

ELECTRO•SENSORS

Superior • Systems • Solutions

Hall Effect Sensors

Models 1101 and 931 Explosionproof

- Large gap non-contact sensing
- NPN open collector output
- Compatible with PLC digital I/Os
- Easy to install — no maintenance
- Rugged and reliable
- 5-Year Limited warranty on speed switches, sensors & ratemeters*

* Contact factory for more information



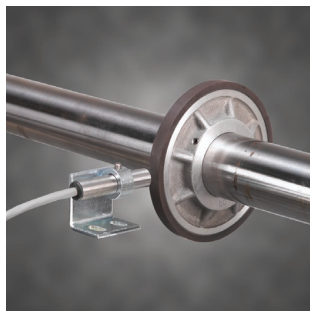
Product Information

Description

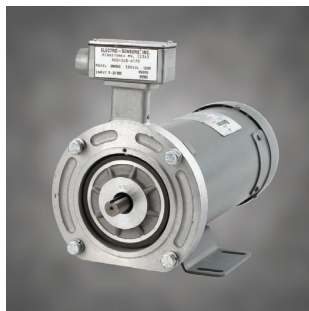
Electro-Sensors' Model 1101 and 931XP Hall Effect Sensors are designed for use with pulse generators that provide magnetic targets, such as Electro-Sensors' Pulser Discs, Split Collar Pulser Wraps, 60-Pole Pair Magnet Wheels, or NEMA C Flange Ring Kits. The 1101 sensor has a non-threaded stainless steel body, is supplied with a mounting bracket, collar and set screw, and is recommended for use with 60-Pole Pair Magnet Wheels or NEMA C Flange Ring Kits. The 931XP Hall Effect Sensor is mounted in a rugged cast aluminum enclosure, which is CSA approved and UL rated for Class I, Groups C and D; Class II, Groups E, F, and G, and Class III environments. The 931XP is also supplied with a mounting bracket and is compatible with Pulser Discs and Split-Collar Pulser Wraps. 1101 and 931XP sensors come with 10 feet of 3-wire shielded cable as standard, and can be mounted up to 1500 feet from the control unit (i.e. speed switch or tachometer).

1101 and 931XP sensors are powered by 6-24 Vdc, and provide an NPN open collector output. Hall Effect sensors switch high and low in the presence of alternating magnetic fields, and generate a square wave (digital) signal with a 50/50 duty cycle when used with Electro-Sensors' pulse generators, which have evenly spaced magnets of alternating polarity. The gap distance between the sensing surface and the pulse generator is dependent on the strength of the target magnets (see the Sensor Compatibility Table on the following page). The signal produced by the 1101 and 931XP sensors is compatible with all Electro-Sensors' products, most PLC digital I/O cards, and other products requiring an NPN type digital pulse input signal. Electro-Sensors' products bring efficiency and safety to your operations by preventing machine damage, product waste, and costly downtime.

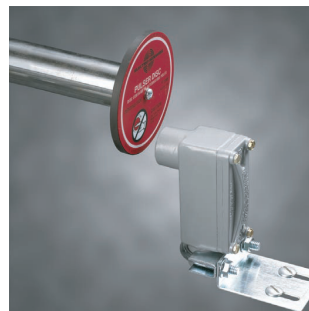
Sensors and Pulse Generators



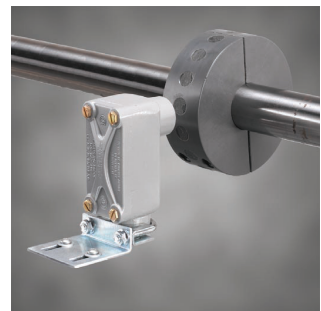
1101 Sensor and 60 PPMW



1101 in NEMA C Flange Ring Kit



931XP Sensor and Pulser Disc



931XP Sensor and Pulser Wrap

Large Gap Sensor Installation

The 1101 sensor is supplied with a mounting bracket, collar and set screw for gap distance adjustment. The 931XP sensor is supplied with a slotted mounting bracket easily adjustable to achieve the proper gap distance. Sensors should be installed allowing the center of the magnets to pass in front of the center of the sensing head during rotation. The gap distance between the sensor and disc or wrap (dimension A in figures 1-4) is dependent on the pulse generator being used (See the *Sensor Compatibility Table*, opposite). When using a standard 4" Pulser Disc, the center of the magnetized area of the disc (dimension B in figures 1 and 3) is 1-3/4" from the center hole of the disc.

Sensor Compatibility Table

| Compatible sensor | Pulse Generators | | | |
|-----------------------|--------------------|-----------------------|-----------------------|--------------------|
| | 60 PPMW | Pulser Wrap | Pulser Disc | Ring Kit |
| Compatible sensor | 1101 | 1101/931 | 1101/931 | 1101 |
| Pulses per revolution | 60 | 1 pulse per 2 magnets | 1 pulse per 2 magnets | 60 |
| Output type | NPN Open Collector | NPN Open Collector | NPN Open Collector | NPN Open Collector |
| Duty cycle | 50/50 | 50/50 | 50/50 | 50/50 |
| Max. gap distance | 0.04" | 0.5" | 0.5" | 0.04" |

Figure 1
1101 Sensor and Disc

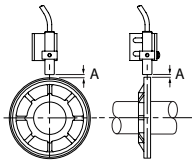


Figure 2
1101 Sensor and Wrap

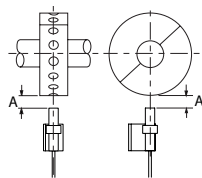


Figure 3
931XP Sensor and Disc

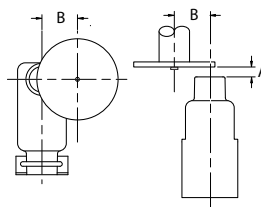
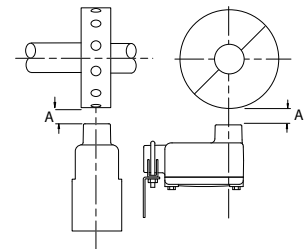
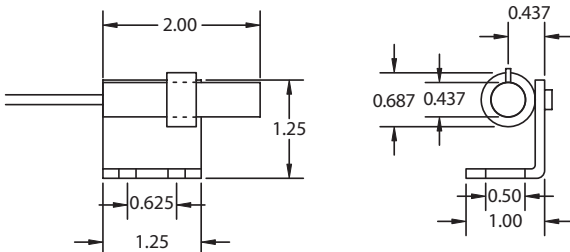


Figure 4
931XP Sensor and Wrap

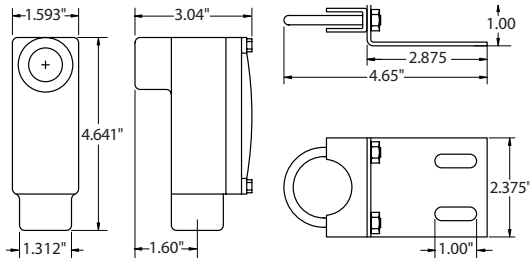


Dimensional Drawings - Hall Effect Sensors 1101 • 931XP

1101 Hall Effect Sensor



931XP Hall Effect Sensor



Specifications - Hall Effect Sensors 1101 • 931XP

Supply 6 – 24 Vdc @ 10 mA
 Output Type NPN Open Collector
 Operating Frequency 0 Hz to 20 KHz
 Current Sink 25 mA maximum
 Operating temperature -40°C to +60°C*
 Gap Distance See *Sensor Compatibility Table*, above
 Distance to input device 1,500 feet maximum
 Cable 3-conductor shielded, 22 AWG

Standard Cable Length 10 feet
 Wiring code Red = Supply
 Clear = Signal
 Black = Common
 Material 1101: Stainless Steel
 931XP: Cast Aluminum Housing CSA approved. Meets UL Class I, Groups C & D; Class II, Groups E, F, & G; Class III.

**Contact factory for higher temperature ranges.
 Specifications subject to change without notice.*