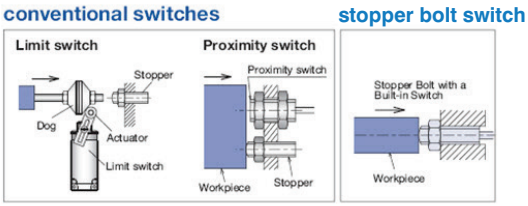
Precision Limit Switches

Stopper Bolt Precision Limit Switches

Overview

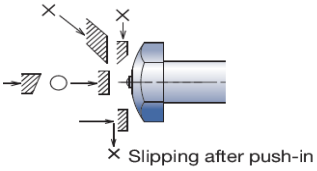
Stopper bolt precision limit switches incorporate a mechanical stop along with the limit switch function, eliminating the need for a separate mechanical stop in many situations. They can also absorb the high-impact forces required to stop a load.

Stopper Bolt Limit Switches can reduce parts count



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



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
STP100UA-L	$82.00	PDF	Ø 5.5 mm plunger with upward cover	Threaded	M10×1.5	0.7mm	N.O.	4N	2m [6.56 ft] cable
STP100DA-L	$82.00	PDF	Ø 5.5 mm plunger with downward cover	Threaded	M10×1.5	0.7mm	N.O.	4N	
STS060PA-L	$50.00	PDF	Ø 1.5 mm plunger	Threaded	M6x1.0	0.7mm	N.O.	2N	
STS080PA-L	$66.00	PDF	Ø 1.5 mm plunger	Threaded	M8×1.25	0.7mm	N.O.	2N	
STS100PA-L	$69.00	PDF	Ø 1.5 mm plunger	Threaded	M10×1.5	0.7mm	N.O.	2N	
STE060PA-L	$54.00	PDF	Ø 1.5 mm plunger	Threaded	M6x1.0	0.7mm	N.O.	2N	
STE080PA-L	$72.00	PDF	Ø 1.5 mm plunger	Threaded	M8×1.25	0.7mm	N.O.	2N	
STE100PA-L	$72.00	PDF	Ø 1.5 mm plunger	Threaded	M10×1.5	0.7mm	N.O.	2N	

* Ø = diameter

STP Series (Stopper With Protective Cover)

STP100UA-L

STP100DA-L

STS Series (Straight Stopper Bolt)

STS060PA-L

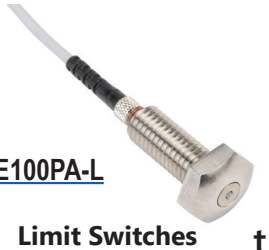
STS080PA-L

STS100PA-L

STE Series (Hexagonal Stopper Bolt)

STE060PA-L

STE080PA-L



STE100PA-L

Precision Limit Switches Specifications

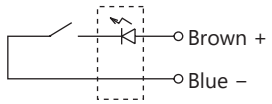
Stopper Bolt Precision Limit Switches Specifications			
Series	***STP***	***STS***	***STE***
Environmental			
Degree of Protection	IP67**	IP65**	
Temperature Range	Operating: 0 to 80°C [32 to 176°F] (Ice-free)		
Mechanical Ratings			
Enclosure Material	Stainless steel		
Torque (for nuts on threaded barrels, set screws on smooth barrels)	See Torque Limit Figure		
Oscillation	10–55Hz total amplitude 1.5 for X, Y, Z each direction		
Impact	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	10 mm (0.394 in)/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		
Connection Type	Standard length 2m [6.56 ft] oil resistant 2.8 / 2 cores, 26AWG Tensile strength 30N, minimum bending R7		
Indicating	-L: 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

With LED

Normally open (N.O.)

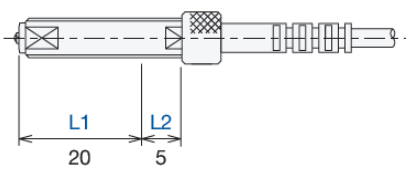


LED Normally Off

Torque Limits

Applicable models	*Tightening torque*
STS060PA-L	L1: 4 N•m [2.95 lb•ft] L2: 2.5 N•m [1.84 lb•ft]
STE060PA-L	
STS080PA-L	10 N•m [7.38 lb•ft]
STE080PA-L	10 N•m [7.38 lb•ft]
STS100PA-L	25 N•m [18.44 lb•ft]
STE100PA-L	25 N•m [18.44 lb•ft]
STP100UA-L	25 N•m [18.44 lb•ft]
STP100DA-L	25 N•m [18.44 lb•ft]

STS060PA-L



STE060PA