



## AGI General Tiltmeters Model 2700-AGI Series

### APPLICATIONS

- **Geophysics** - Monitoring of volcanoes and crustal deformation
- **Astronomy** - Zenith and horizon finding, elevation measurement
- **High energy physics, synchrotrons** - Beam alignment, X-ray mirror tilt, monochromator angle
- **Marine sciences** - pitch and roll measurement, sub-sea alignment
- **Aerospace** - wind tunnel studies, airframe deformation, satellite testing, laser levelling
- **Power plants** - turbine-generator alignment, foundation monitoring
- **Manufacturing** - angular movement of robots and process machinery
- **Metrology** - surface flatness, small angle measurement
- **OEM** - drilling equipment, tilt correction systems, machine tools, medical devices



### General

*Did it move, or didn't it? Since 1982 AGI's mission has been to help engineers and scientists answer this question by building the world's most effective instrumentation for evaluating structural and ground deformation.*

*Today their electrolytic tiltmeters and inclinometers monitor bridges, buildings, tunnels, dams, slopes, embankments and countless other structures around the world - from the Leaning Tower of Pisa to the Golden Gate Bridge.*

*Use this overview to focus in upon the right type of instrumentation for your project. Then contact Geosystems for*

*product specifications, application guides, case histories or to place an order.*

### Description

#### Tiltmeters & Clinometers

*The words tiltmeter, inclinometer and clinometer all refer to a device that measures angular displacement with respect to the vertical gravity vector. At Applied Geomechanics we denote our Series 900 instruments as inclinometers or clinometers, while our high-resolution Series 700 and 800 products are called tiltmeters.*

**Tiltmeters** Model 2700-AGI Series



### FOR FURTHER INFORMATION

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**Models**

**900 Series Biaxial Clinometers**

—Economical and Multi-purpose

With 0.01 degree of resolution and up to 100 degrees of angular range, these small, low-cost clinometers are excellent choices for industrial, series includes a variety of board level products that are easily packaged in your own housings, plus analog and digital models in rugged NEMA 4X (IP65) enclosures for use outdoors or in wet environments.

**800-Series Uniaxial Tiltmeters**

—Versatile Single-Axis Measurement

These instruments offer a great combination of resolution (to <1 microradian), angular range (to  $\pm 70$  degrees) and packaging choices. Model 801 is housed in a splashproof NEMA 4X enclosure, while Model 802 is submersible for underwater use. Our Model 800P Portable Tiltmeter is used for surveying the deformation of large structures by tracking the rotation of special tilt plates attached to the structure in advance.

**500 Series Geodetic Tiltmeters (Biaxial)**

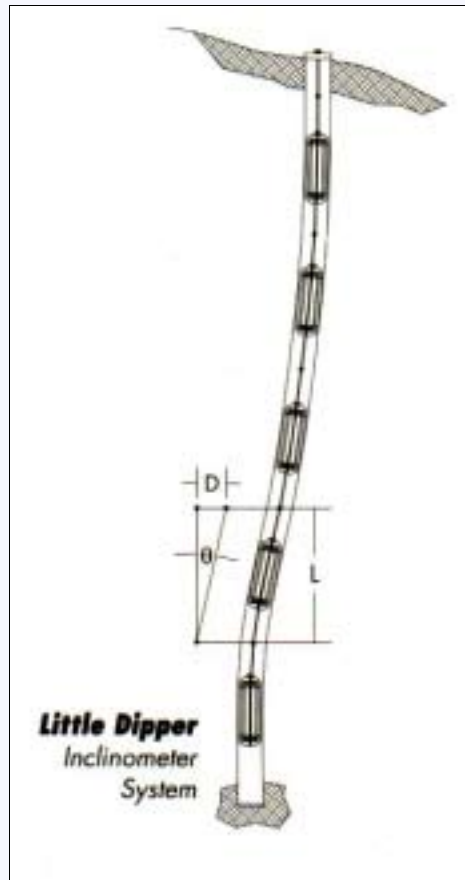
— 10 Nanoradian Resolution

AGI's top performers, the Model 520 Platform Tiltmeter resolve rotations of 10 nanoradians and smaller, making them the world's most sensitive production tiltmeters.

Their combination of sensitivity, stability and rugged packaging makes them the instruments of choice for advanced aerospace, astronomy and geophysical research.

**Model 906 Little Dipper In-place Inclinometer**

Low-cost Little Dipper in-place inclinometers are used for monitoring slope and embankment performance. The individual biaxial sensors are connected by fibreglass rods and slide into standard inclinometer casing. The sensors measure casing inclination to a resolution of 20 arc seconds or better. Casing tilts are converted to displacements as shown on the adjacent figure. Single or multiple Little Dippers also may be sanded or grouted into any borehole, saving the expense of inclinometer casing. For the same performance above ground, specify the Model 904-T Biaxial Clinometer Pak.



### **700 Series Precision Tiltmeters (Biaxial)**

*—High Precision and Stability*

AGI's most sought-after tiltmeters for projects demanding high precision, these proven performers resolve angles smaller than 0.1 microradian (0.02 arc second) and have year-to-year stability measured in microradians. Switchable gain and low-pass filter settings enhance their dynamic range and versatility. 700-Series tiltmeters come in laboratory, submersible and borehole versions.

### **Miniature Tilt Sensors Single and dual axis**

The high-precision sensors in AGI's 500- and 700-Series Tiltmeters are available as stand alone modules for applications with size or weight constraints. These small modules attach directly to the elements you want to measure, without unbalancing them or affecting their performance. Vacuum-compatible versions are available. Applications in physics, astronomy and aeronautical engineering abound. Miniature Tilt Sensors are operated by a variety of signal conditioning units that may be located as far as 100m from the sensors.

### **Data Acquisition Systems**

Select manual or automated data collection for your measurement system. For economical manual readings, use the hand-held readout modules. For a continuous record of movement, the recording station and alarm unit automatically logs readings from all your instruments. This operates from mains, batteries or solar power. It can trigger alarms, place phone calls and initiate other responses when thresholds are exceeded.

### **TBASE II Data Analysis Software**

Analyse your field measurements with TBASE II, an easy to use Windows™ program that combines an efficient database with powerful graphing and analysis tools. Quickly plot movement vs. time, tilt direction and magnitude, and lateral slope displacement. Perform statistical analysis and filter noise sources. TBASE II works with data files downloaded from the recording station and with spread-sheet files.

### **Software and Accessories**

Applied Geomechanics offers a range of useful accessories for operating your tiltmeter system. These include ZAGI data logging and display software, TBASE II data analysis software, hand-held readout units and NIST-traceable calibration tools.

Due to on-going design improvements and reviews, we reserve the right to amend product and specifications without prior notice



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