Model IPH
Inductive Proximity Switch

Reliable, Compact and Affordable!
Proximity sensor technology for metallic objects
Principal of Operation

The inductive sensor’s circuit consists of a coil of copper wire wrapped on a ferrite core and a transistORIZED circuit. A small amount of energy is supplied to the coil and the transistorized circuit uses this coil to produce an oscillation. The inductive sensors operate on a “kill oscillator” principle. When the conductive material or object is brought into the Radio Frequency field, eddy current losses draw energy from the coil to run along the surface of the metal. Since there is little energy in the coil, the amplitude of the oscillation decreases as more of the target metal enters the field. When enough metal enters the field the losses become so great that the circuit is unable to keep the oscillator running. When the oscillation is killed a detector produces a solid state switch output.

Application and Use

Inductive proximity switches can be used to detect conductive metal objects. The maximum sensing distance is based upon an iron target and reduced dependent on the actual metal to be detected. Shielded construction is the most commonly available and these sensors include a metal band which surrounds the ferrite core and coil arrangement which helps direct the electromagnetic field to the front of the sensor allowing the sensor to be embedded. Unshielded sensors do not have this and are side sensitive. Inductive sensors can be used for a wide variety of purposes in detecting metal objects including detecting broken drill bits, variation in cam or gear rotation speed, part or product detection for position sensing and many other purposes.

Standard Models Available

- 2-Wire AC, N.O., Shielded, Connector
- 2-Wire AC, N.C., Shielded, Connector
- 3-Wire DC, PNP, N.O., Shielded, Connector
- 3-Wire DC, PNP, N.C., Shielded, Connector
- 3-Wire DC, NPN, N.O., Shielded, Connector
- 3-Wire DC, NPN, N.C., Shielded, Connector

Technical Data Summary

Housing 18mm dia. x 78mm long; PBT face; Chromed Plated Brass Housing, IP67
Process Temp -13°F to +158°F (-25°C to +70°C)
Ambient Temp -13°F to +158°F (-25°C to +70°C)
Sensing Distance Up to 5mm Distance
Maximum Load AC - 400mA, DC – 200mA
Process Connection 18mm Threaded;
Certifications CSAus Ordinary Location; CE mark

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Inductive Proximity Switch

- AC or DC switches - versatile
- shielded construction for flexible mounting
- solidstate - no moving parts
- industry standard M18 size - convenience
- you are protected - golden parachute support

Ordering Information

Final Assembly Part Number Structure

48 - XXX 1 - 1 XX

Output Configuration

1 - Normally Open
2 - Normally Closed

Approvals

1 - Ordinary Location

Model | Supply/Wiring | Process Connection
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2 - Shielded, Quick Disconnect | 1 - 2-wire AC | 2 - M18 (18mm)
2 - DC NPN 3-wire | 3 - DC PNP 3-wire

Product Use

Broken Tool Detection
Inductive proximity sensors are ideal for detecting broken drill bits, tooling or other moving parts that can otherwise go unnoticed and slow down production.

Cam Follower
The high switching speed of our inductive sensors allows you to monitor any variation in cam or gear rotation speed.

Part & Product Detection
Inductive sensors can be used for detecting any metal part or product to allow for perfect positioning in filling, labeling or batch counting applications.

Bottle Cap Detection
Use inductive sensors to ensure quality control in packaged or bottled food and drink production.

The Next Level

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