Pneumatic components (air sensor)

Safety precautions

Always read this section before starting use.
Refer to Intro 67 for general precautions, and to "⚠ Safety precautions" in this section for details on each series.

Mechanical pressure switch APS Series

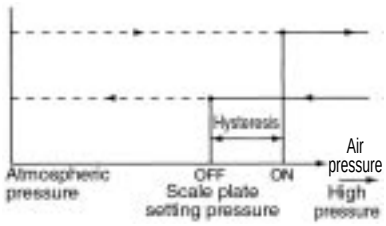
Installation & Adjustment

⚠CAUTION

■ 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 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 set pressure to when pressure drops and the switch goes off.)

Operation chart



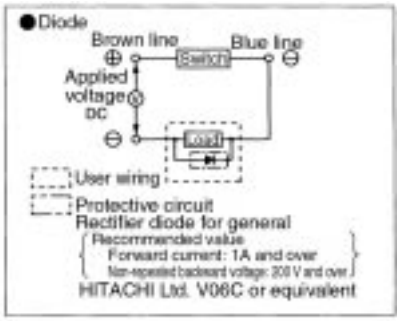
■ Installation

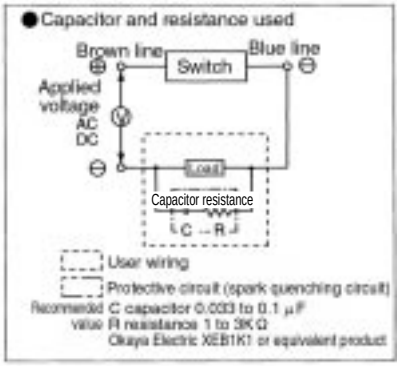
- Do not drop or bump the panel during handling.
- Wire the lead so that the repeated bending strain and tensile strength are not applied to the wire. Failure to do so could lead to disconnection.
- Do not use this sensor near a strong magnetic field or large currant (large magnet or spot welder, etc.) or the sensor may malfunction.
- The APS Series is equivalent to IP-65, but the installation direction is restricted to upward vertical. If water enters the atmospheric release 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 or malfunction may occur. This port can not be used outdoors.

- Do not pressurize or flush the atmospherics release port with air. Product performance could drop or the product could be damaged.

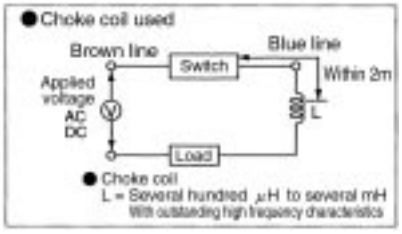
■ Wiring

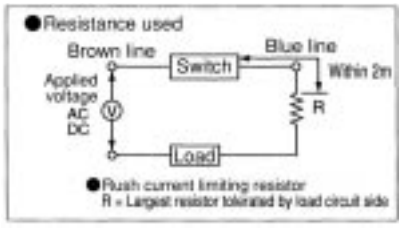
- Connecting the lead
  (1) Do not connect the lead directly to the power supply. Connect the load serially. Failure to do so could result in lamp blowing or contact melting.
  (2) When using for DC, connect the brown wire to the + side and the blue wire to the - side. The light does not light if wires 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) 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.





Mechanical pressure switch APE Series

Design & Selection

⚠CAUTION

■Select a sensor considering rush current.
Micro switch contact specifications
Closed circuit max. 30A
Open circuit max. 15A
Rush current should be measured beforehand.

Installation & Adjustment

⚠CAUTION

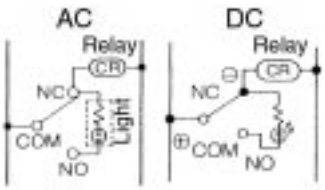
■When wiring, loosen cover mounting screws, remove the cover, then wire to the microswitch inside.

■Wiring the sensor with light

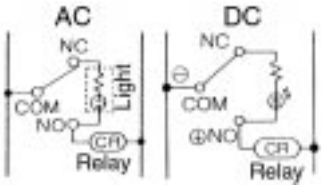
- The light is connected to the microswitch's NC and NO terminals. A fine current flows even when the load (relay, etc.) is not energized, so take care when selecting the load.

100VAC	1.5mA
200VAC	2.0mA
24VDC	4.5mA

- To turn the light on at higher than the set pressure, and off at less than the set pressure, wire to the microswitch's COM terminal and NC terminal. Attach the Pressure Rise → Light ON plate at a visible section of the cover.



- To turn the light on at less than the set pressure and off at higher than the set pressure, wire to the microswitch COM terminal and NO terminal. Attach the Pressure Rise → Light 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.

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

■Hold the body section when piping or installing.

■Use with air that has been passed through an air filter.

■Use the pressure absorption nipple (6556) to detect sudden changes in pressure, such as when confirming air cylinder pressure.

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

■Loosen the nut on the top of the cover, and adjust the pressure with the adjustment screw. The set pressure rises when the set screw is turned to the plus (+) side and drops when tuned to the minus (-) side. (Work tools: Wrench 13mm, flat-tip screwdriver) Fix with the nut after setting.

■The scale plate is for reference.
(Scale error within ± 0.05MPa)