

DUAL SPEED SENSOR

SD501201

Circuit protected, Hall-effect dual speed sensor



Description

The SD501201 is a dual output Hall effect sensor designed to detect the rising and falling edges of a ferrous gear or tone wheel. The hall sensors detect the speed of the gear tooth and shall provide one square wave pulse for each tooth. The direction of rotation is indicated by which channel leads the other.

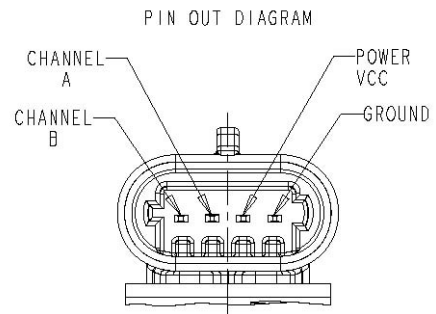
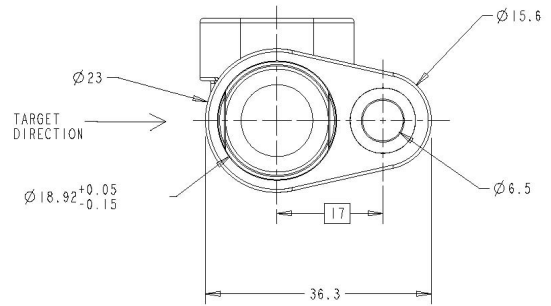
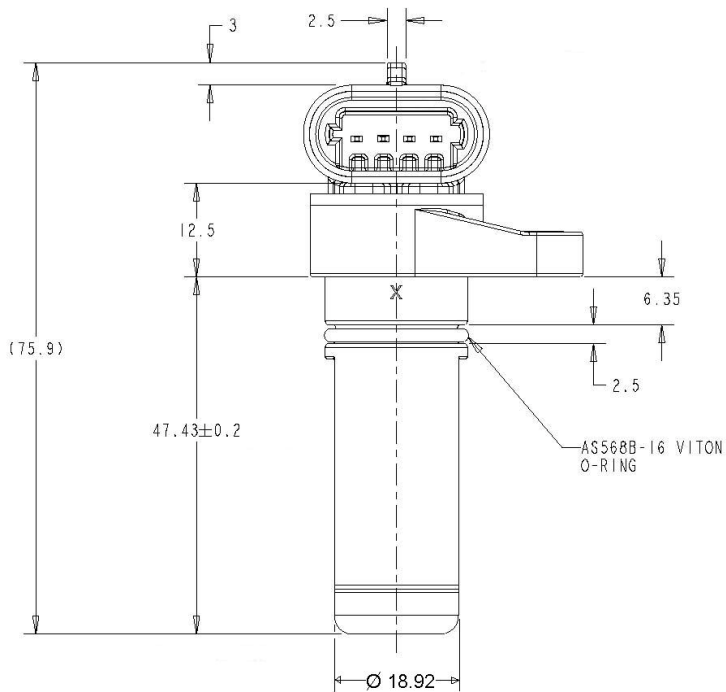
Features and Benefits

- Orientation sensitive
- Mates with Delphi #12162833
- Operating temperature range -40°C to +125°C
- Near zero speed sensing capability

Applications

- Transmission speed
- Industrial feedback control

Dimensions mm



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Mechanical Specifications

Airgap	0—2 mm when run against the ZF standard gear
Maximum Installation Torque	50 in-lbs for a ¼ - 20 bolt or M6 x 1

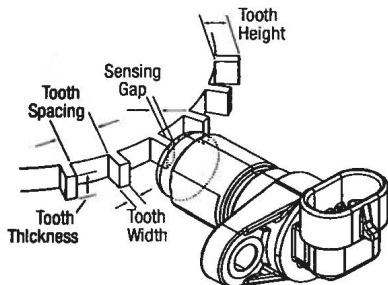
Electrical Specifications

Operating Voltage Range	5 - 24 VDC
Supply Current	6 mA max
Output Saturation Voltage	600 mV max
Output Current	25 mA max
Operating Temperature	-40° to +125°C
Storage Temperature Range	-40° to +125°C
Output Rise time	10µS
Output Fall time	10µS
Operating Frequency	10kHz

Water Immersion	IEC 60529 Section 14.2.7 (Submersed for 30 min below 1 meter of water)
Random Vibration	MIL-STD-20F Method 214, Test Condition IC
Mechanical Shock	18 shocks at 50g's for 11ms duration per Mil Std 202F Method 213 Condition A

Recommended external pull-up resistor:

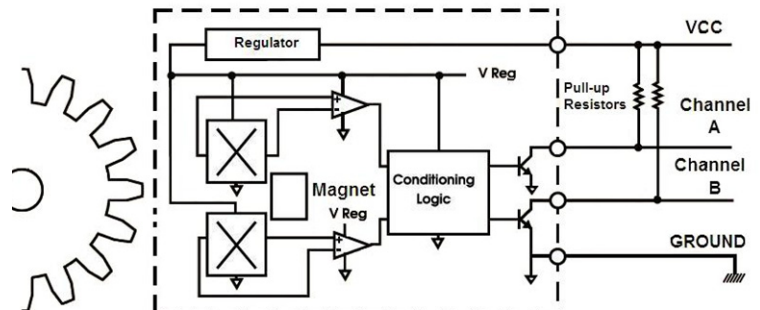
Volts DC	5	9	12	15	24
Ohms	1k	1.8k	2.4k	3k	3k



For best results, we recommend targets made from low carbon cold rolled steel. Other factors that influence sensor performance include gear tooth height and width, space between teeth, shape of the teeth and thickness of the target. As a general guideline, consider a target with the following minimum parameters:

Tooth Height	Tooth Width	Distance Between Teeth	Target Thickness
.200"	.100"	.400"	.250"

Open Collector Sinking Block Diagram



Contact

Call, fax or visit our website
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Specifications subject to change without notice.

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