

## ***Application Note***

### ***Glossary (Engineering Terms)***

#### **ï Total Range**

The largest angle which the sensor or inclinometer can measure.

#### **ï Linear Range**

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

#### **ï Resolution**

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

#### **ï Repeatability**

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

#### **ï Linearity**

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

#### **ï Accuracy**

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

#### **ï 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.

#### **ï Temperature Coefficient of Null**

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

#### **ï Temperature Coefficient of Scale**

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

#### **ï Time Constant**

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

#### **ï Cross Axis Error**

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

#### **ï Orthogonally**

At a right angle, or perpendicular to.

#### **ï Boresight (error)**

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

#### **ï Threshold**

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

#### **ï Settling Time**

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

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