



Mechanical pressure switch standard white Series

# P4000-W Series

Wide pressure setting range covers 0.1 to 0.8 MPa.

● Port size: 1/4 to 1/2

JIS symbol



## Specifications

| Descriptions                             | P4000-8-W                            | P4000-10-W | P4000-15-W |
|--|--------------------------------------|------------|------------|
| Working fluid                            | Compressed air                       |            |            |
| Max. working pressure MPa                | 1.0                                  |            |            |
| Withstanding pressure MPa                | 1.5                                  |            |            |
| Pressure adjusting range MPa             | 0.1 to 0.8                           |            |            |
| Fluid temperature °C                     | 5 to 60                              |            |            |
| Port size Rc                             | 1/4                                  | 3/8        | 1/2        |
| Micro switch type                        | Z-15GD-B (OMRON)                     |            |            |
| Contact configuration ab                 | 1                                    |            |            |
| Hysteresis MPa                           | 0.1 to 0.49, hysteresis within 0.049 |            |            |
|  | 0.5 to 0.8, hysteresis within 0.078  |            |            |
| Repeatability MPa                        | ±0.02 of set pressure                |            |            |
| Allowable operation frequency cycle/min. | 20                                   |            |            |
| Insulation resistance M                  | 100 and over (with 500 VCD megger)   |            |            |
| Product weight kg                        | 0.5                                  |            |            |
| Mounting attitude                        | Install adjusting screw vertically   |            |            |

### Micro switch rated

| Load    | No inductive load (A) |     |            |      | Inductive load (A) |     |                     |     |
|---------|-----------------------|-----|------------|------|--------------------|-----|---------------------|-----|
| Circuit | Resistance load       |     | Light load |      | Inductive load     |     | Electric motor load |     |
| Voltage | N.C                   | N.O | N.C        | N.O  | N.C                | N.O | N.C                 | N.O |
| 125 VAC | 15                    | 15  | 3.0        | 1.5  | 15                 | 15  | 5.0                 | 2.5 |
| 250 VAC | 15                    | 15  | 2.5        | 1.25 | 15                 | 15  | 3.0                 | 1.5 |
| 30 VDC  | 6.0                   | 6.0 | 3.0        | 1.5  | 5.0                | 5.0 | 5.0                 | 2.5 |

## How to order

**P4000 - 8 - W - 1N - BW**

A Port size

B Option

C Attachment

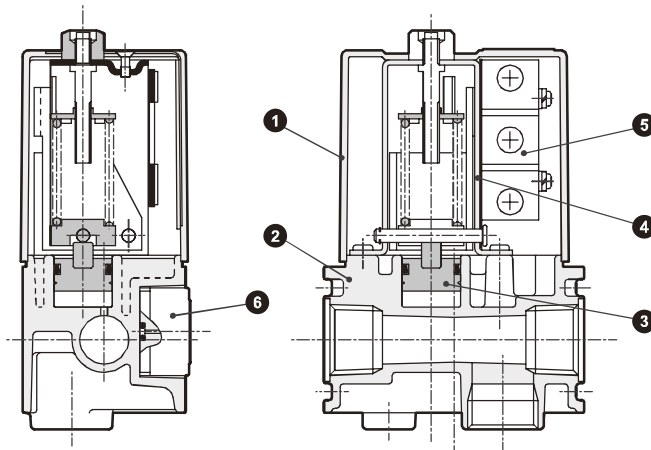
| Symbol                                | Descriptions                       |
|---------------------------------------|------------------------------------|
| <b>A Port size</b>                    |                                    |
| 8                                     | Rc1/4                              |
| 10                                    | Rc3/8                              |
| 15                                    | Rc1/2                              |
| <b>B Option</b>                       |                                    |
| Blank                                 | Without indicator light            |
| 1N                                    | 100 VAC /200V with indicator light |
| 3N                                    | 24 VDC with indicator light        |
| T                                     | Without pressure gauge             |
| <b>C Attachment (attached) Note 1</b> |                                    |
| Blank                                 | Not attached                       |
| A8W                                   | Rc1/4 piping adapter set           |
| A10W                                  | Rc3/8 piping adapter set           |
| A15W                                  | Rc1/2 piping adapter set           |
| A20W                                  | Rc3/4 piping adapter set           |
| BW                                    | C type bracket                     |

### ⚠ Note on model no. selection

Note 1: C type bracket and piping adapter set can not be used together.

Note 2: Due to modular design, a gasket is attached.

## Internal structure and parts list



| No. | Part name               | Material                         | No.              |
|-----|-------------------------|----------------------------------|------------------|
| 1   | Guard                   | Resin                            | -                |
| 2   | Body                    | Aluminum alloy die-casting       | -                |
| 3   | Piston assembly         | Polyacetal resin, nitrile rubber | -                |
| 4   | Frame                   | Steel                            | -                |
| 5   | Micro switch            | -                                | Z-15GD-B (OMRON) |
| 6   | Pressure gauge assembly | PBT resin, brass                 | G401-W           |

\* To wire, remove cover (1), and connect directly to the microswitch (5).

\* One gasket is enclosed.

## Safety precautions

## ■ Design & Selection

**CAUTION**

### 1 Micro switch contact specifications

Closed circuit Maximum 30 A      Open circuit Maximum 15 A  
Rush current should be measured beforehand.

## ■ Installation & Adjustment

**CAUTION**

**1** When wiring, loosen cover mounting screws, remove the cover, then wire to the microswitch inside.

## 2 Wiring the sensor with lamp

- The lamp is connected to the microswitch's NC terminal and NO terminal. A fine current flows even when the load (relay, etc.) is not energized, so take care when selecting the load.  
100 VAC 1.5mA    200 VAC 2.0mA    24 VDC 4.5mA
- To turn the lamp on at a level higher than the set pressure and off at a level less than the set pressure, wire to the microswitch COM terminal and NC terminal.  
Attach the **Pressure Rise → Lamp ON plate** at a visible section on the cover.
- To turn the lamp on at a level less than the set pressure and off at a level higher than the set pressure, wire to the microswitch COM terminal and NO terminal.  
Attach the **Pressure Rise → Lamp OFF plate** at a visible section of the cover.
- If there is a large amount of drainage, pipe so that the pressure adjustment screw is facing upward.

**3** Avoid using in hot places because the cover is made of resin.

**4** Hold the body when piping or installing.

**5** Use with air that has been passed through an air filter.

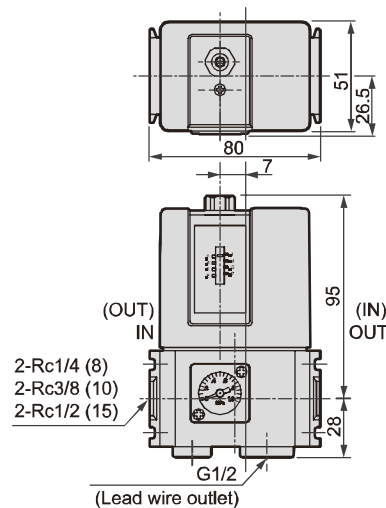
6 Use the pressure absorbing nipple (6556) to detect sudden changes in pressure such as when confirming air cylinder pressure.

**7** Use the pressure absorbing nipple (6556) if pressure rise/lower pulsation is frequent. The product life could be shortened if the pressure absorbing nipple is not used.

**8** Loosen the nut on the top of the cover, and adjust the pressure with the adjustment screw. The set pressure will rise when the screw is turned to the plus (+) side and will drop when turned to the minus (-) side. (Working tools: Wrench 13 mm, flat-tip screwdriver) Fix with the nut after setting.

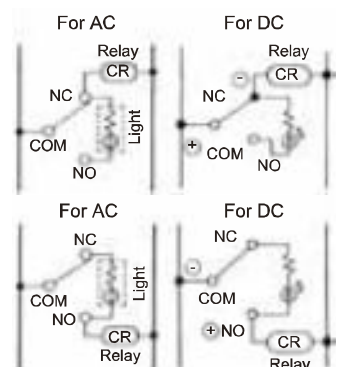
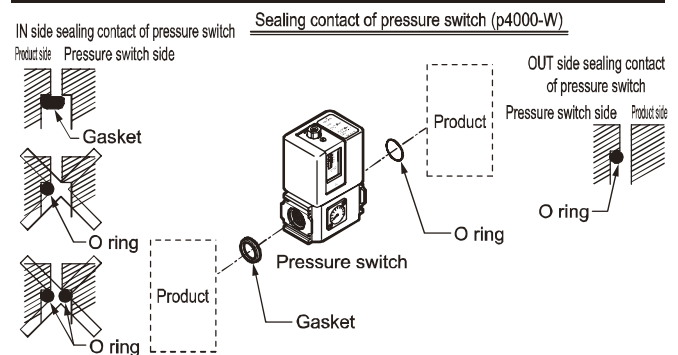
**9** The scale plate is for reference. (Scale error within  $\pm 0.05$  MPa)

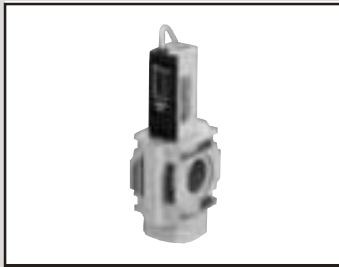
## Dimensions



Reduction rate 0.24.  
(Photocopy at 141% four  
times to see actual  
dimensions. )

## How to assemble





Compact reed switch type mechanical pressure switch standard white Series

# P1100-W/P4100-W/P8100-W Series

· Compatible with module connection to SELEX F.R.L.

JIS symbol



## Specifications

| Descriptions                            | P*100-W  |
|---|--|
| Working fluid                           | Compressed air   |
| Max. working pressure MPa               | 1.0  |
| Set pressure range MPa                  | 0.1 to 0.6   |
| Hysteresis MPa                          | 0.08 or less   |
| Repeatability MPa                       | ±0.02 or less  |
| Contact configuration                   | 1a Note 1  |
| Wiring                                  | Lead wire (oil resistant vinyl cabtire code 2-conductor 0.2mm <sup>2</sup> ) |
| Ambient temperature / fluid temperature | 5 to 60°C  |
| Protective structure Note 2             | IP20 or equivalent   |

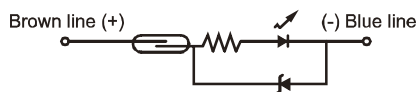
Note 1: The contact turns on if air pressure exceeding the scale setting pressure is applied.

Note 2: The protective structure is IP 65 or equivalent if an optional joint is connected to the atmospheric pressure introduction port and extended with tubes to a place free of water. This port can not be used outdoors.

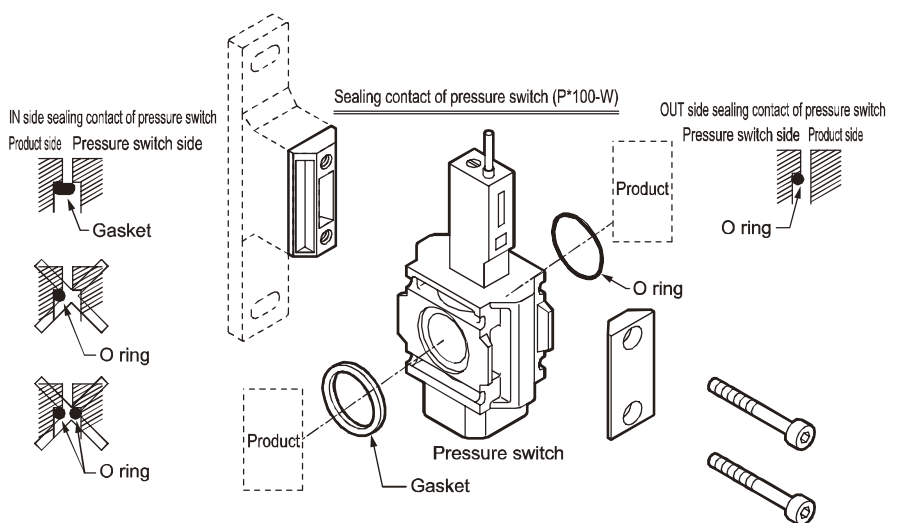
## Electric component section specifications

|                          |  |           |
|--------------------------|--|-----------|
| Load voltage             | 12/24 VDC  | 100 VAC   |
| Load current             | 5 to 50mA  | 7 to 20mA |
| Internal voltage drop    | 3V or less   |           |
| Light                    | LED (ON lighting)                                  |           |
| Maximum shock resistance | 294m/S <sup>2</sup>                                |           |
| Insulation resistance    | 20MΩ and over at 500 VDC megger                    |           |
| Withstand voltage        | No failure when 1000 VAC is applied for one minute |           |

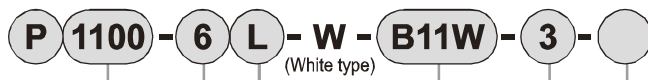
## Internal circuit diagram



## How to assemble (P1100-W, P4100-W, P8100-W)



## How to order (modular design)



**A** Series




**B** Port size

**C** Branch direction

**D** Attachment

**E** Lead wire length

**F** Option

| Symbol  | Descriptions   |   |   |      |
|---|--|---|---|------|
| A Series  |  |   |   |      |
| 1100  | 1000-W Series modular design                           |   |   |      |
| 4100  | 2500-W, 3000-W, 4000-W modular design Series           |   |   |      |
| 8100  | 6000-W, 8000-W modular design Series                   |   |   |      |
| B Port size   |  |   |   |      |
|   |  | 1100  | 4100  | 8100 |
| 6   | Rc1/8  | ●   |   |      |
| 8   | Rc1/4  | ●   | ●   |      |
| 10  | Rc3/8  |   | ●   |      |
| 15  | Rc1/2  |   | ●   |      |
| 20  | Rc3/4  |   |   | ●    |
| 25  | Rc1  |   |   | ●    |
| C Branch direction Note 1   |  |   |   |      |
| Blank Note 2  |  | L   | R   |      |
|  |  |  |  |      |
| D Attachment  |  |   |   |      |
|   |  | 1100  | 4100  | 8100 |
| Blank   | Joiner set and gasket                                  | ●   | ●   | ●    |
| B11W  | T type bracket and gasket                              | ●   |   |      |
| B31W  | T type bracket and gasket                              |   | ●   |      |
| B41W  | T type bracket and gasket                              |   | ●   |      |
| B81W  | T type bracket and gasket                              |   |   | ●    |
| 4W  | Joint for atmospheric release port attached (M3 elbow) | ●   | ●   | ●    |
| E Lead wire length  |  |   |   |      |
| Blank   | 1m   |   |   |      |
| 3   | 3m   |   |   |      |
| 5   | 5m   |   |   |      |
| F Option  |  |   |   |      |
| Blank   | None   |   |   |      |
| P6  | Copper and PTFE free (custom order)                    |   |   |      |

### ⚠ Note on model no. selection

Note 1: This is used for intermediate connection of the module Series so the module connection section is not threaded.

Note 2: A masking plug matching the port size is enclosed.

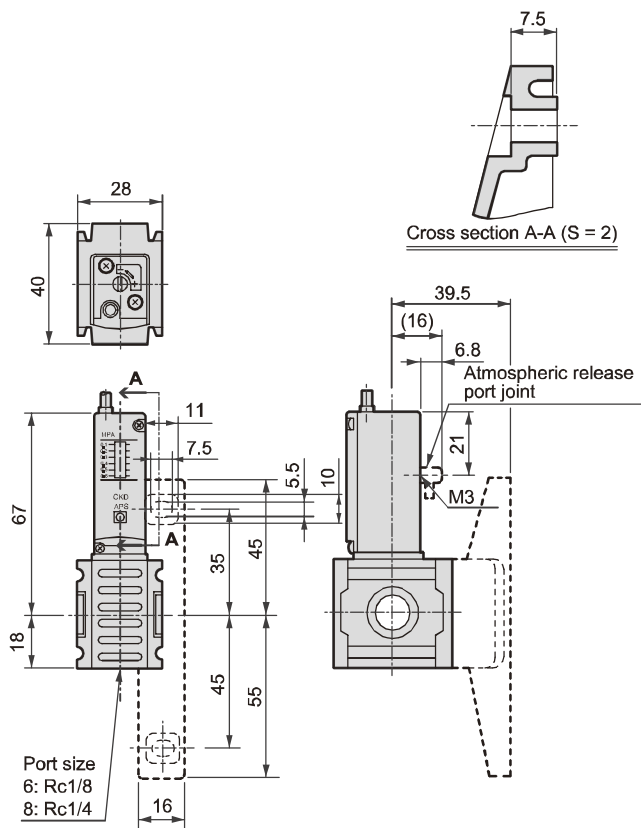
Note 3: When piping the isolated P\*100-W unit, use piping adapter A\*00-W.  
(The horizontal direction port does not have threads.)

# P\*100-W Series

## Dimensions

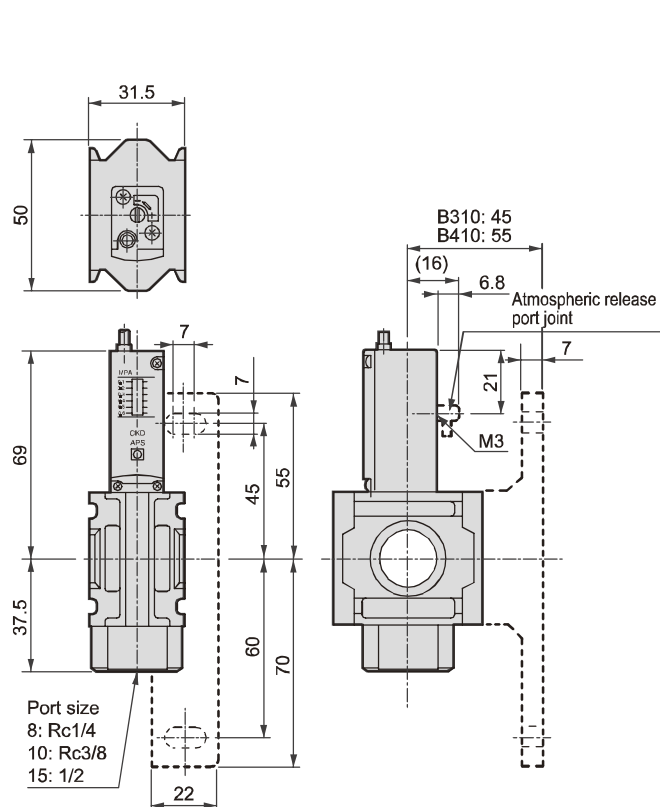


### ● P1100-W



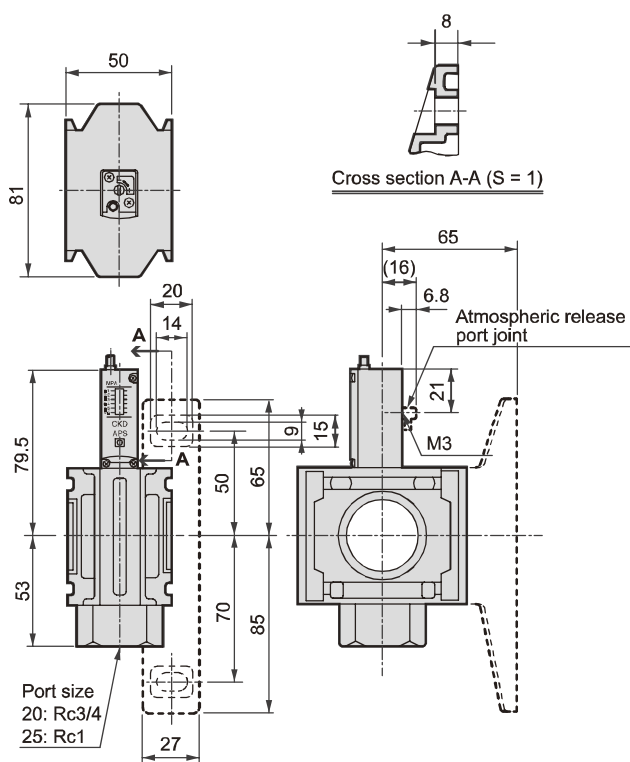
Weight 126g

### ● P4100-W



Weight 190g

### ● P8100-W



Weight 467g

## ⚠ Safety precautions

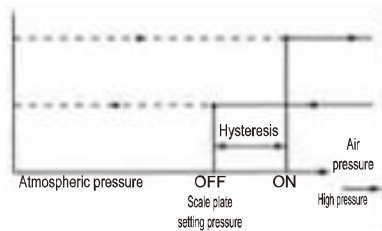
### ■ Installation & Adjustment

#### ⚠ CAUTION

##### 1 Setting pressure

- Pressure displayed on the scale plate is used as the reference. When setting pressure, refer to the separate pressure gauge.
- Pressure displayed on the scale plate is the value when the contact is off. To set the value when the contact is on, set the pressure displayed on the scale plate to a value smaller than that from which hysteresis has been subtracted. Refer to the chart diagram below. If not set, operation may not take place at the set value.  
(Hysteresis refers to the pressure width from when the switch operates once with the set pressure to when the pressure drops and the switch turns off.)

Operation chart



##### 2 Installation

- Do not drop or bump the panel when handling it.
- Wire the lead so that the repeated bending strain and tensile strength are not applied to the wire. Failure to do so could lead to disconnection.
- Do not use this sensor near a strong magnetic field or large current (large magnet or spot welder, etc.) because the sensor could malfunction.
- The pressure switch is equivalent to IP-20, but the installation direction is limited to upward vertical. If water enters the introduction port for atmospheric pressure from below, pipe an M3 joint and extend with tubing to where water will not enter. Do not plug the atmospheric release port joint or else malfunctions could occur. This port can not be used outdoors.



##### ● P\*100 Series

- If there is drainage in pneumatic piping, install so that the pressure switch is higher than the drain.
- Do not pressurize the atmospheric release port joint or blow it with compressed air. Product performance could drop or the product could be damaged.

##### 3 Connection

###### ● Connecting the lead

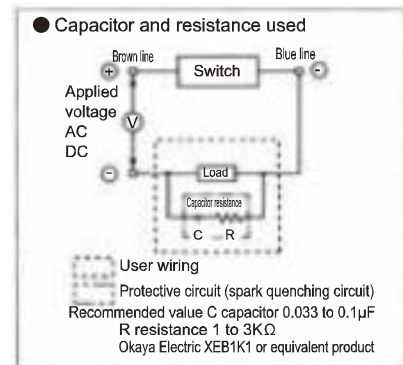
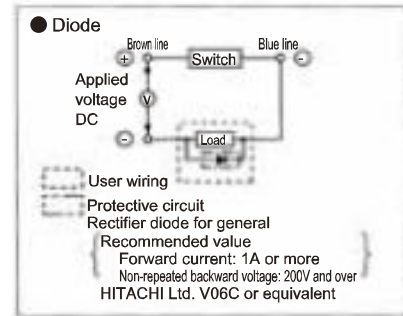
- (1) Do not connect the lead directly to the power supply. Connect the load serially. Failure to do so could result in lamp blowing or contact melting.
  - (2) When using for DC, connect the brown wire to the ⊕ side and the blue wire to the ⊖ side. The lamp will not light if wires are connected in reverse.
  - (3) When connected to the AC relay or PC input, if half wave rectification is done with these circuits, the switch lamp may not light. In this case, the lamp will light if the switch lead polarity is reversed.
- Contact capacity  
Do not exceed the specified load voltage and load current range. Failure to observe this could result in problems such as lamp

blowing and contact melting.

The lamp may not light if the current is less than the rated current value.

###### ● Contact protection

- (1) When using this sensor with a conductive load such as a relay, provide the contact protection circuit shown at right. The contact could melt if this protection circuit is not provided.



- (2) If DC wiring exceeds 50 m or AC wiring exceeds 10 m, the wiring capacity will be attained. A rush current will occur, damaging the switch or shortening life.  
Install a contact protection circuit if the wiring length is exceeded.

