

### PRODUCT DESCRIPTION

SPECTEC's Intrinsically Safe zero speed sensors are designed for installation in hazardous locations. They are offered in a wide variety of configurations as outlined on page 2. These sensors are actuated by a magnet. Activation options include one pole (unipolar) or either pole (omnipolar). A latching bipolar option is also available (requires alternating poles). Variations with dual sensors or directional output are also available. Versions with ATEX & IECEx certification are available under part numbers IS160A & IS161A. Custom sensors can also be created to meet specific needs.

### INSTALLATION

**CAUTION: This sensor MUST be installed with an FM approved barrier and following the details specified in the Installation Instruction Document #85047.**

### SPECIFICATIONS

<b>Supply Voltage:</b>	5 to 30 Vdc @ ≤15 mA
<b>Output Voltage:</b>	See page 2 (25 mA maximum current sinking)
<b>Frequency Range:</b>	Standard 0 Hz to ~20 kHz for precision position applications High Speed 0 to 100 kHz for high speed only
<b>Rise/Fall Time:</b>	.04 / .18 μs Nominal
<b>Air Gap:</b>	5DP: ≤ .160" 48DP: ≤ .025"
<b>Direction signal: (as applicable)</b>	Forward - Logic 1, High (e.g. 5V) (target rotating toward alignment mark) Reverse - Logic 0, Low (e.g. 0.06V max) (target rotating away from alignment mark)
<b>Connection:</b>	Connector or lead wires. See page 2
<b>Construction:</b>	300 Series Stainless Steel Solid Epoxy Encapsulation

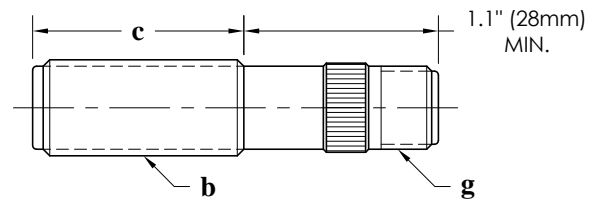
### CERTIFICATIONS for IS160 & IS161

<b>USA:</b>	<b>Intrinsically Safe</b> Class I, II, III, Division 1 GROUP ABCDEFG T6...T5 Class I, Zone 0, AEx ia IIC T6...T5
<b>Canada:</b>	<b>Intrinsically Safe</b> Class I, Division 1 GROUP ABCD T6...T5 Class I, Zone 0, Ex ia IIC T6...T5 T5 @ -40°C ≤ T <sub>amb</sub> ≤ +85°C T6 @ -40°C ≤ T <sub>amb</sub> ≤ +65°C

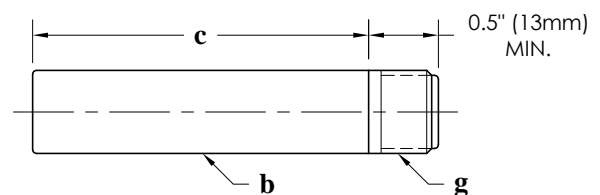
### CERTIFICATIONS for IS160A & IS161A

<b>ATEX:</b>	II 1 G Ex ia IIC T6...T4 Ga FM08ATEX0066X
<b>IECEx:</b>	Ex ia IIC T6...T4 Ga IECEx FMG 16.0003X T4 @ -40°C ≤ T <sub>amb</sub> ≤ +100°C T5 @ -40°C ≤ T <sub>amb</sub> ≤ +85°C T6 @ -40°C ≤ T <sub>amb</sub> ≤ +65°C
<b>CE:</b>	<b>Compliance with</b> EN55011, EN50082-2

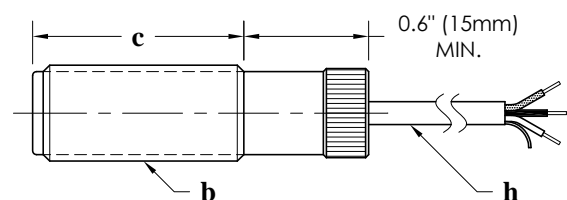
**IS160** K shell type, knurled (shown below)  
 A shell type, all-thread (knurl removed)  
 H shell type, hex (knurl replaced by hex)



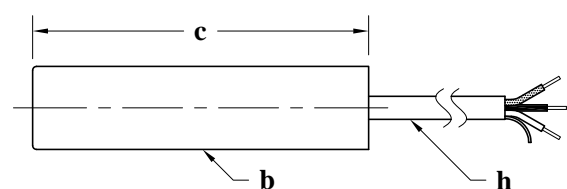
**IS160** S shell type, smooth (custom units available)



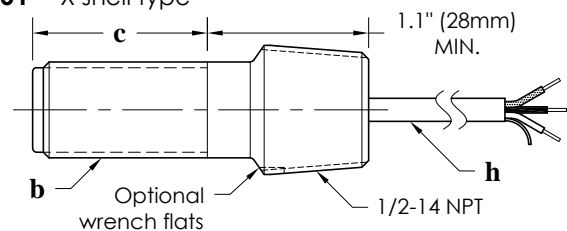
**IS161** K shell type, knurled (shown below)  
 A shell type, all-thread (knurl removed)  
 H shell type, hex (knurl replaced by hex)



**IS161** S shell type, smooth (custom units available)



**IS161** X shell type



**IS161** Y shell type

