



# Precision Limit Switches

## Mini Stopper Precision Limit Switches

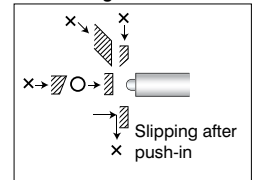
### Overview

Precision stopper limit switches incorporate a mechanical stop and a limit switch function in a single switch, eliminating the need for a separate stop.

### Features

- Mini Stopper switch
- Provides higher contact force ideal for indexing/positioning
- 10 micron ( $\mu\text{m}$ ) repeat accuracy
- No movement differential
- No temperature drift

#### Straight Touch

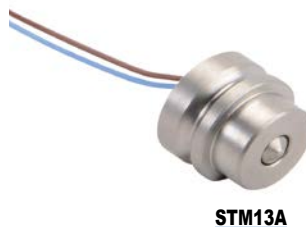


O indicates correct target approach and orientation. X indicates approach and orientation that should be avoided.

**Mini Stopper 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="#">STM11A</a>	\$;6bo[:	<a href="#">PDF</a>	Ø 3mm plunger, 8mm flat	Smooth	Ø8	0.5mm	(1) N.O.	0.8N	Core wire, 0.5m [1.6ft]
<a href="#">STM13A</a>	\$2bvn:	<a href="#">PDF</a>	Ø 3mm plunger, 8mm flat	Smooth	Ø10	0.5mm		0.8N	
<a href="#">STM31A</a>	\$2bvv:	<a href="#">PDF</a>	Ø 3mm plunger, 8mm flat	Threaded	M10×0.75	0.5mm		0.8N	
<a href="#">STM32A</a>	\$;6bo[:	<a href="#">PDF</a>	Ø 3mm plunger, 8mm flat	Threaded	M10×0.75	0.5mm		0.8N	Cable, 2m [6.5ft]
<a href="#">STM34A</a>	\$6boz:	<a href="#">PDF</a>	Ø 3mm plunger, 8mm flat	Threaded	M10×1.5	0.5mm		0.8N	Cable, 2m [6.5ft]
<a href="#">STM63A</a>	\$2bvü:	<a href="#">PDF</a>	Ø 3mm plunger with boot, Ø 2.5mm	Smooth	Ø11	0.3mm		1N	Core wire, 0.5m [1.6ft]
<a href="#">STM81A</a>	\$2bv×:	<a href="#">PDF</a>	Ø 3mm plunger with boot, Ø 2.5mm	Threaded	M10×0.75	0.3mm		1N	
<a href="#">STM83A</a>	\$2bvz:	<a href="#">PDF</a>	Ø 3mm plunger with boot, Ø 2.5mm	Threaded	M10×1.5	0.3mm		1N	
<a href="#">STM14A-L</a>	\$;2bv]:	<a href="#">PDF</a>	Ø 3mm plunger, 8mm flat	Smooth	Ø10	0.5mm		0.8N	Cable, 2m [6.5ft]
<a href="#">STM36A-L</a>	\$6bo_:	<a href="#">PDF</a>	Ø 3mm plunger, 4.5mm flat	Threaded	M10×0.75	0.5mm		0.8N	
<a href="#">STM64A-L</a>	\$;2bv[:	<a href="#">PDF</a>	Ø 3mm plunger with boot, Ø 2.5mm	Smooth	Ø11	0.3mm		1N	
<a href="#">STM32A-L</a>	\$2bv_:	<a href="#">PDF</a>	Ø 3mm plunger, 8mm flat	Threaded	M10×0.75	0.5mm		0.8N	
<a href="#">STM82A-L</a>	\$2bv#:	<a href="#">PDF</a>	Ø 3mm plunger with boot, Ø 2.5mm	Threaded	M10×0.75	0.3mm		1N	
<a href="#">STM34A-L</a>	\$;2bv!:	<a href="#">PDF</a>	Ø 3mm plunger, 13mm flat	Threaded	M10×1.5	0.5mm		0.8N	
<a href="#">STM84A-L</a>	\$2bv?:	<a href="#">PDF</a>	Ø 3mm plunger with boot, Ø 2.5mm	Threaded	M10×1.5	0.3mm		1N	

\* Ø = diameter



# **METROL** Precision Limit Switches

## Mini Stopper: STM Series



**STM36A-L**



**STM63A**



**STM81A**



**STM83A**



**STM14A-L**



**STM64A-L**



**STM32A-L**



**STM82A-L**



**STM34A-L**



**STM84A-L**



# Precision Limit Switches

## Mini Stopper Precision Limit Switches Specifications

<b>Series</b>	<b>STM</b>
<b>Environmental</b>	
<b>Degree of Protection</b>	IP44 ( <a href="#">STM11A</a> , <a href="#">STM13A</a> , <a href="#">STM31A</a> , <a href="#">STM32A</a> , <a href="#">STM34A</a> , <a href="#">STM14A-L</a> , <a href="#">STM32A-L</a> , <a href="#">STM34A-L</a> ) IP67 ( <a href="#">STM63A</a> , <a href="#">STM81A</a> , <a href="#">STM83A</a> , <a href="#">STM64A-L</a> , <a href="#">STM82A-L</a> , <a href="#">STM84A-L</a> )
<b>Temperature Range</b>	Operating: 0 to 80°C [32 to 176°F] (Ice-free)
<b>Mechanical Ratings</b>	
<b>Enclosure Material</b>	Stainless Steel
<b>Torque (for nuts on threaded barrels, set screws on smooth barrels)</b>	10Nm
<b>Vibration</b>	10–55Hz total amplitude 1.5 for X, Y, Z each direction
<b>Shock</b>	300 m/s <sup>2</sup> for X, Y, Z each direction
<b>Withstand Load</b>	3000N
<b>Repeat Accuracy</b>	Both On→Off, Off→On/ 0.01 (range) (At operating speed 50-200mm/min) *
<b>Recommended Minimum Operating Speed</b>	50mm [1.96in]/minute
<b>Electrical Ratings</b>	
<b>Contact Life</b>	10 million (No bounce caused by vibration and use under contact rating)
<b>Impact Resistance</b>	0.2J
<b>Contact Voltage</b>	5–24VDC
<b>Steady Current Rating</b>	10mA or less
<b>Max In-rush Current Rating</b>	20mA without LED indicator, 10mA with LED indicator
<b>Connection Type</b>	Standard length 2m or 0.5 m Oil resistant 2.8 / 2 cores, Tensile strength 30N, minimum bending R7
<b>Indicating</b>	-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.

## Circuit Diagrams

Without LED	With LED (-L models)
<p>Normally open (N.O.)</p> <p>○ Brown ○ Blue</p>	<p>Normally open (N.O.)</p> <p>○ Brown + ○ Blue -</p> <p>LED Normally Off</p>