Do not use this product as a detection device for human body protection.
(For human body protection, use products compliant with the local laws and regulations such as OSHA, ANSI and IEC.)

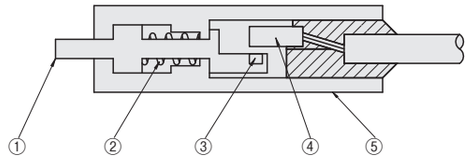
Features

- The contact type switch can detect objects in given positions regardless of material and color.
- Non contact structure utilizing the magnet detection IC (Hall effect element).
- Able to detect with low contact force.

Basic Structure

When the contact shaft strokes, the magnet moves and the hall effect element outputs a signal.

①Contact Part
②Spring
③Magnet
④Hall Effect Element IC
⑤Housing



Specifications

Stroke	1.5/3/6
Repeatability	0.02 or less
Contact Logic	NO (Normally Open)
Hysteresis	0.1 or less
Service Life*	10 million times or more
Frequency Response	1msec. or less
Output	NPN Open Collector Without LED: Max. 15mA With LED: Max. 12mA

* Subject to the following conditions

Endurance Test Conditions

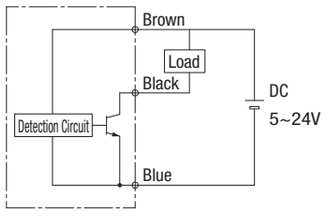
Operating Temperature	25°C
Vibration	Not provided
Contact Angle	Vertical (without Declination)
Operation Frequency	1 time/sec.

Ratings and Environmental Resistance

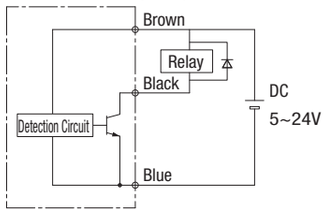
Power Supply Voltage	DC5~24V
Current Consumption	10mA or less
Operating Temperature	0~60°C
Dielectric Strength	10MΩ (DC250V Based on Megohm-meter)
Withstand Voltage	AC500V 50/60Hz, 1 min. between each Terminal and Case
Vibration Resistance	10 ~ 55Hz, Full Wave Amplitude 1.5mm in Respective X, Y, Z Direction

Schematics

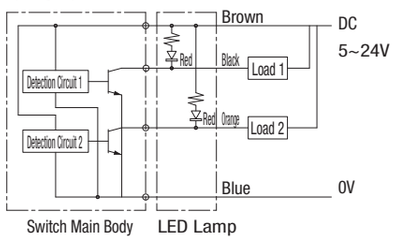
(Connected with Sequencer, etc.)



(Connected with Relay, etc.)



(2-Signal)

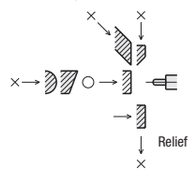


Precautions for Use

Although the switches are intended to be trouble-free, incorporate a redundant safety measure such as a duplex circuit to avoid a serious accident or spread of damage caused by a malfunction or failure of the switch.

Design Precautions

- **Contact Angle**
  - The object contact angle to the switch should be within ±2°.
- **Stroke**
  - Do not force the contacts beyond the end of the stroke. Provide a stopper if necessary.
  - Do not apply any force that will cause rotation of the contact.
- **Effects of Magnetic Field**
  - Do not use the switch in a strong magnetic field. A magnetic field over 1000 gauss will cause the switch to malfunction.



Cautions on Installation

- **Cable Failure at Inlet**
  - Do not apply excessive stress to the cable inlet of the switch case. The solders of cable could be damaged resulting in signal output failures.
  - If the cable is not fixed, fasten at appropriate midway points to avoid strains on cable inlet.
- **Nut Tightening Torque**
  - Tighten M6 under 1N·m. Tighten M8 and M14 under 2.7N·m.

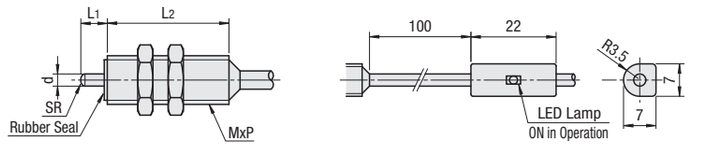
Wiring Precautions

- **Reverse polarity connection prohibited**
  - Connect the wires correctly in accordance with the circuit diagram. Never connect the power supply in reversed polarity.
- **Driving Relays**
  - When a relay (under 12 mA) is driven, connect a reversed diode in parallel.

Bolt (IP67)

RoHS10

MSNCB **MSNC**
MSNCBD (With LED) **MSNCD** (With LED)



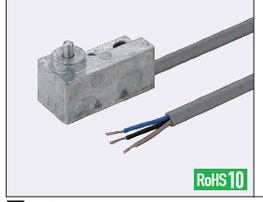
Material		Cable	Accessory
Contact Part	Thread		
SUS303	SUS303	Cable 1m, 3-Conductors Ø2.8, Oil Resistant Min. Bending Radius R7	Hex Nut 2 pcs. (M6 Thickness 2, Hex Socket 7 M8 Thickness 2.5, Hex Socket 10)

Bolt

Part Number		MxP (Fine)	Operating Point	Contact Force N	L1	L2	d	SR	Mass (g)	MSNCB, MSNC		MSNCBD, MSNCD	
Type	Stroke									Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
										1 ~ 9 pc(s).	10~20	1 ~ 9 pc(s).	10~20
MSNCB **MSNCBD**	1.2	M6x0.5	0.5 from Tip (Repeatability 0.02)	0.3	2.4	18.5	1.4	1	14				
MSNC **MSNCD**	1.5	M8x0.75		0.4	4	20	2	2.5	15				
	3			0.7	5	30	2.6	3	22				

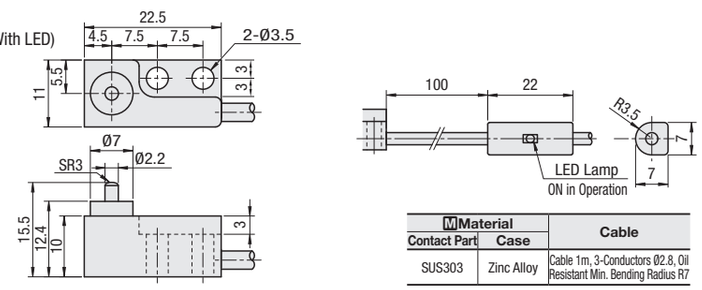
For orders larger than indicated quantity, please check with WOS.

Flat (IP65)



RoHS10

MSNCF
MSNCFD (With LED)



Material		Cable
Contact Part	Case	
SUS303	Zinc Alloy	Cable 1m, 3-Conductors Ø2.8, Oil Resistant Min. Bending Radius R7

Flat

Part Number		Operating Point	Contact Force N	Mass (g)	MSNCF		MSNCFD	
Type	Stroke				Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
					1 ~ 9 pc(s).	10~20	1 ~ 9 pc(s).	10~20
MSNCF **MSNCFD**	3	0.5 from Tip (Repeatability 0.02)	0.5	17				

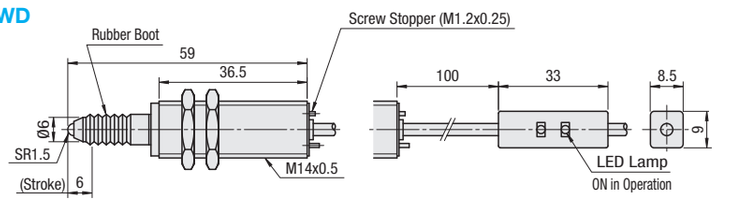
For orders larger than indicated quantity, please check with WOS.

Features: Operating point can be freely selected within setting range by turning adjusting screw with a precision flathead screwdriver (1.6mm in edge width).

2-Signal (IP65)

RoHS10

MSNCWD
(With LED)



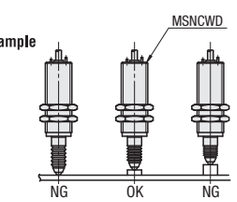
Material		Cable	Accessory
Contact Part	Thread		
SUS303	SUS303	Cable 1m, 4-Conductors - Ø3, Oil Resistant Min. Bending Radius R7	Hex Nut 2 pcs. (Thickness 3, Hex Socket 17)

2-Signal

Part Number		Stroke	Contact Force N		Setting Range	Mass (g)	Unit Price	Volume Discount Rate
Type	Number of Signals		min.	max.			1 ~ 9 pc(s).	10~20
MSNCWD	2	6	0.5	1.5	0.5 ~ 4 (Repeatability 0.02)	60		

For orders larger than indicated quantity, please check with WOS.

Example



Ordering Example — Part Number: **MSNC1.5**