

Application Note

Glossary (Engineering Terms)

• Total Range

The largest angle which the sensor or inclinometer can measure.

• Linear Range

The maximum angle within the total range, where an angular movement produces an equally proportional change in output.

• Resolution

The smallest angular increment at which a detectable change in output can be measured.

• Repeatability

The maximum allowable deviation in output when measuring the same input angle several times.

• Linearity

The amount of deviation from a straight line, defined by the averaging of measured incremental outputs.

• Accuracy

The maximum deviation of the output from the absolute input angle, with all effects (linearity, temperature, repeatability, etc.) considered.

• Scale Factor (also Slope or Sensitivity)

The amount of change in the output for a given change in the input angle, normally defined as units/degree.

• Temperature Coefficient of Null

The amount of change in the electrical zero output, caused by a change in the ambient temperature

• Temperature Coefficient of Scale

The amount of change in sensitivity (slope), caused by a change in the ambient temperature.

• Time Constant

The amount of time it takes, after a stepped angular movement of $\frac{1}{2}$ the linear range, to produce an output equal to 63% of that stepped movement.

• Cross Axis Error

The maximum output deviation allowed, when tilting perpendicular to the sensitive axis.

• Orthogonally

At a right angle, or perpendicular to.

• Boresight (error)

The maximum deviation of the electrical zero (0) output, with the device mounted in the mechanical zero (level) position.

• Threshold

The smallest amount of change in the input angle, that will produce a measurable change in the output.

• Settling Time

The amount of time for the output to stabilize within 1% of its quiescent value.



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