

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 #85047X.

GENERAL SPECIFICATIONS

Construction: 300 Series Stainless Steel
 Solid Epoxy Encapsulation

Lead Wires or Cable: 22 to 24 AWG
 TFE or FEP insulated Single Leads or 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)

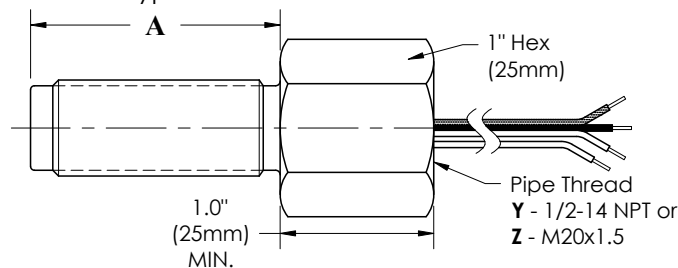
DIGISPEC RF SENSORS, Ferrous or Aluminum target actuated

Supply Voltage(Vs): 11 to 30 Vdc @ ≤20 mA

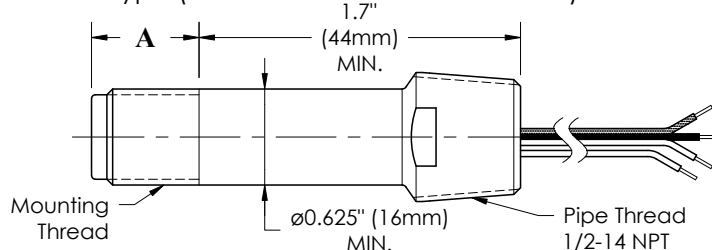
Frequency Range: 0.1 Hz to 5 kHz Depending on target mass

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

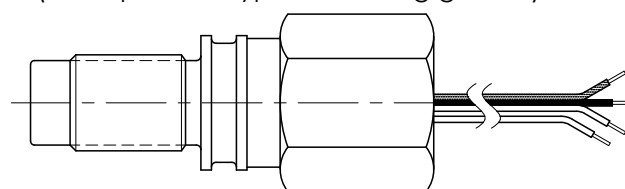
Y and Z shell type



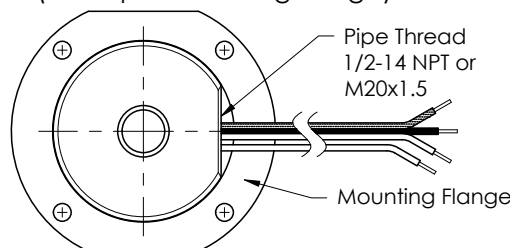
X shell type (Not for Canadian installations)



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



(example mounting flange)



CERTIFICATIONS for XP2

USA & Canada:

Class I, Division 1
GROUP ABCD T6...T3
Class I, Zone 1, AEx/Ex db IIC T6...T3 Gb
FM16US0288X & FM16CA0147X
T3 @ -50°C ≤ T_{amb} ≤ +140°C
T4 @ -50°C ≤ T_{amb} ≤ +112°C
T5 @ -50°C ≤ T_{amb} ≤ +77°C
T6 @ -50°C ≤ T_{amb} ≤ +62°C



ATEX, UKEX, & IECEx:

II 2 G Ex db IIC T6...T3 Gb
FM16ATEX0086X & FM22UKEX0112X
IECEx FMG 16.0035X
T3 @ -55°C ≤ T_{amb} ≤ +140°C
T4 @ -55°C ≤ T_{amb} ≤ +112°C
T5 @ -55°C ≤ T_{amb} ≤ +77°C
T6 @ -55°C ≤ T_{amb} ≤ +62°C



CE:



Compliance with
EN55011, EN50082-2

FEATURE SELECTION for XP2-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
XP2- Active Sensor, Conduit Style	M - Digispec Magnetic VRS (30mV Sensitivity is standard) R - Digispec RF Digispec Hall Sensor H Style (Magnet Actuated) (Omnipolar activation [either pole] is standard) H - Single output J - Dual output K - Directional output Digispec Hall Sensor HF Style (Gear Actuated) F - Single output D - Dual output Q - Directional output	Y - 1/2-14 NPT Z - M20x1.5	1 - 1/2-20 UNF 2 - 5/8-18 UNF 3 - 11/16-24 UNEF 4 - 3/4-16 UNF 5 - 3/4-20 UNEF 6 - M12x1 7 - M16x1.5 8 - M18x1 9 - M18x1.5	1 - 1.1" (28mm) 3 - 2.0" (51mm) — 5 - 3.0" (76mm) 6 - 4.0" (101mm) 7 - 6.0" (152mm) 8 - 8.0" (203mm) 9 - 10.0" (254mm) NOTE: Thread lengths of 3.0" and longer are made as a welded assembly. (Internally called Y-ASY and Z-ASY)	1 - 0-5V, NPN(TTL) 2 - 0-10V, NPN 3 - 0-Vs, NPN 4 - 0-Vs, NPN OC 5 - 0-Vs, PNP OC 6 - 0-Vs, NPN/PNP * 7 - 0-5V, NPN/PNP * * Use at temperatures over 120°C shortens expected lifetime 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	1 - 12' / 1' (0.3m) 2 - 36" / 3' (1m) 3 - 120" / 10' (3m) 4 - 198" / 16.5' (5m) 5 - 396" / 33' (10m) 6 - 600" / 50' (15m) 7 - 792" / 66' (20m) Length of 12' / 1' (0.3m) is individual wires. All longer options are shielded cable. 22 to 24 AWG (depending on shell size and sensor type) Extruded TFE or FEP insulation Red - Supply Black - Common White - Output A Green or Green/Yellow - Shell Ground Yellow - Output B Blue - Direction Shield is not connected to shell, please ground to instrumentation.
		X - 1/2-14 NPT (This shell type is NOT for use in Canadian installations)	1 - 1/2-20 UNF 2 - 5/8-18 UNF 3 - 11/16-24 UNEF 4 - 3/4-16 UNF 5 - 3/4-20 UNEF 6 - M12x1 7 - M16x1.5 8 - M18x1 9 - M18x1.5	0 - 0.7" (18mm) 1 - 1.3" (33mm) — 4 - 2.5" (64mm) 6 - 4.0" (101mm) 7 - 6.0" (152mm) 8 - 8.0" (203mm) NOTE: Thread lengths of 2.5" and longer are made as a welded assembly. (Internally called X-ASY)		

Variants: (Contact sales for additional details)

XP2-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])

XP2-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])

XP2-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:

XP2-MY2313 Digispec Magnetic VRS Sensor, Y shell type w/1/2 NPT Pipe, 5/8-18 x 2.0" thread, 0-5V NPN, 120" cable

XP2-DZ8645 Dual HF Hall Sensor, Y shell type w/M20x1.5 Pipe, M18x1 - 101mm thread, 0-Vs NPN OC, 10m cable

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

Canadian Installations: Only female NPT or metric entries are permissible per CSA C22.2 No 0.5 & No. 30. See 'Y' or 'Z' Shell Type.

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:

XP2-MF-1	H - Single Output	CUSTOM	Customer specific	0-Vs NPN, OC	24" (0.6m) Individual wires
XP2-MF-2	H - Single Output	CUSTOM	Customer specific	0-Vs NPN, OC	
XP2-MF-3	H - Single Output	CUSTOM	Customer specific	0-Vs NPN, OC	
XP2-MF-3-P	H - Single Output			0-Vs NPN	
XP2-TITAN	H - Single Output	CUSTOM	Customer specific	0-Vs NPN	
XP2-TITAN2	J - Dual Output				
XP2-TITAN-W	J - Dual Output				

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