

AccuStar®-EA Electronic Clinometer



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

DESCRIPTION

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° 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

AccuStar®-EA Electronic Clinometer

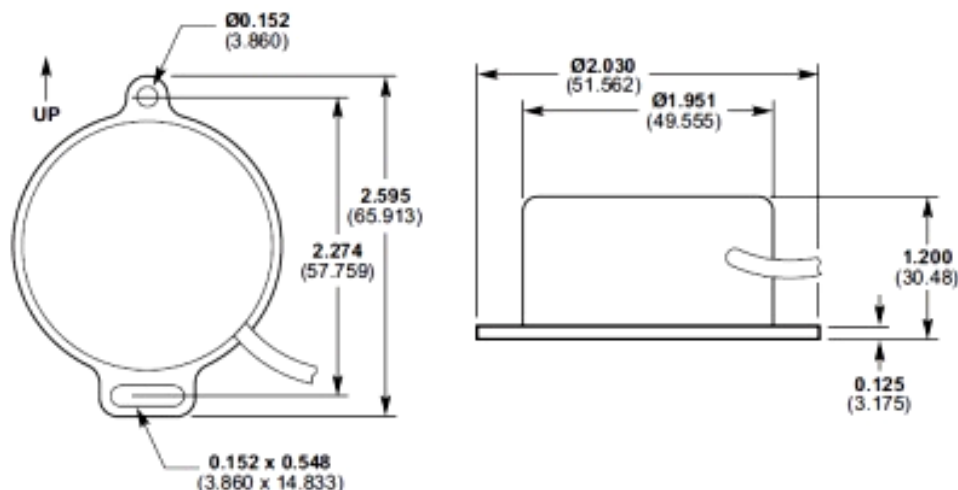
PERFORMANCE SPECIFICATIONS (COMMON)

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	EN 61000-6-3
Immunity	EN 61000-6-2

Notes:

All values are nominal unless otherwise noted!

DIMENSIONS (COMMON)

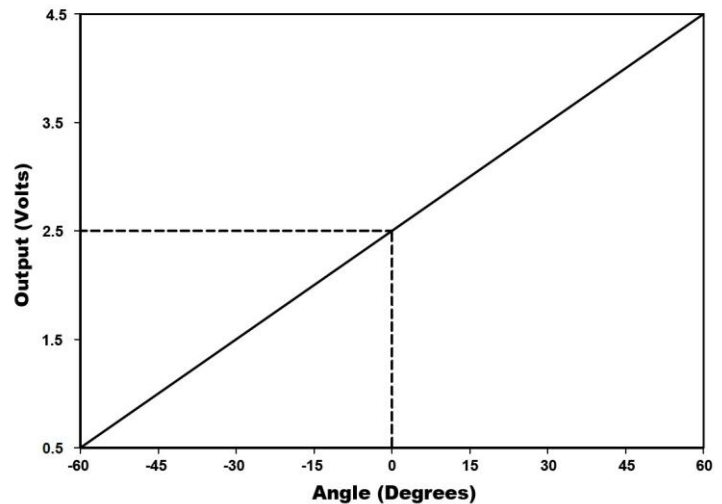


Dimensions are in inches (mm)

AccuStar®-EA Electronic Clinometer

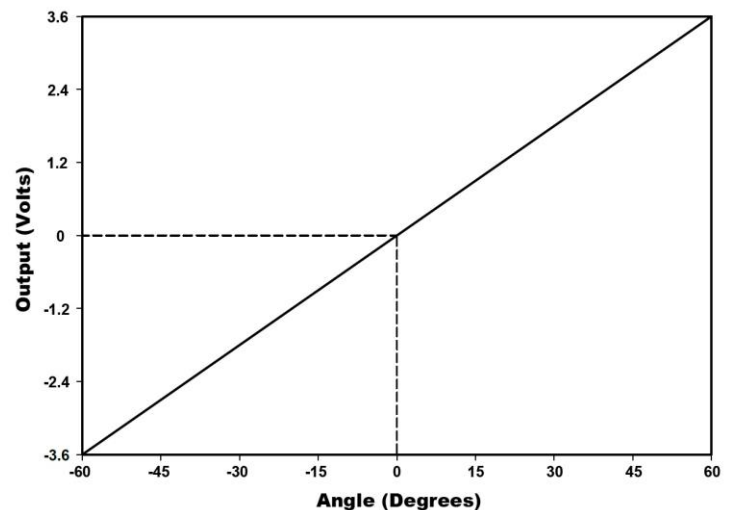
SINGLE-ENDED OUTPUT MODEL

SPECIFICATIONS	
Input voltage	+5 to +30VDC (unregulated)
Input current (max)	5mA
Load resistance (min)	10k Ω
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	± 5 to ± 15 VDC
Input current (max)	5mA / supply
Scale factor	60mV / degree, $\pm 0.5\%$
Load resistance (min)	10k Ω
Level output (0°)	0 VDC
ELECTRICAL CONNECTIONS	
Red	+5 to +15VDC
Black	Power ground
Gray	- 5 to -15VDC
Blue	Signal output (referenced to power ground)



AccuStar®-EA Electronic Clinometer

ORDERING INFORMATION

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

TECHNICAL CONTACT INFORMATION

NORTH AMERICA	EUROPE	ASIA
Measurement Specialties, Inc. 1000 Lucas Way Hampton, VA 23666 United States Phone: +1-800-745-8008 Fax: +1-757-766-4297 Email: sales@meas-spec.com Web: www.meas-spec.com	MEAS Deutschland GmbH Hauert 13 D-44227 Dortmund Germany Phone: +49-(0)231-9740-0 Fax: +49-(0)231-9740-20 Email: info.de@meas-spec.com Web: www.meas-spec.com	Measurement Specialties China Ltd. No. 26, Langshan Road High-tech Park (North) Nanshan District, Shenzhen 518057 China Phone: +86-755-33305088 Fax: +86-755-33305099 Email: info.cn@meas-spec.com Web: www.meas-spec.com

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.