



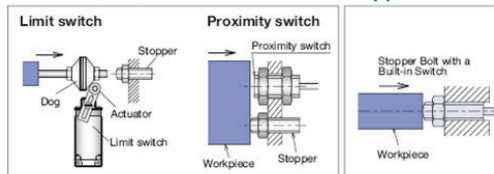
# Precision Limit Switches

## Stopper Bolt Precision Limit Switches

### Overview

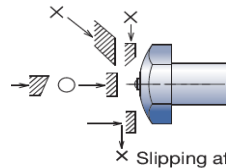
Stopper bolt precision limit switches incorporate a mechanical stop along with the limit switch function, eliminating the need for a separate mechanical stop in many situations. They can also absorb the high-impact forces required to stop a load.

**Stopper Bolt Limit Switches can reduce parts count**  
 conventional switches      stopper bolt switch



### Features

- 2 tasks with one device
- Housing a high-accuracy built-in switch in a stopper bolt
- Provides higher contact force ideal for indexing/positioning
- 10 micron (µm) repeat accuracy
- No movement differential
- Stainless steel housing



O indicates correct target approach and orientation.

X indicates approach and orientation that should be avoided.

### Stopper Bolt Precision Limit Switches Selection Chart

Part Number	Price	Drawing Link	Actuator/Head Type*	Barrel Type	Barrel Diameter/Thread	Stroke	Switching Output	Contact Force	Connection Type
<a href="#">STP100UA-L</a>	\$82.00	<a href="#">PDF</a>	Ø 5.5mm plunger with upward cover Ø 5mm	Threaded	M10×1.5	0.7mm	(1) N.O.	4N	Cable 2m [6.56 ft]
<a href="#">STP100DA-L</a>	\$82.00	<a href="#">PDF</a>	Ø 5.5mm plunger with downward cover Ø 5mm	Threaded	M10×1.5	0.7mm	(1) N.O.	4N	
<a href="#">STS060PA</a>	\$41.00	<a href="#">PDF</a>	Ø 1.5mm plunger, 3.4mm flat	Threaded	M6×1.0	0.7mm	(1) N.O.	2N	
<a href="#">STS060PA-L</a>	\$50.00	<a href="#">PDF</a>	Ø 1.5mm plunger, 3.4mm flat	Threaded	M6×1.0	0.7mm	(1) N.O.	2N	
<a href="#">STS080PA-L</a>	\$66.00	<a href="#">PDF</a>	Ø 1.5mm plunger, 4.5mm flat	Threaded	M8×1.25	0.7mm	(1) N.O.	2N	
<a href="#">STS100PA-L</a>	\$69.00	<a href="#">PDF</a>	Ø 1.5mm plunger, 4.5mm flat	Threaded	M10×1.5	0.7mm	(1) N.O.	2N	
<a href="#">STE060PA-L</a>	\$54.00	<a href="#">PDF</a>	Ø 1.5mm plunger, 3.4mm flat with hex	Threaded	M6×1.0	0.7mm	(1) N.O.	2N	
<a href="#">STE080PA-L</a>	\$72.00	<a href="#">PDF</a>	Ø 1.5mm plunger, 4.5mm flat with hex	Threaded	M8×1.25	0.7mm	(1) N.O.	2N	
<a href="#">STE100PA-L</a>	\$72.00	<a href="#">PDF</a>	Ø 1.5mm plunger, 4.5mm flat with hex	Threaded	M10×1.5	0.7mm	(1) N.O.	2N	

\* Ø = diameter

#### STP Series (Stopper With Protective Cover)



[STP100UA-L](#)

#### STS Series (Straight Stopper Bolt)



[STS060PA-L](#)

#### STE Series (Hexagonal Stopper Bolt)



[STE060PA-L](#)



[STP100DA-L](#)



[STS080PA-L](#)



[STE080PA-L](#)



[STS060PA](#)



[STS100PA-L](#)



[STE100PA-L](#)



# Precision Limit Switches

## Stopper Bolt Precision Limit Switches Specifications

Series	STP	STS	STE
Environmental			
Degree of Protection	IP67**	IP65**	
Temperature Range	Operating: 0 to 80°C [32 to 176°F] (Ice-free)		
Mechanical Ratings			
Enclosure Material	Stainless steel		
Torque (for nuts on threaded barrels, set screws on smooth barrels)	See Torque Limit Figure		
Vibration	10–55Hz total amplitude 1.5 for X, Y, Z each direction		
Shock	300 m/s² for X, Y, Z each direction		
Repeat Accuracy	Both On-Off, Off-On/ 0.01 (range) (At operating speed 50-200mm/min) *2		
Recommended Minimum Operating Speed	50mm (1.96in)/minute		
Withstand Load	5000N		
Electrical Ratings			
Contact Life	10 million (No bungle caused by vibration and use under contact rating)		
Impact resistance	0.4J		
Contact Voltage	5–24VDC		
Steady Current Rating	10mA or less		
Max In-rush Current Rating	20mA without LED indicator, 10mA with LED indicator		
Connection Type	Standard length 2m [6.56 ft] oil resistant 2.8 / 2 cores, 26AWG Tensile strength 30N, minimum bending R7		
Indicating	-L models: LED indicator (mounted in cable 120mm from the switch)		

\* At operating speed 50-200 mm/minute. Operating speed slower than 10 mm/min is not recommended.

\*\* At normal temperature (0–80°C [32–176°F]).

## Circuit Diagram

Without LED	With LED (-L models)
<p>Normally open (N.O.)</p>	<p>Normally open (N.O.)</p>

## Torque Limits

Applicable models	Tightening torque
<u>STS060PA-L</u>	L1: 5 N•m [3.68 lb•ft] L2: 2.5 N•m [1.84 lb•ft]
<u>STE060PA-L</u>	
<u>STS060PA</u>	
<u>STS080PA-L</u>	10 N•m [7.38 lb•ft]
<u>STE080PA-L</u>	10 N•m [7.38 lb•ft]
<u>STS100PA-L</u>	25 N•m [18.44 lb•ft]
<u>STE100PA-L</u>	25 N•m [18.44 lb•ft]
<u>STP100UA-L</u>	25 N•m [18.44 lb•ft]
<u>STP100DA-L</u>	25 N•m [18.44 lb•ft]

