

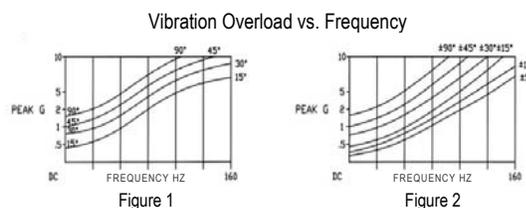
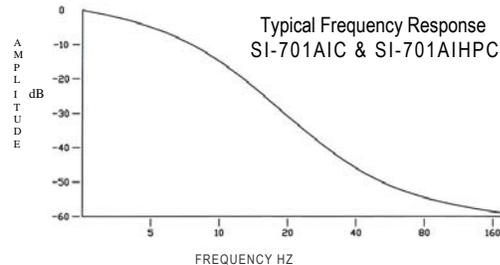
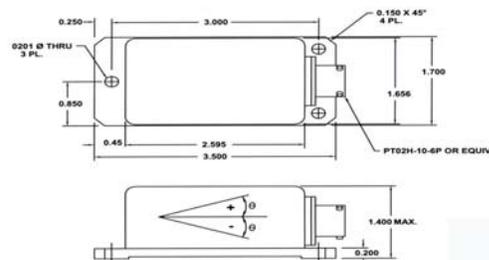
Inclinometers

SI-701AIC, SI-701AIHPC

The Columbia Models SI-701AIC and SI-701AIHPC are force balance inclinometers designed with an output circuit configuration made for use in 4-20 mA data transmission systems. The 4-20 mA system is used extensively in industrial installations in order to transmit data over long distances in environments where interference from nearby electrical power lines could be a problem.

A single +15 volt supply powers both the sensor and 4-20 mA line driver. Special desensitization circuitry allows these devices to provide accurate tilt data while in substantial vibration environments. Both configurations provide a convenient 6-pin electrical interface. Models SI-701BIC and SI-701BIHPC Inclinometers are similar configurations that provide voltage output in addition to current output.
Consult the factory for customized versions of these sensors.

- * 4-20 mA Output
- * +15 VDC Operation
- * Low Cost and High Performance



I/O Connector Pin Functions:

SI-701AIC and SI-701AIHPC			
Pin	Function	Pin	Function
A	+15 VDC	D	Spare
B	Ground	E	Spare
C	I_o	F	Spare

Ordering Information:

SI-701AIC (+/- X Deg)
 SI-701AIHPC (+/- X Deg)
 Standard Inclinometer
 Range +/- X Deg (Required)

M
 M

Optional Mating Connector

Specifications

	SI-701AIC	SI-701AIHPC
Operational		
Ranges Available	$\pm 15^\circ, \pm 30^\circ, \pm 45^\circ, \pm 90^\circ$	$\pm 5^\circ, \pm 10^\circ, \pm 15^\circ, \pm 30^\circ, \pm 45^\circ, \pm 90^\circ$
Output Current	4-20 mA	
Output Function	$I_o = 12 + K \sin \theta$ (mA) $\pm 0.5\%$ of Normal Into a Maximum Load of 600 Ohms	
Excitation	+15 ± 1 VDC <50 mA	
Output Impedance	50 Megohm Typical	
Non-Linearity	$\pm 0.2\%$ F.R.	$\pm 0.1\%$ F.R.
Non-Repeatability	$\pm 0.1\%$ F.R.	
Scale Factor Tolerance	$\pm 1\%$	
Scale Factor Temp Coefficient	$\pm 0.02\%$ / Deg C	
Zero Bias	12 ± 0.02 mA	
Zero Bias Temp. Coefficient	$\pm 0.002\%$ F.R. / Deg C	
Resolution	0.01% F.R.	0.001% F.R.
Bandwidth	0 To 3 Hz (-18 dB / Octave Rolloff)	
Orthogonal Sensitivity	<1%	
Case Alignment	± 0.5 Deg	± 0.25 Deg
Vibration Overload vs. Frequency	See Figure 1	See Figure 2

Environmental

Temperature, Operating	-40 To +85 Deg C	
Temperature, Storage	-40 To +85 Deg C	
Random Vibration (2 To 2,000 Hz)	5 G RMS, 0.25" Disp. D.A.	15 G RMS, 0.25" Disp. D.A.
Shock Survival	125 G, 5 mSec	1000 G, 1 mSec
Humidity	95% R.H.	

Physical

Weight	6 Oz (141.8 Gm)	
Size	3.50 In L x 1.70 In W x 1.40 In H (88.9 cm L x 43.2 cm W x 35.6 cm H)	
Case Material	Anodized Aluminum	
Sealing	Environmental	
Electrical Interface	Connector PT02H-10-6P of Equivalent	
Mating Connector (Optional)	PT06A-10-6S(SR)	

Cable Options: AFB04438



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