

Key Features

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



NEMA 4X Housing

Description

Electro-Sensors' model 1102, 932, and 933XP magneto-resistive 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 1102 Magneto-resistive 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 and NEMA C Flange Ring Kits. The 932 sensor has a 3/4" threaded aluminum body, is supplied with a mounting bracket and jam nuts, and is compatible with all Electro-Sensors' pulse generators. The 933XP 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 933XP sensor is also supplied with a mounting bracket and is compatible with Pulser Discs and Split Collar Pulser Wraps. The 1102, 932 and 933XP magneto-resistive sensors all come with 10 feet of 3-wire shielded cable as standard and can be mounted up to 1,500 feet from the control unit (i.e. speed switch or tachometer).

The 1102, 932, and 933XP sensors are powered by 8-24 Vdc, and provide an NPN open collector output. Magneto-resistive sensors switch low when the sensing surface is in the presence of a magnetic field and high when it is not (i.e. the null spaces between the magnets). This generates a square wave (digital) signal with a 50/50 duty cycle when used with Electro-Sensors' pulse generators. 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 for gap distances). The signal produced by the 1102, 932, and 933XP 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. These sensors are also frequently used with single target magnets in counting, function start/stop, or orientation alignment of mechanical and electronic indexing equipment applications. Electro-Sensors' products bring efficiency and safety to your operations by preventing machine damage, product waste, and costly downtime.



1102 Sensor and 60 PPMW



1102 Sensor in NEMA C Ring Kit



932 Sensor and Pulser Disc



933XP Sensor and Pulser Wrap

Large Gap Sensor Installation

The 1102 sensor is supplied with a mounting bracket, collar and set screw for gap distance adjustment. The 932 sensor is supplied with a mounting bracket and two jam nuts, and is easily adjustable to achieve the proper gap distance. The 933XP sensor is supplied with a slotted mounting bracket, also easily adjustable. 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 1-6) is dependent on the pulse generator being used and should be verified from 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, 3, & 5) is 1-3/4" from the center hole of the disc.

Sensor Compatibility

	60 PPMW	Pulser Wrap	Pulser Disc	Ring Kit
Compatible Sensor	1102/932	1102/932/933XP	1102/932/933XP	1102
Pulses Per Revolution	120	1 Pulse Per Magnet	1 Pulse Per Magnet	120
Output Type	NPN Open Collector	NPN Open Collector	NPN Open Collector	NPN Open Collector
Duty Cycle	Dependent on magnet spacing, sensor rotation, and gap distance			~50/50
Max. Gap Distance	0.03"	0.5"	0.5"	0.03"

Figure 1
1102 Sensor and 60 PPMW

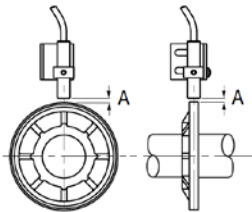


Figure 3
932 Sensor and Disc

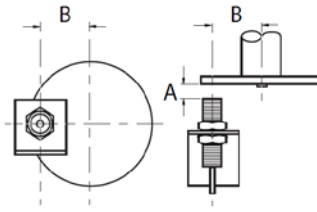


Figure 5
932 Sensor and Disc

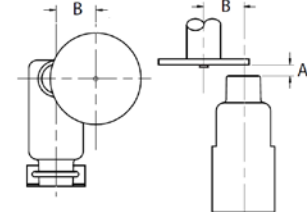


Figure 2
1102 Sensor and Wrap

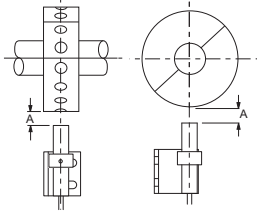


Figure 4
932 Sensor and Wrap

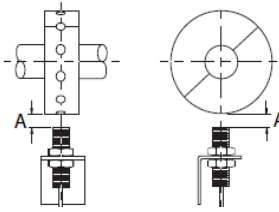
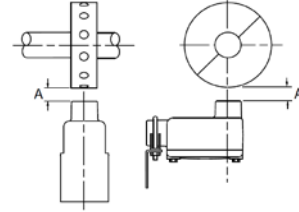
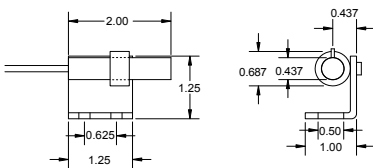


Figure 6
933XP Sensor and Wrap

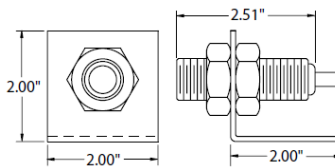


Dimensional Drawings - Magneto-resistive Sensors 1102 • 932 • 933 XP

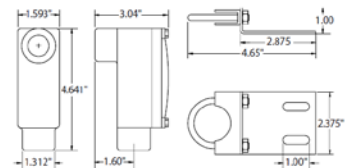
Model 1102 Sensor



Model 932 Sensor



Model 933 XP Sensor



Product Specifications

Product	
Supply	8-24 Vdc @ 10 mA
Output Type	NPN Open Collector
Operating Frequency	0 Hz to 20 KHz
Current Sink	20 mA Maximum
Operating Temperature	-20°C to +60°C*
Gap Distance	See Sensor Compatibility Table
Distance to input device	1,500 feet maximum
Cable	3-conductor shielded, 22 AWG
Standard Cable Length	10 Feet

Specifications subject to change without notice.

Housings	
933 XP	Cast Aluminum Housing CSA approved. Meets UL Class I, Groups C & D; Class II, Groups E, F, & G; Class III
1102	Stainless Steel
932	Aluminum, 3/4"-16 UNF threads
Wiring Code	
Red	Supply
White	Signal
Black	Common

Ordering

Model	Part Number
1102 SS 10' PVC Cable	775-110201
932 AL 10' PVC Cable	775-093200
933 XP 10' PVC Cable	775-093300