

# Model 701-2 Platform Tiltmeter

(Biaxial)

These platform tiltmeters are our most popular design for rapid installation and precision. Using their built-in invar leveling legs, they can be set up and operating on any hard horizontal surface within minutes.

The two orthogonal tilt sensors parallel the right-angle sides of the base plate. Each tiltmeter includes a temperature sensor. The internal electronics drive signals over cable lengths greater than 1000m.

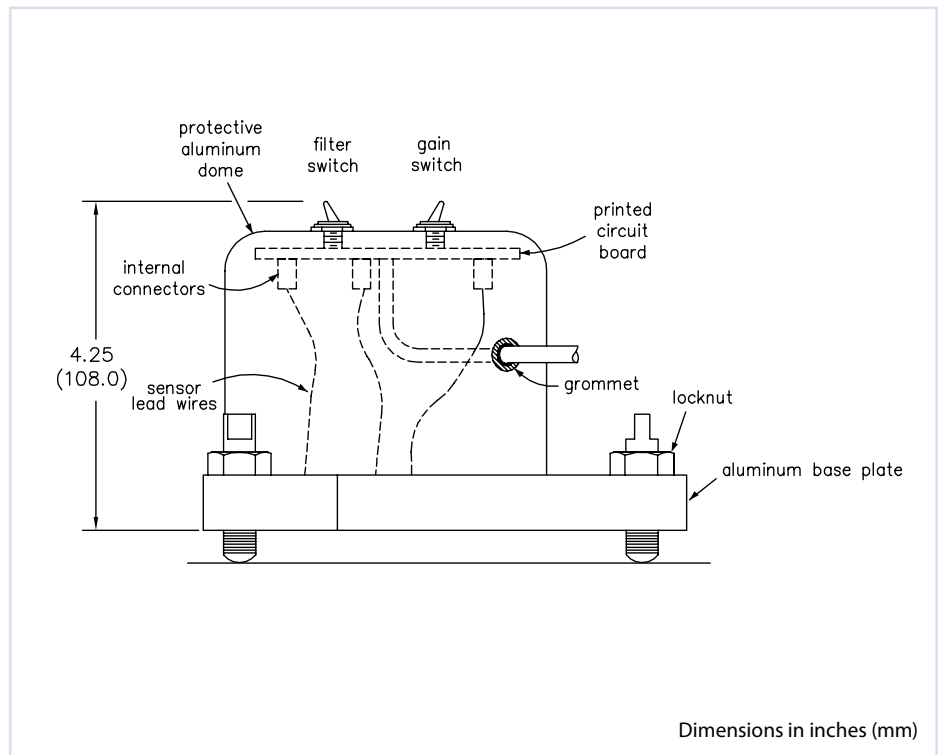


## RAPID INSTALLATION AND PRECISION

Model 701-2 has switchable gain and low-pass filter settings that give you a range of measurement options. Sensors and electronics are mounted in a rugged housing that also provides electrical shielding. Model 701-2 is water resistant for protection against light rain and splashes. It is the preferred choice for structural load testing, volcano monitoring, and laboratory and observatory work.



Model 701-2 Platform Tiltmeter



Side View Model 701-2 Platform Tiltmeter

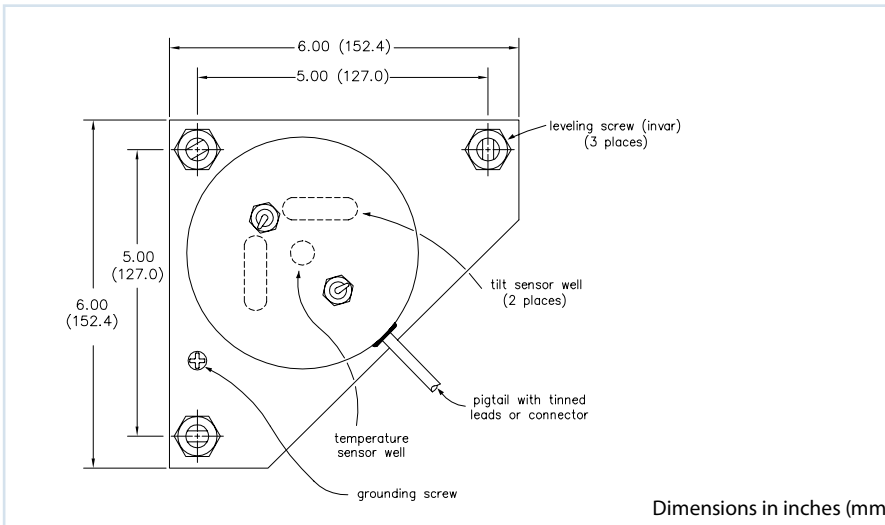
**MODEL 701-2A  
HIGH-GAIN VERSION**

**MODEL 701-2B  
MID-RANGE VERSION**

<b>ANGULAR RANGE</b>	Low-Gain Setting: $\pm 8000 \mu\text{radians}^*$ ( $\pm 0.46$ degree) High-Gain Setting: $\pm 800 \mu\text{radians}$ ( $\pm 0.046$ degree)	$\pm 8$ degrees $\pm 0.8$ degree
<b>SCALE FACTORS</b>	Low-Gain Setting: $\dagger$ High-Gain Setting: $\dagger$	1 degree/Volt 0.1 degree/Volt
<b>RESOLUTION</b>	0.1 $\mu\text{radian}$	1 $\mu\text{radian}$
<b>REPEATABILITY</b>	1 $\mu\text{radian}$ (static)	2 $\mu\text{radians}$ (static)
<b>LINEARITY</b>	High-gain setting: 0.2% of full span Low-gain setting: 2% of full span	High-gain setting: 0.2% of full span Low-gain setting: 1.5% of full span
<b>TIME CONSTANTS</b>	Filter on: 7.5 sec, Filter off: 0.5 sec	Filter on: 7.5 sec, Filter off: 0.4 sec
<b>TEMPERATURE COEFFICIENTS</b>	Scale factor: $K_s = +0.05\%/^{\circ}\text{C}$ typical Zero shift: $K_z = \pm 3 \mu\text{radians}/^{\circ}\text{C}$ typical	$K_S = +0.05\%/^{\circ}\text{C}$ typical $K_Z = \pm 0.001$ degree/ $^{\circ}\text{C}$ typical
<b>TILT OUTPUT</b>	Each axis: $\pm 8$ Volts DC (single-ended) and $\pm 16$ Volts DC (differential)	
<b>TEMPERATURE OUTPUT</b>	0.1 $^{\circ}\text{C}/\text{mV}$ (single-ended), $-40^{\circ}$ to $+100^{\circ}\text{C}$ , $\pm 0.75^{\circ}\text{C}$ accuracy, $0^{\circ}\text{C} = 0$ mV	
<b>OUTPUT IMPEDANCE</b>	270 Ohms, short circuit and surge protected	
<b>POWER REQUIREMENTS</b>	$\pm 11$ to $\pm 15$ VDC @ $\pm 11$ and $-6$ mA, 250 mV peak-to-peak ripple maximum, reverse polarity protected Motor Control Unit. Sensors can be adjusted through mechanical range $\pm 7$ degrees	
<b>ENVIRONMENTAL</b>	$-25^{\circ}$ to $+70^{\circ}\text{C}$ operation, $-30^{\circ}$ to $+100^{\circ}\text{C}$ storage; 0-90% humidity, noncondensing	
<b>MOUNTING</b>	Tiltmeter stands on three adjustable invar legs	
<b>MATERIALS</b>	Anodized and painted aluminum, invar legs, brass nuts	
<b>CABLE</b>	3m (10 ft) multiconductor cable + overall shield, PVC jacket, connectors included	
<b>SIZE &amp; WEIGHT</b>	6 x 6 x 4 inches (15 x 15 x 10 cm), 3 lb (1.4 kg)	

\* 1 degree = 3600 arc seconds = 17453  $\mu\text{radians}$  (microradians)  $\dagger$  Single-ended outputs; divide by 2 for differential scale factors.

Top View Model 701-2 Platform Tiltmeter



**ORDER CODES:**

**Model 701-2A** High-Gain Version  
**Model 701-2B** Mid-Range Version

**USEFUL ACCESSORIES:**

- 70304** Additional cable, please specify length
- 62301** Female panel receptacle (mates to P/N 62302 connector on tiltmeter cable)
- 62304** Extra female in-line receptacle (one is included with tiltmeter)



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