

INDUCTIVE PROXIMITY SENSORS

The inductive proximity sensor can be used to detect metal objects. It does this by creating an electromagnetic field.

With the ability to detect at close range, inductive proximity sensors are very useful for precision measurement and inspection applications.

Strengths and Weaknesses

Strengths	Weaknesses
<ul style="list-style-type: none"> • Immune to adverse environmental conditions • High switching rate for rapid response applications • Can detect metallic targets through non-metallic barriers • Long operational life with virtually unlimited operating cycles • Solid-state to provide a "bounce free" input signal to PLCs and other solid-state logic devices 	<ul style="list-style-type: none"> • Limited <i>sensing range</i> (4" or 100 mm maximum) • Detects only metal objects • May be affected by metal chips accumulating on sensor face

Applications

Proximity sensors are used in a variety of applications. Consider these:

Proximity sensors can be used to detect the end of travel on a positioning table, to determine speed by counting a gear's teeth, or be used to check if a valve is fully opened or closed.

Proximity sensors can be used to detect the presence or absence of a metallic workpiece or metallic pallets on conveyor lines.

When a robot arm swings around for a pick and place operation, a proximity sensor makes sure the arm actually has a part in its grippers.

In metal machining, proximity sensors can make sure the workpiece is mounted in the fixture, and that the drill bit has not broken off.