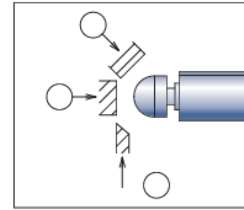


# Precision Limit Switches

## Sliding Angled Offset Touch Limit Switches

- Metal and plastic hemisphere actuators
- 5 micron ( $\mu\text{m}$ ) repeat accuracy
- Stainless steel housing

### Sliding Angled Offset Touch



○ indicates correct target approach and orientation.  
 × indicates approach and orientation that should be avoided.

Sliding Angled Offset Touch Limit Switches Selection Chart									
Part Number	Price	Actuator/ Head Type*	Barrel Type	Barrel Diameter/Thread*	Stroke	Switching Output	Contact Force	Sensor Dimensions	Connection Type
<b>Sliding Angled Offset Touch</b>									
<b>CSHP085A-L</b>	\$134.00	Ø 4.7 mm SR 3mm	Threaded	M8×0.5	2.8 mm (0.110 in)	N.O.	1N	Figure 1	2m (6.56 ft) cable
<b>CSHP085B-L</b>	\$134.00	Ø 4.7 mm SR 3mm	Threaded	M8×0.5	2.8 mm (0.110 in)	N.C.	1N	Figure 1	2m (6.56 ft) cable
<b>CSH121A-AL</b>	\$65.00	Ø 10 hemisphere	Threaded	M12×1	2.8 mm (0.110 in)	N.O.	1.5 N	Figure 2	2m (6.56 ft) cable
<b>CSH121B-AL</b>	\$68.00	Ø 10 hemisphere	Threaded	M12×1	2.8 mm (0.110 in)	N.C.	1.5 N	Figure 2	2m (6.56 ft) cable
<b>CSH121A-APL</b>	\$76.00	Ø 10 hemisphere, plastic	Threaded	M12×1	2.8 mm (0.110 in)	N.O.	1.5 N	Figure 2	2m (6.56 ft) cable
<b>CSH121B-APL</b>	\$76.00	Ø 10 hemisphere, plastic	Threaded	M12×1	2.8 mm (0.110 in)	N.C.	1.5 N	Figure 2	2m (6.56 ft) cable

\* Ø = diameter, SR = surface radius



**CSHP085A-L**  
**CSHP085B-L**



**CSH121A-AL**



**CSH121B-AL**



**CSH121A-APL**



**CSH121B-APL**

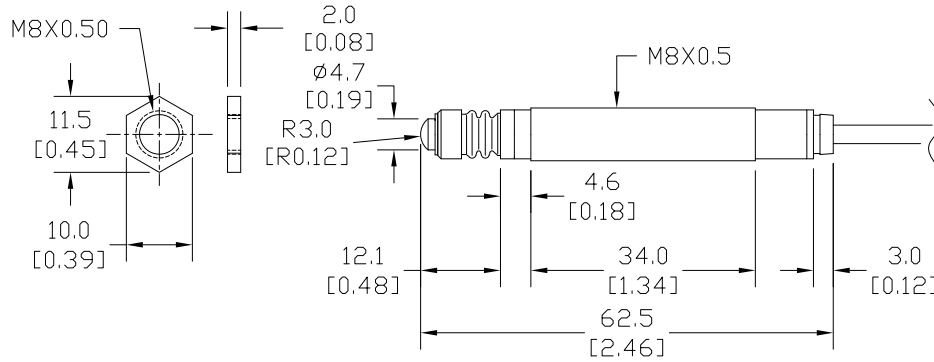
# Precision Limit Switches

## Sliding Angled Offset Touch Limit Switches

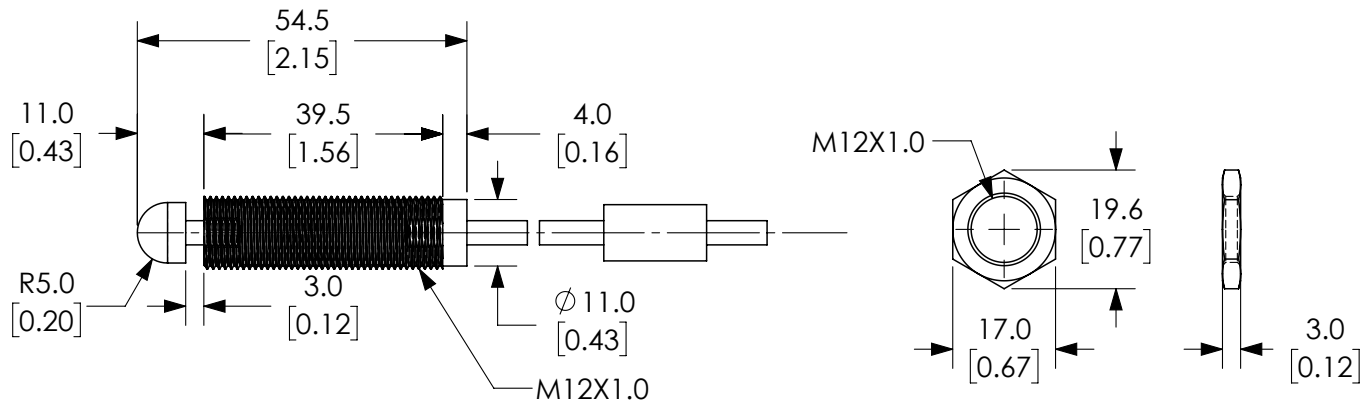
### Dimensions

mm [inches]

**Figure 1**  
**CSHP085A-L**  
**CSHP085B-L**



**Figure 2**  
**CSH121A-AL**  
**CSH121B-AL**  
**CSH121A-APL**  
**CSH121B-APL**



MATERIAL: BsBM  
TREATMENT: Ni PLATING  
PRODUCT NAME: S645

See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

# Precision Limit Switches

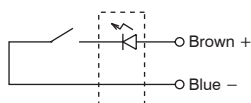
## Sliding Angled Offset Touch Limit Switches

Sliding Angled Offset Touch Limit Switches Specifications		
	CSHP	CSH
<b>Environmental</b>		
Degree of Protection	IP67	IP65
Temperature Range	Operating: 0–80°C (32–176°F) (Ice-free)	
<b>Mechanical Ratings</b>		
Enclosure Material	Stainless Steel	
Pretravel	0.3 mm	
Torque (for nuts on threaded barrels, set screws on smooth barrels)	4 N•m (2.95 lb•ft)	12 N•m (8.85 lb•ft)
Oscillation	10–55Hz total amplitude 1.5 for X, Y, Z each direction	
Impact	300 m/s <sup>2</sup> for X, Y, Z each direction	
Repeat Accuracy	0.005 mm (5 micron [µm])	
Recommended Minimum Operating Speed	10 mm (0.394 in)/minute	
<b>Electrical Ratings</b>		
Contact Life	10 million operations	
Contact Voltage	5–24VDC	
Steady Current Rating	10mA or less	
Max In-rush Current Rating	10mA (limit current to protect LED indicator)	
Connection Type	Cable: 3m, oil resistant Ø2.8/2 cores, Tensile strength 30N (6.74 lbf), minimum bending R7, 2-26AWG	
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.

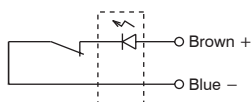
## Circuit Diagrams

Normally open (N.O.)



LED Normally Off

Normally closed (N.C.)



LED Normally On