

# AccuStar® IP-66 – 4 to 20mA Loop Powered Clinometer



- $\pm 3^\circ$  to  $\pm 45^\circ$  sensing ranges
- IP-66 rated
- 4 to 20mA and analog outputs
- Zero and span adjustable
- $-25^\circ$  to  $+60^\circ\text{C}$  temp range
- Rugged die-cast housing



## DESCRIPTION

The **AccuStar® IP-66** is a 4 to 20mA loop powered clinometer specifically designed for industrial and outdoor applications. Rated to IP-66, the rugged die-cast, powder coated aluminum housing provides protection in the most hostile environments.

The heart of the system is our patented, capacitance-based tilt sensor with no moving parts. When rotated about its sensitive axis, this unique sensor provides an exceedingly linear variation in capacitance, which is then electronically converted into 4 to 20mA and VDC analog outputs proportional to the angular position.

The AccuStar® IP-66 may be operated as either a 2-wire loop powered angle transmitter, or a 4-wire analog output tilt sensor. Mounting features integrated into the die cast housing, make installation onto any vertical surface easy.

Also see our other models, **AccuStar® Electronic Clinometer** (4 standard input/output configurations), **AngleStar® Protractor System** (AccuStar® with digital readout) and **AngleStar® DP-45** (handheld digital protractor).

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

MEAS acquired Schaevitz Sensors and the **Schaevitz®** trademark in 2000.

## FEATURES

- Ranges from  $\pm 3^\circ$  to  $\pm 45^\circ$
- Rugged die-cast aluminum housing
- Dust and water tight to IP-66
- Current or voltage output
- 3m (10 ft.) long jacketed cable

## APPLICATIONS

- Crane safety systems
- Machine tool angle positioning
- Barge leveling and load distribution
- Medical vehicle leveling / mobile CT & MRI
- Mining equipment
- Solar array tracking systems

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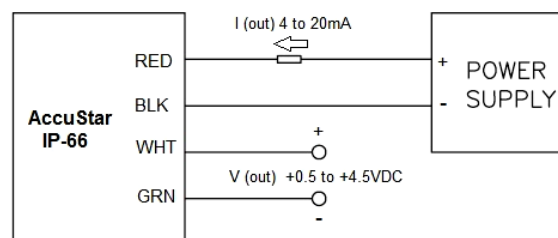
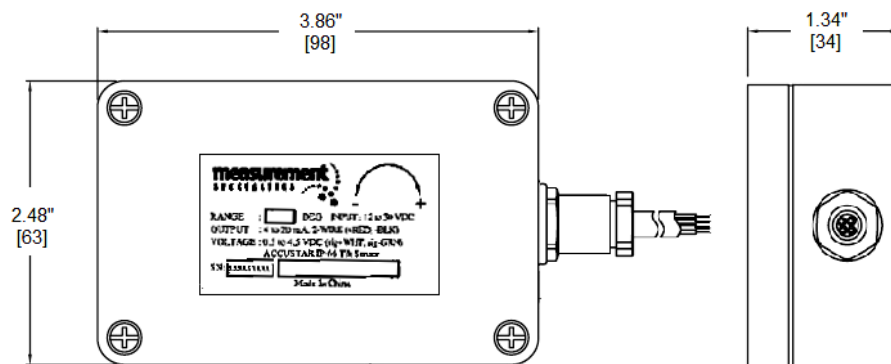
## PERFORMANCE SPECIFICATIONS

ELECTRICAL	
Linear range	$\pm 3^\circ$ to $\pm 45^\circ$
Input voltage (unregulated)	+12 to +30VDC (+18VDC min. required for 4 to 20mA operation)
Output*	4 to 20mA or +0.5 to +4.5VDC (see note)
Zero (level) output	12mA or +2.5VDC
Max loop resistance	500 $\Omega$ at +24VDC
Linearity	
Null to 10°	$\pm 0.1^\circ$
10° to 45°	$\pm 1\%$
Null repeatability	0.05°
Cross axis error	<1% up to 45°
Frequency response	0.5Hz @ -3db
ENVIRONMENTAL/MECHANICAL	
Operating temperature range	-25° to +60°C
Temp. coefficient of null	0.05° / °C
Temp. coefficient of scale factor	0.1% / °C
Cable	Shielded cable with FEP jacket, four conductors, stranded 22 AWG, 3m (10 foot) long min..

**Notes:**

\* Unit supplied with 4 to 20mA output calibrated. Use of the +0.5 to +4.5VDC output requires subsequent calibration!  
All values are nominal unless otherwise noted!

## DIMENSIONS AND WIRING



Dimensions are in inches [mm]

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## ORDERING INFORMATION

Model	Measurement range	Part Number
AccuStar® IP-66	±3°	72162000-003
	±5°	72162000-005
	±10°	72162000-010
	±15°	72162000-015
	±20°	72162000-020
	±30°	72162000-030
	±45°	72162000-045

## TECHNICAL CONTACT INFORMATION

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