



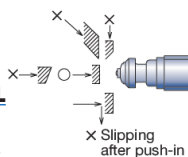
# Precision Limit Switches

## High Precision Touch Limit Switches

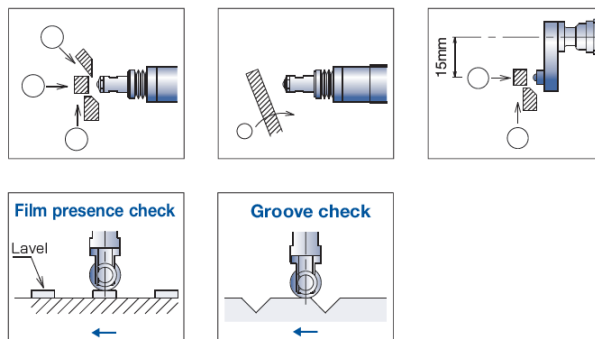
### Features

- 0.5 micron (µm) repeat accuracy
- No movement differential
- No temperature drift
- Dustproof / water-resistant (IP67)
- LED indicator
- Stainless steel housing

**P085DB-AL**  
**P10DB-A**  
**P10DA-AL**  
**P10DB-AL**  
**P10DLB-AL**



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



**P10DHA-TML**  
**P10DHB-TML**  
**P10DHLTB-TML**

High Precision Touch Limit Switches Selection Chart									
Part Number	Price	Drawing Link	Actuator/Head Type*	Barrel Type	Barrel Diameter/Thread	Stroke	Switching Output	Contact Force	Connection Type
<b>Straight Touch</b>									
<a href="#">P085DB-AL</a>	\$148.00	<a href="#">PDF</a>	Ø 5.5mm plunger, 2mm round	Threaded	M8×0.5	3mm	(1) N.C.	1N	Cable 3m [9.8ft]
<a href="#">P10DB-A</a>	\$129.00	<a href="#">PDF</a>	Ø8.5mm plunger, 2mm round	Threaded	M10×0.5	3mm	(1) N.C.	1N	
<a href="#">P10DB-AL</a>	\$148.00	<a href="#">PDF</a>	Ø 8.5mm plunger, 2mm round	Threaded	M10×0.5	3mm	(1) N.C.	1N	
<a href="#">P10DA-AL</a>	\$148.00	<a href="#">PDF</a>	Ø 8.5mm plunger, 2mm round	Threaded	M10×0.5	3mm	(1) N.O.	1N	
<a href="#">P10DLB-AL</a>	\$149.00	<a href="#">PDF</a>	Ø 8.5mm plunger, 2mm round	Threaded	M10×0.5	10mm	(1) N.C.	1N	
<b>Straight Touch With Ball Bearing</b>									
<a href="#">P10DHA-TML</a>	\$312.00	<a href="#">PDF</a>	Ø 2.5mm plunger, 8mm roller	Threaded	M14×0.5	3mm	(1) N.O.	1N	Cable 3m [9.8ft]
<a href="#">P10DHB-TML</a>	\$312.00	<a href="#">PDF</a>	Ø 2.5mm plunger, 8mm roller	Threaded	M14×0.5	3mm	(1) N.C.	1N	
<a href="#">P10DHLTB-TML</a>	\$343.00	<a href="#">PDF</a>	Ø 2.5mm plunger, 8mm roller	Threaded	M14×0.5	10mm	(1) N.C.	1N	

\* Ø = diameter, SR = surface radius

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



# METROL Precision Limit Switches

## High Precision Touch Limit Switches

High Precision Touch Limit Switches Specifications				
Series	P08	P10	P10DH	P10DHL
<b>Environmental</b>				
Degree of Protection	IP67			
Temperature Range	Operating: 0 to 80°C [32 to 176°F] (Ice-free)			
<b>Mechanical Ratings</b>				
Enclosure Material	303 Stainless Steel			
Pretravel	0*	P10DA / P10DHA: 0.2 mm P10DB / P10DHB: 0*		0*
Torque (for nuts on threaded barrels, set screws on smooth barrels)	4 N•m (2.95 lb•ft)	8 N•m (5.90 lb•ft)	10 N•m (7.38 lb•ft)	
Vibration	10–55Hz total amplitude 1.5 for X, Y, Z each direction			
Shock	300 m/s <sup>2</sup> for X, Y, Z each direction			
Repeat Accuracy	Both On–Off, Off–On: 0.0005 mm (range)**			
Recommended Minimum Operating Speed	50mm/minute			
<b>Electrical Ratings</b>				
Contact Life	3 million operations			
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	Cable: 3m Oil resistant Ø5/2 cores (P08: Ø4/2 cores), tensile strength 30N, minimum bending R7, 20AWG			
Indicating	-AL: LED indicator (mounted in cable 120mm from the switch)			

\* Adjust the installed location of the switch by the signal switching point.

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

## Circuit Diagrams

Without LED	With LED (-AL models)
<p>Normally open (N.O.)</p>	<p>Normally open (N.O.)</p> <p>LED Normally Off</p>
<p>Normally closed (N.C.)</p>	<p>Normally closed (N.C.)</p> <p>LED Normally On</p>