light turns out when the pressure rises past the set pressure, and lights up as a warning when it falls below the set pressure. However, when the set pressure is exceeded and the indicator is lit up, set the indicator on terminal (5), and connect the load to the NC side.

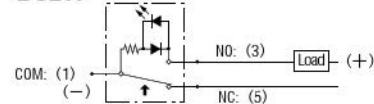
### ●Standard



### ●With indicator AC100V, AC200V



### DC24V



Caution: For units with indicators, always connect the load on the NO side. When connecting the load to NC side, connect the indicator to terminal (5).

## Mounting

Although any mounting stance is permissible, avoid mounting the unit in locations that may be subject to high-temperature radiating heat, since the pressure switch cover is made of plastic.

Caution: During mounting and pipe connecting, do not apply a spanner to the main body of the pressure switch. For tightening, always apply a spanner to the hexagonal portion of the piping connection port.

## Air supply

1. Use air for the media. Please consult with the KOGANEI sales office when any other media are to be used.
2. The air used in the pressure switch should be pure air that does not contain degraded compressor oil or other contaminants. Attach an air filter (filtration rating of  $40\ \mu\text{m}$  max.) near the pressure switch for draining, and remove any foreign material. Also, periodically clean out the air filter drain.

## Ambient atmosphere

Do not use where the media or the ambient atmosphere contain any of the following substances:

- Organic solvents
- phosphoric acid, ester-type machine oil
- sulfur dioxide gas
- chlorine gas
- acids

Discontinued