ELECTRO-SENSORS

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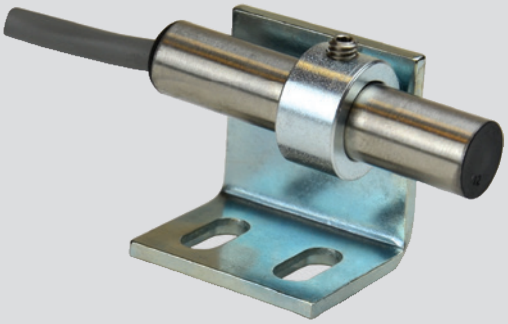
1101 Hall Effect
Shaft Speed Sensors

Key Features

- Square-wave pulse frequency output, NPN open-collector
- Zero speed operation with no signal loss
- 5-24 VDC powered
- Non-contact, large gap distance sensing
- Works with Electro-Sensors magnetic pulser discs / wraps



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Description

The 1101 sensor has a non-threaded stainless steel body, is supplied with a mounting bracket and standard 10 feet of 3-conductor shielded cable. It is commonly used with pulser discs or 60 pulse/revolution magnet wheels.

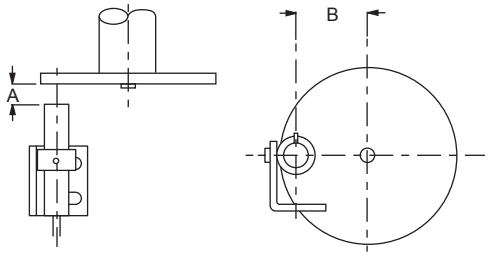
Principle of Operation

1101 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.

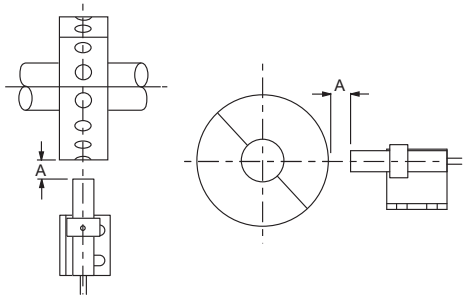
A pulser disc or split collar pulser wrap with embedded magnets is mounted on the monitored shaft. As the shaft rotates, the magnets pass in front of the sensor causing the sensor to switch high and low, thus producing a digital pulse output. The sensors provide a digital square wave signal with a 50/50 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 1101 sensor is supplied with a mounting bracket, collar, and set screw for gap distance adjustment. 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 dependent on the pulse generator being used (See Sensor Compatibility Chart). 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.



1101 Sensor and Pulser Disc



1101 Sensor and Pulser Wrap

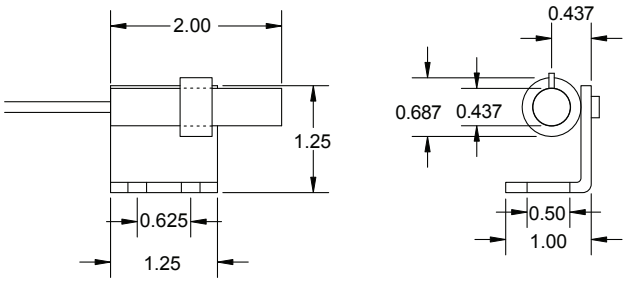
1101 Hall Effect
Shaft Speed Sensors

1101 Hall Effect Specifications

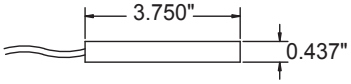
Product	
Supply	6-24 VDC @ 10 mA
Output Type	NPN Open Collector
Operating Frequency	0 Hz to 20 KHz
Operating Temperature	-40 °F to +140 °F (-40 °C to +60 °C)
Gap Distance	See Sensor Compatibility Chart
Distance to Input Device	1,500 feet maximum
Cable	3-conductor shielded, 22 AWG
Standard Cable Length	10 ft
Wiring Code	Red = Supply Clear = Signal Black = Common
Material	Stainless Steel

Specifications subject to change without notice.

Dimensions



1101 with Bracket



1101RK without Bracket

Sensor Compatibility Chart

	Pulse Generators			
	60 PPMW (Magnet Wheel)	Pulser Wrap	Pulser Disc	Ring Kit
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	0.04"	0.5"	0.5"	0.04"
Recommended Gap	0.02"	1/4 ± 1/16	1/4 ± 1/16	0.02"

Ordering

Model	Part Number
1101, 18-36 V, Hi Temp, 10' PVC Cable, w/ Bracket	775-110001
1101RK, 3.75", 10' PVC Cable, w/o Bracket (Used on Ring Kits)	775-110003
1101, 2.0", 10' PVC Cable, w/o Bracket	775-110100
1101, 2.0", 10' PVC Cable, w/ Bracket	775-110101
1101, 2.0", 50' PVC Cable, w/o Bracket	775-110105
1101, 2.0", 50' PVC Cable, w/ Bracket	775-110106
1101, 2.0", 100' PVC Cable, w/o Bracket	775-110110
1101, 2.0",100' PVC Cable, w/Bracket	775-110111
1101, 2.0", 10' Teflon Cable w/o Bracket	775-110114
1101, 2.0", 10' Teflon Cable w/ Bracket	775-110121

1101 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
1100 Sensor Series Mounting Bracket	725-004000

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.