

Field Absolute Quantum Gravimeter

A free-fall absolute gravity meter based on laser-cooled atoms and compatible with outdoor operating conditions



Based on the same technology as the AQG, the Field AQG belongs to the family of automated and turn-key absolute gravity sensor based on laser-cooled atoms. This ruggedized and temperature-controlled version meets the objective to provide the excellent measurement performances of Muquans quantum gravimeter even when operating outdoor.

General principle

The Field AQG measures the acceleration of a free-falling test mass in vacuum: the ballistic free-fall of an ensemble of laser-cooled atoms is accurately monitored, and the acceleration of gravity is then inferred². This technique is one of the ballistic free-fall methods proclaimed by the BIPM (Bureau International des Poids et Mesures) as an official primary method for the measurement of gravity.

Main features (see also specifications below)

- Operating temperature range: [-10°C ; 30°C] or [0°C ; 40°C]
- Absolute gravity measurement at the μGal level
- Continuous data acquisition
- Simple and fast operation (typical installation time < 30 minutes)
- Transportable sensor



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PRECISION QUANTUM SENSORS

General Specifications

AC Power consumption

500 W (110 V)

DC Power consumption

500 W (12V or 24V)

Typical total weight (4 boxes)

< 140 kg

Maximum weight of 1 box

40 kg

Dimension of the sensor head

footprint: 0,3 m²
Height : < 100 cm
(tripod incl.)

Dimension of the control unit

footprint: 1 m²
Height : < 100 cm

Performance Specifications

Sensitivity

70 μGal/Vt typ.

Precision (statistical uncertainty)

< 2 μGal

Long-term Stability

< 2 μGal

Repeatability

< 2 μGal

Cycling frequency

> 1 Hz



Contact

Should you have any inquiry about our products or our technologies, please feel free to contact us at: sales@muquans.com

www.muquans.com