

FDS102B Low Profile Insight FDS Sensor Hazardous Area Certified - Class I Div 2 Groups A-D, T4

Product Overview

The FDS102B Low Profile Insight FDS Sensor is easy to mount and provides a monitoring solution for all fluid film bearings.

The FDS102B Low Profile Insight FDS Sensor is the second model of Voyager Instrument's force detection condition monitoring solutions. It is the ideal solution for monitoring otherwise unprotected fluid film bearings and offers key insight into the operating conditions of your machinery.

The FDS102B is adhesively mounted to bearing housings for simple installation and no downtime for your machine.

For adhesive installation, purchase the FDS102B Installation Kit (which includes two magnetic fixtures and one 3 ml syringe of adhesive.)

Specifications:

- IEPE Powered
- 67 mV/ $\mu\epsilon$
- 0.5Hz-10kHz Frequency Response
- +/- 100 $\mu\epsilon$ Measurement Range
- -22°F to 250°F Temperature Range
- 35ft Integral cable to blunt cut

Parameter	Unit	Value
Sensitivity	mV/ $\mu\epsilon$	67 +/- 20%
Measurement Range	$\mu\epsilon$	+/- 100
Frequency Range	Hz	0.5 – 10kHz
Nonlinearity	-	$\leq 4\%$
Transverse Sensitivity	-	$\leq 5\%$
Temperature range	°F	-22-250
	°C	-30-121.1
Excitation Voltage	V	18-30
Constant current excitation	mA	2-20
Output Bias Voltage	V	10-14
External dimensions	mm	10.8x15.2x4.6
	Inch.	0.425x0.600x0.190
Backing Material	-	Titanium
Housing Material	-	316 Stainless Steel
Connector	-	Blunt Cut
Mounting Method	-	Adhesive



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Entity Parameters

U_i (V max) = 30V
 I_i (I max) = 20 mA
 P_i = 0.6 W
 C_i = 1.003uF
 L_i = 306uH

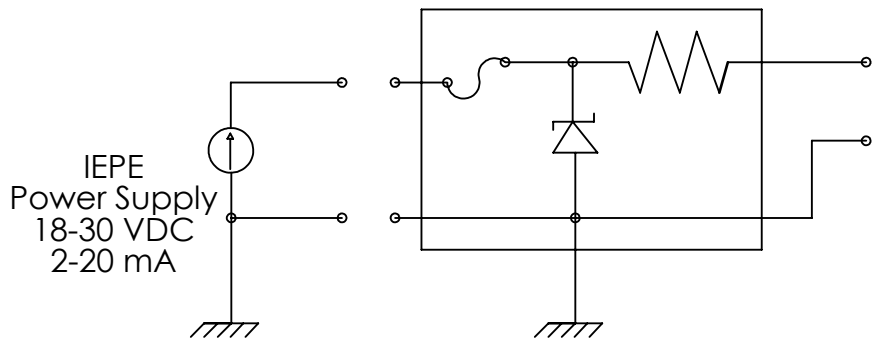
The sensor is supplied with an integral shielded twisted pair cable that has a capacitance of 22pF/ft and inductance of 0.17uH/ft.

Extension cables of the same specification can be added to the integral cable to create a total cable length of up to 100ft.

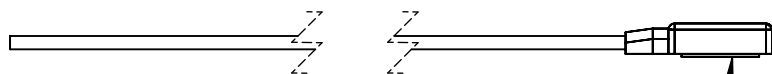
Cable lengths may vary slightly from drawing.

Non-Hazardous / Safe Area

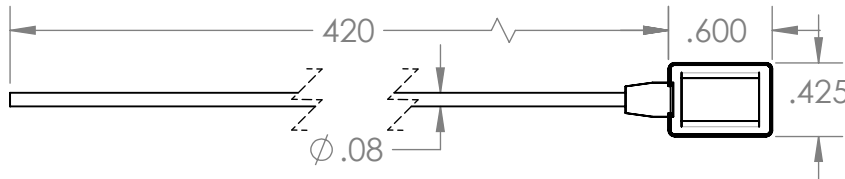
Approved Zener Barrier



Mounting Surface



**Class I Division 2
Groups A-D, T4
Hazardous Location**




B

B

A

A

	UNLESS OTHERWISE SPECIFIED:	NAME	DATE	TITLE:
	DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16" TWO PLACE DECIMAL ±0.010 THREE PLACE DECIMAL ±0.005	DRAWN	A. Tomsick	
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF VOYAGER INSTRUMENTS. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF VOYAGER INSTRUMENTS IS PROHIBITED.	INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED		SIZE DWG. NO. REV A FDS102B C
	MATERIAL	ENG APPR.		
	FINISH	MFG APPR.		
DO NOT SCALE DRAWING	COMMENTS:	Q.A.		SCALE: 1:4 WEIGHT: SHEET 1 OF 2

2

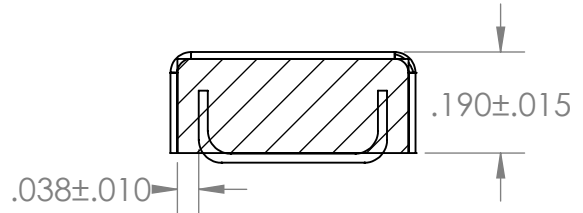
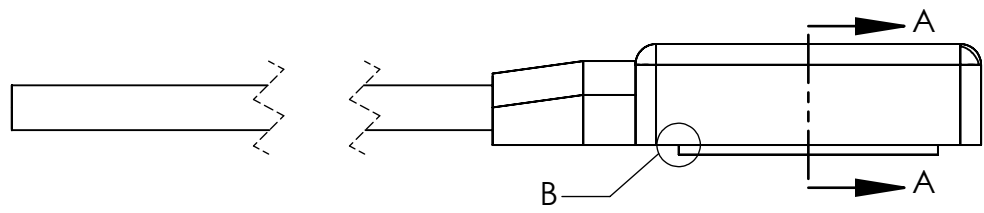
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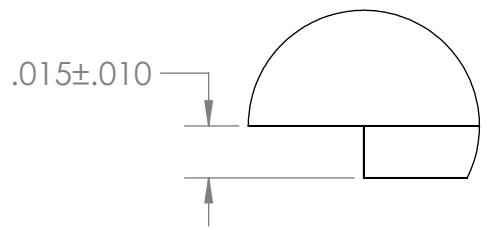
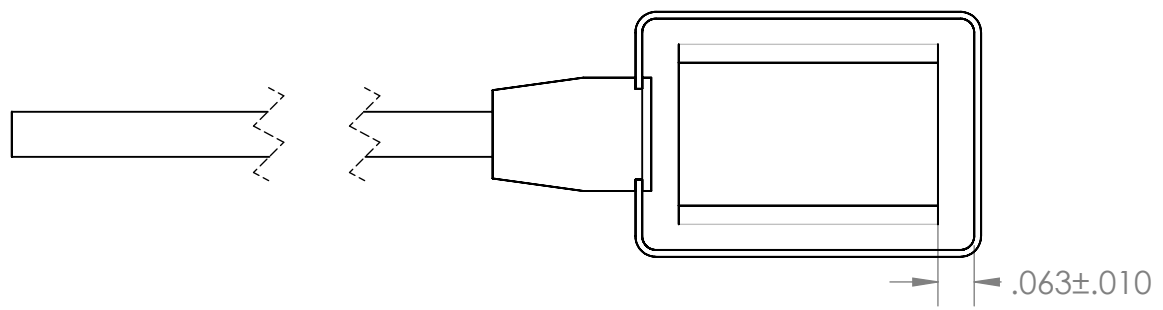
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B

B




SECTION A-A
SCALE 3 : 1



DETAIL B
SCALE 16 : 1

A

A

	UNLESS OTHERWISE SPECIFIED:	NAME	DATE	TITLE: Insight FDS102B Control Drawing
	DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16" TWO PLACE DECIMAL ±0.010 THREE PLACE DECIMAL ±0.005	DRAWN	A. Tomsick	
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	MATERIAL	ENG APPR.		
	FINISH	MFG APPR.		
	DO NOT SCALE DRAWING	Q.A.		
	COMMENTS:			SIZE DWG. NO. REV A FDS102B C
		SCALE: 1:96	WEIGHT:	SHEET 2 OF 2

2

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