

## GyroSmart™

>> Directional surveying in all environments



### GyroSmart™

A complete downhole surveying package capable of surveying in all environments, magnetic and non-magnetic, providing its own internal quality checks.

**Tool Control:** The GyroSmart™ is setup and controlled using the rugged Itronix field PC supplied with the system. Twelve parameters are continuously recorded throughout the survey to track the path of the drill hole. There is no need for expensive conductor wireline or cable heads; the power is provided by a rechargeable internal battery pack and all data is stored on the 512 MB onboard memory.

**Survey Methods:** The GyroSmart™ provides directional data (azimuth and dip) at any interval from inside all types of drill rods. The GyroSmart™ can also be used in open hole applications providing Azimuth data in magnetically disturbed zones by utilizing the Gyros. Survey using wireline or insert the GyroSmart™ into the core barrel and survey by tripping rods. The running gear can also be joined to the front drill rod using an adapter.

**Data Transfer and Display:** After the probe is retrieved at the surface, the GyroSmart™ measured data is transferred from the onboard memory to the field PC via Bluetooth. After the full set of readings are transferred, the data is further processed using the sophisticated inertial navigation software in GyroMeasureIT. The user can also tabulate, plot and export the data with DisplayIT.



## Key features

- > Magnetic & non-magnetic environments
- > Measures in all directions
- > Rugged construction, no moving parts
- > Standard running gear 40mm O.D.
- > Fully remote operation with no cables
- > Easy to operate
- > One of the least expensive gyros on the market

Directional Surveying Specialists



# GyroSmart™

The GyroSmart™ is built around a digital micro-gyro, which consists of a silicon sensor chip and an integrated circuit assembled in a ceramic (non-magnetic) package. These components work together to yield unparalleled flexibility. The world-class digital micro-gyro performance which results in its small size, makes it rugged, shock tolerant and cost effective.

GyroSmart™ is the simplest to use, yet most technically advanced, miniature Digital Gyro survey system available. The GyroSmart™ represents decades of innovative development in borehole surveying systems.

- > Dip angle (inclination) 0 to  $\pm 90^\circ$  (Acc:  $\pm 0.2^\circ$ )
- > Direction (azimuth) 0 to  $360^\circ$  (Acc:  $\pm 0.3^\circ$ )
- > Magnetic Field Strength 50 to 100 000nT
- > Magnetic Dip Angle 0 to  $\pm 90^\circ$
- > Gravity Roll Angle 0 to  $360^\circ$
- > Magnetic Toolface Angle 0 to  $360^\circ$
- > Temperature  $^\circ\text{C}$  or  $^\circ\text{F}$  ( $-20^\circ\text{C}$  to  $+70^\circ\text{C}$ )

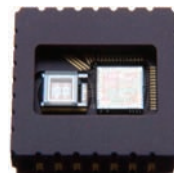
## Specifications

### GyroSmart Instrument:

- Dimensions > O.D 32mm, L 807mm
- Weight > 1.1 kg
- Operating temperature >  $0^\circ\text{C}$  to  $+70^\circ\text{C}$
- Digital Interface > Bluetooth 2.0
- Power Source > Re-chargeable NiMH battery packs
- Operating Time > 8 hours continuous

### GyroSmart Field PC:

- Model > Itronix Duo-Touch
- Dimensions >  $270 \times 184 \times 42$  mm
- Weight > Under 2 kg
- Operating temperature >  $-20^\circ\text{C}$  to  $+60^\circ\text{C}$
- Operating Time > 6 hours continuous with extra pack
- Operating System > Windows Tablet PC
- Other Features > Fully Rugged
  - Built in Bluetooth, WLAN
  - Heated hard drive
  - 1.2 GHz Intel Core Duo, 512 MB RAM

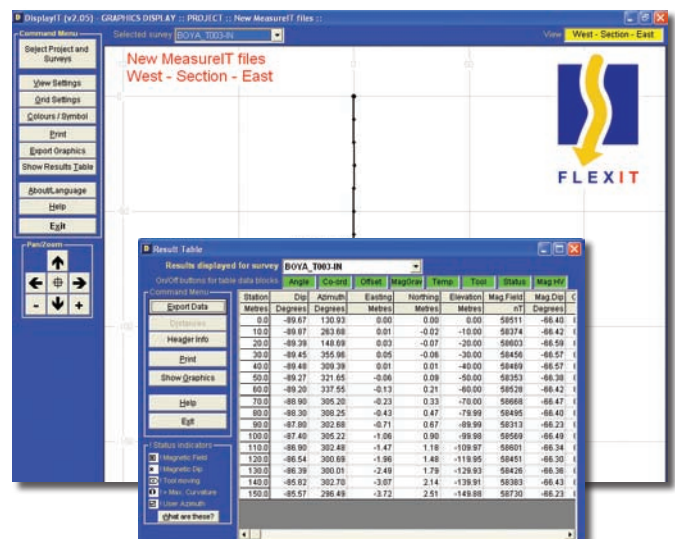


The MEMS Gyro  
(Gyro sensor chip on left,  
integrated circuit on right)

### Instrument Accuracy:

- Dip (Inclination)  $\pm 0.2^\circ$
- Azimuth, magnetic  $\pm 0.3^\circ$
- Azimuth, gyro\*  $\pm 0.5^\circ$
- Roll  $\pm 0.3^\circ$

\* Verified to  $\pm 0.1^\circ$  covering 100m with stations in max 8 min, est. to  $\pm 0.5^\circ$  covering 800m with 5m stations in max 40 min.



## Optional Accessories:



- > DDE - Downhole Depth Encoder (above left)
- > Wireline Winches (above right)
- > Centraliser (left)

## >> More Information

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