

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) |
|-----------------------------|-------------|----------------------------------------------------------------------------------------------------|----------------------------------------|
| Linear Range | High-Gain: | $\pm 0.046^\circ$ | $\pm 0.8^\circ$ |
| | Low-Gain: | $\pm 0.46^\circ$ | $\pm 8.0^\circ$ |
| 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%/°C (typical) | |
| Output | | ± 8 VDC (single ended); ± 16 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 x 6 x 4 inches (15 x 15 x 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 ($\pm 0.046^\circ$) 2 Gains, 2 Filters
B: Mid Range ($\pm 8^\circ$) 2 Gains, 2 Filters

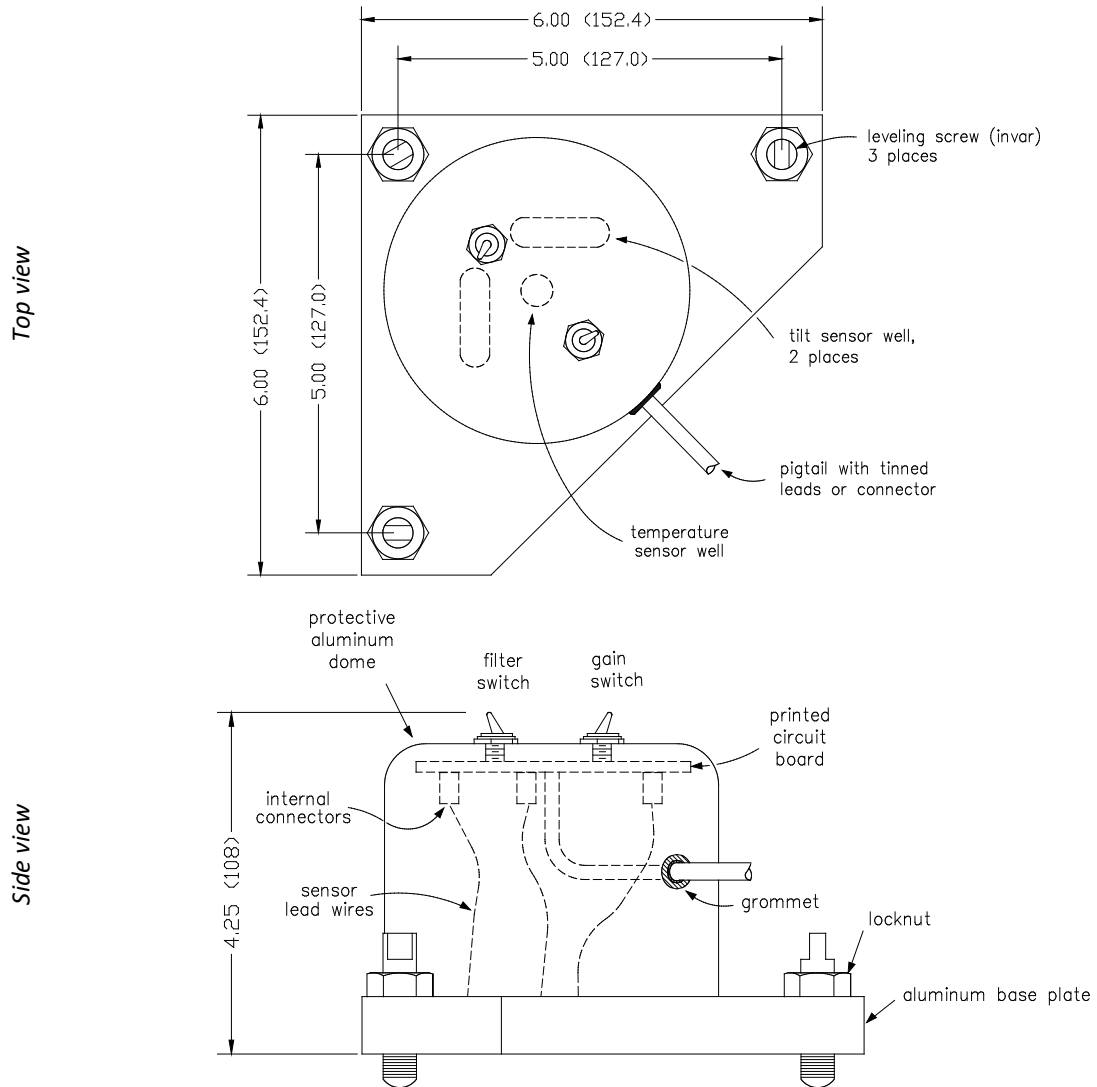
Accessories

| 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 |