

ZLS CORPORATION

EXCELLENCE IN HIGH PRECISION GRAVITY METERS



Burriss Gravity Meter™

- Highest Quality
- Most Precise
- Most Rugged
- Lightest Metal Spring Meter
- Android App
- GPS

Applications

- Petroleum
- Mineral
- Civil Engineering
- Geophysical Mapping
- Geotechnical
- Archaeological
- Groundwater Studies
- Environmental Studies
- Tectonic Research
- Volcanology
- Geothermal

Specifications

Worldwide: 7000 mGal

Resolution:

Single Mode: .001 mGal

Continuous (filtered): .0001 mGal

Precision: $\pm .015$ mGal

Repeatability:

Feedback: .005 - .007 mGal

Dial: $\pm .015$ mGal

Drift: 1.0 mGal / month (new)

$\leq .3$ mGal / month (mature)

Battery Life: 16-18 hr (standby)

12-14 hr (operation)

Operating Temperature: -15°C to $+50^{\circ}\text{C}$

Size: 29.25 x 18.5 x 29.25 cm

11.5 x 7.25 x 11.5 in

(W x D x H)

Weight: 5.9 kg (13 lbs.)



Burriss Gravity Meter™ - Made for the Field

It took ZLS over 6 years to develop a new metal, zero-length spring land gravity meter. The Burriss Gravity Meter™ is not a repackaging of old technology. It is a new meter designed specifically to take advantage of the latest advances in digital technology. The result is a meter with superior digital performance and ease of use. It is the most precise, rugged and lightest metal spring gravity meter on the market. UltraGrav2™ control electronics by Herb Valliant automate the Burriss Gravity Meter™ allowing it to be used with microGal precision.



Each Burriss Gravity Meter™ is built around a handmade, metal, zero-length spring. ZLS springs have extremely low hysteresis and drift rates. When new, ZLS springs drift approximately 1.0 mGals per month after aging and when mature, drift less than 0.3 mGals per month. Data have shown that the spring's drift rate improves with age.

The prototype had a drift rate of approximately 0.030 mGals per month. The Burriss Gravity Meter™ has consistently yielded standard deviations of 0.003 mGal or better during routine field tests.

The Burriss Gravity Meter™ contains the sensor, electronics, computer and battery "All-In-One" easy to handle unit. Small in size, the Burriss Gravity Meter™ weighs 13 pounds with a standard lithium battery. This makes the Burriss Gravity Meter™ the lightest metal spring land gravity meter on the market.



Burris Gravity Meter™ Models

There are two models of the Burris Gravity Meter, 1) **Non-Calibrated Screw Burris Gravity Meter** and 2) **Calibrated Screw Burris Gravity Meter**. Both meters are identical in construction and have the same reading resolution of 0.001 mGal when reading the force balance.

The **Non-Calibrated Screw Meter** does not have a calibrated micrometer screw. The meter is intended for users with short range surveys on flat areas and/or stationary site measurements requirements. The Non-Calibrated Screw Meter's measuring screw itself does not measure gravity. The screw is used to adjust the meter to within the 50 mGal range of the force balance where it can take a gravity reading.

Non-Calibrated Burris Gravity Meter™

1. 50 mGal Automatic Nulling Range with Microgal Reading Precision
2. Worldwide Ranging Screw
3. Land Gravity Meter with Beam Galvo
4. Electronic Levels with Reading Galvos
5. UltraGrav2™ Electronics, Controller and Software

The **Calibrated Screw Meter** has a calibrated micrometer screw. This meter is intended for users who routinely have surveys covering large geographic areas, mountainous regions or continental surveys.

The Calibrated Screw Burris Gravity Meter is calibrated every 50 mGals over the entire 7,000-mGal meter range. Readings taken with UltraGrav2™ are free of circular error when the dial is set to a calibrated point. Calibration values are stable over time as they are determined by a hardened micrometer screw.

Calibrated Burris Gravity Meter™

1. 50 mGal Automatic Nulling Range with Microgal Reading Precision
2. 7000 mGal Worldwide Range
3. Land Gravity Meter with Beam Galvo
4. Electronic Levels with Reading Galvos
5. UltraGrav2™ Electronics, Controller and Software

Android Tablet, GPS and Recorded Data

UltraGrav2™ is installed on a 9.7" Android tablet for flexibility in the field. The app can be installed on any Android device 6" or larger with Bluetooth capability. This makes UltraGrav2™ convenient to use and easy to maintain in the field. Data files can be viewed within the Android device for quality checks. Saved observations can be downloaded via USB cable, memory stick or simply e-mailed. Data files once saved are protected from loss of power.

UltraGrav2™ has been streamlined to be easier to use yet is more powerful. GPS coordinates from the Android device can be used if more accurate coordinates are not available. The program offers optional filtering to facilitate single observations during noisy environmental conditions. Many of the functions have been combined to give you more information. There are three different formats for recording data, one for single point measurements and two for continuous measurements.

Specifications

Comes with a re-chargeable battery; a single battery can operate for up to 12 hours; also comes with a spare battery and a battery charger.

Corrects for earth tide, tilt, drift and temperature. There is also a user selected filter for environmental noise compensation.

Operation System: Wireless connection with the gravity meter for normal gravity measuring and recording. Android tablet with 9.7" touchscreen color LCD (2048x1536 resolution), rechargeable battery, GPS, Wi-Fi, Bluetooth, USB interface, 32 GB ROM; up to 128 GB with microSD card, 3 GB RAM, and weighs just 0.376kg.

Delivered accessories include: a rectangular base plate with a triangular leveling system footprint that is equivalent or better than a common triangular base plate, shipping case, required cabling and wires for normal gravity operation.

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