



## ACCUSTAR®-EA

### Electronic Clinometer

#### SPECIFICATIONS

- $\pm 60^\circ$  linear sensing range
- Single-Ended and Bipolar DC models
- High accuracy / low cost
- Lightweight and compact
- Rugged plastic housing
- CE certified (production availability ~Sept 2016)

The **AccuStar®-EA Electronic Clinometer** is the next generation in the highly acclaimed **AccuStar®** family. Building on the success of the original **AccuStar®**, the **AccuStar®-EA** takes low cost tilt sensing to the next level by combining 100% solid state technology with digital calibration and proprietary filtering techniques. The result is an extremely accurate tilt sensor with improved linearity, expanded linear sensing range ( $\pm 60^\circ$ ), generous operating temperature range ( $-40^\circ$  to  $+80^\circ\text{C}$ ), and a 70% reduction in temperature induced errors.

Like its predecessor, the **AccuStar®-EA** measures just 2 inches in diameter, making this compact and affordable sensor the ideal choice where high accuracy tilt measurements are required in space restrictive applications.

The **AccuStar®-EA** mounts easily onto any vertical surface using just two #6 or M3.5 screws. The slot at the base allows for fine adjustment of the zero angle position after installation. With a choice of either Single-Ended or Bipolar DC output models, the **AccuStar®-EA** is designed for easy installation and integration.

Also see our other models, **AccuStar® IP-66** (2-wire current loop or voltage output, IP-66 rating) and the **AngleStar® Protractor System** (**AngleStar®** Electronic Clinometer with digital readout).

Measurement Specialties, Inc. offers many other types of sensors. Data sheets can be downloaded from our web site at: <http://www.meas-spec.com/datasheets.aspx>

#### FEATURES

- $\pm 65^\circ$  total sensing range
- Single-Ended or Bipolar DC operation
- Rugged plastic housing
- 18" flying lead termination

#### APPLICATIONS

- Wheel alignment
- Construction equipment
- Antenna position
- Robotics

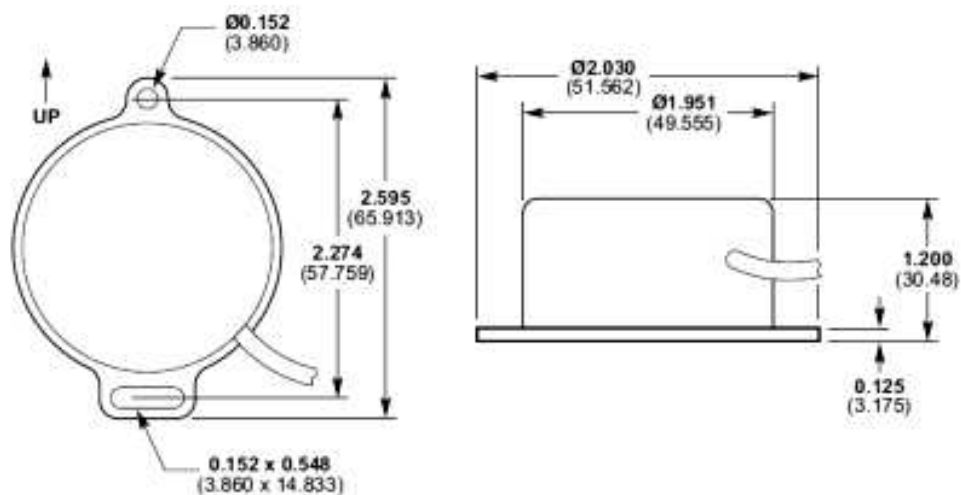
## PERFORMANCE SPECIFICATIONS (COMMON)

ELECTRICAL	
Total range	±65°
Linear range	±60°
Linearity	
Null to ±15°	0.075°
±15° to 60°	±0.5% of reading
±60° to 65°	Monotonic
Resolution	0.05°
Null repeatability	0.05°
Cross axis error	<1% up to 90°
Frequency response	2.0Hz @ -3db
ENVIRONMENTAL/MECHANICAL	
Operating temperature range	-40° to +80°C
Storage temperature range	-55° to +80°C
Temp. coefficient of null	0.010° / °C
Temp. coefficient of scale factor	0.01% / °C
Cable	18" flying leads, PTFE insulation
EMC	
Emissions and Immunity	EN 61326-1

Notes:

All values are nominal unless otherwise noted!

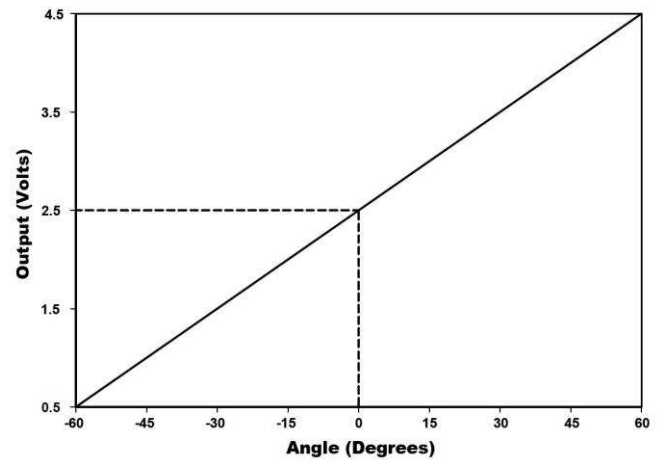
## DIMENSIONS (COMMON)



*Dimensions are in inches (mm)*

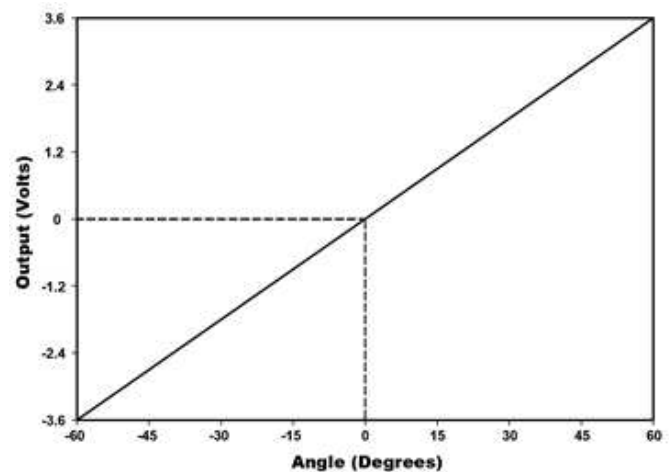
## SINGLE-ENDED OUTPUT MODEL

SPECIFICATIONS	
Input voltage	+5 to +30VDC (unregulated)
Input current (max)	5mA
Load resistance (min)	10k $\Omega$
Output	+0.5 to +4.5VDC, $\pm 0.5\%$
Level output (0°)	+2.5Vdc
ELECTRICAL CONNECTIONS	
Red	+ 5 to +30VDC (unregulated)
Black	Power ground
Yellow	Signal output (referenced to power ground)



## ANALOG OUTPUT MODEL

SPECIFICATIONS	
Input voltage range	$\pm 8$ to $\pm 15$ VDC
Input current (max)	5mA / supply
Scale factor	60mV / degree, $\pm 0.5\%$
Load resistance (min)	10k $\Omega$
Level output (0°)	0 VDC
ELECTRICAL CONNECTIONS	
Red	+8 to +15VDC
Black	Power ground
Gray	- 8 to -15VDC
Blue	Signal output (referenced to power ground)



## ORDERING INFORMATION

Model	Part Number
Single-Ended	02114002-000
Analog	02115002-000