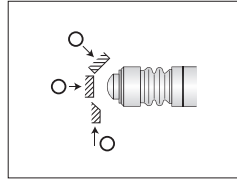


Precision Limit Switches

Precision Angled and Mini Touch Limit Switches

- Mini size suitable for machines required to be small and for narrow installation space.
- Stroke length (1.5 mm)
- 3 and 5 micron (μm) repeat accuracy
- Stainless steel housing
- Metal bearing

Angled/Sliding Touch



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



Precision Touch Limit Switches Selection Chart										
Part Number	Price	Actuator/ Head Type*	Barrel Type	Barrel Diameter/ Thread*	Stroke	Switching Output	Contact Force	Sensor Dimension	Connection Type	Photo
Precision Angled										
CSHP085A-L	\$124.00	Ø 4.7 mm SR 3mm	Threaded	M8x0.5	2.8 mm	N.O.	1N	Figure 1	Cable, 2m length	A
CSHP085B-L	\$124.00					N.C.				
Precision Mini										
CSM105WA	\$45.00	Ø 3.5mm plunger	Threaded	M10x0.5	1.5 mm	N.O.	1N	Figure 2	Core wire 0.5 m length	B
CSMP105WA	\$48.00	2mm plunger with boot/ SR 2.5mm						Figure 3		C

* Ø = diameter, SR = surface radius

-L: LED indicator (mounted in cable 120mm from the switch)

Precision Touch: CSHP/CSM Series Dimensions

mm [inches]

Figure 1
CSHP085A-L / CSHP085B-L

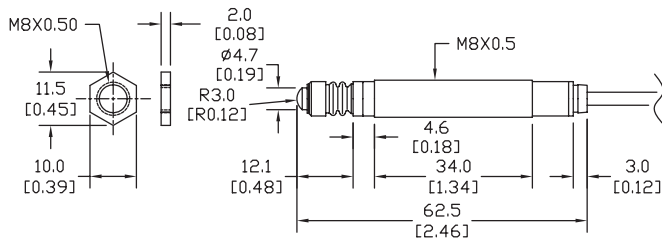


Figure 2
CSM105WA

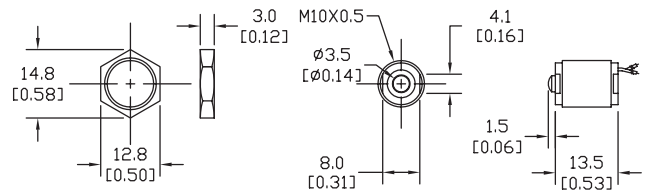
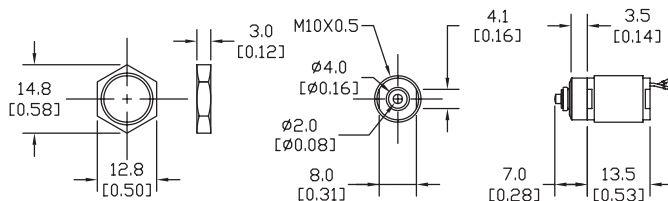


Figure 3
CSMP105WA



Precision Limit Switches

Precision Touch Limit Switches Specifications		
	Precision Angled	Precision Mini
	CSHP	CSM
Environmental		
Degree of Protection	IP67	
Temperature Range	Operating: 0–80°C (32–176°F) (Ice-free)	
Mechanical Ratings		
Enclosure Material	303 Stainless Steel	
Pretravel	0.3 mm	
Torque (for nuts on threaded barrels, set screws on smooth barrels)	4Nm	8Nm
Oscillation	10–55Hz total amplitude 1.5 for X, Y, Z each direction	
Impact	300 m/s ² for X, Y, Z each direction	
Repeat Accuracy	Both On–Off, Off–On: 0.005 mm*	Both On–Off, Off–On: 0.003 mm*
Recommended Minimum Operating Speed	10 mm/minute	
Electrical Ratings		
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 (2m for CSHP series) Oil resistant Ø2.8/2 cores, Tensile strength 30N, minimum bending R7	Core wire cable, 0.5 m (x2) Oil resistant Ø0.6 Tensile strength 15W
Indicating	-L: LED indicator (mounted in cable 120mm from the switch)	NA

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

Circuit Diagrams

Without LED	With LED
<p>Normally open (NO)</p>	<p>Normally open (NO)</p> <p>LED Normally Off</p>
<p>Normally closed (NC)</p>	<p>Normally closed (NC)</p> <p>LED Normally On</p>