

Micro Auto Switch

(Series A)

(Operated by Magnet)

- Compact and lightweight
- High reliability and long cycle life
- Oil proof vinyl lead wire
- Lead wire - 1m(standard)

■ Applicable cylinder series

Switch model	Cylinder series	Bore size(mm)
A-20	FC, SC	φ 10, φ 16, φ 20, φ 25, φ 32, φ 40, φ 50, φ 63, φ 80, φ 100
A-25		
A-30	MC	φ 10, φ 16, φ 20, φ 25, φ 32, φ 40
A-35		

■ How to order

Switch	Band(bracket)	Switch&band(bracket)
A30 - 2	B10 - 2	A30 - B10 - 2
① Number	② Number	① ② Number

① Switch model	② Band Bracket	Cylinder series	Bore size(mm)	Holding Type
A30 A35	B10	MC	φ 10	with band
	B16		φ 16	
	B20		φ 20	
	B25		φ 25	
	B32		φ 32	
	MB40		φ 40	
A20 A25	B40	SC	φ 40	with bracket
	B56		φ 50, φ 63	
	B81		φ 80, φ 100	
	Blank	FC	φ 10~φ 100	direct

■ Most sensitive position/Operating range

A-20, 25

Operating range(L)

Series	φ 10	φ 16	φ 20	φ 25	φ 32	φ 40	φ 50	φ 63	φ 80	φ 100
FC	10	12	12	12	12	13	13	13	13	13
SC	-	-	-	-	-	11	11	13	13	13

A-30, 35

Operating range(L)

Series	φ 10	φ 16	φ 20	φ 25	φ 32	φ 40
MC	7	7	7	8	8	8

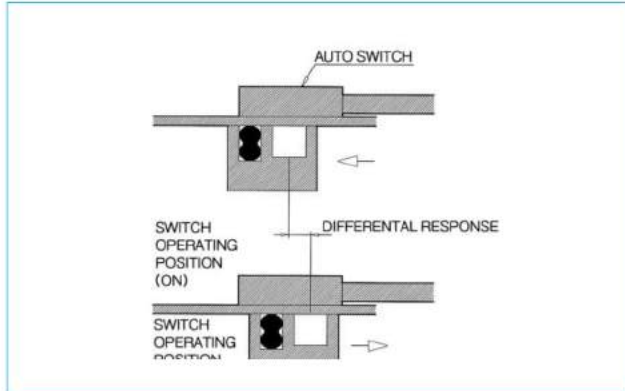


■ Specifications

Model	A-20, A-30			A-25, A-35			
Load voltage	DC 24V	AC	AC	AC DC 5V	AC 12V	AC 24V	AC DC 100V
Max. load current and range of load current	5~40mA	100V	220V	50mA		20m	
Internal voltage drop	2.4V or less			0			
Leak current	1.2ms						
Response time	50M Ω or more under the test voltage 500V DC						
Insulation resistance	1000 V AC 1min(Between case and cable)						
Withstand voltage	30G(294 m/s ²)						
Impact resistance	-10~60℃						
Impact resistance	Oil proof Vinyl, φ 2.5mm, φ 0.2mm ² , 2wire						
Ambient temperature	IEC SPEC IP67, Water-proof, Oil-proof						
Indicator lamp	On red light emitting diode			None			
Internal circuit	Relay, Sequence controller			Relay, Sequence control.			

Differential response of micro auto switch

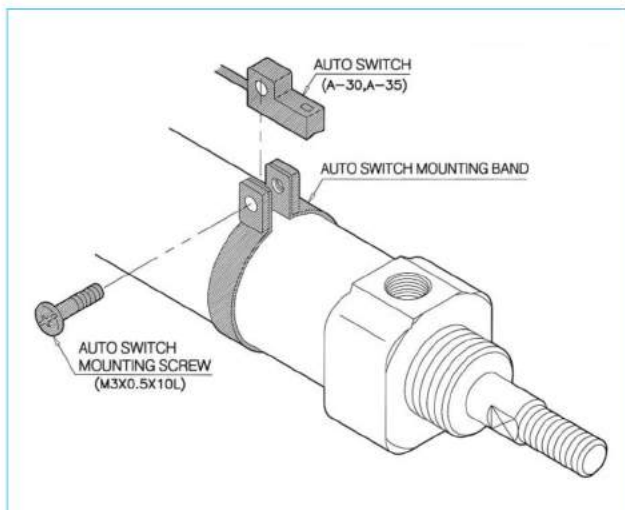
A distance from the operating position of auto switch by moving of piston to turning off the switch by moving backward is called a differential response. This response is included in part of the operating range(One side).



The difference between the operating position (ON) of switch and the returning position (OFF) is 2mm or less in a reed switch.

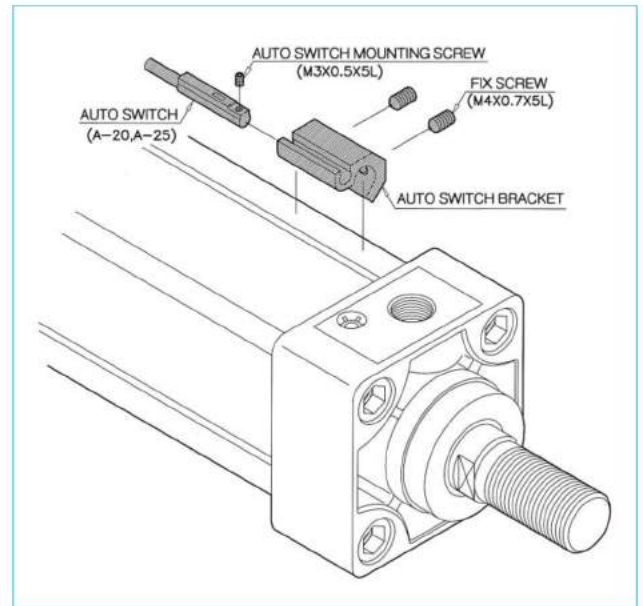
Mounting method of micro auto switch

■ Mini Cylinder(φ 10, φ 16, φ 20, φ 25, φ 32, φ 40)



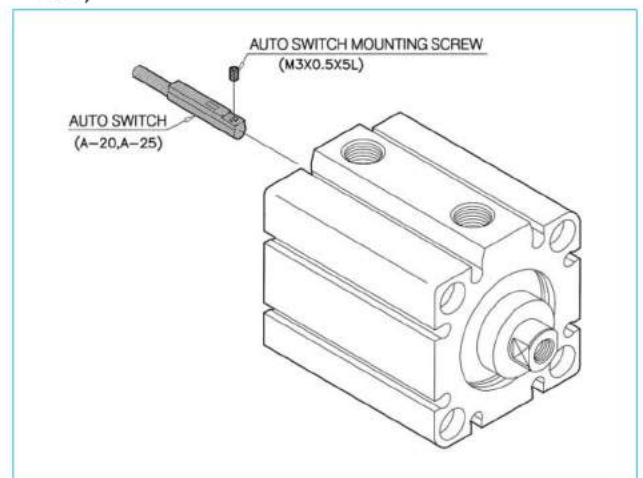
- ① Fix a mounting band in the tube cylinder
- ② Put the mounting part of auto switch in the interval of stationary fitting to put the mounting hole and the hole of stationary fitting
- ③ Screw lightly the auto switch mounting screw through the mounting hole into the thread part of band fitting
- ④ Set the whole body to the detecting position by sliding tighten the mounting screw to fix the auto switch.(The tightening torque of M3 screw should be about 10kgf · cm)
- ⑤ Modification of the detecting position should be made in the condition of ③④

■ Standard Cylinder(φ 40, φ 50, φ 63, φ 80, φ 100)



- ① Fit the auto switch to auto switch mounting bracket
- ② Fix them with a auto switch mounting screw and mount the fix screw.(The tightening torque of M3 screw should be about 1~2kgf · cm)
- ③ Fix the auto switch mounting bracket into the tie rod of the cylinder and fix the detecting position with the fix screw.(The tightening torque of M4 screw should be about 10kgf · cm)
- ④ When changing the detecting position, loosen the fix screw. Like step ③, fix the detecting position with the fix screw.

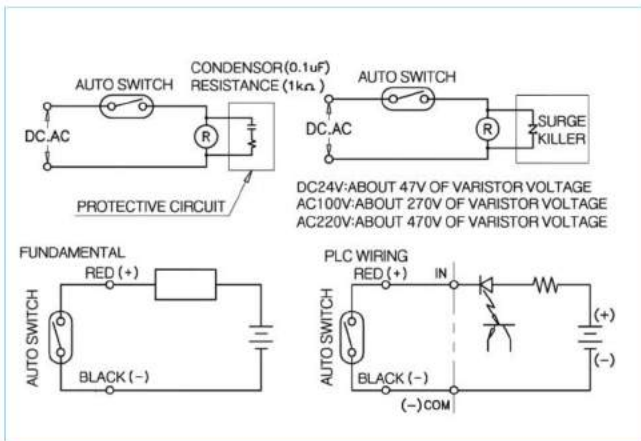
■ Compact Cylinder(φ 10, φ 16, φ 20, φ 25, φ 32, φ 40, φ 50, φ 63, φ 80, φ 100)



- ① Insert the auto switch into the slot of the cylinder body and set it in the mounting position of the body
- ② Check the detecting position and secure the switch by tightening the auto switch mounting screw.(The tightening torque of M3

Technical Information for micro auto switch

- ① The switch should not be connected to the power supply until after connection to the load
- ② When selecting the switch, be sure that load current is within both Max. contact capacity and rating current range
- ③ Keep the switch away from magnetic materials by more than 10mm for stable detecting
- ④ Keep the lead wire away from power line wires in which a high current flows.
- ⑤ Don't use it strong magnetic fields
- ⑥ When using a 24V DC switch, be sure the polarity(Red lead wire : +, Black : -)
- ⑦ Wiring must not be subjected to repeated flexual stress or pulling forces
- ⑧ Certain types of components, which are found in many control circuits, have the potential of creating high voltage spikes which can affect the operation of the switches. Protection from these transient voltage spikes can be achieved by using a circuit shown below



- ⑨ Take care not to drop, dent, or case shock impact to switches
- ⑩ Consult before using sensor switches in oily or wet surroundings.

■ Cylinder piston speed

- ① If a piston speed is too fast, the switch operates in a short time and the load cannot be operated. The maximum piston speed should be within 300mm/s.
- ② The maximum piston speed V possible to detect is :

$$V(\text{mm/s}) = \frac{\text{operating range of switch}(\text{mm})}{\text{switch}(\text{mm})} \times 1000$$