

## PRODUCT DESCRIPTION

SPECTEC's Proximity/Zero Speed position sensors are designed to switch in the presence of a low magnetic field. Bi-polar (north and south polar activation) is standard. Uni-polar and Omni-polar activation is also available for higher pulse resolution. Various output options are available and provided to suit all interface requirements.

For intrinsically safe versions refer to bulletins: IS160 IS161.

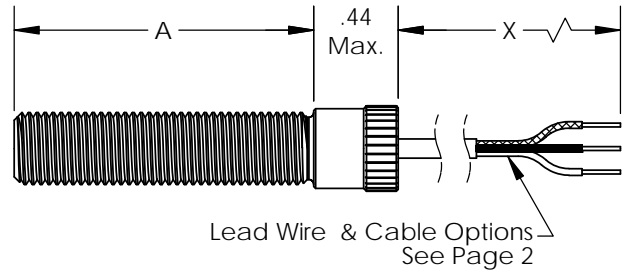
## SPECIFICATIONS

<b>Vs, Supply Voltage</b>	4.0 to 30 VDC at $\leq 18$ mA Reverse Polarity Protected
<b>Vo, Signal Out:</b>	Output signal is typically 'Normally High' except for PNP output which is 'Normally Low'
<b>Operating Freq.:</b>	Standard: 0 to ~20 kHz (for precision position applications) High Speed: 0 to ~100 kHz (for high speed only)
<b>Air Gap:</b>	$\leq .160$ " Typically $\leq 1$ " using extra strong 5K Gauss mags
<b>Rise/Fall Time:</b>	0.10 $\mu$ s to 2 $\mu$ s <small>*Dependent on configuration</small>
<b>Temperature Range:</b>	2TE: -40° to 221°F (-40° to 105°C) <small>*May be reduced based on configuration</small> 3TE: -40° to 300°F (-40° to 150°C) <small>*May be reduced based on configuration</small>
<b>Construction:</b>	300 Series S.S. Housing & Face Solid Epoxy Encapsulation
<b>Connectors &amp; Pin Assignments:</b>	See Page 2 All have Gold Plated Pin Contacts
<b>Lead Wires &amp; Assignments:</b>	2TE: PVC 22-24 AWG (105°C) 3TE: TFE 22 AWG (150°C) Red: Supply (+) Black: Common (-) White/Green: Signal Bare: Cable Shielding
<b>CE-Compliance:</b>	EN55011, EN50082-2

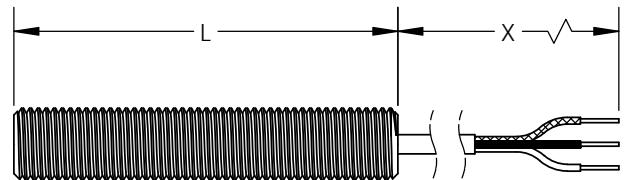
## OPTIONS

Custom configurations, special materials of construction, temperature probes (NTC10, RTD100, or others) are also available positioned near the face or the sensor.

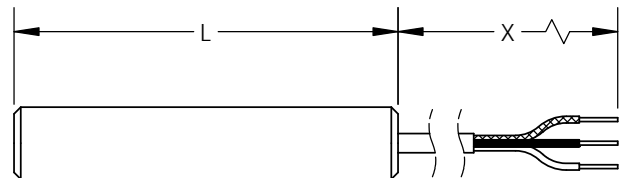
0156K 3/8-24 UNF



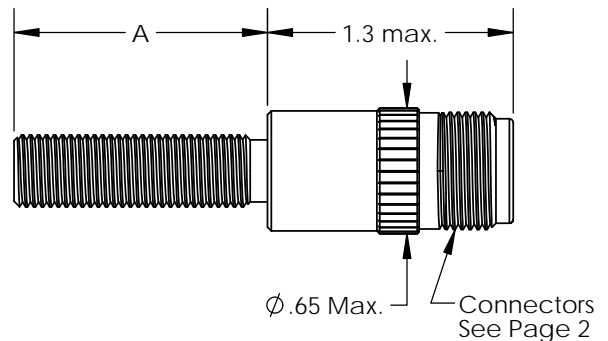
0156A 3/8-24 UNF  
 0156M M10 x 1.25  
 0156M1 M10 x 1



0156S  $\varnothing 3/8$ " (9.5 mm) Smooth Shell

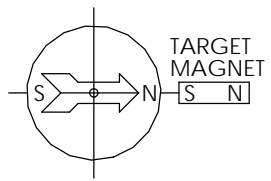
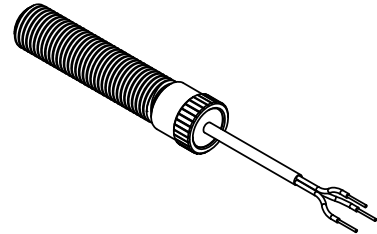


0156 3/8-24 UNF  
 0156MK M10 x 1.25



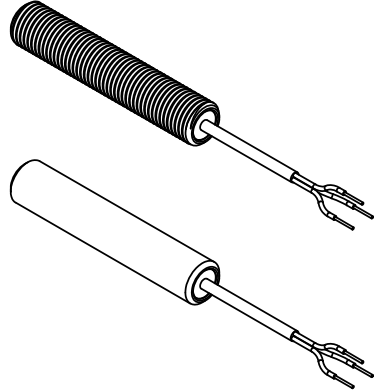
# ORDER INFORMATION

<b>STYLE:</b>	<b>OPTIONS:</b>	<b>THREADS/DIA.:</b>
0156K	- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3/8-24 UNF
<b>Thread Length(A):</b>		1 - 0.8" (20mm) 2 - 2.0" (51mm) 3 - 2.5" (63mm) 4 - 3.0" (76mm) 6 - 4.0" (102mm)
<b>Temperature Range:</b>		1 - 2TE: -40° to +220°F (-40° to +105°C) 6 - 3TE: -40° to +300°F (-40° to +150°C)
<b>Vo, Signal Out:</b>		1 - 0 - Vs, NPN w/internal 3.1k 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]
<b>Sensor Type*:</b>		1 - Hs, Uni-Polar (South Pole Activated) 2 - H, Bi-Polar 3 - Hn, Uni-Polar (North Pole Activated) 4 - Ho, Omni-Polar Type 7 - Hcs, Uni-Polar High Speed Type (South Pole Activated) 8 - Hc, Bi-Polar Latch High Speed Type 9 - Hco, Omni-Polar High Speed Type
<b>Lead Wire(X):</b>		1 - 1' (.3m) Single Leads (Shield is not connected to sensors shell; 7 - 3' (1m) Shielded Cable shield is intended to be connected to 9 - 10' (3m) Shielded Cable instrument panel ground.)

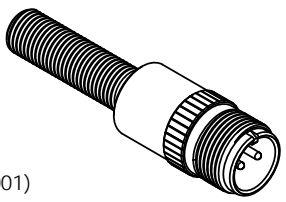


\* A South pole activated sensor is triggered by the south pole of a magnet. Using your compass as a reference, the needle pointer will point to the south pole of the magnet.

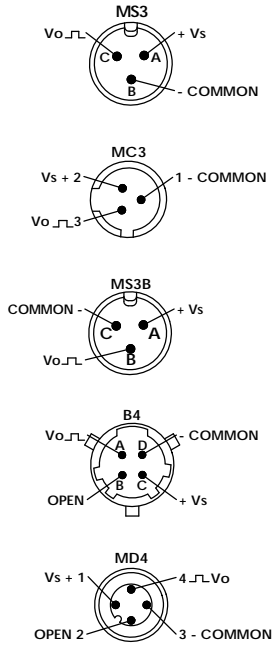
0156A	- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3/8-24 UNF
0156M	- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	M10 x 1.25
0156M1	- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	M10 x 1.0
0156S	- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Ø3/8" (10mm) Smooth Shell
<b>Length(L):</b>		2 - 1.0" (25mm) 3 - 1.25" (32mm) 4 - 1.5" (38mm) 5 - 2.0" (51mm) 6 - 2.5" (63mm) 7 - 3.0" (78mm) 8 - 4.0" (106mm) 9 - 5.0" (135mm) A - 6.0" (152mm)
	SAME AS ABOVE	



0156	- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3/8-24 UNF
0156MK	- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	M10 x 1.25
<b>Thread Length(A):</b>		1 - 1.3" (33mm) 2 - 2.0" (51mm) 3 - 3.0" (76mm)
	SAME AS ABOVE	
<b>Connector:</b>		1 - MS3: 3 Pin MS3106-10SL-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 3001) 6 - MD4: 4 Pin Micro DIN (see Bulletin 3005)



### Connector Pinout



**Note:** 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.