PRODUCT DESCRIPTION

SPECTEC’s gear actuated Zero Speed/Position Sensors are designed to switch in the presence of ferrous targets such as gear teeth and blade tips etc. Gear teeth as small as module 0.5 or 48 DP can be sensed.

The standard output is NPN Supply Tracking 0-Vs, provided from a 3k Ohm internal pull-up resistor to a collector, which can sink 25 mA. The output is normally high with no target present. Other output signal options are available; please see Page 2 for details.

SPECIFICATIONS

Vs, Supply Voltage: 4.0 to 30 VDC at ≤ 18 mA
No Reverse Polarity Protection

Vo, Signal Out: Output signal is typically ‘Normally High’, except for PNP output which is ‘Normally Low’

Operating Freq.: 0 to ~20 kHz

Air Gap: 24 DP / Module 1: .040” (1.0mm)
12 DP / Module 2: .060” (1.5mm)
5 DP / Module 5: .120” (3.0mm)

Magnetization: Standard: ~1500 Gauss
Low Mag: ~500 Gauss

Rise/Fall Time: 0.10 µs to 2 µs
*Dependent on Configuration

Temperature Range: 2TE: -40° to 221°F (-40° to 105°C)
*May be reduced based on configuration
3TE: -40° to 300°F (-40° to 150°C)
*May be reduced based on configuration

Transmit Distance: 1500’ (~500m) max.

Construction: 300 Series Stainless Steel Housing
Solid Encapsulation

Connectors & Pin Assignments: See Page 2
All have gold plated contacts

Lead Wire Assignments:
2TE: PVC 26-28 AWG (105°C)
3TE: TFE 26-28 AWG (150°C)
Red: Supply (+)
Black: Common (-)
White/Green: Signal Out
Bare: Cable Shielding

CE-Compliance: EN55011, EN50082-2

OPTIONS

Custom configurations, thread sizes (including metric), special materials of construction, special output circuits (including short circuit protection), and temperature probes (NTC10, RTD100, or others positioned near the face of the sensor) are also available.
### ORDER INFORMATION

<table>
<thead>
<tr>
<th>Style</th>
<th>Options</th>
<th>Threads/Dia.</th>
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<tbody>
<tr>
<td>0165K</td>
<td>0</td>
<td>1/4-40 UNS</td>
</tr>
<tr>
<td>0165KB</td>
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<td>1/4-28 UNF</td>
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<td>0165KM</td>
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<td>M6x0.75</td>
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<td>1/4-40 UNS</td>
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<td>0165HB</td>
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<td>M6x0.75</td>
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<tr>
<td>0165AM8</td>
<td>0</td>
<td>M8x1.0</td>
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<tr>
<td>0165S</td>
<td>0</td>
<td>1/4&quot; Smooth</td>
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<tr>
<td>0165S8</td>
<td>0</td>
<td>5/16&quot; Smooth</td>
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#### Thread

<table>
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<tr>
<th>Length(A):</th>
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</thead>
<tbody>
<tr>
<td>0 - .75&quot; (19mm)</td>
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<tr>
<td>1 - 1.0&quot; (25mm)</td>
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<tr>
<td>2 - 1.5&quot; (38mm)</td>
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<tr>
<td>3 - 2.0&quot; (50mm)</td>
</tr>
<tr>
<td>4 - 3.0&quot; (75mm)</td>
</tr>
</tbody>
</table>

#### Temperature Range:
- 0 - 2TE: -40° to 221°F (-40° to 105°C)
- 5 - 3TE: -40° to 302°F (-40° to 150°C)

#### Vo, Signal Out:
- 1 - 0-Vs, NPN w/internal 3k Ohms pull-up [Normally High]
- 2 - 0-Vs, NPN OC (Open Collector) [Normally High]
- 3 - 0-Vs, PNP OC [Normally Low]
- 5 - 0-5V, NPN (TTL) [Normally High]

#### Sensor Type:
- 3 - Standard Mag (~+1500 Gauss)

#### Lead Wire(X):
- 2 - 2' (0.6m) Single Leads (Shield NOT connect to sensors shell, slot)
- 7 - 3' (1.0m) Shielded Cable (shield is intended to be connect to)
- 9 - 10’ (3.0m) Shielded Cable (instrument panel ground.)

#### Connector:
- 1 - MS3: 3 Pin MS3102-10SL-3P (see Bulletin 3000)
- 2 - MC3: 3 Pin MICRO C (see Bulletin 3004)
- 3 - MS3B: 3 Pin MS3102-10SL-3P (see Bulletin 3000)
- 4 - B4: 4 Pin BAYONET/MS3113-H8A4P (see Bulletin 3005)
- 6 - MD4: 4 Pin MICRO DIN (see Bulletin 3005)

**Note:** The magnetization level for special or low mag sensors is designated as a suffix to the P/N, ie: 0165-11111-500G Designating a gauss level of 500±50.

(Standard mag. level will NOT have a suffix)

A Normally Low output signal is available for the NPN output signal option (TTL, Supply Tracking and Open Collector) by adding ‘-NL’ to the end of the part number.

Similarly, a Normally High output signal is available for the PNP output signal option by adding ‘-NH’ to the end of the part number.

Above illustrations are shown with shielded cable.