INO
Sea-Floor Gravity Meter

SCINTREX
A DIVISION OF LRS
Setting the Standards

The INO sea-floor gravity meter uses the well proven CG-5 Autograv™ fused quartz sensor with electrostatic nulling which is incorporated into a submersible system. The INO uses an advanced electronics system with user-friendly software to provide microGal repeatability on the sea-floor. The INO is designed for a depth of 600 m (1970 ft) with an Aluminum pressure sphere.

APPLICATIONS

Oil & Gas Exploration

Gravity can be used to determine the location of a Salt dome in which oil or gas could be present. Measuring the density change in an oil reservoir can assist in the oil and gas recovery process.

Mineral Exploration

Gravity can detect Sea-floor Massive Sulphides.

Geological Mapping

Gravity can be used to complement the results of geological mapping of the sea-floor.

Geotechnical

Gravity can be used to determine mass of investigation.

BENEFITS

The INO has a standard resolution of 1 microGal with a standard deviation that is < 5 microGals.

Easy to Operate

With minimal training a user can quickly collect and record reliable gravity data. The INO connects to a standard 7- conductor marine winch cable for easy deployment.

Rugged, Robust Sensor, No Clamping Required

The sensing element of the INO is based on the CG-5 Autograv fused quartz spring system. The gravitational force on the proof-mass is balanced by a spring and an electrostatic restoring force. The inherent strength and excellent elastic properties of fused quartz, together with the limit stops around the proof-mass, permit the instrument to be operated without clamping. Additional protection is provided by a durable shock mount system.

Freedom from Tares

Due to low mass and excellent elastic properties of fused quartz, tares are virtually unknown. The INO system is mounted on shock absorbers to minimize the impact of landing on the sea-floor.

Automatic Compensation and Correction

By using electronic tilt sensors, the INO is constantly updating information from the internal tilt sensors. The INO can automatically compensate measurements for the errors in instrument tilt as it settles onto the sea-floor. Based on operator entered geographical location and time zone data or GPS information, the INO can automatically calculate and apply a real time tidal correction to each reading.

Automatic Noise Rejection

Measurement errors due to vibrations are limited by smart signal processing and unsurpassed seismic noise rejection. The INO has a very effective seismic filter that can remove micro-seismic noise.

Low Residual Drift

The extremely stable operating environment of the quartz spring system allows the long-term drift to be accurately determined and a real-time software correction reduces it to less than 0.02 mGal/day.

CONTROL SYSTEM FEATURES

- Easy setup and system calibration
- Ruggedized laptop
- Built-in regulated power supply
- UPS backup power
- Real-time data output at 1Hz from data collection at 6Hz
- Real-time display of the graphic digitized gravity data
- Quick response servo-leveling motors
- Shock absorbers
- Water leakage sensor
- Winch quadrature encoder input with USB interface
- High precision depth pressure sensor
- Micro controller with flash memory within the sphere for data back-up
- Built-in locator beacon

OPTIONS

High Temperature Option – for use in climates that may exceed the operation temperature of +30°C (86°F) on dry dock. Allows operating temperature of up to +50°C (122°F). This option is required to be ordered at the time of instrument purchase.

For greater depths, please contact us for more information.

INO SPECIFICATIONS

REPEATABILITY	< 5 microGal
READING RESOLUTION	1 microGal
OPERATING RANGE	8000 mGal
AUTOMATIC TILT COMPENSATION	±200 arc seconds
AUTOMATED CORRECTIONS	Tide, instrument tilt, temperature, drift, noise rejection filter, seismic noise filter
AUTOMATIC SELF-LEVELING	< 36° from horizontal
SELF-LEVELING ACCURACY	< 50 arc seconds
OPERATING DEPTH	600 m (1970 ft)
OPERATING TEMPERATURE	+1°C to +30°C (34°F to 86°F) Optional High Temperature to +50°C (122°F)
VERTICAL DEPTH ACCURACY	10 cm (4 in)
POWER	24V DC nominal 30 - 400V DC cable dependent
DIMENSIONS	92 cm (H) x 86 cm x 86 cm (36 in (H) x 34 in x 34 in)
WEIGHT	80 kg (176 lbs), 5 kg (11 lbs) negative buoyancy

All specifications subject to change without notice.

COMPLETE GRAVITY SOLUTIONS

Training Programs

Scintrex can provide training programs at our offices in Canada or at your location.

Application Software

Scintrex can provide software packages to support your data processing, interpretation and mapping needs.

222 Snidercroft Road | Concord, L4K 2K1 | Ontario, Canada
PHONE +1-905-669-2280 **FAX** +1-905-669-6403
EMAIL scintrex@scintrexltd.com

WWW.SCINTREXLTD.COM

SCINTREX
A DIVISION OF LRS
Setting the Standards