

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**
- ☐ **Trimable 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

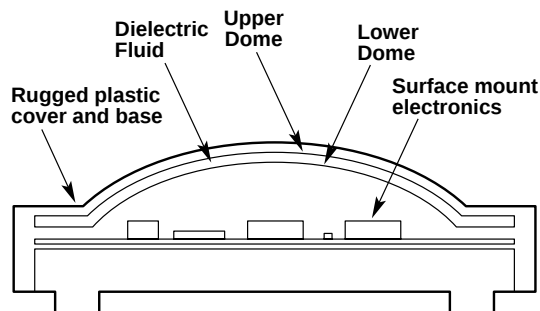
Temperature Range	
Operating	-20° to 65°C
Storage	-55° to 65°C
Temperature	
Coefficient of Null	0.01°/°C
Temperature Coefficient of Scale Factor	0.10%/°C



Electrical

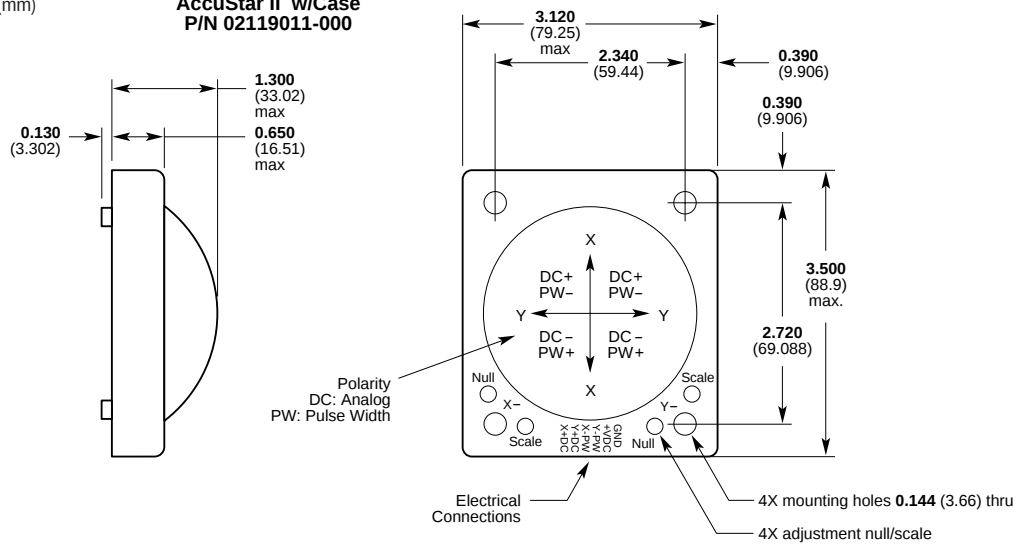
Voltage Supply (nominal)	9 VDC
Voltage Supply Range	Regulated 5.0 to 15.0 VDC
Current	10 mA
Analog Output	
Scale Factor* @ 9 VDC	100 mV/degree ±10%
Load Resistance (min) ..	10K Ohms
Null Output	1/2 supply voltage ±10%
Pulse Width Output	
Null	50% (duty cycle)
Scale Factor	0.7% / degree (nominal)
Duty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

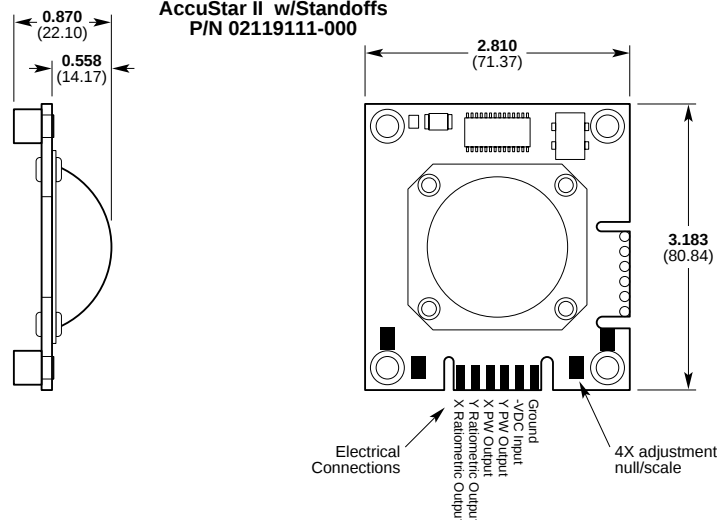


Dimensions in (mm)

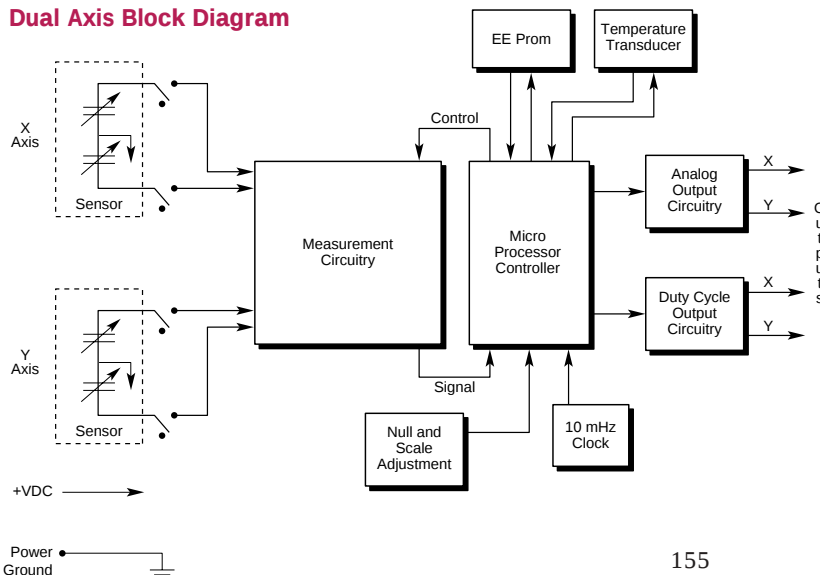
AccuStar II w/Case P/N 02119011-000



AccuStar II w/Standoffs P/N 02119111-000



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).