

# Pneumatic Pressure Switch

# IS3000 Series



**Can be used for micro load, around 10 mA e.g. relays, programmable controllers, etc.**

### Easy electrical wiring

Wide space for wiring. Fixed wiring possible with G 1/2 connector.

### Calibration range

0.1 to 0.7 MPa

Frequency: 1 cycle/sec

Service life: 10 million cycles

### With indicator light



**IS3100**  
(Gasket piping)



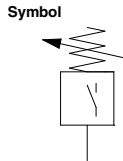
**IS3000-02**  
(Rc 1/4 thread)



**IS3110**  
(Gasket piping)



**IS3010-02**  
(Rc 1/4 thread)



## Model

Model	Piping method	Micro switch type	Min. applicable load
IS3000-02	Rc 1/4 thread	Standard	5 VDC 160 mA
IS3100	Gasket piping		
IS3010-02	Rc 1/4 thread	Micro load	5 VDC 1 mA
IS3110	Gasket piping		

## Specifications

Fluid	Air/Inert gas
Proof pressure	1.0 MPa
Max. operating pressure	0.8 MPa
Pressure adjustment range	0.1 to 0.7 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Contacts	1ab
Error of scale	±0.1 MPa
Hysteresis	0.05 MPa or less
Repeatability	±0.05 MPa
Enclosure	Equivalent to IP40
Weight	0.15 kg

## Micro Switch Ratings

Model	IS3000								IS3110	
	Non inductive (A)				Inductive load (A)				Non inductive (A)	
	Load resistance		Light load		Inductive load		Motor load		Load resistance	
Circuit	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.
	Rated voltage (V)									
125 AC	5	1.5	0.7		3	2.5	1.3		0.1	
250 AC	3	1	0.5		2	1.5	0.8		—	
30 DC	4		2		3		3		0.1	
125 DC	0.4		0.05		0.4		0.05		—	

Insulation resistance: 100 MΩ or more at 500 VDC by megameter

Voltage resistance: 1500 VAC, 50/60Hz for 1 min. (When using switch with neon light: 1000 VAC for 1 min.)

## How to Order

IS3 0 0 0 - 02 L1 -

**Piping method**

0	Rc 1/4 thread
1	Gasket piping

**Micro switch load type**

0	Standard
1	Micro load

**Port size**

N11	With gasket
02	Rc 1/4
N02	NPT 1/4

**Pressure display with scale plate**

N11	MPa
P	Both MPa and psi (Note)

(Note) This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

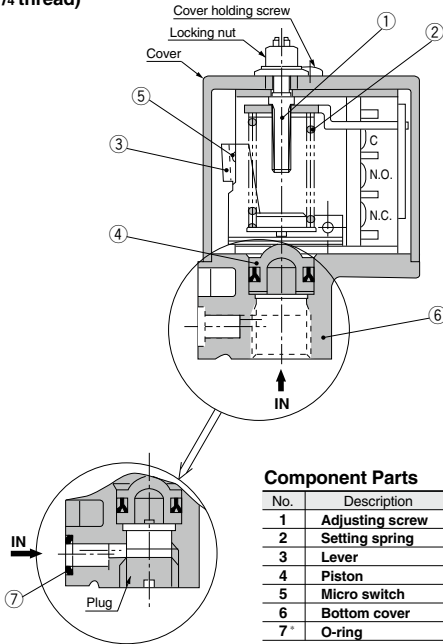
**Indicator light**

N11	None
L1	With neon light/110 VAC
L2	With neon light/220 VAC
L5	LED/24 VDC

(Note) Micro load type: Not available "L2" option.

## Construction

IS3000-02/3010-02  
(1/4 thread)

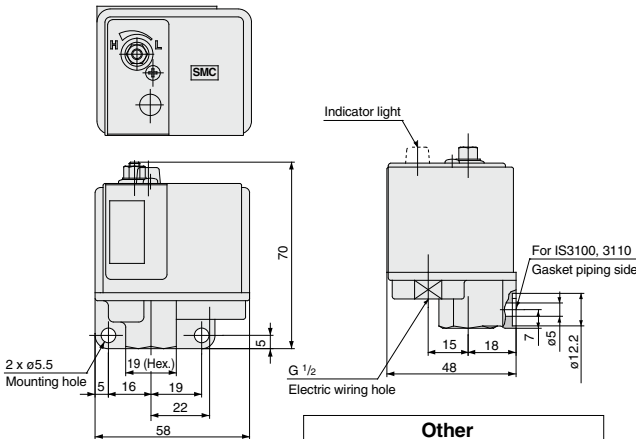


### Component Parts

No.	Description	Material
1	Adjusting screw	Rolled steel
2	Setting spring	Rolled steel
3	Lever	Rolled steel plate
4	Piston	Polycetal
5	Micro switch	—
6	Bottom cover	Aluminum die-cast
7	O-ring	NBR

\* Only for gasket mounting type

## Dimensions



### Other

#### Caution

- Spare part is LIGHT ASSEMBLY only. If it is necessary to repair, please contact SMC.  
Light Assembly  
For 110 VAC: 1530118-1 220 VAC: 1530118-2  
24 VDC: 1530118-5  
Able to convert into L1, L2, L5 by changing each light assembly.

## Precautions

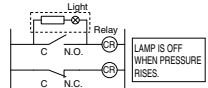
Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 11 and 12 for Pressure Switch Precautions.

### Wiring

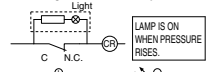
#### Warning

- Perform the wiring after removing the locking nut, cover holding screw, and cover. Be careful not to put the internal wiring in contact with any drive section, such as the lever. Failure to do so may cause a malfunction.
- Since the light emitting diode (LED) is used for the light assembly for 24 VDC, there are 2 terminals and polarity. One is "+" for red load wire and the other is "-" for black load wire. Light will not light up if wired incorrectly.
- Light assy for 24 VDC has 3 mA of current leakage. Connect the LED directly to the power supply if the input of the PLC sees the switch as closed at all times due to leakage.

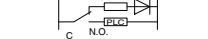
Ex. 1) When using contact "a" only or "a&b" contacts



Ex. 2) When using contact "b" only



Ex. 3)



#### Caution

- In the case of using a switch with indicator light, wire the indicator light per the following:
- Please put the enclosed seal of "LAMP LIGHTS WHEN PRESSURE RISES." or "LAMP GOES OUT WHEN PRESSURE RISES." on the equipment where it is easy to see.
- Thread using for the terminal is M3.

### Mounting/Piping

#### Caution

- Allow the space required for maintenance. Otherwise, maintenance or pressure adjustment cannot be made, since the adjusting screw is on the top of the body.
- Mounting is possible in either horizontal or vertical orientations.

### Pressure Setting

#### Caution

- Turn the adjusting screw on the cover to set the pressure with a flat head screwdriver. Fix the screw with locking nut after adjusting. Hysteresis is a fixed value. Increase the setting value by turning to "+" (H) side. Decrease the setting value by turning to "-" (L) side.
- Use a flat head screwdriver to set the pressure. Then, lock it in place with the lock nut. Otherwise the set pressure will change.
- The hysteresis (the ON-OFF range) is fixed.
- Set pressure scale is the value when pressure increases.

### Operating Environment

#### Warning

- Do not use in an environment, where water or oil is splashed. Because it is the open type construction. If water or oil were to make an ingress, the electrical circuit would be corroded and result in a malfunction or damage.
- Operating fluids are either air or inert gas exclusively. Never use liquids.
- Never use in an environment where flammable fluid or gas is used.  
Use of this product near flammable materials could cause an explosive situation. This product is not explosion-proof.