

## Angular Rate Sensor Specifications

	ARS-01	ARS-01S	ARS-06	ARS-06S	ARS-09	ARS-09S	ARS-12A	ARS-12B
<b>Dynamic Parameter</b>								
Range (radians/sec)	+/- 200 <sup>1</sup>	+/- 70 <sup>2</sup>	+/- 200	+/- 200 <sup>3</sup>	+/- 1.75	+/- 0.6	Varies <sup>4</sup>	Varies
Scale Factor (mV/radian/sec) <sup>5</sup>	50	50	50	6.5	5700	5700	Varies <sup>6</sup>	Varies
Bandwidth (-3dB, Hz)	0.3-1000	0.3-1000	0.38-1000	0.38-1000	0.3-1000	0.3-1000	1-1000	1-1000
Cross-axis Sensitivity	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%
Linear Acceleration Sensitivity (radians/sec/g)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.009	< 0.009	< 0.005	< 0.005
Voltage Noise PSD (V <sup>2</sup> /Hz) <sup>7</sup>	1.1x10 <sup>-10</sup>	1.1x10 <sup>-10</sup>	1.0 x 10 <sup>-10</sup>	1.5 x 10 <sup>-9</sup>	1.1 x 10 <sup>-6</sup>	1.1 x 10 <sup>-6</sup>	Varies <sup>8</sup>	Varies
Noise Equivalent Angle (radians rms) <sup>9</sup>	< 80 x 10 <sup>-6</sup>	< 80 x 10 <sup>-6</sup>	< 60 x 10 <sup>-6</sup>	< 250 x 10 <sup>-6</sup>	< 80 x 10 <sup>-6</sup>	< 80 x 10 <sup>-6</sup>	< 100 x 10 <sup>-9</sup>	< 100 x 10 <sup>-9</sup>
Non-Linearity	< 0.1%	< 0.1%	< 0.1%	< 0.1%	< 0.1%	< 0.1%	< 0.25%	< 0.25%
Temperature Coefficient (%SF/°C) <sup>10</sup>	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
<b>Electrical</b>								
Power Supply (Vdc)	+/- 5 to 15	10	+/- 5 to 15	5 to 20	+/- 5 to 15	10	+/- 5 to 15	+/- 5 to 15
Power Dissipation (Watts)	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.5	< 0.5
Output Impedance (Ω)	<100	<100	< 100	< 100	<100	<100	< 100	< 100
<b>Physical</b>								
Weight: ounces (grams)	< 1.77 (50)	< 1.77 (50)	< 1.23 (35) <sup>11</sup>	< 1.23 (35)	< 1.77 (50)	< 1.77 (50)	< 10.6 (300)	< 7.1 (200)
Diameter: inches (mm)	0.85 (21.6)	0.85 (21.6)	0.82 (20.8)	0.82 (20.8)	1.20 (30.5) <sup>12</sup>	1.20 (30.5)	---	---
Height: inches (mm)	1.11 (28.2)	1.11 (28.2)	1.07 (27.2)	1.07 (27.2)	0.84 (21.4)	0.84 (21.4)	1.50 (38.1)	2.00 (50.8)
Length: inches (mm)	---	---	---	---	---	---	1.60 (40.7)	1.20 (30.5)
Width: inches (mm)	---	---	---	---	---	---	1.50 (38.1)	1.00 (25.4)
<b>Environmental</b>								
Maximum Shock (g)	1000	1000	TBD	TBD	200	200	500	500
Operating Temperature Range	-35°C to 60°C	-35°C to 60°C	-20°C to 50°C	-20°C to 50°C	-35°C to 60°C	-35°C to 60°C	-35°C to 60°C	-35°C to 60°C
Storage Temperature Range	-40°C to 85°C	-40°C to 85°C	-40° to 85°C	-40° to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C

<sup>1</sup> Peak-to-peak with +/-10V output swing, output swing is dependent on supply voltage

<sup>2</sup> Peak-to-peak with 1.5V to 8.5V output swing

<sup>3</sup> Peak-to-peak with 1.4V to 4V output swing, output swing is dependent on supply voltage

<sup>4</sup> ARS-12 is available with output proportional to rate or displacement, standard ranges are +/-1 rad/s, +/-0.1 rad/s, +/-0.01 rad/s, +/-0.01 rad, +/-1 mrad, and +/-100 μrad

<sup>5</sup> Measured at 10 Hz

<sup>6</sup> ARS-12 is available with output proportional to rate or displacement, standard scale factors are 10 V/rad/s, 100 V/rad/s, 1000 V/rad/s, 1000 V/rad, 10000 V/rad, and 100000 V/rad

<sup>7</sup> PSD approximately flat over 1-1000 Hz

<sup>8</sup> Varies depending on scale factor

<sup>9</sup> Integrated over 1-1000 Hz

<sup>10</sup> Measured at 100 Hz

<sup>11</sup> Varies depending on mounting options, see data sheet for more details

<sup>12</sup> Includes mounting tabs, diameter without mounting tabs is 0.85 (21.6)