

DATASHEET

MEMS Gravity Sensors

- State of the art MEMS gravity sensors
- Resonant MEMS vibrating beam relative gravimeter with a resolution of better than 5  $\mu$ Gal.
- Automated compensation for temperature, pressure, instrument tilt and tide.
- Seamless interface with a laptop or tablet via WiFi, Bluetooth or Ethernet for display and controls.
- GPS capability for accurate location.
- Rechargeable batteries provide 15 hours of continuous operation. Options for permanent operation are available.
- Product suite centered around SMG OEM gravity module



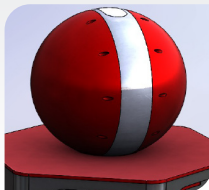
	OEM Gravity Module
Resolution	<5 $\mu$ Gal
Power	5 Watts at 25°C
Size)	20 x 20 x 20cm
Weight	5kg

OEM Gravimeter



Single OEM Gravity Sensor

Static Gravimeter



Static independent system on a Tripod

Drone Deployed



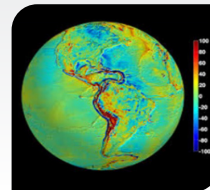
Drone deployment for wide area surveys

Rover Deployed



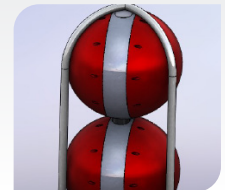
Ruggedized tracked vehicle for automated surveys

Permanent Absolute Gravity Sensor



For permanent long term Gravity measurements

Stacked Gradiometry



Stacked pair for gradiometric studies

Application Examples

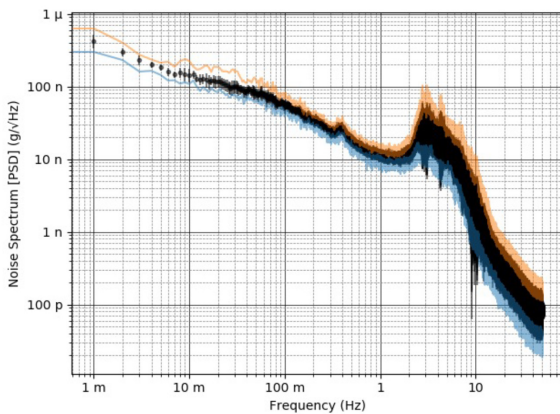
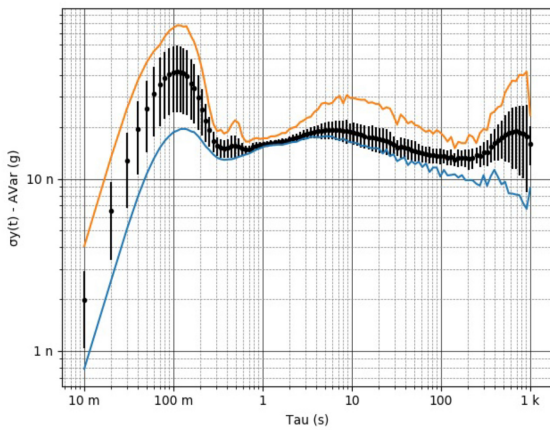
- Civil Engineering
- Security
- Border control
- Defense
- Cartography
- Infrastructures/utilities





- UK based company based near Cambridge
- European manufacturing
- Expertise in MEMS design for gravity and inertial sensors
- Proprietary resonant MEMS technology

(Below) Allan Variation showing a bias instability of  $<10 \mu\text{Gal}$  and Power spectral density showing a velocity random walk of  $10 \text{ ng}/\sqrt{\text{Hz}}$



(Right) SMG prototype system trialled at National Buried Infrastructure Facility (NBIF) trial site.

Buried pipe clearly seen with SMG prototype. Average gravity repeatability of  $13.7 \mu\text{Gal}$  and as low as  $<5 \mu\text{Gal}$  for first station.

Good correlation with modelled gravity anomaly and measured anomaly.

Benchmarking comparison relative to the current industry-standard gravimeter.

