

## Miniature Tilt Sensors



The high-precision sensors in our 500- and 700-Series Tiltmeters are available as standalone modules for applications with size or weight constraints. Small and light, 755- and 756- sensors mount directly to critical system components, and are ideal for precision measurement and control applications where space is limited. Units are also available non-outgassing (-VAC) versions for specialized vacuum applications. Standard biaxial modules also include a LMC35Z temperature sensor (not available for –VAC versions).

For peak performance, use your Miniature Tilt Sensors with Jewell's precision signal conditioning electronics. All Miniature Tilt Sensors include calibration when ordered with Jewell electronics.



	755- Series	756- Series	
	High-gain Type	Mid-range Type	
Total Range (max) <sup>1</sup>	±0.5° ±10°		
Linear Range	±0.25°	±5°	
Resolution	<0.1 µradian (0.02 arc sec)	1.0 μradian (0.2 arc sec)	
Repeatability	1 μradian (static)	2 μradians (static)	
Non-Linearity (typical) <sup>2</sup>	1% half span (7% full span)	0.5% half span (2% full span)	
Natural Frequency	0.8 Hz	1.3 Hz	
Time Constant	0.5 sec	0.4 sec	
Kz Temp Coefficient (bias/°C) <sup>4</sup>	±3 μradians/°C (typical)	±10 μradians/°C (typical)	
Ks Temp Coefficient (%/°C) <sup>3 &amp; 4</sup>	0.04%/°C (typical)	0.05%/°C (typical)	
Environmental	-25 to +80°C operation and storage, non-submersible		
Dimensions	See table		
Materials	304 SS (Anodized Al available on request)		

Specifications subject to change without notice on account of continued product development;  $^{1}$ Custom ranges available;  $^{2}$ Max non-linearity from BFSL drawn through calibration curve, to 0.05% linearity with  $5^{th}$  order polynomial;  $^{3}$ Ks = % change in scale factor per  $^{\circ}$ C typical;  $^{4}$ For exact Kz & Ks coefficients, we can offer custom temperature characterization for multiple temperature points (additional changes will apply, please contact Jewell for details)

### **Ordering Code:**

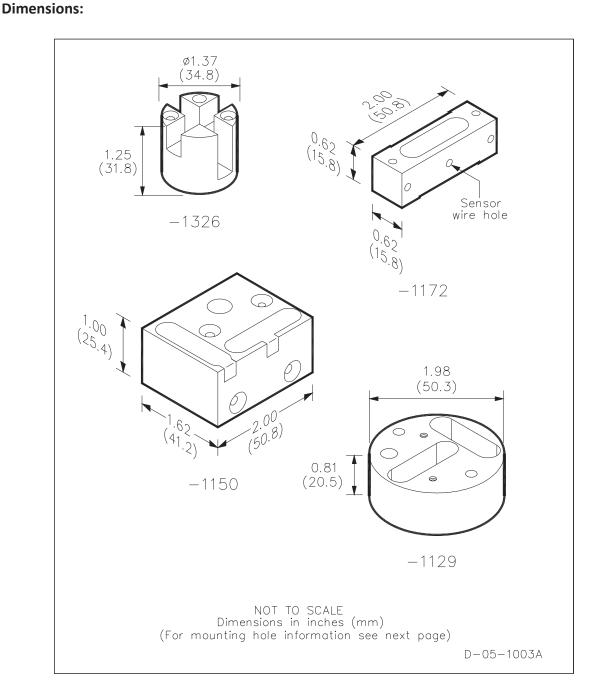
Model No.	Description		
755-1172	High-gain Miniature Tilt Sensor, Uniaxial, 304 SS		
755-1150	High-gain Miniature Tilt Sensor, Biaxial, 304 SS, Square		
755-1129	High-gain Miniature Tilt Sensor, Biaxial, 304 SS, Round		
755-1326	High-gain Miniature Tilt Sensor, Biaxial, Anodized Al, Stacked Assembly		
756-1172	Mid-range Miniature Tilt Sensor, Uniaxial, 304 SS		
756-1150	Mid-range Miniature Tilt Sensor, Biaxial, 304 SS, Square		
756-1129	Mid-range Miniature Tilt Sensor, Biaxial, 304 SS, Round		
756-1326	Mid-range Miniature Tilt Sensor, Biaxial, Anodized Al, Stacked Assembly		



# 755 & 756

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**Instruments** 



Model No.	Tilt Channels	Mounting Holes	Dimensions	Weight*
-1129	X-tilt, Y-tilt	dia.= 0.17" (4.3 mm)	1.98" O.D. x .81" high (50.3 x 20.5 mm)	5.8 oz. (164 g)
-1150	X-tilt, Y-tilt	dia.= 0.17" (4.3 mm)	1.62" x 2.00" x 1.00" (41.2 x 50.8 x 25.4 mm)	11.5 oz. (326 g)
-1172	Single-axis	dia.= 0.15" (3.8mm)	2.00" x 0.62" x 0.62" (50.8 x 15.8 x 15.8 mm)	2.4 oz. (67 g)
-1326	X-tilt, Y-tilt	dia.= 0.15" (3.9 mm)	1.37" O.D. x 1.25" high (34.8 x 31.8 mm)	2.8 oz. (80 g)

<sup>\*</sup>Weights nominal for 304 SS enclosure (standard)



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## **Mounting Hole Dimensions:**

