

GAIA-FIELD

Worlds First MEMS Gravimeter with Automatic Gimbal.

GAIA-FIELD offers previously unheard-of benefits for practical field gravimetry.

- Highly robust VBA resonant MEMS gravity sensor
- Automatic remote gimbal levelling with $\pm 5^\circ$ tilt range
- Exceptionally robust, compact and portable +/- 1G
- Phone / Tablet operation reduces local vibration and tilt effects from operators
- Saves time in the field with fast deployment, automated levelling and easy to use interface



Trenching &
Excavation
Planning



Detect & Map
Buried
Infrastructure



Geophysics &
Environmental
Monitoring



Earth Observation
& Climate
Monitoring

Key features

- | High Sensitivity: $<0.01 \mu\text{Gal}$ resolution & $<5 \mu\text{Gal}$ st dev of repeats at $<120\text{s}$
- | Automatic Gimbal: $\pm 5^\circ$ tilt range
- | Rapid Measurements: $<10\text{s}$ levelling, remotely controlled
- | Compact & Portable: 5.2 kg total weight, hand carried, any orientation
- | Rugged & Reliable: IP68 (closed), IP65 (open), proven in the field.
- | Flexible: Battery & USB powered, Wi-Fi, USB-C connectivity



GAIA Physics Core

At its heart, the GAIA Physics Core maximizes our VBA MEMS performance in real-world applications.

- Outstanding long-term stability
- Highly repeatable measurements
- Faster startup, stabilization and measurement
- Highly robust in transport and field conditions

Vacuum-sealed VBA
MEMS chamber with
precise thermal control

Advanced digital
resonance tracking unit
and low noise electronics



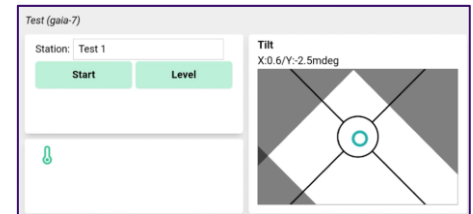
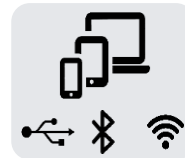
Market leading sensitivity with enhanced portability, automation and connectivity.



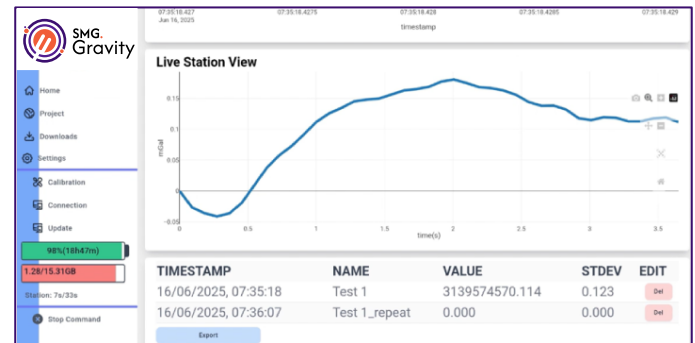
GAIA-FIELD Specifications

Sensor Type	SMG VBA Resonant MEMS
Reading Resolution	<0.01 μ Gal
Standard Deviation	<5 μ Gal @ 60 - 120 seconds
Measurement Range	+/- 2000 gal (+/- 2 g)
Operating Range	-40 °C to +45 °C
Drift	<5 μ Gal / 6 hours
Tares	Typically <2 μ Gal for shocks up to 50 g
Automatic Gimbal	+/- 5 ° or 18,000 arcseconds <2 m° accuracy in <10s
Static Levelling Base	+/- 15 ° levelling in seconds
Onboard Corrections	Tide, instrument tilt, temperature, electronic and seismic noise, instrument drift
Connectivity	USB-C, Wi-Fi
Data output rate	2 kHz, with user managed down sampling
Data storage	Onboard storage with real time access via web interface 2x SD card for triple redundant backup
Battery Life	Up to 24 hours at 10-30 °C
Battery Type	Two hot swappable 6.8 Ah Lithium Ion
Weight	5.2 kg
Dimensions (mm)	270 w x 246 d x 180 h

Real time data, project planning and analysis via any web enabled device



Automatic levelling and virtual spirit level



Live station reading and summary data

Designed for Field Surveys

Market leading sensitivity with enhanced portability, automation, and modern connectivity, make GAIA-FIELD an ideal solution for terrestrial gravity surveys.

- In system or external battery charging
- Separate Static Levelling Base for uneven or unstable ground
- Automatic gimbal for fine adjustment with live tilt via user interface
- Hot swap batteries
- Live battery and connectivity status
- Low drift ensures fewer returns to reference or base station



GAIA-FIELD with total station for <1 cm vertical accuracy during μ Gal survey

GAIA-FIELD System Contents

- GAIA-FIELD Gravimeter
- GAIA-FIELD Mini-Tripod & Static Levelling Base
- 2x Rechargeable Battery Packs
- Standalone Battery Charger
- GAIA-FIELD USB-C Charger & Cable
- User Manual

Training and Support

SMG Gravity are passionate about gravity measurements and surveys, built on a foundation of physics and practical metrology.

We offer full product and gravity training, consultancy and support. Our field engineers are available to support your surveys or survey teams.