

Micro Differential Pressure Switch

WO81

WO70

FR51A

MS30

MS61A

MS65

EB3C

EMD8

EMD7

EMT6

EMT1

EMTGP1

EMT1H

EMP5

EMA3

EMRT1

HWS15

Combination of Manosys

Accessories

Application Cautions for use Maintenance

Manostar Switch MS61A General purpose compact type Micro Differential Pressure Switch

RoHS compliant

Utility model registration
No.840091
No.3133580



- UL standards conformity
- Compact and lightweight type
- The setting of activating pressure is easy by turning set dial with scale
- Even when the pressure becomes excessive, the original mechanism avoid damage to the moving parts.
- Small hysteresis is realized by the silicone rubber diaphragm.



MS61A
(For general electrical load)



MS61A-K
(For low electrical load)



MS61A-RA
(For low electrical load - single pole double throw sealed type with a build-in reed switch)

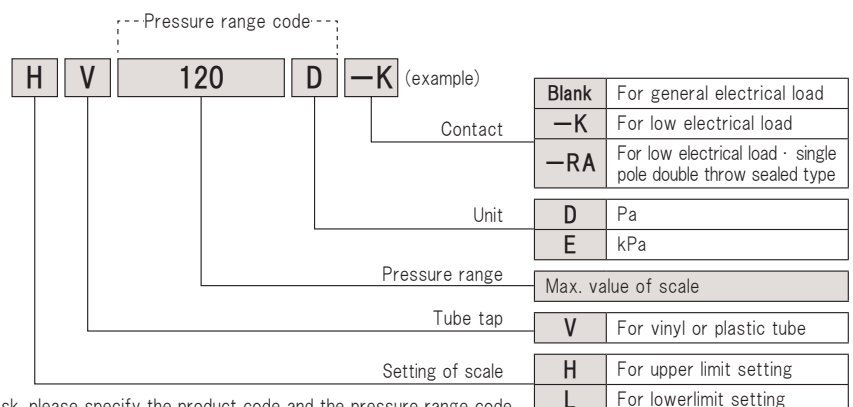
<Example of main use field>
 Manufacturing machine parts of semi-conductors
 Measuring negative pressure in bag filter and differential pressure in air conditioners
 Monitoring of pressure loss in filters
 Production lines of precision machine
 Air conditioning control system of factory

<Example of use>
 Measuring inner pressure of indoor equipments
 Detector of a pressure loss in an air filter
 Detector of a pressure loss in a bag filter
 Measuring of dynamic pressure in a ventilator and an exhauster
 Measuring the inside pressure of clean rooms

* (refer to p.93)

Product code

MS61A H V 120 D -K (example)



◆ If you order or ask, please specify the product code and the pressure range code.

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Outline drawing



Tighten the screw of terminal with the torque from 0.7 to 1.0 N·m.
Do not apply excessive torque more than necessary, otherwise it will damage the instrument body.

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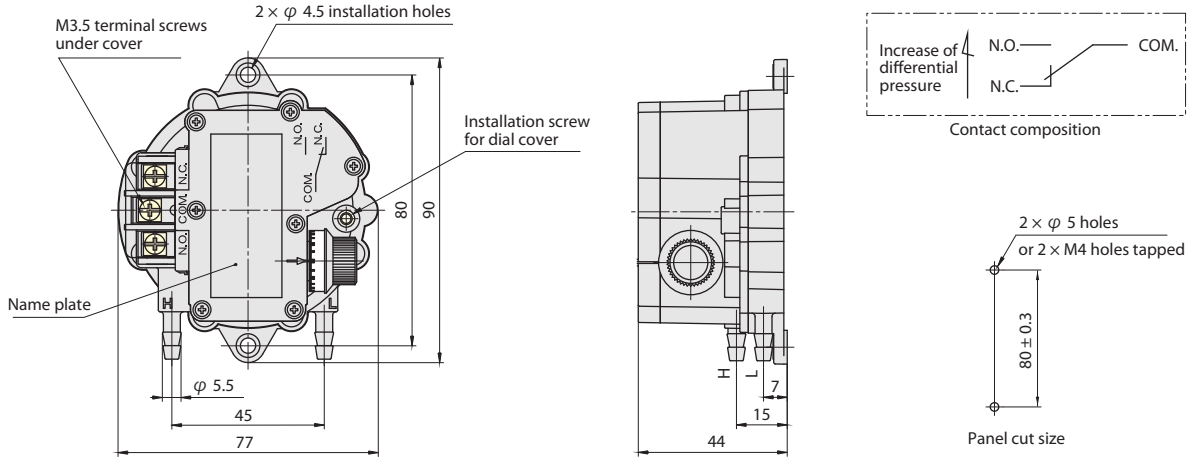
EMT6

EMT1

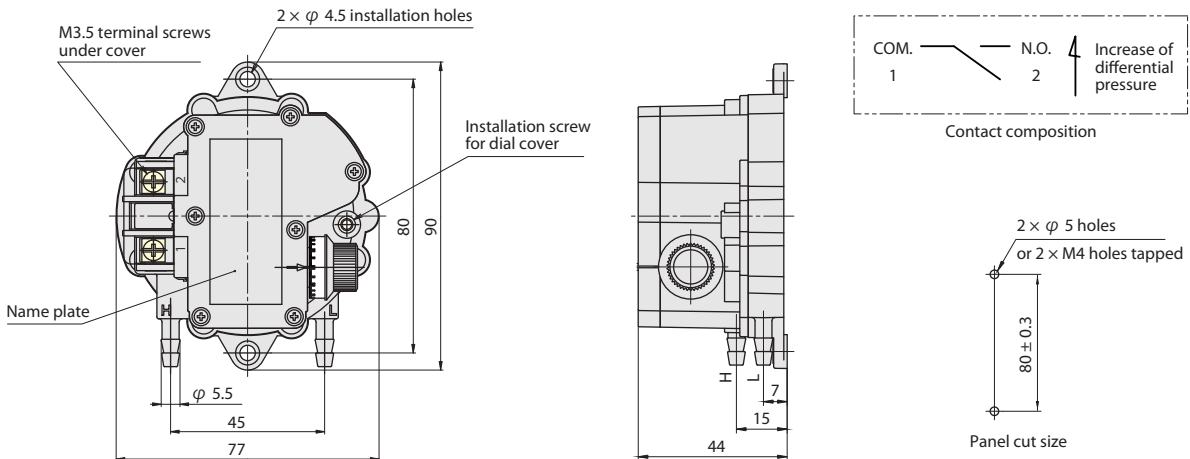
EMTGP1

EMT1H

MS61A (for general electrical load and low electrical load)



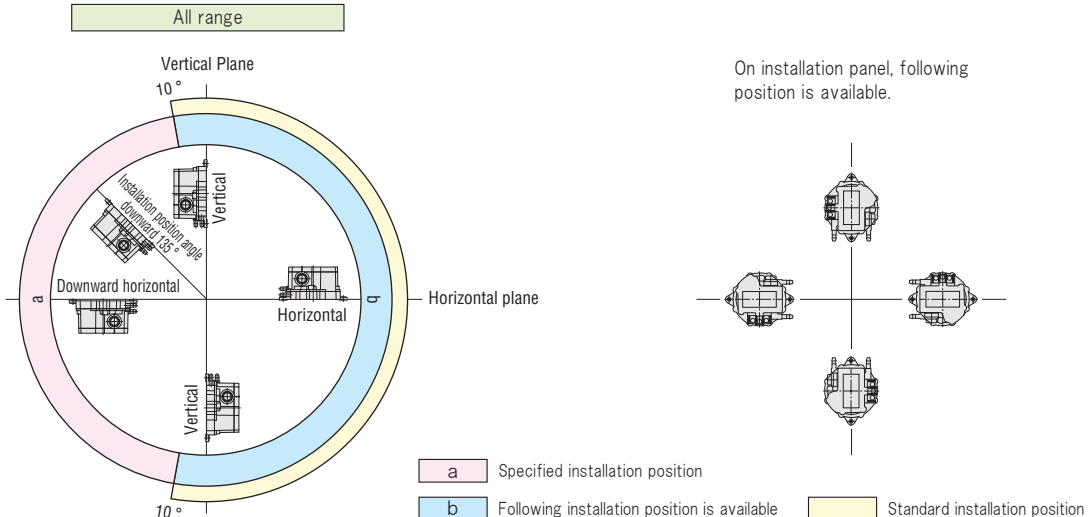
MS61A (for low electrical load-single pole normal open sealed type) With a built-in reed switch



EMP5

MS61A Installation position

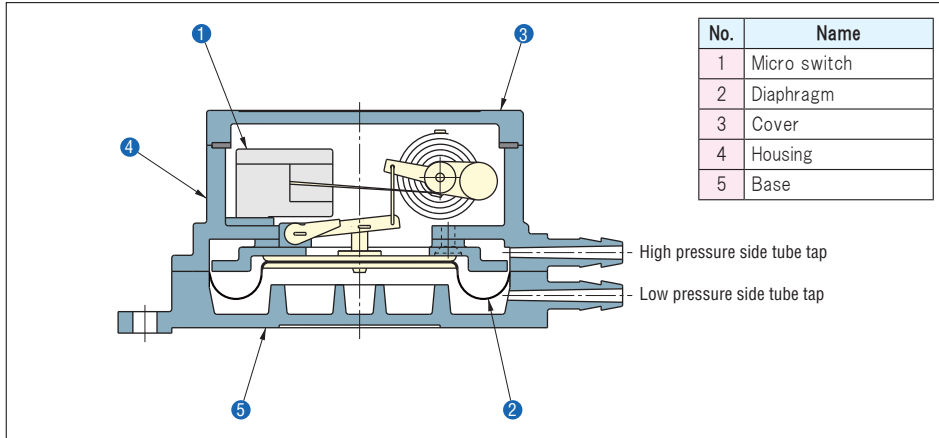
Standard installation position is from upward horizontal to vertical



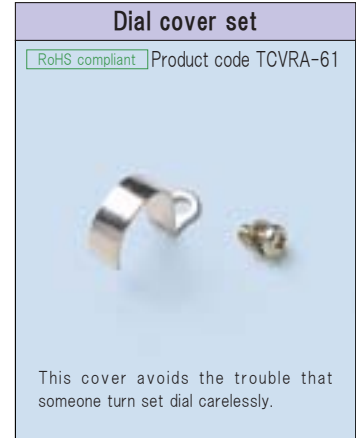
- ◆ In ordering out of above mentioned installation position, please order us or our agency beforehand. It must be adjusted before the factory shipment.
- ◆ In case of ordering standard installation position, you do not specify installation position. Please specify pressure range code in the specification table.

MS61A

Main structure



Accessory for MS61A



Name plate drawing

General electrical load type



Low electrical load type



Low electrical load and single pole double throw sealed type



Protection of contact of switch

Contact protection circuit is used to extend the service life of contact. It reduces generation of noise at the time of switching on and off. It also minimizes carbide and nitric acid gas generated by arc. Use this circuit correctly, otherwise it will cause reverse effect, making the matter worse.

In case of using contact protection circuit, pay attention the operating time is possibility of delaying a little. The following are typical examples of contact protection circuit.

Typical example of protective circuit

Examples of circuit	Power supply		Special remarks for application and selection
	DC	AC	
<p>Varistor method</p>	○	○	<ul style="list-style-type: none"> This method is intended not to apply voltage beyond limit of varistor to inbetween contacts. It delays a little time to return inductive load such as relay. Select the most conformed rated model in terms of power supply voltage and load capacity in selected article by varistor maker.
<p>C-R method</p>	○	○	<ul style="list-style-type: none"> It delays a little time to activate or return inductive load such as relay. As for CR value, to contact current and contact voltage, the estimate value is C: 0.5 μF / A, R: 1.0 Ω / V. However, it differs according to the characteristics of load, therefore, be sure to confirm to select by experiment.
<p>Diode method</p>	○	×	<ul style="list-style-type: none"> This method is intended to consume counter electromotive force of inductive load by diode and avoid to apply high voltage to inbetween the contacts. This method makes the return time of inductive load slower. Choose the diode rated current is more than load current and counter withstand voltage more than 10 times of power supply voltage.
<p>Diode + Zener diode method</p>	○	×	<ul style="list-style-type: none"> Diode method proves to be effective when the return time takes too long for inductive load such as relay. When you choose zener voltage of zener diode, choose base on power supply voltage. Be careful with limitations having this method. Because load is too big, larger capacity zener diode is needed for reverse surge power.

Example of wrong protection circuit

<p>Condenser method</p>	<ul style="list-style-type: none"> This is very effective to remove arc at the time of off-contact, but this is likely to run charged current to condenser leading to contact sticking and short service life at the time on-contact.
	<ul style="list-style-type: none"> This is very effective to remove arc at the time of off-contact, but this is likely to run short circuit current accumulated in the condenser leading to contact sticking on contacting. This is likely to short service life at the time on-contact.

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Product Warranty

Warranty Period

This product warranty is valid for one year from the date of delivery to a place specified by an ordering party who has transacted directly with Yamamoto Electric Works Co., Ltd.

Coverage

If a product breaks down due to a reason for which we are responsible during the warranty period and you return the product to us, we will either repair or replace the product free of charge.

This warranty does not cover:

- (1) Usage of the product under any inappropriate conditions or environment contrary to what is described in our product catalog, specifications or manual.
Handling or usage of the product other than as described in our product catalog, specifications or manual.
- (2) Breakdown due to a reason other than a fault within our product.
- (3) Any product that has been modified or repaired by a party other than us.
- (4) Any breakdown due to a reason that was not foreseeable based on scientific and technical standards applied at the time of shipment.
- (5) Any breakdown due to a reason not attributable to us such as a natural calamity or other disaster.

These terms of warranty represent our entire liability with respect to the product, and we shall have no liability for any other loss arising in connection with a breakdown of the product.

*This product warranty is only valid within Japan.

This document is a translation from the original Japanese version, and the original Japanese version has priority over this translation.

Be sure to refer to the original Japanese for the details of this warranty.



Caution

The Japanese original document shall always take precedence over the translated versions.

You should be sure to refer to the Japanese original document.

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