FDS102 Low Profile Insight FDS Sensor
Hazardous Area Certified - Class I Div II

Product Overview

The FDS102 Low Profile Insight FDS Sensor is easy to mount and provides a monitoring solution for all fluid film bearings.

The FDS102 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 FDS102 is adhesively mounted to bearing housings for simple installation and no downtime for your machine.

For adhesive installation, purchase the FDS102 Installation Kit (which includes two magnetic fixtures and one 3 ml syringe of adhesive.)

Specifications:

- IEPE Powered
- 50 mV/με
- 0.5Hz-10kHz Frequency Response
- +/- 100 με Measurement Range
- -22°F to 250°F Temperature Range
- Integral cable with 10-32 UNF Connector

Parameter	Unit	Value
Sensitivity	mV/με	50 +/- 20%
Measurement Range	με	+/- 100
Frequency Range	Hz	0.5 – 10kHz
Nonlinearity	-	≤4%
Transverse Sensitivity	-	≤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	-	Integral to 10-32
Mounting Method	-	Adhesive

Insight Force Detection Sensor is patented by Voyager Instruments Inc.

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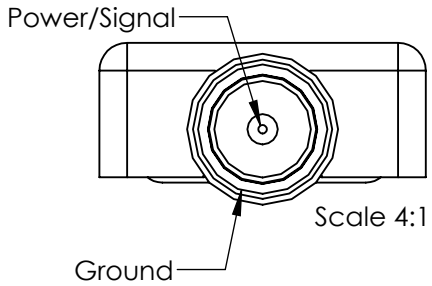
Entity Parameters

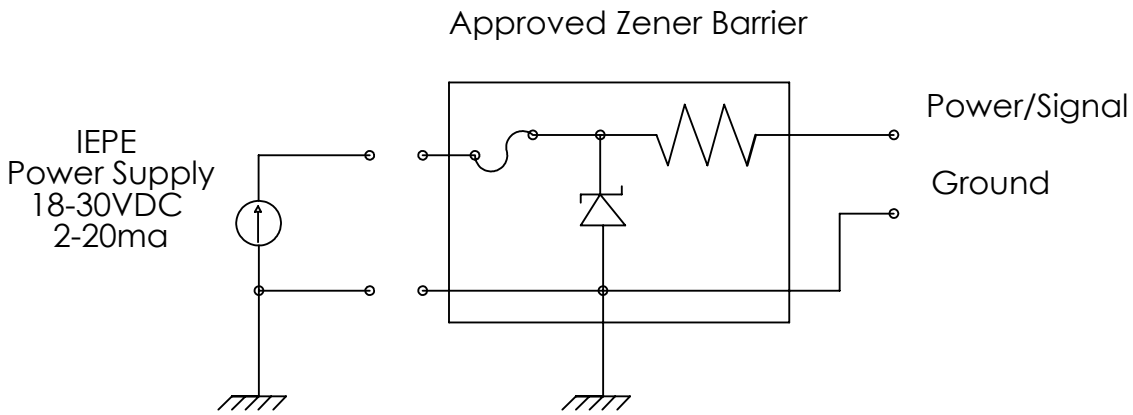
Ui (V max) = 30V
Ii (I max) = 20mA
Pi = 0.6W
Ci =1.003uF
Li = 306uH

The sensor is supplied with an integral coaxial cable that has a capacitance of 105pF/m and inductance of 224nH/m.

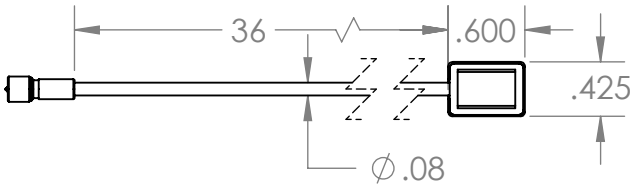
Extension cables of the same specification can be added to the integral cable to create a total cable length of up to 50ft.



Non-Hazardous / Safe Area



Class I Division 2 Hazardous Location



	UNLESS OTHERWISE SPECIFIED:		NAME	DATE
	DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16" TWO PLACE DECIMAL ±0.010 THREE PLACE DECIMAL ±0.005	DRAWN	G. Slinger	2/4/2019
		CHECKED		
		ENG APPR.		
		MFG APPR.		
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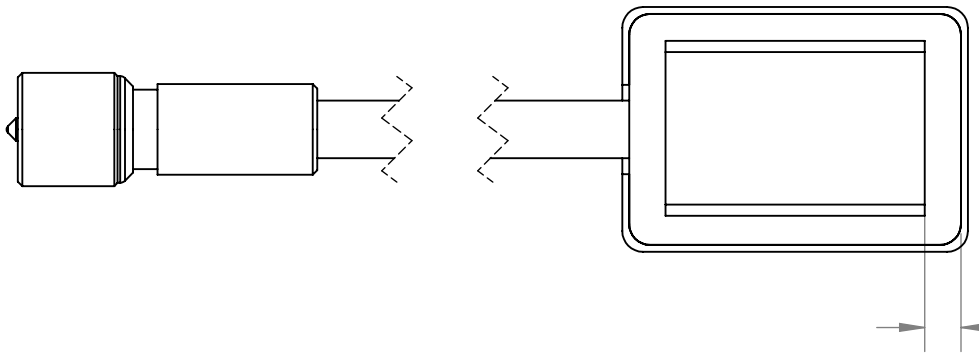
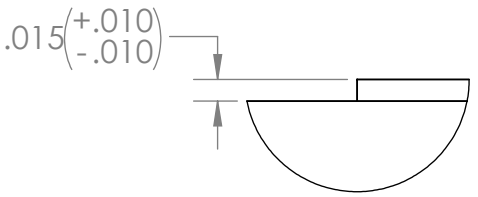
	MATERIAL	COMMENTS:		
	FINISH			
	DO NOT SCALE DRAWING			

TITLE:

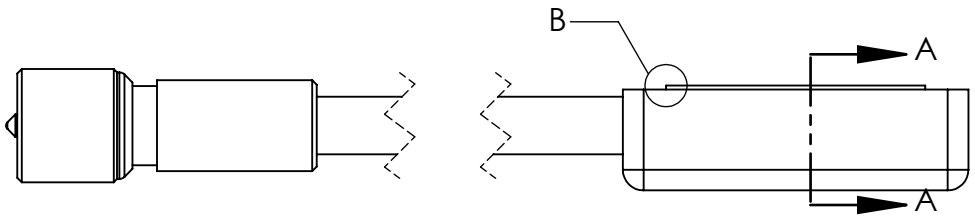
Insight FDS102 Control Drawing

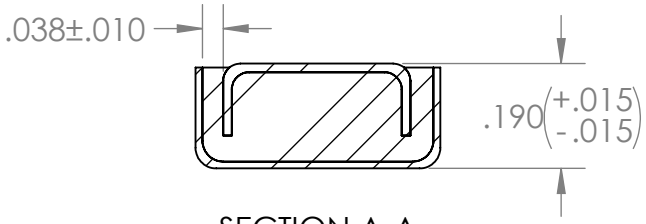
SIZE	DWG. NO.	REV
A	FDS102	C
SCALE: 2:3	WEIGHT:	SHEET 1 OF 2





DETAIL B
SCALE 16 : 1





SECTION A-A
SCALE 3 : 1

	UNLESS OTHERWISE SPECIFIED:		NAME	DATE
	DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16" TWO PLACE DECIMAL ±0.010 THREE PLACE DECIMAL ±0.005	DRAWN	G. Slinger	2/4/2019
		CHECKED		
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	MATERIAL	COMMENTS:		
	FINISH			
	DO NOT SCALE DRAWING			

TITLE:

Insight FDS102 Control Drawing

SIZE	DWG. NO.	REV
A	FDS102	C

SCALE: 3:1	WEIGHT:	SHEET 2 OF 2