

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)

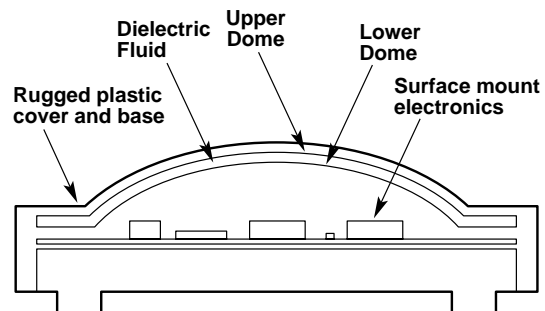
Environmental

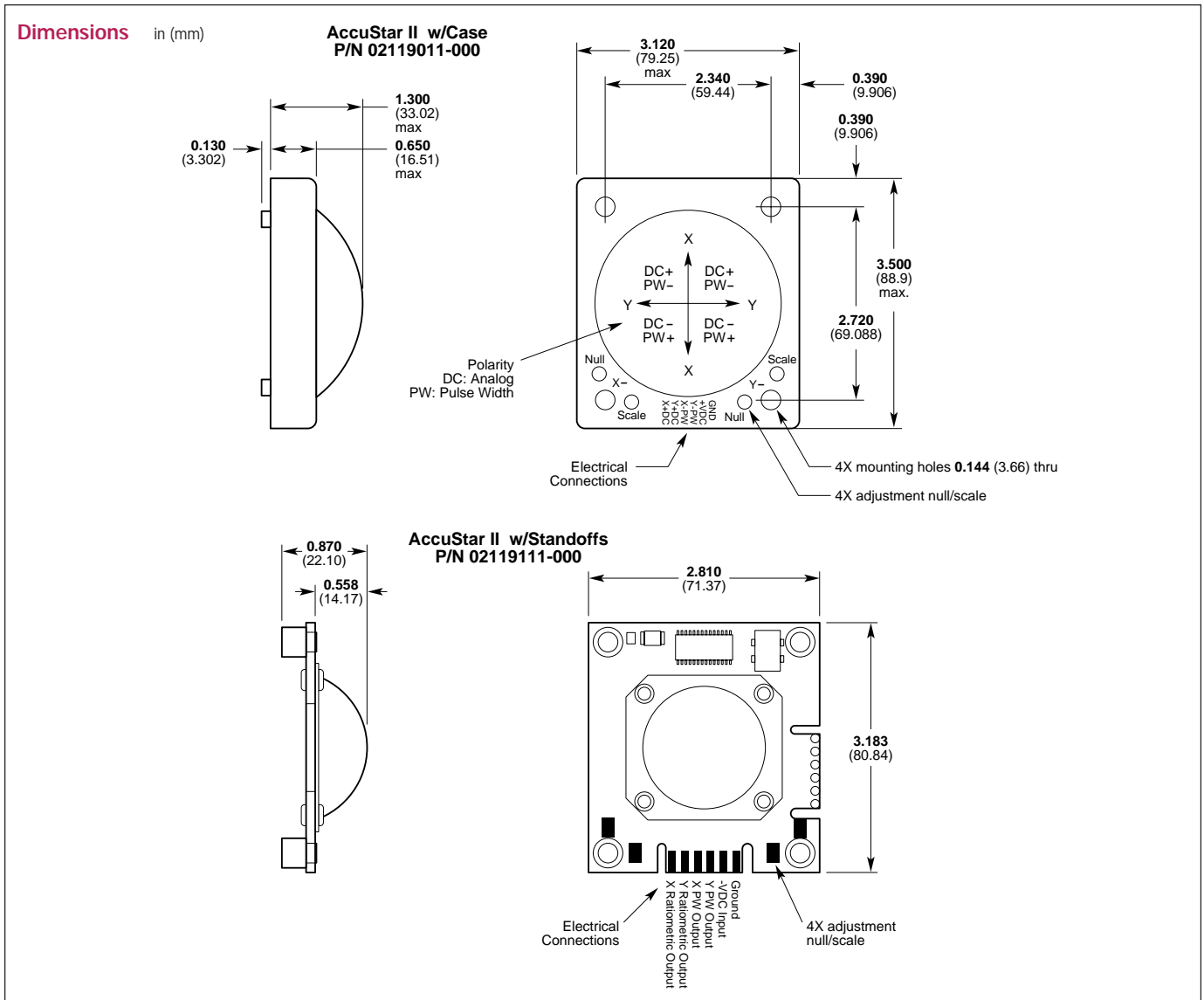
Temperature Range	
Operating	-20° to 65°C
Storage	-55° to 65°C
Temperature Coefficient of Null	0.01%/°C
Temperature Coefficient of Scale Factor	0.10%/°C

Electrical

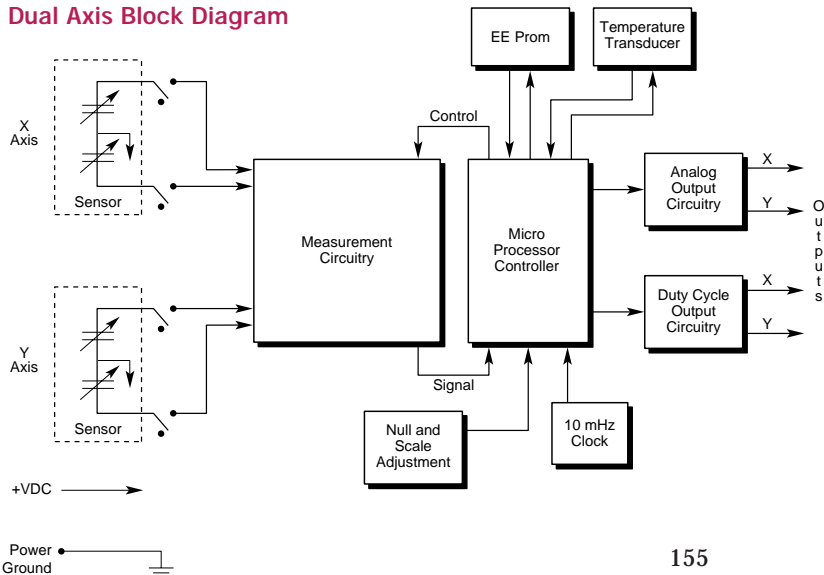
Voltage Supply (nominal)	9 VDC
Voltage Supply Range	Regulated 5.0 to 15.0 VDC
Current	10 mA
Analog Output	
Scale Factor* @ 9 VDC	100 mV/degree ±10%
Load Resistance (min) ..	10K Ohms
Null Output	1/2 supply voltage ±10%
Pulse Width Output	
Null	50% (duty cycle)
Scale Factor	0.7% / degree (nominal)
Duty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





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).