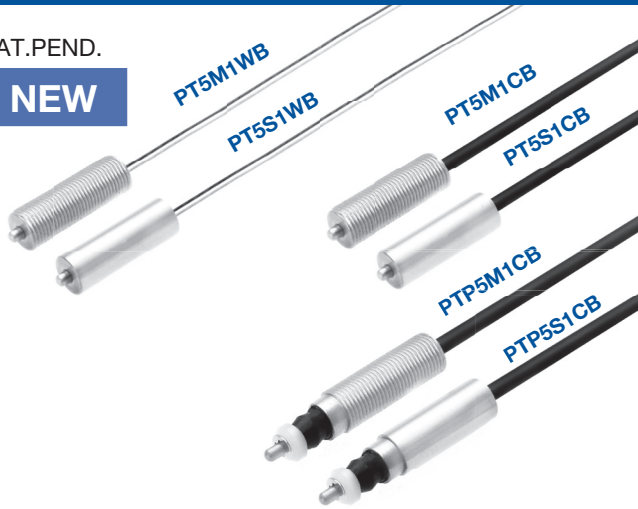


PT

1 signal plunger type
Straight touch type (Metal bearing)

PAT.PEND.

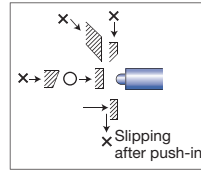
NEW



Features

- M5 (or $\phi 5$) x 17mm slim switches
- 1 μ m /3 μ m in repetitive accuracy (user selectable)

Application



Standard specification

Repeatability : 1 μ m type

Unit : mm

Repeatability ¹	Protective structure	Product name	Output mode	Pretravel	Contact force	Cable	Size	With LED				
0.001mm(range) (Both ON \leftrightarrow OFF)	IP40	PT5M1WB	B : NC	0 ^{*2}	0.5N	Core-wire cable	M5x0.5	PT5M1WB -L				
		$\phi 5$					PT5S1WB -L					
		IP67				PT5M1CB	0.8N	Cabtyre cable	M5x0.5	PT5M1CB -L		
						$\phi 5$			PT5S1CB -L			
	IP40	PTP5M1CB	A : NO	About 0.3	0.5N	Core-wire cable	M5x0.5	PTP5M1CB -L				
		$\phi 5$					PTP5S1CB -L					
		IP40				PT5M1WA	A : NO	About 0.3	0.5N	Core-wire cable	M5x0.5	PT5M1WA -L
						$\phi 5$					PT5S1WA -L	

Repeatability : 3 μ m type

Repeatability ¹	Protective structure	Product name	Output mode	Pretravel	Contact force	Cable	Size	With LED				
0.003mm(range) (Both ON \leftrightarrow OFF)	IP40	PT5M3WB	B : NC	0 ^{*2}	0.5N	Core-wire cable	M5x0.5	PT5M3WB -L				
		$\phi 5$					PT5S3WB -L					
		IP67				PT5M3CB	0.8N	Cabtyre cable	M5x0.5	PT5M3CB -L		
						$\phi 5$			PT5S3CB -L			
	IP40	PTP5M3CB	A : NO	About 0.3	0.5N	Core-wire cable	M5x0.5	PTP5M3CB -L				
		$\phi 5$					PTP5S3CB -L					
		IP40				PT5M3WA	A : NO	About 0.3	0.5N	Core-wire cable	M5x0.5	PT5M3WA -L
						$\phi 5$					PT5S3WA -L	

*1 At operating speed 50-200mm/min (operating speed slower than 10mm/min is not recommended).

-L : LED indicator

*2 Adjust the installed location of the switch by the signal switching point.

(120mm from the switch)

Common specification

unit:mm

Switch structure	Dry contact
Movement differential	0
Contact life time	3 million (No bungle caused by vibration and use under contacting rating)
Stroke	1.5
Contact material	SUS HRC45
Case material	SUS303

Cable (Refer to P2-9)	Core-wire cable : 0.5m (x 2) Oil-resistant $\phi 0.6$ Tensile strength 15N Cabtyre cable : 2m Oil-resistant $\phi 2.8/2$ cores Tensile strength 30N Minimum bending R7
Operating temperature range	0°C-80°C (ice-free)
Temperature drift	0 (because of no amplifier)
Oscillation	10-55Hz Total amplitude 1.5 for X, Y, Z each direction
Impact	300m/s ² for X, Y, Z each direction
Contact rating (Refer to P7-3)	DC5V-DC24V Steady current : 10mA or less (rush current : 20mA or less) When using the switch with LED, limit the current below 10mA.
Standard accessory	Two fixing nuts for threaded type

◎The following options are available

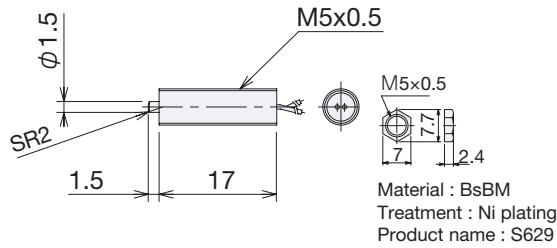
- Transistor output (refer to P2-4)
- Reverse connect protection
- Level conversion
- Output current is increased to 100mA
- Shape of contacting part
- LED indicator
- Cables

Outer dimension

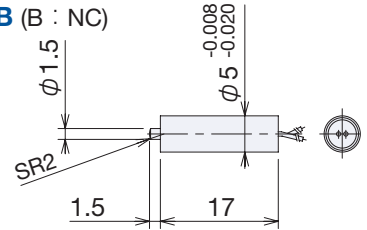
Output mode B : NC

Core-wire cable

- PT5M1WB (B : NC)
- PT5M3WB (B : NC)

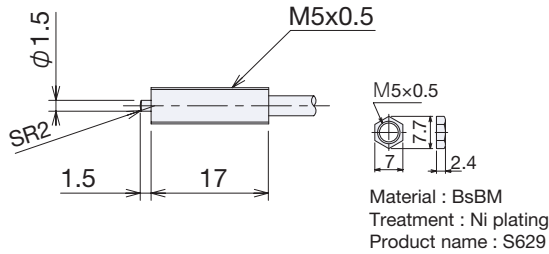


- PT5S1WB (B : NC)
- PT5S3WB (B : NC)

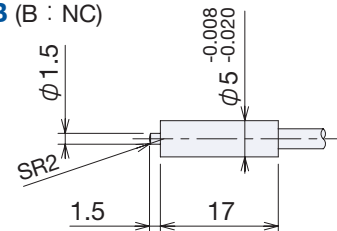


Cable type

- PT5M1CB (B : NC)
- PT5M3CB (B : NC)

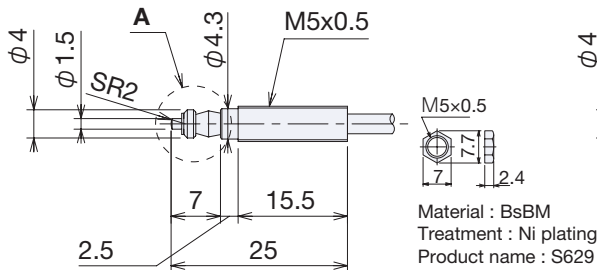


- PT5S1CB (B : NC)
- PT5S3CB (B : NC)

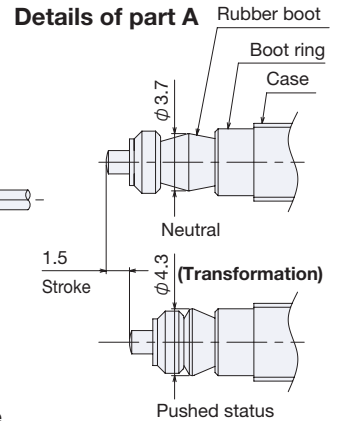
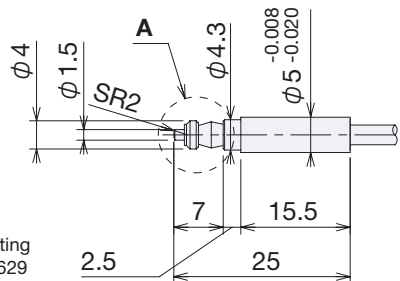


Waterproof type (IP67)*3

- PTP5M1CB (B : NC)
- PTP5M3CB (B : NC)



- PTP5S1CB (B : NC)
- PTP5S3CB (B : NC)

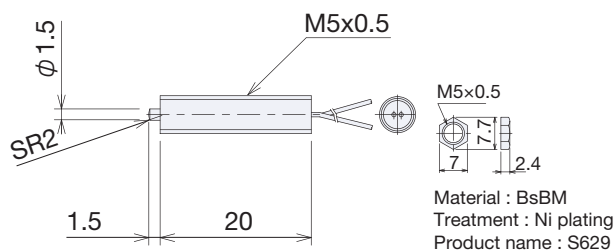


*3 Not suitable for use in harsh environment such as where there are scattering of coolant.
 The use of High-precision MT-Touch Switch P085DB/P08SB (P3-8) is recommended in that case.

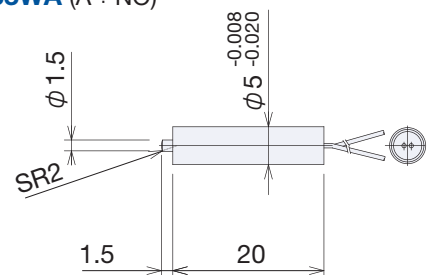
Output mode A : NO

Core-wire cable

- PT5M1WA (A : NO)
- PT5M3WA (A : NO)



- PT5S1WA (A : NO)
- PT5S3WA (A : NO)



For LED indicator (-L), refer to the next page.

Options

Output mode B : NC

Product name	Transistor output	Shape of contacting part	LED Indicator	Cable
Core-wire cable PT5M1WB PT5S1WB PT5M3WB PT5S3WB Cabtyre cable PT5M1CB PT5S1CB PT5M3CB PT5S3CB PTP5M1CB PTP5S1CB PTP5M3CB PTP5S3CB	Blank : Not required Only applicable for cabtyre cables TNA TNB TPA TPB (refer to P2-4)	Blank : ϕ 1.5 plunger SR2 B : ϕ 3 flat SUS Hardened	Blank : Not required L : 120mm from the switch	Blank : Core-wire cable 0.5m / Cabtyre cable 2m Only applicable for cabtyre cables, not usable when transistor output is selected : Connector

B

L : Tubular type

Transistor output type : ϕ 9.3x(32)

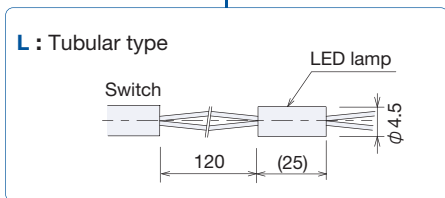
▶ e.g.) PT5M1WB-BL

▶ Transistor output e.g.) PT5M1CBTNA-L

Output mode A : NO

Product name	LED indicator
PT5M1WA PT5S1WA PT5M3WA PT5S3WA	Blank : Not required L : 120mm from the switch

▶ e.g.) PT5M1WB-L



Connector (Only applicable for cabtyre cables, not usable when transistor output is selected)

Blank : Not required	Cable		Protective structure	Dimension	Pullout strength
Product name					
CH	2-cores	ϕ 2.8	IP67	* Only applicable for cabtyre cables, not usable when transistor output is selected. <p>The switch side is able to go through M6 nuts.</p>	1.5N

e.g.) PT5M1CB-1-CH-2

(PT-Touch Switch PT5M1CB / Switch side cable 1m / Connector CH / machine side cable :2m)

● How to Order for Maintenance

(1) When Ordering Only the Switch Side

Please add [H] after the model name. Example: PT5M1CB-1-CHH

(2) When Ordering Only the Machine Side

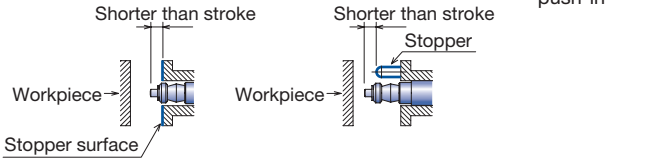
Please add [Cord Length] in 1m increments after the model name.

Example: CH-2 (Relay Connector: CH / Machine-Side Cord: 2m)

How to use

Make contact with detected objects at right angle (within deflection angle $\pm 3^\circ$).

If there is a possibility to press the plunger to the stroke end, install a stopper separately to prevent the malfunction.



Circuit diagram

without LED	with LED
<p>Nomally closed (NC)</p> <p>Nomally Open (NO)</p>	<p>Nomally closed (NC)</p> <p>LED nomally Off</p> <p>Nomally Open (NO)</p> <p>LED nomally Off</p>

For electrical specification / circuit diagram (refer to P2-1)

When using the switch with LED, limit the current below 10mA.
(Refer to P7-3 "Confirmation of switch operation")

Tightning torque for case screws and nuts

	Screw / Nut	Tightning torque
PT-Touch Switch	M5×0.5	1N·m