



PRODUCT DESCRIPTION

SPECTEC's digital output linear and angular position sensors are offered in a wide variety of configurations as outlined on page 2. Custom sensors can also be created to meet specific needs.

For connector version refer to 0220.

These sensors are designed to sense continuous variations in magnetic field and convert field strength to a proportional voltage. The output voltage produced for zero magnetic field is nominally 2.5V, with a standard transfer function of $\pm 5\text{mV/Gauss}$. Magnetic sensitivity is in one axis only. Several units can be combined to measure (X, Y, Z) magnetic field vectors.

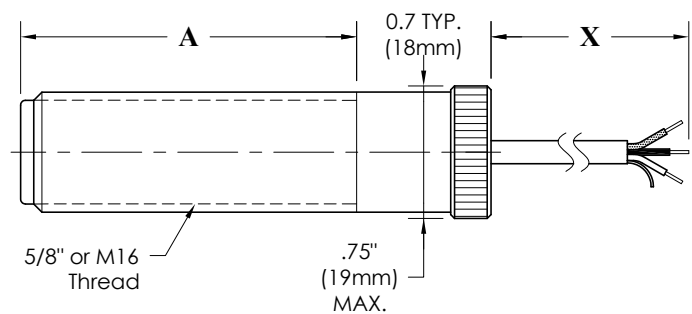
SPECIFICATIONS

Supply Voltage:	8 to 30 Vdc @ $\leq 8\text{ mA}$
Output Range:	Voltage $< 0.5\text{V}$ to $> 4.5\text{V}$ (0.06 - 4.95V typical) Current -1.0mA (source) Max. 10.0mA (sink) Max.
Quiescent Output Voltage:	$\pm 0.075\text{V}$ (2.425 to 2.575V at zero field) $\pm 30\text{ Gauss}$ equivalent (R Load $\geq 1\text{M}\Omega$ for stated accuracy and output)
Output Resistance:	100 Ω typical
Frequency Range:	Zero to $\sim 30\text{ kHz}$
Resolution:	$\pm 5\text{mV/Gauss}$ Standard See Page 2 for additional options
Sensing Orientation:	No Magnet stabilizes at 2.5V North shifts toward 0V (-5mV/Gauss) South shifts toward 5V ($+5\text{mV/Gauss}$)
Sensing Distance:	0 to $> 1.0''$ @ 3000 Gauss typical
Temperature Range:	Sensor: -40° to $+250^\circ\text{F}$ (-40° to $+125^\circ\text{C}$) Cable: -40° to $+220^\circ\text{F}$ (-40° to $+105^\circ\text{C}$)
Connection:	Individual wires or cable PVC Insulated, 24 - 22 AWG Individual Wires or Shielded Cable See below and page 2 for details
Construction:	300 Series Stainless Steel Solid Epoxy Encapsulation

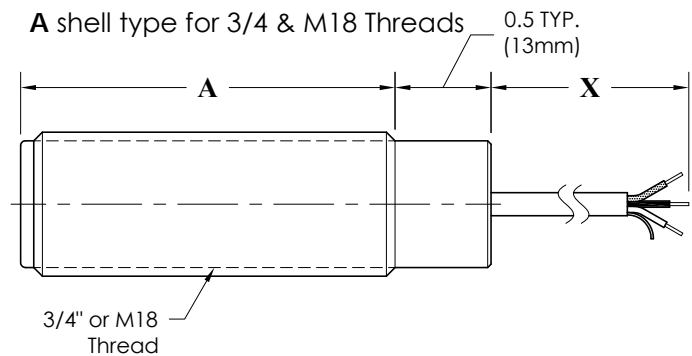
WIRE CONNECTIONS

Red:	Supply Voltage +
Black:	Common
White or Green:	Output Signal Voltage
Bare / Shield:	Floating, Connect to ground

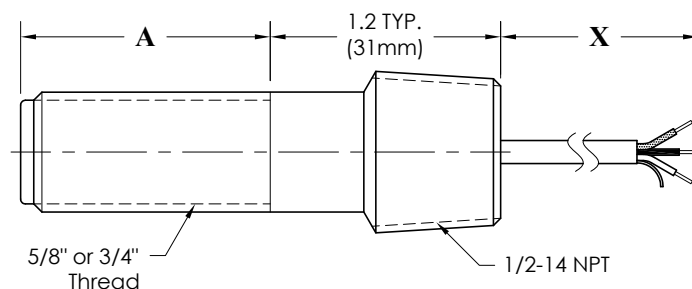
K shell type for 5/8 & M16 Threads



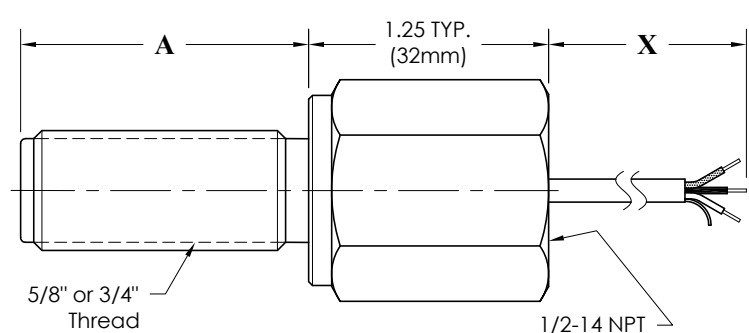
A shell type for 3/4 & M18 Threads



X shell type for 5/8 & 3/4 Threads



Y shell type for 5/8 & 3/4 Threads



PRODUCT DETAILS for 0221

SPECTEC P/N	Shell Type	Thread	Thread Length "A"	Wire / Cable Length "X"	Resolution
0221-xx	K	5/8-18 UNF M16x1.5	0.90" (23mm) 1.2" (31mm) 1.8" (46mm) 2.5" (64mm) 3.0" (76mm)	12" (.3m) Individual Wires 36" (1m) Shielded Cable 120" (3m) Shielded Cable 20 to 24 AWG (depending on shell size) PVC insulation Red - Supply Black - Common White - Output Shield - Floating (Not connected to shell) NOTE: Other lead wire lengths are available.	High: 5 mV/Gauss (Standard) Medium: 3.125 mV/Gauss Low: 2.5 mV/Gauss
	A	3/4-20 UNEF M18x1.5	0.90" (23mm) 1.5" (38mm) 2.0" (51mm) 2.5" (64mm) 3.0" (76mm)		
	X	5/8-18 UNF 3/4-20 UNEF	0.70 to 0.90" (18 to 23mm) 1.3" (33mm)		
	Y	5/8-18 UNF 3/4-20 UNEF	1.1" (28mm) 1.5" (38mm) 2.0" (51mm)		

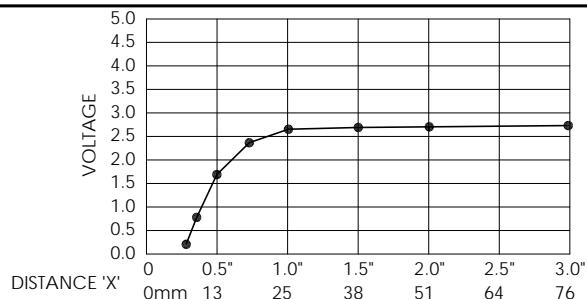
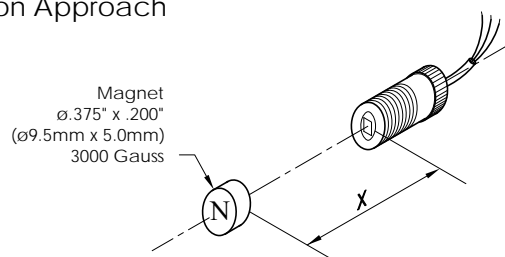
The above features give the range of standard product options available. Some options may not be available in certain combinations. Custom options are also available. Please specify your needs / requirements when contacting sales.

SPECIFIC MODELS

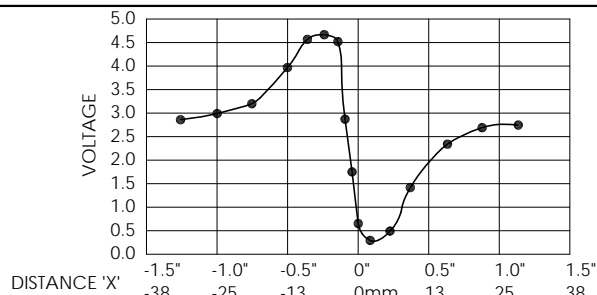
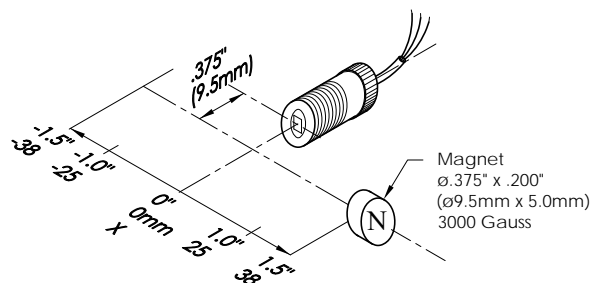
0221-01	K	5/8-18 UNF	1.8" (46mm)	36" (1m) Shielded Cable	5 mV/Gauss
0221-03	A	M18x1.5	2.0" (51mm)		

TYPICAL PERFORMANCE DATA

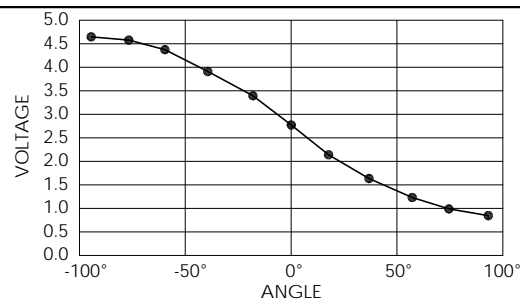
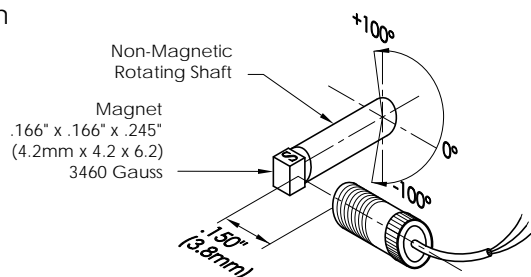
Head-on Approach



Fly By



Shaft Rotation



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