

Model A701-2A/B

High-precision Platform Tiltmeter



The model A701-2 Platform mount tiltmeter is our most popular design for high precision tilt measurements. Units come with built in invar leveling legs, for easy installation on any horizontal surface. The A701-2 also includes two switchable gains and two low-pass filter settings. Using an absolute gravity referenced electrolytic sensor, the A701 delivers ultra-high sensitivity to $<0.1 \mu\text{rad}$ with virtually zero long-term drift. Output is a stable ± 8 DC voltage (± 16 VDC differential). Rugged, reliable, and extremely accurate, the A701-2 is the preferred choice for volcano monitoring, high-precision geotechnical engineering, bridge deflection monitoring, precision metrology, radar platform leveling, and high-accuracy tilt monitoring applications worldwide.



		Model A701-2A (High-gain)	Model A701-2B (Mid-Range)
Angular Range	High-Gain:	$\pm 800 \mu\text{radians}$ ($\pm 0.046^\circ$)	$\pm 0.8^\circ$
	Low-Gain:	$\pm 8000 \mu\text{radians}$ ($\pm 0.46^\circ$)	$\pm 8.0^\circ$
Scale Factor	High-Gain:	$0.1 \mu\text{radian/mV}$	$0.1^\circ/\text{V}$
	Low-Gain::	$1 \mu\text{radian/mV}$	$1^\circ/\text{V}$
Non-Linearity	High-Gain:	0.2%	0.2%
	Low-Gain:	2%	1.5%
Resolution		$0.1 \mu\text{radians}$	$1.0 \mu\text{radians}$
Repeatability		$1 \mu\text{radians}$ (static)	$2 \mu\text{radians}$ (static)
Time Constant		Filter on: 7.5 sec; Filter off 0.5 sec	Filter on: 7.5 sec; Filter off 0.4 sec
Kz Temp Coefficient (deg/C)		$\pm 3 \mu\text{radians}/^\circ\text{C}$ (typical)	$\pm 0.001^\circ/\text{C}$ (typical)
Ks Temp Coefficient (%/°C)		$0.05\%/^\circ\text{C}$ (typical)	
Output		$\pm 8\text{VDC}$ (single ended); $\pm 16\text{VDC}$ (differential)	
Channels		X-tilt, Y-tilt, Temperature	
Output Impedance		270 ohms	
Temperature Output		0.1°C/mV typical (single ended; $0^\circ\text{C} = 0\text{mV}$)	
Power		± 11 to ± 15 VDC @ ± 11 and -6mA , 250 mV ripple max, reverse polarity protected	
Environmental		-25 to $+70^\circ\text{C}$ operation; -30 to $+100^\circ\text{C}$ storage	
Dimensions		$6 \times 6 \times 4$ inches ($15 \times 15 \times 10$ cm), 3 lb (1.4 kg)	
Materials		Anodized and painted aluminum	
Cable		3m (10 ft) multiconductor cable + overall shield, PVC jacket, connectors included	

Specifications subject to change without notice on account of continued product development

Ordering Code

A701 – 2



A: High Gain ($\pm 0.46^\circ$) 2 Gains, 2 Filters
B: Mid Range ($\pm 8^\circ$) 2 Gains, 2 Filters

Accessories

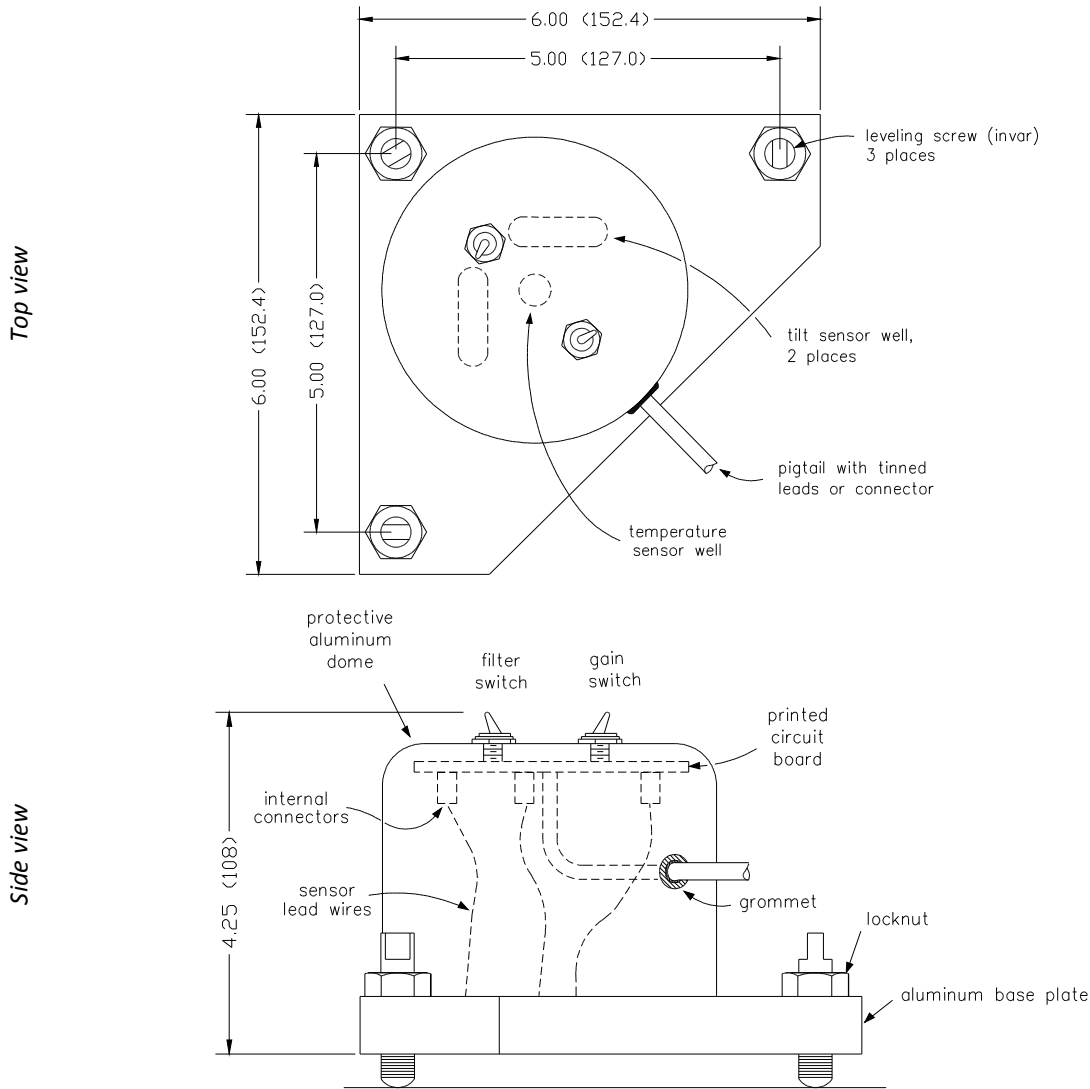
Part No.	Description
70304	Power/signal cable, 10-conductor (specify total length on order)
62301	Female panel receptacle (mates to 62302 connector included with tiltmeter)
62304	Extra female in-line receptacle (one included with tiltmeter)

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Dimensions:



Wiring/Pin-out:

Wire Color	Function	Bendix Connector
Red	+12 to +15V Power	H
Black	Power Ground	A
Violet	-12 to -15V Power	B
Blue	+Y-tilt out	G
Brown	-Y-tilt out	K
Gray	-X-tilt out	J
Green	+X-tilt out	C
White	Signal ground	E
Yellow	Temperature out	D