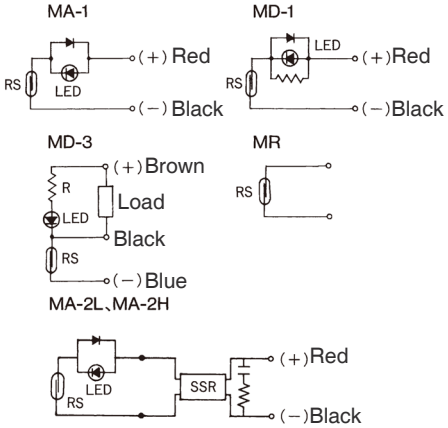
M type reed switch

Wiring type

Specifications

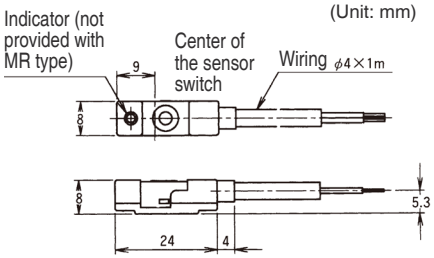
Model No.		Unit	MA-I		MD-I	MD-3	MR	MA-2L	MA-2H
Applications			Relay, PLC		Relay	IC Circuit	Relay	Relay	Relay
Rated voltage		V	AC110	DC24	DC24	DC5~6	AC, DC5~110	AC110	AC220
Maximum contact rating	Inductive load		4.5VA	1W	1.5W	0.3W	1.5VA 1.5W	4.5VA	4.5VA
	Resistance load					1.8W	10VA 10W		
Rated current range	Inductive load	mA	5~45		25~65	max. 50	max. 50	5~150	5~150
	Resistance load					max. 300	max. 300		
Internal pressure drop		V	Max. 2			0		—	
Surge suppressor			Not provided					Provided	
Average response time		ms	1.0						
Shock resistance		G	30						
Operating ambient temperature		°C	5~60						
Indicator light			Red LED (Light-up at ON)				Not provided	Red LED (Light-up at ON)	
Wiring	Color		Black 2-core wire (Blue wire)		Black 2-core wire		Black 3-core wire	Black 2-core wire	Black 2-core wire (Blue wire)
	Length	m	1						

Internal circuit



RS: Reed switch
LED: Light-emitting diode

Dimensions of sensor switch

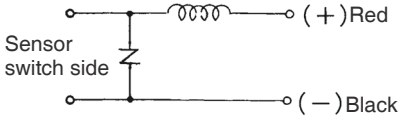


Protective circuit specifications

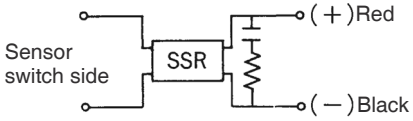
Model No.	Rated voltage (V)	Rated current range (mA)
SS-I	AC110V	max. 300
SS-D	DC24	max. 300
SS-2L	AC110	5~150
SS-2H	AC220	5~150

Internal circuit

SS-1、SS-D

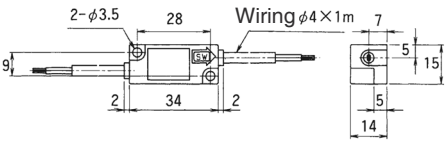


SS-2L、SS-2H



Dimensions of Protective circuit

(Unit: mm)



Wire length of sensor switch

The standard wire length of M type reed switch is 1 meter. Other lengths are available upon request, including 2m, 3m, 4m, and 5m.

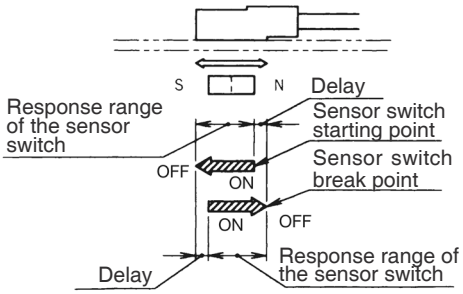
MA-1 - L30

Wire length

No mark: 1m (Standard)
L20 : 2m
L30 : 3m
L40 : 4m
L50 : 5m

Sensor switch type

Delay and response range of the sensor switch



When the piston moves to the left side, the sensor switch will be activated and the indicator will be on to show it's at its starting point. This status remains at response range.
When the piston return to the right side, the sensor switch will be off (breakpoint) and cause a slight delay.

(Unit: mm)

Pneumatic cylinder	Bore	Response range of the sensor switch	Delay
X Series	∅10	4±0.5	about 1
	∅16, ∅20, ∅25, ∅32, ∅40, ∅50	6±1	about 1.5
	∅63, ∅80, ∅100	9±1	
Z Series	∅6, ∅10	3±1	about 1
	∅16	4.5±0.5	
J Series	∅20, ∅25, ∅32, ∅40	7.5±1	about 1.5
K Series	∅40, ∅50, ∅63, ∅80, ∅100	7.5±1.5	about 1
A Series	∅125, ∅140, ∅160 ∅180, ∅200	9±1	about 1.5

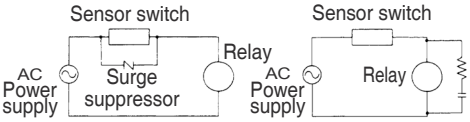
⚠ Sensor switch technical information

- Be sure to turn off the power supplies before doing the wiring.
- MA-1 may be supplied with 110 AC and 24V DC.
- MA-2L: MA-1 & SS-2L
  (Surge suppressor 110V AC)
  MA-2H: MA-1 & SS-2H
  (Surge suppressor 220V AC)
- When selecting sensor switch, be sure the load is within maximum contact rating and rated current range.
- Check the center position
- When sensor switch is installed far from the end of the stroke, contact will shut off and reset so that the magnet will move off from sensor switch. This will happen regardless of which direction the piston rod is acting toward. The minimum distance between magnet will keep the sensor switch remain active. Please refer to the diagram "Delay and response range of the sensor switch." The time to shut off the sensor switch can be calculated by response range divides speed of magnet.
- Keep the sensor switch away from other magnetic objects for at least 10mm far will help stablise the sensoring condition.
- Keep the wire away from electrical circuit to avoid disturbance caused by large current.
- Pay attention to the magnetic field surrounded which may cause sensor switch become dysfunctional.
- When using 24V DC sensor switch, be sure to check polarity (Red: +, Black: -)
- Avoid connect sensor switch output wire directly to the power supply.
- Some parts may cause voltage spikes which will affect the functionality of sensor switch. To protect sensor switch to properly function with the following circuit in such voltage spike, with wire length longer than 10m, SS-1 is recommended to protect circuit AC and SS-D is recommended to protect DC.
- M type reed switch has no water proof feature at all; if operating in an environment exposed to water, please provide shelter to ensure proper functionality.

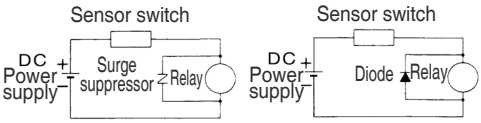
Recommended specification

- Inductive load

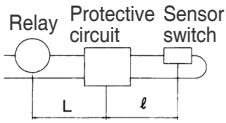
110V AC load



DC load



- Capacitive load



When the wire length is greater than 10 meter, ℓ must be approximately 100~200mm.