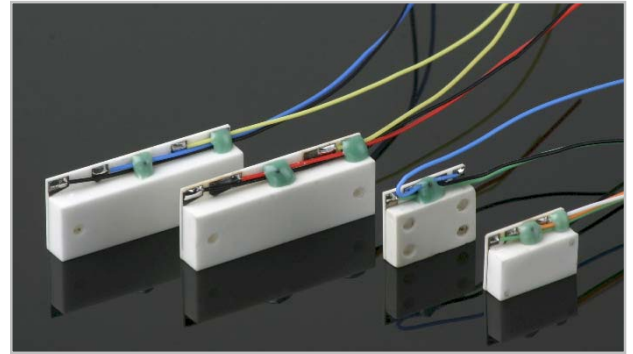


# Electrolytic Tilt Sensors – *SH50050 Ceramic Series*

The **SH 50050 Ceramic Series** of single axis **Electrolytic Tilt Sensors** utilize advanced ceramic materials, bonded together with glass, resulting in a rugged hermetically sealed package. The 96% alumina material body is molded into intricate and precise shapes, that determine range, sensitivity, and dynamic response. The molded body also incorporates a reference surface for easy mounting and even heat transfer for uniform thermal stability. The conductivity and viscosity of the electrolyte can be altered to provide the desired performance and response. These high accuracy, low cost angle sensors are ideally suited for OEM applications that require sub-arc second resolution, with limited space availability.



## Applications

- **Construction Lasers**    • **Aerospace**    • **Industrial**    • **Geophysical Tilt Meters**    • **Oceanographic**
- **Weapons Aiming**    • **Magnetometer Correction**    • **Machine Tools**    • **Camera Systems**

## Specifications

Characteristic	Model				
	SH50054-A-003	SH50055-A-009	SH50056-A-003	SH50056-A-008	SH50058-A-003
Linear Range (arc degrees) ***	+/-3	+/-0.5	+/-60	+/-60	+/-10
Total Range	+/-6	+/-1	+/-80	+/-80	+/-15
Output (mV/arc second)	0.4	1.0	-	-	-
Output (mV/arc degree) *	-	-	160	160	420
Resolution (arc degrees) *	<.0003	<.0001	<.001	<.001	<.0005
Null Repeatability (arc degrees)	<.0008	<.0008	<.02	<.02	<.001
Symmetry @ 1/2 linear scale (%)	<2	<2	<2	<2	<2
Accuracy @ 1/2 Linear Scale (%FS) **	<2	-	<0.8	<0.8	<2
Accuracy @ Full Scale (%FS)	<8	-	<3	<3	<5
Null Impedance (Kohms) +/-20%	12	1	8	8	40
Null Stability, 12 hrs. @ 25 deg.C (arc deg's, typ.)	<.0005	<.0005	<.005	<.005	<.001
Shock Survival (G's, minimum)	100	100	100	100	100
Temperature Range (deg. C)					
Operating	-54 to +125				
Storage	-76 to +150				
Temp. Coefficient of Scale (%/deg.C, typ.)	0.6	0.6	0.1	0.1	0.1

\* = 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.**



**SPECTRON GLASS AND ELECTRONICS INC.**

595 OLD WILLETS PATH  
HAUPPAUGE NY 11788  
PHONE: 631 582-5600  
FAX: 631 582-5671

[www.spectronsensors.com](http://www.spectronsensors.com)

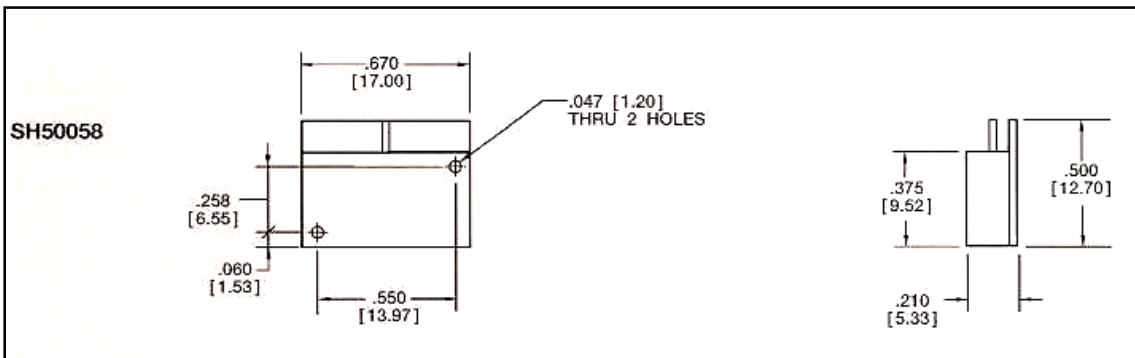
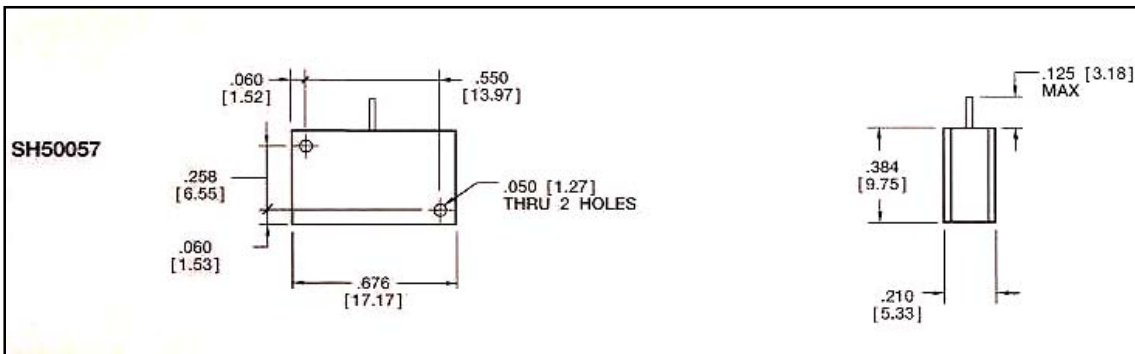
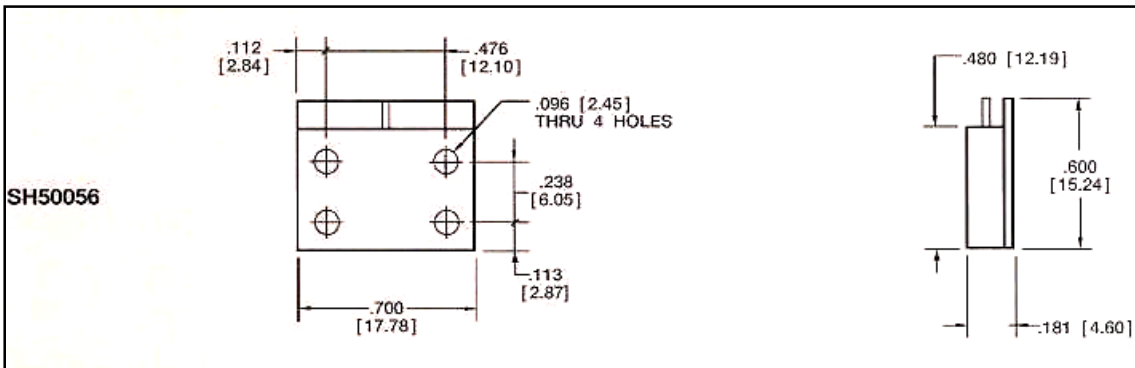
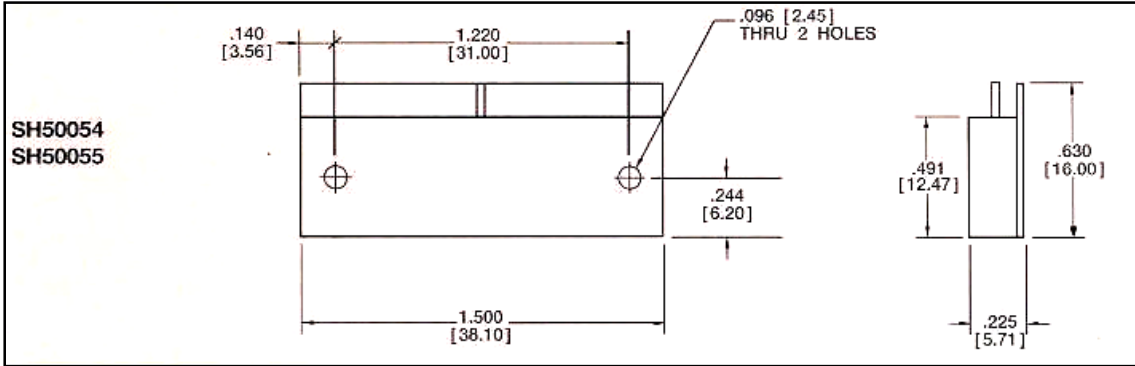
**Specifications are subject to change without notice!**



Doc.# SDS-116-3106

# Electrolytic Tilt Sensors – SH50050 Ceramic Series

## Dimensions in inches (mm)



**SPECTRON GLASS AND ELECTRONICS INC.**

595 OLD WILLETS PATH  
HAUPPAUGE NY 11788  
PHONE: 631 582-5600  
FAX: 631 582-5671

[www.spectronsensors.com](http://www.spectronsensors.com)

*Specifications are subject to change without notice!*



Doc.# SDS-116-3106

# Electrolytic Tilt Sensors – *SH50050 Ceramic Series*

## Electrical Connections

Wire Color	Function	SH50054-A-003	SH50055-A-009	SH50056-A-003	SH50056-A-008	SH50058-A-003
Red	output	•		•		
Yellow	output	•	•			•
Blue	output		•		•	
Green	output			•	•	
Orange	output					•
Gray	output					
Green	neutral					•
Black	neutral	•	•	•	•	
Wire Length		6.5"	18"	6"	6"	12"
Wire Size		30awg	30awg	30awg	30awg	30awg



**SPECTRON GLASS AND ELECTRONICS INC.**

595 OLD WILLETS PATH  
 HAUPPAUGE NY 11788  
 PHONE: 631 582-5600  
 FAX: 631 582-5671

**[www.spectronsensors.com](http://www.spectronsensors.com)**

*Specifications are subject to change without notice!*



Doc.# SDS-116-3106