

INSTRUCTION MANUAL

PL Switch

- Please read this instruction manual carefully before using this product, particularly the section describing safety.
- Retain this instruction manual with the product for further consultation whenever necessary.

For Safety Use

To use this product safely, basic knowledge of pneumatic equipment, including materials, piping, electrical system and mechanism, is required (to the level pursuant to JIS B 8370 Pneumatic System Rules).

We do not bear any responsibility for accidents caused by any person without such knowledge or arising from improper operation.

Our customers use this product for a very wide range of applications, and we cannot keep track of all of them. Depending on operating conditions, the product may fail to operate to maximum performance, or cause an accident. Thus, before placing an order, examine whether the product meets your application, requirements, and how to use it.

This product incorporates many functions and mechanisms to ensure safety. However, improper operation could result in an accident. To prevent such accidents, read this operation manual carefully for proper operation.

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SM-7029-A

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OPERATIONAL INSTRUCTION

PL Switch

GENERAL

PL Switch has been developed to improve easy mounting work by installing Wiring terminal of PEL switching element, Connecting ports of pneumatic piping and electric circuits together within a box.

CHARACTERISTICS

- Air supply connection port as well as sensor port are all arranged with piping thread in one place outside of a box.
- All electric wirings have been connected to the harmonica type terminal blocks.
- ON-OFF actuation of PEL switching elements are all visually confirmed by means of indication lamps.
- It is able to be installed within the area of much oil mist or dust particle.

MODEL CODING

PL —
 3 —
 1 —
 AA03 —
 AC100V

(A) Relative equipment		(B) Number of element		(C) Type of elements		(D) Voltage	
1	PEL	1	1ea	No marking	APA1-AA07	No marking	AC100V
	Terminal blocks	2	2ea	AA03	APA1-AA03	Option	AC200V
	Lamp			AA05	APA1-AA05		DC24V
3	PEL			AA10	APA1-AA10	Specify voltage for model PL-3 particularly.	
	Terminal blocks			AC05	APA1-AC05		
	Lamp			AK05	APA1-AK05		
	Relay			AK07	APA1-AK07		
	Transformer						

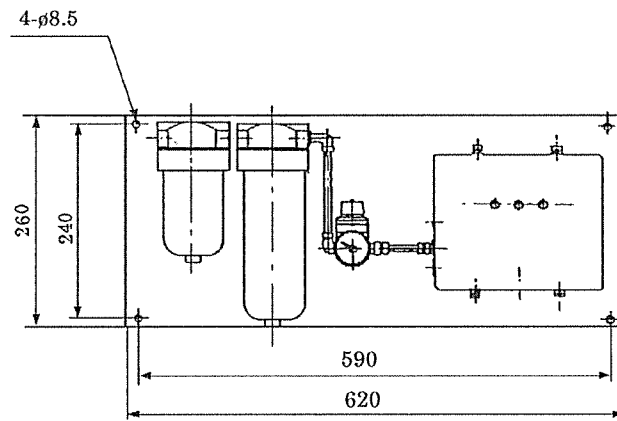
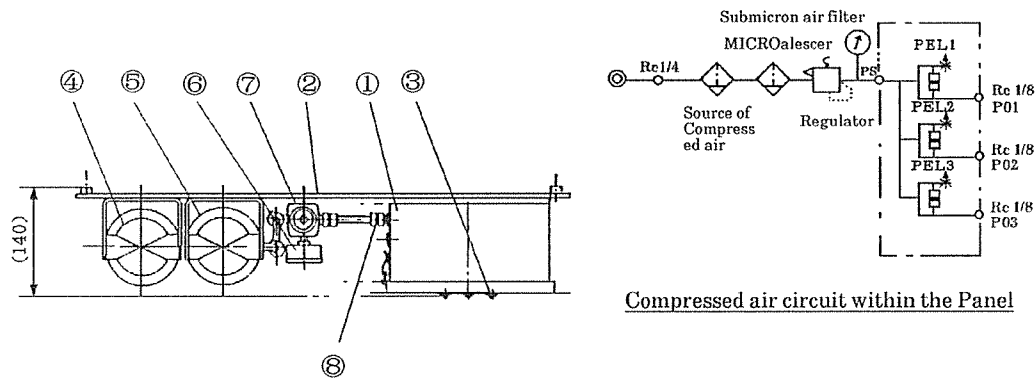
CAUTIONS

1. Use clean air

The Magnet float inside of PEL may become inactive by accumulation of sticky substance due to penetrated oil mist or dust particle into PEL Switching element. Make sure to install two types of filters as shown in figure 1. The former is submicron filter which collects dust particle of 0.5 μ m or larger while the latter is MICROalescer which collect oil mists.

2. Lead at pipe joints

It makes sensing unable due to insufficient back pressure generation in case where there is air leakage at pipe joint.



No.	Parts	Material	Qty	Remarks
1	Box	SPCC-S	1	PL-3-3
2	Base	SPCC-S	1	
3	Lamp	DM10G24 (S)	3	Maruyasu
4	Submicron air filter	1137-2CEYS	1	CKD
5	MICROalescer	K1237-2CJFS	1	CKD
6	Pressure gauge	49-5003L	1	CKD
7	Regulator	B2019-2CPL	1	CKD
8	Panel Union	B _g BM	4	Rc 1/8

Fig.1

3. Flow resistance on the way of piping

There should be no resistance of flow on the way of piping. No sectional area of piping should be choked less than that of nozzle.

4. Dependency to magnetism

Keep strong magnetizing substance away from PEL because its sensor device is built with permanent magnet and lead switch.

5. Contact point protection and electric wiring

Maximum capacitance of leadswitch contact is 50V, 0.5A (AC,DC). It is, therefore, advisable to use spark killer to eliminate overcurrent. Make certain to utilize the attached connectors for wiring. Prevent soldering the lead switch of PEL. As the contact point of lead switch is sealed into a glass tube, heat of soldering may cause the damage of glass tube or deformation of lead switch.

6. Installation of PEL switching element

The motion of magnet float within PEL is perpendicular. Install it to keep its "TOP" mark up right because float itself is making use of gravity force when coming down.

7. Storage of PEL switching element

Keep the switch within a box where there is much dust particle or splash of water as the PEL switching element is a precision instrument. Prepare an exhausting hole to the box for keeping its inside pressure equal to that of atmosphere.

8. Operation of adjusting needle

Adjusting needle moves by turning inside of slitted female thread. It is so constructed to have the slit hold the needle, making use of spring force, while the needle is not turning. Make sure to use hexagonal wrench provided to adjust the instrument because the use of screw driver may cause expansion of the slit losing holding effect of the needle.

9. Interlocking

In case installation of the solenoid valve is made at Supply port of PEL switching element, Opening or Shutting the solenoid valve makes magnet float moves upward tentatively causing the state of "Ready for sensing". An arrangement to avoid picking a signal up for 1 second after actuation of solenoid valve is mandatory.