

Air Checker: Electronic Pressure Switch Series *PS1000/PS1100*

For Positive Pressure For Vacuum



ZSE□
ISE□

PSE

ZSE¹₃

PS

ZSE¹₂

ZSP

ISA2

IS□

ZSM

PF2□

IF□

Data

Small, lightweight electronic pressure switch

Extremely compact (1/3 size as compared to Series ZSE2)

13W x 10H x 30L (mm)

<Standard type without connection part>

2-wire type

Applicable to either NPN or PNP output.

Easy mounting

Plug-in port for One-touch fittings.

Wide calibration range

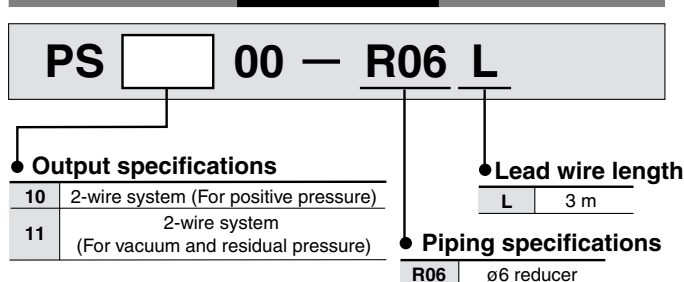
Calibration: -0.1 to 0.45 MPa is possible with one pressure switch.

High visibility

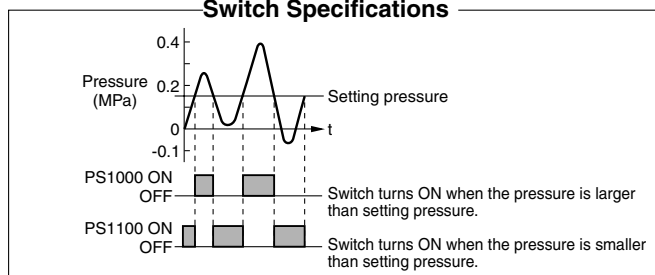
A large LED indicator for high visibility.

Series PS1000/1100

How to Order

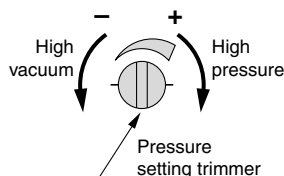


Switch Specifications



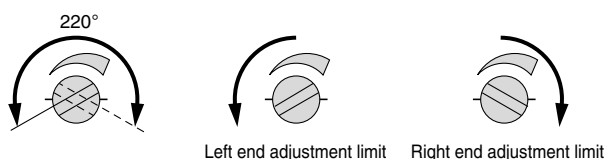
Pressure Switch Calibration

- Use the calibration adjustment to set ON pressure.
- Rotate clockwise to increase pressure setpoint. For setting vacuum, rotate counterclockwise.
- In the event of setting, use a flat head screwdriver suited for the groove of a trimmer, and rotate it lightly with a finger tip.



Trimmer

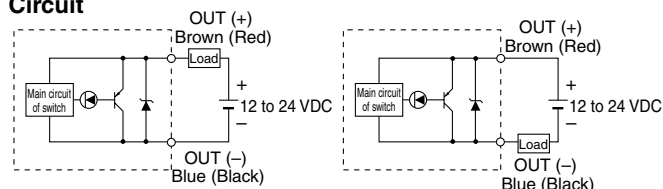
Rotation angle of the trimmer is 220°. There is a stop provided to prevent the trimmer from rotating beyond its limits. Rotation beyond the limit can damage the trimmer. Adjust the trimmer gently within the rotation angle.



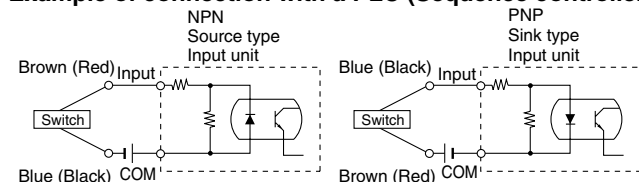
Internal Circuit/Wiring

Lead wire colors inside () are those prior to conformity to IEC standards.

Circuit



Example of connection with a PLC (Sequence controller)



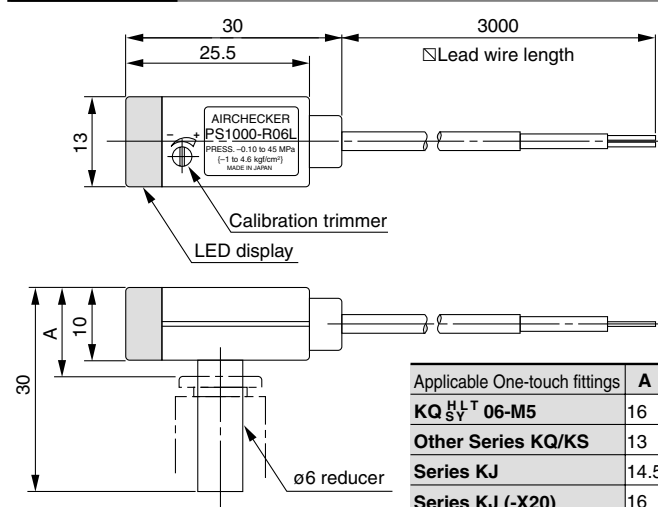
Specifications

Model	PS1000-R06L	PS1100-R06L
Switch output	Present pres. ≥ Setting pres.: ON	Present pres. ≤ Setting pres.: ON
Max. operating pressure	1 MPa	
Regulating pressure range	-0.1 to 0.45 MPa	-0.1 to 0.4 MPa
Fluid	Air/Non-corrosive gas	
Indication light	ON: When red LED turns on	
Temperature characteristics	±3% F.S. or less	
Repeatability	±1% F.S. or less	
Hysteresis	4% F.S.	
Load voltage	12 to 24 VDC (Ripple ±10% or less)	
Load current	5 to 40 mA	
Leakage	1 mA or less	
Int. voltage drop	5 V or less	
Operating temperature range	0 to 60°C (With no condensation)	
Insulation resistance	Between external terminals and case 2 MΩ (500 VDC by megameter)	
Withstand voltage	Between external terminals and case 1000 VAC 50/60 Hz for 1 min.	
Vibration resistance	10 to 500 Hz Pulse width 1.5 mm or acceleration 98 m/s ² (at the smaller vibration) in X, Y, Z directions (2 hours)	
Impact resistance	980 m/s ² X, Y, Z directions (3 times for each direction)	
Weight	5 g (Excluding lead wire)	
Port size	ø6 reducer	
Enclosure	IP40	
Lead wire	Grommet oil-proof cabtire cord 2-wires ø2.55, 0.18 mm ² , 3 m	

Caution

Refer to pages 16-14-3 to 16-14-4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to pages 16-1-11 to 16-1-13 for Precautions on every series.

Dimensions





Applicable One-touch fittings	A
KQ ^H LT 06-M5	16
Other Series KQ/KS	13
Series KJ	14.5
Series KJ (-X20)	16




Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of "Caution", "Warning" or "Danger". To ensure safety, be sure to observe ISO 4414 ^{Note 1)}, JIS B 8370 ^{Note 2)} and other safety practices.

 **Caution :** Operator error could result in injury or equipment damage.

 **Warning :** Operator error could result in serious injury or loss of life.

 **Danger :** In extreme conditions, there is a possible result of serious injury or loss of life.

Note 1) ISO 4414: Pneumatic fluid power--General rules relating to systems.

Note 2) JIS B 8370: General Rules for Pneumatic Equipment

Warning

1. The compatibility of pneumatic equipment is the responsibility of the person who designs the pneumatic system or decides its specifications.

Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system must be based on specifications or after analysis and/or tests to meet your specific requirements. The expected performance and safety assurance will be the responsibility of the person who has determined the compatibility of the system. This person should continuously review the suitability of all items specified, referring to the latest catalog information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

2. Only trained personnel should operate pneumatically operated machinery and equipment.

Compressed air can be dangerous if an operator is unfamiliar with it. Assembly, handling or repair of pneumatic systems should be performed by trained and experienced operators.

3. Do not service machinery/equipment or attempt to remove components until safety is confirmed.

1. Inspection and maintenance of machinery/equipment should only be performed once measures to prevent falling or runaway of the driver objects have been confirmed.
2. When equipment is to be removed, confirm the safety process as mentioned above. Cut the supply pressure for this equipment and exhaust all residual compressed air in the system.
3. Before machinery/equipment is restarted, take measures to prevent shooting-out of cylinder piston rod, etc.

4. Contact SMC if the product is to be used in any of the following conditions:

1. Conditions and environments beyond the given specifications, or if product is used outdoors.
2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, clutch and brake circuits in press applications, or safety equipment.
3. An application which has the possibility of having negative effects on people, property, or animals, requiring special safety analysis.



Common Precautions

Be sure to read before handling.

For detailed precautions on every series, refer to main text.

Selection

Warning

1. Confirm the specifications.

Products represented in this catalog are designed for use in compressed air applications only (including vacuum), unless otherwise indicated.

Do not use the product outside their design parameters.

Please contact SMC when using the products in applications other than compressed air (including vacuum).

Mounting

Warning

1. Instruction manual

Install the products and operate them only after reading the instruction manual carefully and understanding its contents. Also keep the manual where it can be referred to as necessary.

2. Securing the space for maintenance

When installing the products, please allow access for maintenance.

3. Tightening torque

When installing the products, please follow the listed torque specifications.

Piping

Caution

1. Before piping

Make sure that all debris, cutting oil, dust, etc., are removed from the piping.

2. Wrapping of pipe tape

When screwing piping or fittings into ports, ensure that chips from the pipe threads or sealing material do not get inside the piping. Also, when the pipe tape is used, leave 1.5 to 2 thread ridges exposed at the end of the threads.

Air Supply

Warning

1. Operating fluid

Please consult with SMC when using the product in applications other than compressed air (including vacuum).

Regarding products for general fluid, please ask SMC about applicable fluids.

2. Install an air dryer, aftercooler, etc.

Excessive condensate in a compressed air system may cause valves and other pneumatic equipment to malfunction.

Installation of an air dryer, after cooler etc. is recommended.

3. Drain flushing

If condensate in the drain bowl is not emptied on a regular basis, the bowl will over flow and allow the condensate to enter the compressed air lines.

If the drain bowl is difficult to check and remove, it is recommended that a drain bowl with the auto-drain option be installed.

For compressed air quality, refer to "Air Preparation Equipment" catalog.

4. Use clean air

If the compressed air supply is contaminated with chemicals, synthetic materials, corrosive gas, etc., it may lead to break down or malfunction.

Operating Environment

Warning

1. Do not use in environments where the product is directly exposed to corrosive gases, chemicals, salt water, water or steam.

2. Do not expose the product to direct sunlight for an extended period of time.

3. Do not use in a place subject to heavy vibrations and/or shocks.

4. Do not mount the product in locations where it is exposed to radiant heat.

Maintenance

Warning

1. Maintenance procedures are outlined in the operation manual.

Not following proper procedures could cause the product to malfunction and could lead to damage to the equipment or machine.

2. Maintenance work

If handled improperly, compressed air can be dangerous.

Assembly, handling and repair of pneumatic systems should be performed by qualified personnel only.

3. Drain flushing

Remove drainage from air filters regularly. (Refer to the specifications.)

4. Shut-down before maintenance

Before attempting any kind of maintenance make sure the supply pressure is shut of and all residual air pressure is released from the system to be worked on.

5. Start-up after maintenance and inspection

Apply operating pressure and power to the equipment and check for proper operation and possible air leaks. If operation is abnormal, please verify product set-up parameters.

6. Do not make any modifications to be product.

Do not take the product apart.