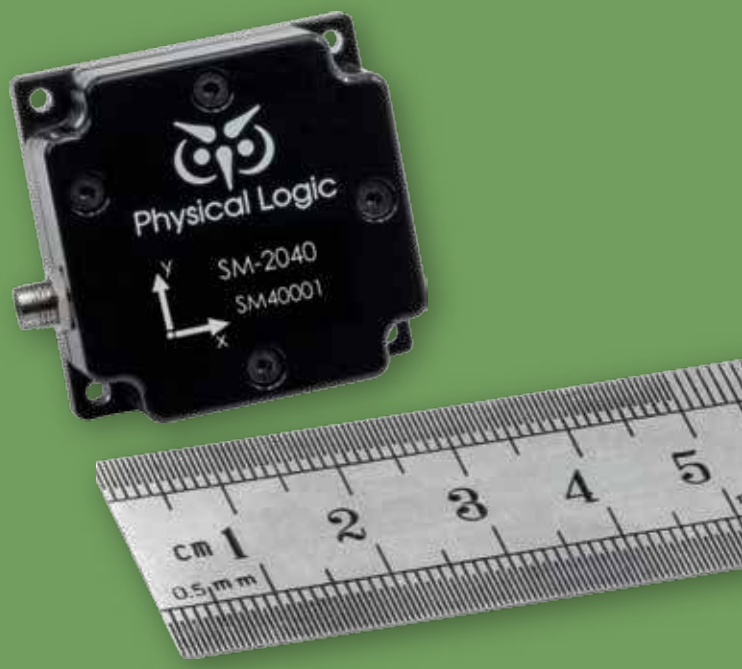
Physical Logic

SM-2000

SM-2000 is a dual axis rugged plug-and-play sensor module based on MAXL-OL-2000 Physical Logic precise MEMS accelerometers. Available in 2g to 70g sensing ranges, SM-2000 is a perfect solution for applications requiring extremely low noise and long-term stability.

Available Input Ranges

Input Range	Model
±2g	SM-2002
±5g	SM-2005
±10g	SM-2010
±15g	SM-2015
±20g	SM-2020
±40g	SM-2040
±70g	SM-2070



The SM-2000 device combines two fully temperature calibrated MAXL-OL-2000 accelerometers orthogonally mounted inside a rugged, sealed, anodized aluminum case. Acceleration and temperature data acquisition from the SM-2000 is easily accomplished using the provided 2 meter USB cable and a convenient software utility that is downloaded directly from the Physical Logic website. The power supply to the module is also via the USB cable.

SM-2000 Key Parameters

Parameter	Units	SM-2002 **	SM-2005 **	SM-2010 **	SM-2015 **	SM-2020 **	SM-2040 **	SM-2070
Input Range	g	±2	±5	±10	±15	±20	±40	±70
Bias								
Short Term Stability STD	µg (max)	100	150	200	250	250	350	650
Long Term repeatability	mg (1σ)	0.5	0.8	1.5	2	2	4	5
Residual Error Over Temperature	µg (1σ)	400	500	500	500	500	650	800
Scale Factor								
Short Term Stability STD	ppm (max)	200	200	200	200	200	200	300
Long Term repeatability	ppm (1σ)	600	600	600	600	600	600	600
Residual Error Over Temperature	ppm (1σ)	200	200	200	200	200	200	200
Other								
Bandwidth (-3dB) *	Hz	200 (500)*	250 (1000)*	250 (1000)*	250 (1200)*	250 (1200)*	300 (2000)*	300 (2000)*
Equivalent Noise Density in Bandwidth ***	µg/√Hz (max)	5 (1.2)	5 (1.6)	5 (2.2)	5 (4)	5 (4)	5	5
Linearity Error	% of full scale (1σ)	0.4	0.4	0.4	0.4	0.4	0.4	0.4

** **Also available as export control free products** (Operating temperature range tested @ -10°C to +60°C)

*Special order required for adjusted Bandwidth. No degradation in other parameters.

*** 5 µg/√Hz in the noise floor of the SM-2000. The accelerometer's noise is specified in brackets.

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