

Cylinder Switch for Magnetic Fields SW-TOY



Improvement of Reliability in Magnetic Fields

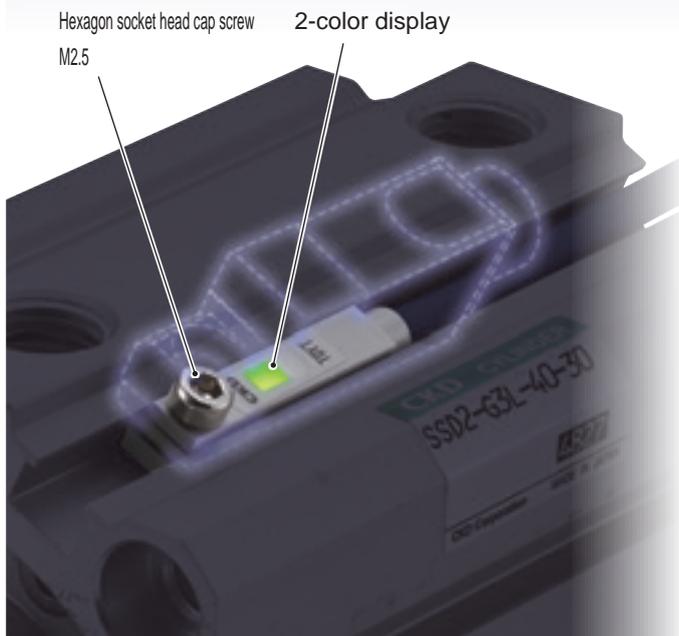
Reed sensor



Long service life circuit

Ideal for
DC welding
processes!!

Prevents malfunction due to magnetization of the mounting jig, and reduces line stop risk.



Space saving

The exterior is reduced by using a compact sensor.

volume ratio
70%
Less

Energy saving

Standby power is reduced by using a reed sensor.

Standby power
50%
Less

Compatibility with conventional products

Magnet change not required. Available only with switch replacement.

Compatibility
Magnet change
Not required

Degree of protection

Dust/waterproof standard "IP67" compatible.

Dust/waterproofing
IP67
Compatible

Switch compatible model list

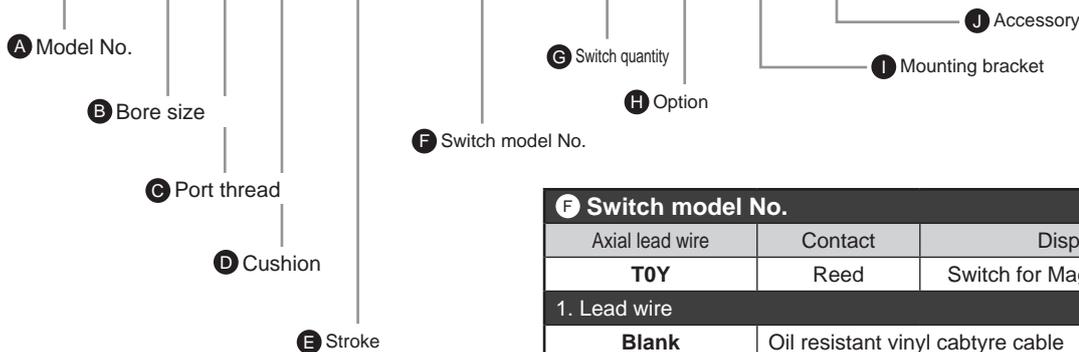
Compatibility		Bore size
Small bore size cylinder	CMK2	ø32, ø40
Round shaped cylinder	SCM	ø32 to 100
Tie rod cylinder	SCG	ø40 to 100
cylinder	SCA2	ø40 to 100
cylinder	SCS2	ø125 to 250
Compact cylinder	SSD2	ø32 to 200
Guided super compact cylinder	SSG	ø32 to 100
Compact cylinder	SSD	ø32 to 160
Stopper cylinder	STK	ø32 to 50
Guided cylinder	STG	ø32 to 80
Guided cylinder	STS/L	ø32 to 100
Tie rod cylinder with brake	JSG	ø40 to 100
Brake cylinder (medium bore size)	JSC3	ø40 to 100
Brake cylinder (large bore size)	JSC4	ø125 to 180
Position locking compact cylinder	USSD	ø40 to 63
High energy absorption cylinder	HCM	ø32 to 63
Clamp cylinder	CAC4	ø40 to 80
Position locking clamp cylinder	UCAC2	ø50, ø63
Lightweight clamp cylinder	CAC-N	ø32, ø40
Lightweight clamp cylinder	UCAC-N32	ø32, ø40
Rotary clamp cylinder	RCS2	ø32 to 63
Rotary clamp cylinder	RCC2	ø32 to 63
Pin clamp cylinder	PCC	(ø20, 50)

Example of model No.(Compact cylinder SSD2 Series)

Without switch (without magnet for switch)



With switch (built-in magnet for switch)



Refer to "Pneumatic Cylinders" (No.CB-029SA, CB-030SA) for details on each cylinder.

F Switch model No.			
Axial lead wire	Contact	Display	Lead wire
TOY	Reed	Switch for Magnetic Fields	2-wire
1. Lead wire			
Blank	Oil resistant vinyl cabtyre cable		
L	UL electric wire		
T	Spatter-resistant wire		
2. Lead wire length, connector specifications			
Blank	Lead wire 1 m		
3	Lead wire 3 m		
5	Lead wire 5 m		
B	M12 connector (4PIN specification), 3-4PIN not polarized, lead wire 0.3m		
M	M12 connector (4PIN specification), 1-4PIN not polarized, lead wire 0.3m		
F *1	M8 connector (3PIN specification), 1-4PIN not polarized, lead wire 0.3m		
3. Switch option			
Blank	No option		
K	With cover for anti-spatter adherence		

⚠ Precautions for model No. selection

*1: Only lead wire "L" can be selected for connector specification "F".

Specifications

Item	Reed 2-wire		
	T0Y	T0YL	T0YT
Applications	Dedicated for programmable controller		
Switch polarity	No polarity		
Load voltage	24 VDC ±10%		
Load current	5 to 20 mA (*1)		
Internal voltage drop	4.5 V or less		
Leakage current	0.5 mA or less		
Display lamp	Red/green LED (Lit when ON)		
Lead wire length	1 m (oil resistant vinyl cabtyre cable 2-conductor 0.2mm ²)	1 m (flame-resistant cabtyre cable 2-conductor 0.2mm ² UL acquired line)	1 m (flame-resistant vinyl cabtyre cable 2-conductor 0.2mm ²)
Insulation resistance	500 MΩ and over with 20 VDC megger		
Withstand voltage	No failure after 1000 minute of 1 VAC application.		
Shock resistance	294m/s ²		
Ambient temperature	-10 to +60°C		
Degree of protection	IEC standards IP67 JISC0920 (water-tight)		
Contact protection circuit	None		
Weight	1m: 18g 3m: 49g 5m: 80g		
Weight of connector only	M12: Connector code B/M:10g M8: Connector code F:4g		

*1: Max. load current: 20mA at 25°C. The current is lower than 20mA if the operating ambient temperature is higher than 25°C. (5 to 10mA at 60°C)

How to order

● 2-wire cylinder switch



A Lead wire

B Lead wire length, connector specifications

C Option

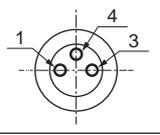
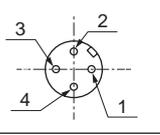
Code	Description
A Lead wire	
Blank	Oil resistant vinyl cabtyre cable
L	UL electric wire
T	Spatter-resistant wire
B Lead wire length, connector specifications	
Blank	Lead wire 1 m
3	Lead wire 3 m
5	Lead wire 5 m
B	M12 connector (4PIN specification), 3-4PIN not polarized, lead wire 0.3m
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F *1	M8 connector (3PIN specification), 1-4PIN not polarized, lead wire 0.3m
C Option	
Blank	No option
K	With cover for anti-spatter adherence

*1: Only lead wire "L" is available for connector specification "F".

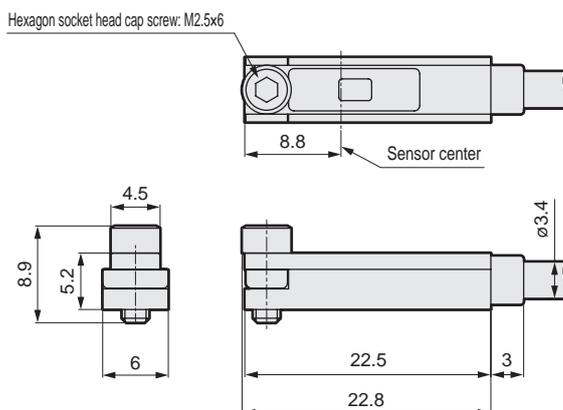
● Connector pin array

Type of connector	Connector pin array				
	Code	1PIN	2PIN	3PIN	4PIN
M12 (4PIN specifications)	B	N.C.	N.C.	±	±
	M	±	N.C.	N.C.	±
M8 (3PIN specifications)	F	±		N.C.	±

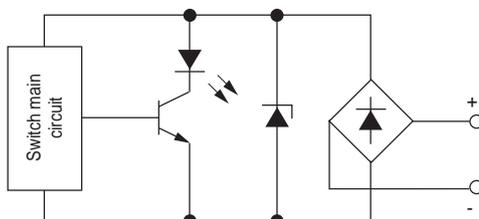
● Connector specifications

Item	M8	M12
Pin array		
Shock resistance	294m/s ²	
Degree of protection	IP67	
Insulation resistance	500 MΩ with 100 VDC megger	
Withstand voltage	1000 VAC 1 min. (between contacts and between contact housings) leakage current 1 mA or less	

Dimensions



Switch internal circuit diagram



Safety precautions

Be sure to read this section before use.
"Pneumatic Cylinders I and II" (No. CB-029SA, CB-030SA).

⚠ CAUTION

- When using the product in a welding process where a magnetic field disturbance is generated, control the amount of signal canceling on the load side during welding. (There is no function to cancel the magnetic field during welding.)
- When attaching a stopper to the head side of the guided cylinder (25st or less), use a non-magnetic material for the mounting bolt and stopper.

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