

AccuStar® II/DAS-20



Dual Axis Clinometer

AccuStar® II/DAS-20 combines the function of two clinometers in one package. The unique dome shaped design features a capacitance based sensor which produces output signals directly proportional to the relative tilt in two axes.

Designed for high volume applications, AccuStar® II/DAS-20 is priced to compete with much less capable mercury switches and other low cost level sensors.

There are four output connections providing a choice of ratiometric, pulse width modulation (PWM) digital output. A mating connector (sold separately) provides the user with an easy plug-in connection. Null and scale factor are adjustable.

Features

- New microprocessor-based electronics
- Two clinometers in one package
- Adaptable design DC powered
- Ratiometric and PW digital output in one model

Trimmable outputs

Applications

- Platform leveling
- Measure pitch and roll
- Tip over protection for manlifts
- Automatic leveling systems
- Wheel alignment

Performance Specifications

Range	±20°
Threshold / Resolution	0.01
Linearity	
Null to 10°	±0.2°
10° to 12°	2.5%
12° to 15°	±3.0%
15 to 20°	Monotonic
Null Repeatability.....	±0.1
Frequency Response (-3db)	0.25 Hz (0.50 Hz available, consult factory)

Environmental

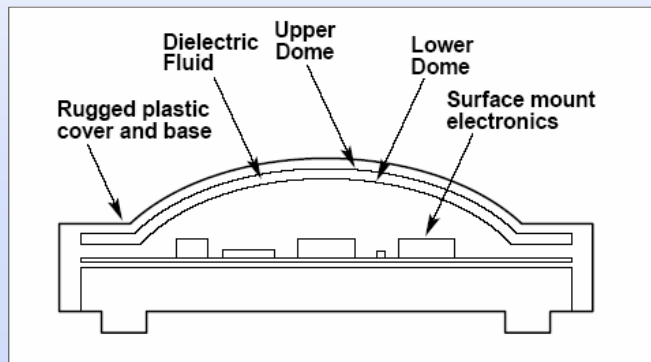
Temperature Range	
Operating	-20° to 65°C
Storage	-55° to 65°C
Temperature	
Coefficient of Null	0.01%/°C
Temperature Coefficient of Scale Factor	0.10%/°C



Electrical

Voltage Supply (nominal)	9 VDC
Voltage Supply Range	Regulated 5.0 to 15.0 VDC
Current	10 mA
Analog Output	
Scale Factor* @ 9 VDC	100 mV/degree ±10%
Load Resistance (min) ..	10K Ohms
Null Output	1/2 supply voltage ±10%
Pulse Width Output	
Null	50% (duty cycle)
Scale Factor	0.7% / degree (nominal)
Duty Cycle	t ₂ / (t ₁ + t ₂) t ₁ and t ₂ varies from 0.2 to 0.7 msec
Frequency	100 Hz nominal

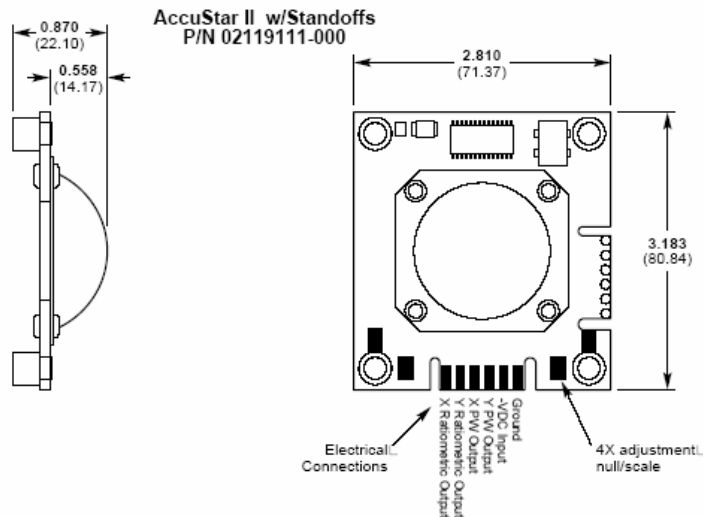
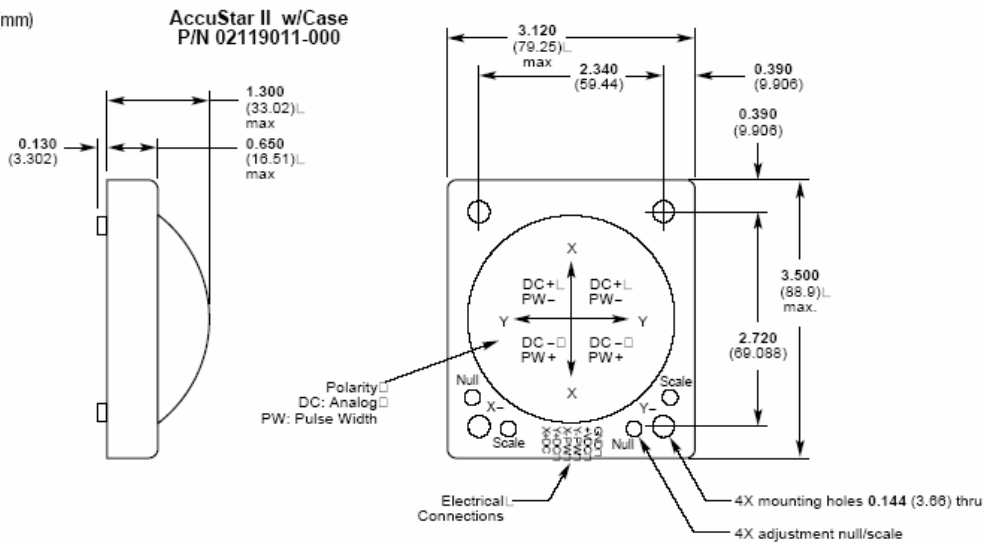
Physically the sensor is composed of two hermetically sealed domes spaced about 1/8" apart. The lower, polyester plastic dome has 4 capacitive plates while the aluminum, upper dome acts as a ground. A fluid with a high dielectric constant is sealed within the dome sandwich, leaving an air bubble space about the size of a quarter. The bubble is centered at level position and will move from one side to the other as the device is tilted.



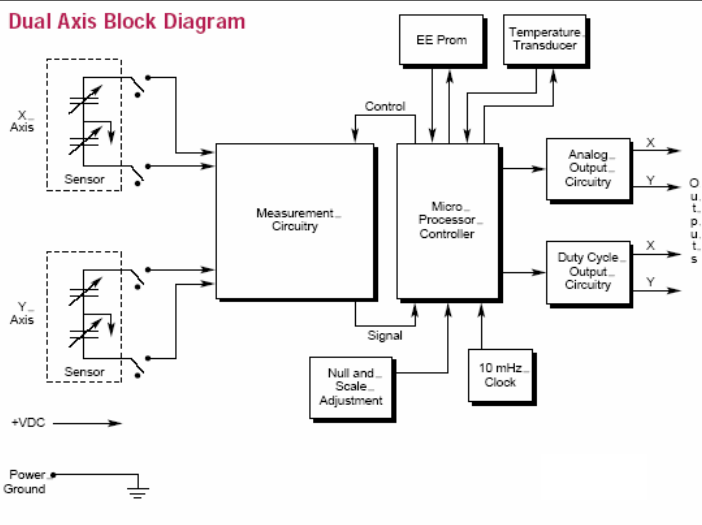
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Dimensions in (mm)



Dual Axis Block Diagram



How to Order

Part Number	Description
02119011-000	Clinometer w/case
02119111-000	Clinometer w/standoffs
09-01-1061A	Mating Molex connector

Note: Connector is recommended for model 02119011-000 (Clinometer w/case).



UK / Europe Office
 Tel: +44 (0)8700 434040
 Fax: +44 (0)8700 434045
info@omniinstruments.co.uk
www.omniinstruments.co.uk

Australia / Asia Pacific Office
 Tel +61 (0)282 442 363
 Fax +61 (0)294 751 278
info@omniinstruments.com.au
www.omniinstruments.com.au

USA / Canada Office
 Tel +1-866-849-3441
 Fax +1-866-628-8055
info@omniinstruments.net
www.omniinstruments.net