

# Structural-Health Sensors

Model: SMG034

The SMG034 sensor has two outputs. One output indicates real-time displacement changes between its attachment points; the second output stores and outputs the peak displacement experienced since the gage was last reset. With this data, you can determine the maximum strain or displacement that a structural component has experienced, along with its current status. This is the critical information needed to monitor a number of problems, including fatigue crack growth, beam rotation, bridge deck detachment, settlement, overload conditions, and earthquake damage. The gage has the high sensitivity needed to monitor excessive strain and the wide range required to track excessive motion.

Specifications:

DIMENSIONS		140 x 14 x 25 mm (5.5 x 0.55 x 1 inch)
WEIGHT		70 gram (2.5 ounce)
RANGE		0 - 11 mm peak (0 - 0.43 inches)
POWER		10 mW at 5V (only when being read)
SUPPLY VOLTAGE (DC)		1 V to 20 V (5 V preferred)
NOMINAL RESISTANCE		2.5 k w
ACCURACY WITH PRECISION CALIBRATION OPTION (±)	AS DISPLACEMENT	<10 mm (400 m -inch)
	AS STRAIN (std. 140 mm (5.5") length)	70 mm/m (70 m -inch/inch)
	AS STRAIN (opt. 610 mm (24") length)	17 m m/m (17 m -inch/inch)
ACCURACY WITH STANDARD LINEAR CALIBRATION (±)	AS DISPLACEMENT	<50 mm (2000 m -inch)
	AS STRAIN (std. 140 mm (5.5") length)	350 mm/m (350 m -inch/inch)
	AS STRAIN (opt. 610 mm (24") length)	80 mm/m (80 m -inch/inch)
OPERATING TEMPERATURE RANGE		-40 °C to +65 °C at full accuracy
SENSITIVITY		0.09 (Voutput/Vsupply)/mm
MAX SAMPLING FREQUENCY		>100 kHz