

### PRODUCT DESCRIPTION

SPECTEC's Explosion Proof / Flame Proof sensors are designed for installation in hazardous locations. They are offered in a wide variety of configurations as outlined on page 2. Custom sensors can also be created to meet specific needs.

### INSTALLATION

**CAUTION!!!** This sensor **MUST** be installed following the details specified in the Instruction Manual Document #85047Xcg.

### GENERAL SPECIFICATIONS

**Construction:** 300 Series Stainless Steel  
 Solid Epoxy Encapsulation

**Lead Wires or Cable:** 22 to 24 AWG  
 PVC insulated Shielded Cable, See Page 2

**Output Voltage:** See Page 2 (25 mA maximum current sinking)

**DIGISPEC HALL SENSORS, H Magnet & HF Gear actuated**  
**Supply Voltage(Vs):** 5 to 27 Vdc @ ≤15 mA (Single output)  
 5 to 27 Vdc @ ≤30 mA (Dual output)  
 5 to 27 Vdc @ ≤45 mA (Directional output)  
 (approx. 15mA per output channel)

**Frequency Range:** 0 Hz to ~20 kHz

**Air Gap:** **H:** ~.50" (12mm) max when triggered by  
 ø10mm, 3000 Gauss magnet  
**HF:** ~.16" (4mm) max for 5dp gear  
 ~.015" (0.4mm) max for 48dp gear  
 (with max magnetization of ~1500 Gauss)

**Directional** **5V** (or 10V, Vs depending on Output Signal)  
**K or Q Sensor type:** (Target moving toward alignment mark)  
**0V** (0.06V max)  
 (target moving away from alignment mark)

**DIGISPEC MAGNETIC VRS SENSORS, Gear actuated**  
**Supply Voltage(Vs):** 8 to 30 Vdc @ ≤15 mA

**Frequency Range:** ~5 Hz to 40 kHz

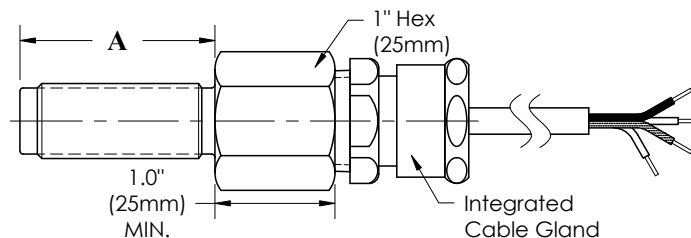
**Air Gap:** ~0.10" (2.5mm) max for 5dp gear  
 ~0.015" (0.4mm) max for 48dp gear  
 (based on magnetization of >1300 Gauss)

**DIGISPEC RF SENSORS, Ferrous or Aluminum target actuated**  
**Supply Voltage(Vs):** 11 to 30 Vdc @ ≤20 mA

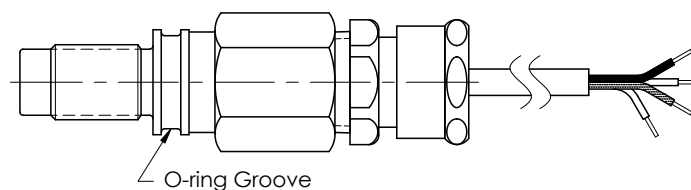
**Frequency Range:** 0.1 Hz to 5 kHz Depending on target mass

**Air Gap:** ~0.20" (5mm) max Depending on target mass

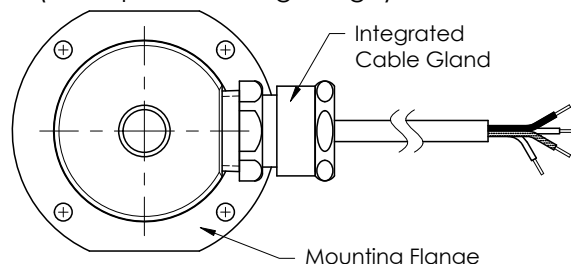
### Y shell type



### CUSTOM shell type per customer requirements (example shell type with o-ring groove)



### (example mounting flange)



### CERTIFICATIONS for XP2cg

**ATEX, UKEX, & IECEx:** II 2 G Ex db IIC T6...T4 Gb  
 FM16ATEX0086X & FM22UKEX0112X  
 IECEx FMG 16.0035X



T4 @ -40°C ≤ T<sub>amb</sub> ≤ +90°C  
 T5 @ -40°C ≤ T<sub>amb</sub> ≤ +77°C  
 T6 @ -40°C ≤ T<sub>amb</sub> ≤ +62°C



**Compliance with**  
 EN55011, EN50082-2

# FEATURE SELECTION for XP2cg-abdefg

SPECTEC P/N	a Sensor Type	b Shell Type (See Page 1)	d Mounting Thread	e Mounting Thread Length	f Output Signal	g Lead Wires
<b>XP2cg-</b> Active Sensor, Cable Gland Style	<b>M</b> - <i>Digispec</i> Magnetic VRS (30mV Sensitivity is standard)	<b>Y</b>	<b>1</b> - 1/2-20 UNF <b>2</b> - 5/8-18 UNF <b>3</b> - 11/16-24 UNEF <b>4</b> - 3/4-16 UNF <b>5</b> - 3/4-20 UNEF <b>6</b> - M12x1 <b>7</b> - M16x1.5 <b>8</b> - M18x1 <b>9</b> - M18x1.5	<b>1</b> - 1.1" (28mm) <b>3</b> - 2.0" (51mm) — <b>5</b> - 3.0" (76mm) <b>6</b> - 4.0" (101mm) <b>7</b> - 6.0" (152mm) <b>8</b> - 8.0" (203mm) <b>9</b> - 10.0" (254mm)	<b>1</b> - 0-5V, NPN(TTL) <b>2</b> - 0-10V, NPN <b>3</b> - 0-Vs, NPN <b>4</b> - 0-Vs, NPN OC <b>5</b> - 0-Vs, PNP OC <b>6</b> - 0-Vs, NPN/PNP <b>7</b> - 0-5V, NPN/PNP	<b>1</b> - 12" / 1' (0.3m) <b>2</b> - 36" / 3' (1m) <b>3</b> - 120" / 10' (3m) <b>4</b> - 198" / 16' (5m) <b>5</b> - 396" / 33' (10m) <b>6</b> - 600" / 50' (15m) <b>7</b> - 792" / 66' (20m)
	<b>R</b> - <i>Digispec</i> RF					
	<i>Digispec</i> Hall Sensor <b>H</b> Style (Magnet Actuated) (Omnipolar activation [either pole] is standard)					
	<b>H</b> - Single output					
	<b>J</b> - Dual output					
	<b>K</b> - Directional output					
	<i>Digispec</i> Hall Sensor <b>HF</b> Style (Gear Actuated)					
	<b>F</b> - Single output					
	<b>D</b> - Dual output					
	<b>Q</b> - Directional output					
				NOTE: Thread lengths of 3.0" and longer are made as a welded assembly. (Internally called Y-ASY)	NOTES: Option 5 is not available for Sensor Type M or R  Options 5, 6 & 7 are not available for Sensor Type K or Q  Options 5, 6 & 7 are not available in some small mounting threads and/or short thread lengths  Please contact sales with any questions	22 to 24 AWG Shielded Cable (depending on shell size and sensor type)  Polyvinyl chloride (PVC) insulation  Red - Supply Black - Common White - Output A Green or Green/Yellow - Shell Ground Orange - Output B Blue - Direction White w/Black - Unused (connect to Earth)  Shield is not connected to shell, please ground to instrumentation.

**Variants:** (Contact sales for additional details)

**XP2cg-abdefg-300G** The magnetization level (in Gauss) for low magnetic drag sensors is designated as a suffix to the part number. The standard magnetic level does not require a suffix. (Only for *Digispec* Magnetic VRS sensor and Hall Sensor HF Style [Gear])

**XP2cg-Fbdefg-HFd** A differential style Hall sensor option for use in high vibration environments is designated by suffix to the part number. Frequency Range is 15 Hz to ~30kHz. Dual and Direction output options are also available. (Only for *Digispec* Hall Sensor HF Style [Gear])

**XP2cg-Hbdefg-S** or **-N** or **-L** Alternatives to the polar activation type for Magnet Actuated Hall Effect Sensor is designated as a suffix to the part number. (S = South pole, N = North pole, L = Latch [requires North-South alternating]) (Only for *Digispec* Hall Sensor H Style [Magnet])

## P/N Examples:

**XP2cg-MY2313** *Digispec* Magnetic VRS Sensor, Y shell type, 5/8-18 x 2.0" thread, 0-5V NPN, 120" cable

**XP2cg-DY8645** Dual Gear Actuated HF Hall Sensor, Y shell type, M18x1 - 101mm thread, 0-Vs NPN OC, 10m cable

**Please Note:** Some combinations of options are not possible, please contact sales with any questions.

**Customizations:** Some minor customizations to the above Shell Types are possible (e.g. O-ring groove, long thread relief, etc.). Customer specific housing designs and mounting flanges are also possible. However, these customizations are still required to conform to all appropriate standards and meet the requirements of the design approval. Contact sales for suitability. Details on custom models are listed below.

## SPECIALTY & CUSTOM MODELS:

XP2cg-MF-1	H - Single Output	CUSTOM	Customer specific	0-Vs NPN, OC	120" (3m) Cable
XP2cg-MF-2	H - Single Output	CUSTOM	Customer specific	0-Vs NPN, OC	120" (3m) Cable
XP2cg-MF-2-5m					198" (5m) Cable
XP2cg-TITAN	H - Single Output	CUSTOM	Customer specific	0-Vs NPN	120" (3m) Cable
XP2cg-TITAN-5m					198" (5m) Cable
XP2cg-TITAN2	J - Dual Output				120" (3m) Cable
XP2cg-TITAN2-5m					198" (5m) Cable
XP2cg-TITAN-W	J - Dual Output				120" (3m) Cable
XP2cg-TITAN-W-5m					198" (5m) Cable

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