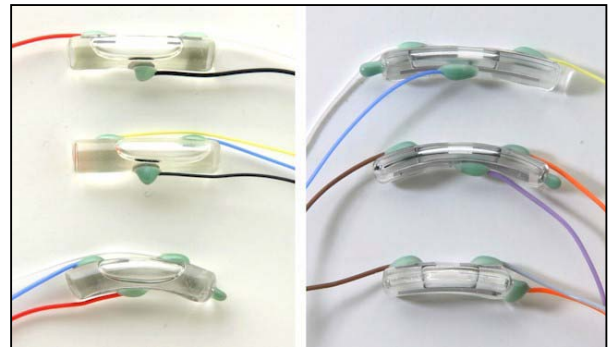


Electrolytic Tilt Sensors – *RG and CG Series*

The *RG* and *CG* Series of single axis **Electrolytic Tilt Sensors**, are designed for high accuracy tilt angle measurements over short angular ranges. These handcrafted glass sensors are vacuum formed and hermetically sealed. The *RG* Series sensor has sub-arc second resolution, and is ideal for static measurement applications. The *CG* Series was specifically designed to provide unrivaled performance in high vibration environments. All models come standard with teflon insulated lead wires, and are available installed in a rugged sealed aluminum housing for environmental protection, ease of handling and alignment purposes.



Applications

- **Construction Laser Leveling**
- **Aerospace**
- **Gyroscopes**
- **Geophysical Tilt Meters**
- **Construction Equipment**
- **Military**

Specifications

Characteristic	Model				
	<i>RG-33A</i>	<i>RG-33T</i>	<i>RG-37S</i>	<i>CG-10N</i>	<i>CG-57S</i>
Range (degrees)	+/-0.25	+/- 0.5	+/-10.0	+/- 4	+/-12.0
Output (mV/arc second) *	6	3	0.5	1	-
Output (Vdc/degree) *	-	-	-	1	0.5
Resolution (arc seconds)	0.1	0.2	1	1	3
Null Repeatability (degrees) **	0.0008	0.0008	0.0005	0.002	0.002
Symmetry @ 1/2 Scale (%)	5	5	5	5	5
Linearity @ 1/2 Scale (degrees)	0.01	0.02	0.06	0.05	0.1
Linearity @ Full Scale (degrees)	0.04	0.05	0.4	0.16	0.5
Time constant vs. Temperature (mSec)					
+20 degC	200	200	200	200	400
+80 degC	100	100	100	100	200
-54 degC	1600	1600	1600	1600	3200
Null Impedance (Kohms) +/- 20%	1.5	1.5	2.6	9.6	6
Electrolyte	C6	C6	C8	C1	C1
Vibration Performance = null shift in degrees 4.2g (RMS) 5 to 150 Hz, 3.0g (RMS) 150 to 500Hz					
	-	-	-	0.008	0.16
Temperature Range (degrees C)					
Operating ***	-54 to +125				
Storage	-75 to +125				

* = Output levels derived using *MUPI-3* Signal Conditioner.

** = Higher accuracy models available. Consult factory for details.

*** = Extended ranges available. Consult factory for details.

Note; The electrolyte used in these sensors is an Alcohol based fluid, contains no heavy metals, and is non-corrosive. The conductivity and viscosity can be custom tailored to satisfy widely varied applications.

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Electrical Connections

Wire Color	Function	RG-33A	RG-33T	RG-37S	CG-10N	CG-57S
Blue	output	•		•		
Yellow	output	•				
Red	output		•			
White	output		•	•		
Brown	output				•	•
Gray	output				•	
Orange	output					•
Black	neutral	•	•			
Red	neutral			•		
Orange	neutral				•	
Purple	neutral					•
Wire length		20"	20"	15"	12"	10"
Wire size		30awg	26awg	30awg	30awg	30awg

Housings

The *RG and CG Series* sensors are available pre-mounted in a variety of precision machined aluminum housings. Available in both single and dual axis versions, these housings not only promote ease of handling, but provide protection for these highly sensitive sensors from potentially hostile environments. The sensing element is encased in silicon rubber, which seals the sensor from moisture ingress, and helps prevent null drift by insulating the sensor from steep temperature gradients. Sensors are pre-aligned within the housing thereby simplifying the installation process. In addition, the effects of cross coupling are virtually eliminated when mounted parallel to the sensitive axis of rotation. Sensors can also be mounted into customer supplied and/or designed housings. Consult factory for details.

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