



Application Note AN1002

Definitions of Electrolytic Tilt Sensor Operating Specifications

Description

The purpose of this document is to define the terms used in the operating specifications of electrolytic tilt sensors.

Terms and Definitions

Operating Range	The maximum range over which a monotonic output can be observed.
Linear Range	The maximum range over which the deviation of the output from a linear best fit is within a specified percentage value.
Linearity	The maximum deviation from a linear output as a percentage of the measurement range.
Repeatability	The maximum deviation in output when the sensor is tilted and then returned to its original position.
Resolution	The minimum incremental position change that generates a monotonic output.
Symmetry	The maximum deviation in output between two symmetrical positions on either side of null.
Maximum Current at Null	The maximum recommended current through the sensor at null at 23° C which will not cause damage to the sensor.
Null Impedance	The impedance between the outer electrodes when the sensor is in the null position at 23° C.
Operating Temperature	The temperature range over which typical output behavior is observed.
Storage Temperature	The temperature range that will not physically or chemically alter the sensor while it is not in use.
24 Hour Stability	The maximum variation in sensor output over a 24 hour period while the sensor remains stationary at null.
Null Temperature Coefficient	The maximum output change at null per degree of temperature change above or below 23° C.
Scale Temperature Coefficient	A coefficient to compensate for the change in gain caused by variations in temperature from 23° C.
Null Offset	The maximum deviation between the electrical null of the sensor and mechanical null where the sensor is parallel to the surface of the earth.
Cross Axis Error	Maximum deviation of the output on one axis while tilting along the perpendicular axis.
Time Constant	The amount of times it takes the sensor to output a value which is at least 63.2% of the final output.

Contact Us

If you have any questions, please feel free to contact us by email or phone.

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