

Why choose a Precision Limit Switch

Ultra Precise

Traditional limit switches and even electronic proximity sensors are limited in terms of accuracy and repeatability – perhaps on the order of 10s of microns. Laser distance sensors have analog outputs that are precise to about 8 microns, but also have a much higher cost.

These cost-effective, ultra precise mechanical limit switches have repeatability down to 10, 5, 3, and even 0.5 microns (μm) depending on the specific model. That's 1/2000th of a millimeter. For scale: a piece of paper is typically 70-180 μm , a human hair is typically 50-60 μm wide, and a red blood cell is 6-8 microns in width.

This level of precision is required in many machine tool and robotics applications

These precision limit switches can also retain that level of precision for three million cycles. And while you have to constantly adjust the sensitivity of electronic sensors due to changes in temperature, magnetic fields or

metal particles, these mechanical switches are largely unaffected by their environment.

Temperature stable models are even available with no temperature drift from 0-200°C (32-392°F).

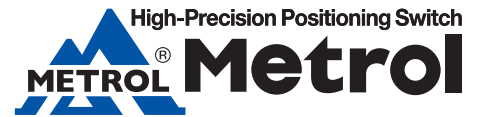
Tiny Footprint

Along with their high precision these limit switches are also some of the smallest switches/sensors available. Their tiny size allows them to be mounted in extremely tight locations.



With a 4mm diameter barrel and length of only 12.8 mm; model BP4SWA (shown to the left) is the smallest precision limit switch on the market

In addition to the 4mm smooth barrel these switches are also available in 5mm and 6mm smooth barrel, as well as M5, M6, M8, & M10 threaded barrels. While the smallest versions use "core wire" due to space constraints, larger models typically include rugged 2m or 3m pigtail cables and have LED indicators built-in.



Plunger Styles

Three basic styles of plunger are available: ball plunger, flat plunger and plungers with a slight surface radius. Each switch is rated for either "straight touch", "angled/sliding touch" or "indexing/angled/sliding touch" (used to sense depressions in tooling or other surfaces for indexing operations).

Machine Tool applications

Tool Setter Switches are used to accurately determine the location of tooling and to account for tool wear.

(Model P11DDB-DULD shown below)

