

AngleStar®

Electronic Protractor System

Range: $\pm 20^\circ$, $\pm 45^\circ$ or $+90^\circ$
Resolution: 0.1° or 0.01°
Remote Sensing

The Anglestar® Protractor System (APS) is a ready to use, stand alone system for angle measurements. The system incorporates the AccuStar® Electronic Clinometer, a digital display, and a four foot cable. (Cable lengths up to 200 feet are available. Consult factory for details.) This system works on a 9 volt battery and needs no external power.

The display can be mounted up to 200 feet from the sensor. There are three systems to choose from, $\pm 20^\circ$ degrees with a 0.01 degree resolution, $\pm 45^\circ$, or a $+90^\circ$ with 0.1 degree resolution.

Features

- ❑ **Three-part system – sensor, LCD display and cable**
- ❑ **Remote sensing – 200 feet for display**
- ❑ **Ranges: $\pm 20^\circ$, $\pm 45^\circ$ or $+90^\circ$**

Applications

- ❑ **Platform leveling**
- ❑ **Antenna positioning**
- ❑ **Mining equipment**
- ❑ **Machine tooling**

Performance Specifications

Standard (P/N 02160001-000)

Linear Range $\pm 45^\circ$
Threshold & Resolution 0.1°

High Resolution (P/N 02160003-000)

Linear Range $\pm 19.99^\circ$
Threshold & Resolution 0.01°

90 Degree (P/N 02160005-000)

Linear Range 0° to 90°
Threshold & Resolution 0.1°

Linearity*

Null to 10° 0.1°
 10° to 45° $\pm 1\%$ of angle

Null Repeatability $\pm 0.1^\circ$

Cross Axis Error $< 1\%$ up to 45°

Sensor Time Constant 0.3 second

Sensor Frequency

Response 0.5 Hz

Electrical Specifications

Voltage Supply 9 volt battery

Battery Life (approx.) 1000 hours

Temperature Range -18° to 55°C

Interconnect Cable

Four Conductor, AWG 26, PVC Jacket

Standard Length 4 feet (≈ 1.2 meters)

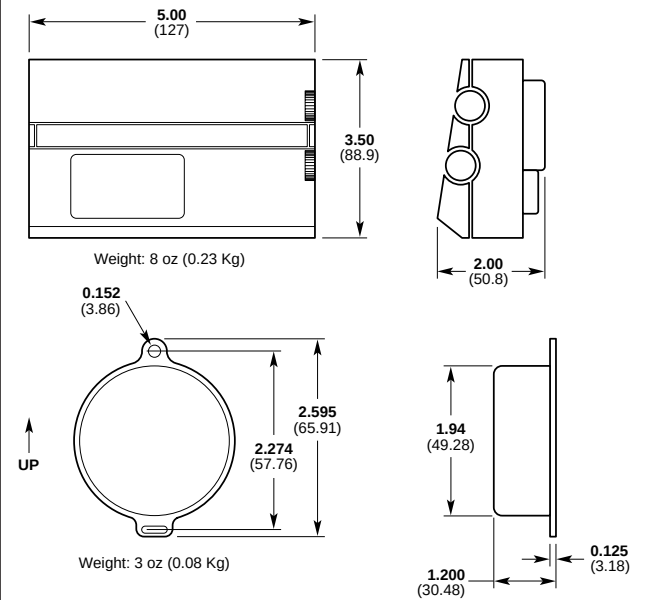
Maximum Length 200 feet (≈ 61.5 meters)

*Linearity specification applies to standard and high resolution systems only.

(Cable lengths up to 200 feet are available. Consult factory for details.)



Dimensions in (mm)



How to Order

Model Number	Range
02160001-000	$\pm 45^\circ$
02160003-000	$\pm 20^\circ$
02160005-000	0° to 90°

SCHAEVITZ
SENSORS

AngleStar® Digital Protractor

Model DP-45

The AngleStar® Digital Protractor Model DP-45 provides instant digital display of level, angle and tilt. Consists of a rugged electronic sensor, custom circuitry and liquid crystal display in an easy-to-use, hand held battery powered package. Features include alternate reference and display hold. Digital display eliminates the need to interpret a bubble or vernier scale.

Features

- ❑ **Reads in degrees**
- ❑ **Alternate reference (floating zero)**
- ❑ **Display hold**
- ❑ **High impact plastic carrying case**

Applications

- ❑ **Driveshaft maintenance**
- ❑ **Antenna positioning**
- ❑ **Race cars**
- ❑ **Machine tooling**

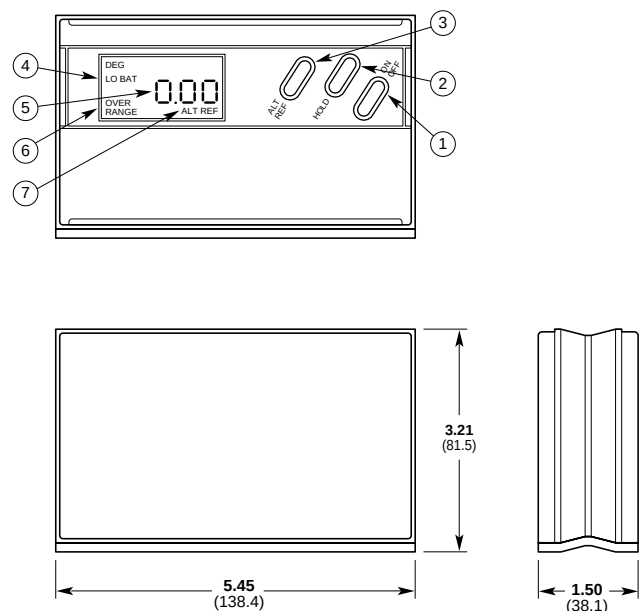
1. **ON/OFF** The instrument is powered by a single push of the ON/OFF button. Power is removed by a second push of the same button or after a 10 minute time out period.
2. **HOLD** The display reading on the LCD is retained and flashes when the HOLD button is depressed. Push again to release hold feature.
3. **ALT REF** (Floating Zero) Alternate reference allows you to zero the digital readout anywhere within its range for a quick and accurate measurement of deviations from a reference surface.
4. **LO BAT** LO BAT is displayed on the LCD when the battery voltage drops below 7 volts. The battery should be replaced when this condition exists. Low battery voltage may affect accuracy.
5. **MINUS SIGN** The minus sign (-) indicates an angle in the counterclockwise direction from zero. Absence of the minus sign indicates an angle clockwise from zero.
6. **OVER RANGE** When the instrument is used at an angle that exceeds its measurement range ($\pm 55^\circ$ from level, null) no angular reading will appear on the LCD and OVER RANGE will flash.
7. **ALT REF** Depressing the ALT REF button will zero the display reading to a new reference and "ALT REF" will be displayed on the LCD. A second push of the ALT REF will return the instrument to normal, or gravity referenced mode.



Performance Specifications

Range	$\pm 45^\circ$
Resolution	$\pm 0.1^\circ$
Linearity	$\pm 0.1^\circ$ (0° to 10°)
	1.5% of reading (10° to 45°)
Repeatability	$\pm 0.1^\circ$
Cross Axis Error	<1% up to 45° cross axis angle
Voltage Supply	9 volt battery
Battery Life	100 hours approx.
Temperature Range	
Operating	0° to 65°C
Storage	-40° to 65°C
Weight	12.3 oz (349 gms)

Dimensions in (mm)



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