

## Key Features

- Square-wave pulse frequency output, NPN open-collector
- Zero speed operation with no signal loss
- 5-24 VDC powered
- 1/2" NPT conduit port
- Non-contact, large gap distance sensing
- Works with Electro-Sensors magnetic pulser discs / wraps
- **931 XP** – UL Listed Class I, Div I (C, D) Class II, Div I (E, F, G) Class III



## Description

The 931 XP is mounted in a cast aluminum enclosure and is supplied with a mounting bracket and 10 feet of 3-conductor shielded cable. The conduit opening is 1/2 inch NPT.

- Class I, Div I (C, D) Class II, Div I (E, F, G) Class III
- XLB-1 enclosure

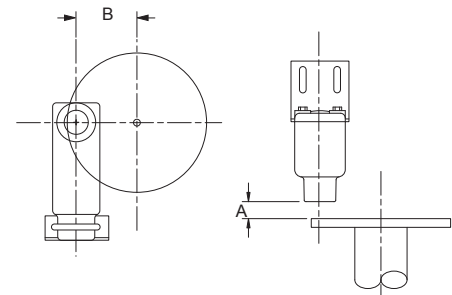
## Principle of Operation

931 XP Hall Effect speed sensors use magnet-sensing Hall Effect IC's to produce a digital pulse signal to interface with speed switches, tachometers, counters, signal conditioners, or PLC's. Hall Effect sensors provide true zero speed operation with square-wave output and immunity to electrical noise.

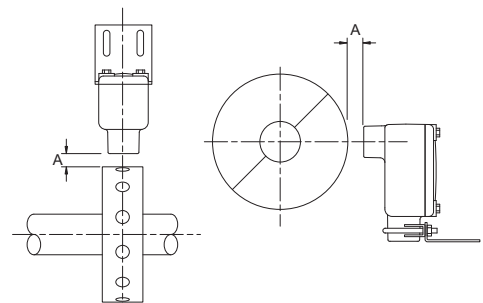
A pulser disc or split collar pulser wrap with embedded magnets is mounted on the monitored shaft. As the shaft rotates, the magnets pass in front of the sensor causing the sensor to switch high and low, thus producing a digital pulse output. The sensors provide a digital square wave signal with a 50% duty cycle when used with pulse generators that have evenly spaced magnets of alternating polarity, such as Electro-Sensors Model 255 Pulser Disc.

## Large Gap Sensor Installation

The 931 XP 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 (A) is 1/4" ± 1/8". When using a standard 4" Pulser Disc, the center of the magnetized area of the disc (B) is 1-3/4" from the center hole of the disc.



931 XP Sensor and Pulser Disc



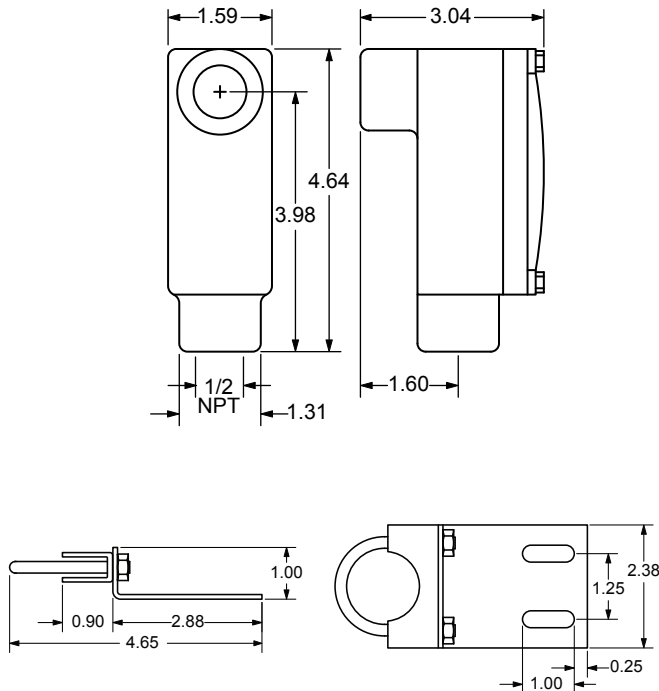
931 XP Sensor and Pulser Wrap

## 931 XP Hall Effect Specifications

Product	
Supply	6-24 VDC @ 10 mA
Output Type	NPN Open Collector
Operating Frequency	0 Hz to 20 KHz
Operating Temperature	-40 °F to +140 °F (-40 °C to +60 °C)
Gap Distance	1/4" ± 1/8"
Distance to Input Device	1,500 feet maximum
Cable	3-conductor shielded, 22 AWG
Standard Cable Length	10 ft
Wiring Code	Red = Supply White = Signal Black = Common
Material	Cast Aluminum Housing CSA approved Meets UL Class I, Groups C, D; Class II, Groups E, F, G; Class III

Specifications subject to change without notice.

## Dimensions



931 XP and Bracket

## Ordering

Model	Part Number
931 XP, 10' PVC Cable – Standard	775-093100
931 XP, 10' Teflon Cable	775-093101
931 XP, 50' PVC Cable	775-093105
931 XP, 100' PVC Cable	775-093110

## 931 XP Hall Effect Standard System

- Shaft Speed Pulse Generator

These are the most popular system components. Many other options are available.

System Options	Part Number
Standard 255 Nylon Pulser Disc, 4" Diameter, 16 Magnets	700-000200
Split Collar Pulser Wrap (PVC, Aluminum, Stainless Steel)	Custom (See Website)

Other Options	Part Number
U-Bolt for 931 XP/933 XP	258-000300
931 XP Bracket Mounting XLB-1	260-000900
931 XP/933 XP Disc Guard	725-005400



931 XP/933 XP Disc Guard

## Customization

If one of our standard products does not meet your specifications, please call one of our applications specialists. Many of our products can be customized to fit specific needs.

## Additional Information

See the 1101 / 931 XP Hall Effect Sensors Installation and Operating Manual for complete details, specifications, and programming instructions.