
NEW!!
PAT.PEND.

PT

The World`s Smallest!!

Ultra precision Switches M5×17mm

1μm repeatability,
3 million contact life time

Web site
www.metrol.co.jp/en

PT

1-signal plunger type
Straight touch type (Plain bearing)

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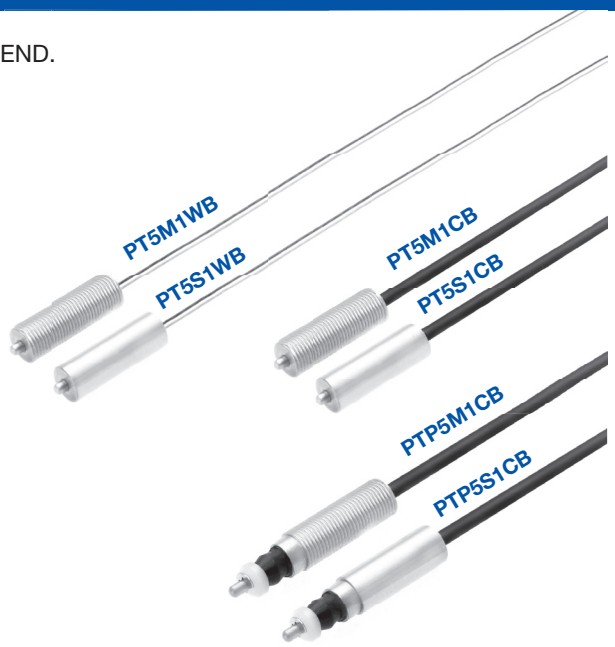


■ M5 / ϕ5 × 17mm slim switch
Best suited for installation in space demanding applications and equipment.

■ 1 micron / 3 micron in repetitive accuracy without an amplifier
Stable output of high precision signals. No occurrence of drifts or movement differential accompanying fluctuations in power supply voltage, temperature changes and changes over time.

■ Contact type with dry contacts for switching part
Contact type switches are not affected by materials and shapes of detected objects. No movement differential because it doesn't have a snap action mechanism.

■Standard product name

■Repeatability : 1μm type

unit:mm

Repeatability*	Protective structure	Product name	Output mode	Pretravel	Contact force	Cable	Size	with LED
0.001mm (Both On→Off, Off→On)	IP40	**PT5M1WB**	B : Normally close	0	0.5N	Core-wire cable (**W**)	M5×0.5	**PT5M1WB** -L
		PT5S1WB					ϕ5	**PT5S1WB** -L
		PT5M1CB				Cabtyre cable (**C**)	M5×0.5	**PT5M1CB** -L
		PT5S1CB					ϕ5	**PT5S1CB** -L
	IP67	**PTP5M1CB**			0.8N		M5×0.5	**PTP5M1CB** -L
		PTP5S1CB					ϕ5	**PTP5S1CB** -L
	IP40	**PT5M1WA**	A : Normally open	0.3	0.5N	Core-wire cable (**W**)	M5×0.5	**PT5M1WA** -L
		PT5S1WA					ϕ5	**PT5S1WA** -L

■Repeatability : 3μm type

Repeatability*	Protective structure	Product name	Output mode	Pretravel	Contact force	Cable	Size	with LED
0.003mm (Both On→Off, Off→On)	IP40	**PT5M3WB**	B : Normally close	0	0.5N	Core-wire cable (**W**)	M5×0.5	**PT5M3WB** -L
		PT5S3WB					ϕ5	**PT5S3WB** -L
		PT5M3CB				Cabtyre cable (**C**)	M5×0.5	**PT5M3CB** -L
		PT5S3CB					ϕ5	**PT5S3CB** -L
	IP67	**PTP5M3CB**			0.8N		M5×0.5	**PTP5M3CB** -L
		PTP5S3CB					ϕ5	**PTP5S3CB** -L
	IP40	**PT5M3WA**	A : Normally open	0.3	0.5N	Core-wire cable (**W**)	M5×0.5	**PT5M3WA** -L
		PT5S3WA					ϕ5	**PT5S3WA** -L

* At operating speed 50～200mm/min (Operating speed slower than 10mm/min is not recommended.) -L : LED indicator (120mm from the switch)

■Common specification

unit:mm

Switch structure	Dry contact
Movement diffential	0
Contact life time	3 million (No bungle caused by vibration and use under contact rating)
Stroke	1.5
Contacting part material	SUS HRc45
Case material	SUS303

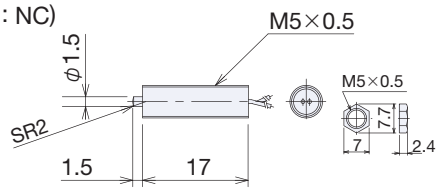
Cable (Refer toP2-4)	Core-wire cable : 0.5m (×2) Oil-resistant ϕ0.6 Tensile strength 15N Cabtyre cable : 2m Oil resistant ϕ2.8/2 cores, Tensile strength 30N
Operating temperature range	0°C～80°C (Ice-free)
Temperature drift	0
Oscillation	10～55Hz total amplitude 1.5 for X,Y,Z each direction
Impact	300m/s^2 for X,Y,Z each direction
Contact rating	DC5V～DC24V 10mA (MAX20mA) Resistance load
Standard accessory	Two fixing nuts for threaded type

■Outer dimension

Output mode A : Normally open

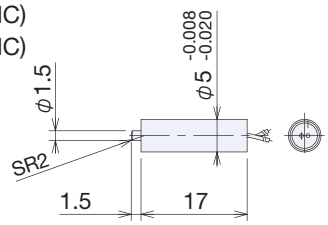
Core-wire cable

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



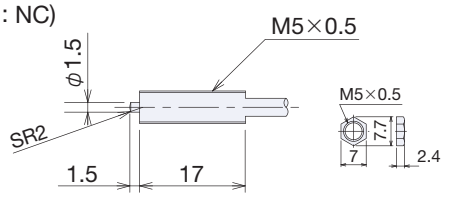
Material: BsBM
Treatment: Ni plating
Product name: S629

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



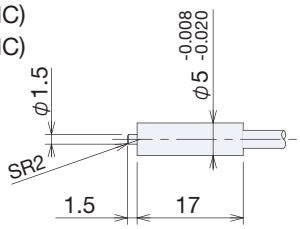
Cabtyre cable

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



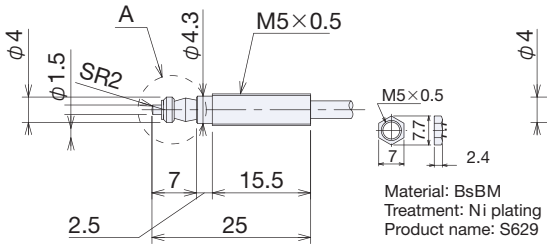
Material: BsBM
Treatment: Ni plating
Product name: S629

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



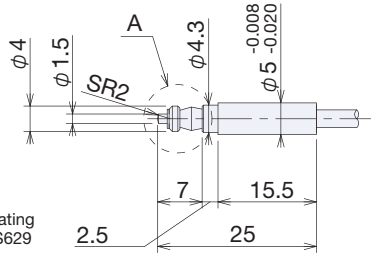
Water-resistant type (IP67)

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

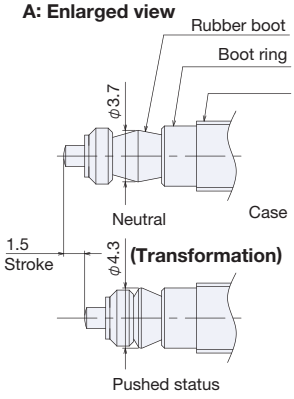


Material: BsBM
Treatment: Ni plating
Product name: S629

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



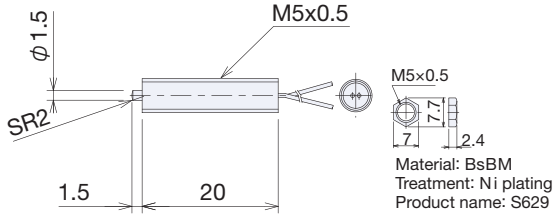
A: Enlarged view



Output mode B : Normally close

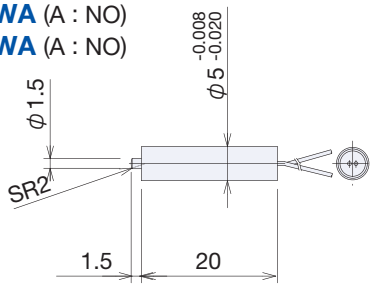
Core-wire cable

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

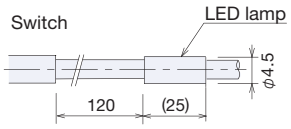


Material: BsBM
Treatment: Ni plating
Product name: S629

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

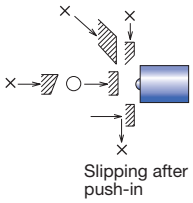


(-L: LED indicator)

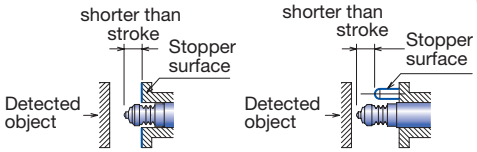


■How to use

Make contact with detected objects at right angle (within deflection angle ±3°)
Do not press the plunger to the stroke end. It may cause malfunction due to the impact.



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



■Circuit diagram

No LED	with LED
Normally close Brown Blue	Normally close Brown+ Blue- LED Normally On
Normally open Red White	Normally open Red+ White- LED Normally Off

Electrical specification / circuit diagram. (Refer to P2-1)
CL type interface unit cannot be used with LED.
When using the switches with LED option, limit the current below 10mA.