INNOVATING SURVEY TECHNOLOGY
WHEREVER YOU ARE
## Current Products December 2018

### Borehole Survey Instruments

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Description</th>
<th>Version</th>
<th>Released</th>
</tr>
</thead>
<tbody>
<tr>
<td>isGyro</td>
<td>Multi-shot &amp; continuous gyro</td>
<td>300-series</td>
<td>December 2015</td>
</tr>
<tr>
<td>TwinGyro</td>
<td>Dual multi-shot &amp; continuous gyro</td>
<td>800-series</td>
<td>March 2017</td>
</tr>
<tr>
<td>SlimGyro</td>
<td>Slimline multi-shot &amp; continuous gyro</td>
<td>200-series</td>
<td>June 2017</td>
</tr>
<tr>
<td>NorthFinder</td>
<td>Gyro compass multi-shot</td>
<td>000-series</td>
<td>April 2014</td>
</tr>
<tr>
<td>isCompass</td>
<td>Magnetic multi-shot</td>
<td>200-series</td>
<td>March 2013</td>
</tr>
</tbody>
</table>

### Borehole Survey Software

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Description</th>
<th>Version</th>
<th>Released</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveyor</td>
<td>Multi-shot and continuous gyro software</td>
<td>1.2.15.0</td>
<td>November 2018</td>
</tr>
<tr>
<td>isAnalysis</td>
<td>Survey data analysis software</td>
<td>1.7.8.0</td>
<td>November 2018</td>
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<tr>
<td>isSurveyor</td>
<td>Multi-shot gyro software</td>
<td>4.9.1.0</td>
<td>November 2018</td>
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</table>

### Survey Instrument Accessories

- **WDT**: Wireless depth tracker
- **Smart Aligner**: GPS sighting system
- **ADW600/800**: Survey winch
- **Tripod**: Support for vertical surveys
- **Running gear**: Pressure barrels, centralizers, fixtures, scopes, wireline encoder converters
BOREHOLE SURVEY INSTRUMENTS
• Most cost efficient gyro
• Fast continuous survey mode
• 0.2% position accuracy
• 200 hours battery
• Ultra-rugged
isGyro Specifications

- Azimuth: 0.5°
- Inclination: 0.1°
- Highside: 0.2°
- Toolface: 0.5°
- Position: < 2 ft/1000ft (subject to wellbore profile)
- Power consumption: 0.2 W
- Standard gear O.D.: 38 mm
- Heat shield O.D.: 1.75”/1.55”
- Battery survey time: 200 hours
• Two independent surveys in one run
• Fast continuous survey mode
• 0.2% position accuracy
• 100 hours battery
• Ultra-rugged
TwinGyro Specifications

- Azimuth: 0.5°
- Inclination: 0.1°
- Highside: 0.2°
- Toolface: 0.5°
- Position: < 2 ft/1000ft (subject to wellbore profile)

- Power consumption: 0.4 W
- Standard gear O.D.: 38 mm
- Heat shield O.D.: 1.75”/1.55”
- Battery survey time: 100 hours
• World’s smallest gyro
• Fast continuous survey mode
• 0.2% position accuracy
• 80 hours battery
• Slim and light-weight
SlimGyro Specifications

- Azimuth: 0.5°
- Inclination: 0.1°
- Highside: 0.2°
- Toolface: 0.5°
- Position: < 2 ft/1000ft (subject to wellbore profile)

- Power consumption: 0.2 W
- Standard gear O.D.: 26 mm
- Heat shield O.D.: 1.20”
- Battery survey time: 80 hours
• True MEMS gyro-compass
• Low-power technology
• Fast WiFi transfer
• Vertical wellbores
NorthFinder Specifications

- Azimuth: 2.5° (1-σ equatorial)
- Inclination: 0.1°
- Highside: 0.2°
- Toolface: 2.5° (1-σ equatorial)
- North finding time: 5 mins

- Power consumption: 0.8 W
- Temperature range: -20° C to +70° C
- Standard gear O.D.: 38 mm
- Heat shield O.D.: 1.75”/1.55”
- Battery survey time: 20 hours
• Magnetic multishot
• Fully integrated
• Wireless communication
• Standard battery cells
IsCompass Specifications

- Azimuth: 0.35° (Magnetic field components available)
- Inclination: 0.15° (Gravity field components available)
- Highside: 0.20°
- Magnetic Toolface: 0.35°
- Power consumption: 0.2 W
- Temperature range: -20° C to +70° C
- Diameter: 35 mm
- Length: 1210 mm (instrument unit)
- Battery survey time: 100 hours
Surveyor™

- The latest gyro software from Inertial Sensing
- Operates TwinGyro, SlimGyro and isGyro 300-series
- Inclined, orientation and vertical surveys
- Fast continuous & traditional multi-shot surveys
- Reprocess continuous data for increased resolution
- Data synch function for Cloud based solutions

<table>
<thead>
<tr>
<th>Hole depth</th>
<th>TwinGyro continuous</th>
<th>TwinGyro multi-shot</th>
<th>isGyro/SlimGyro multishot</th>
<th>North finding multishot</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 m</td>
<td>10 min</td>
<td>1 hr</td>
<td>2 hrs</td>
<td>13 hrs</td>
</tr>
<tr>
<td>600 m</td>
<td>20 min</td>
<td>2 hrs</td>
<td>4 hrs</td>
<td>26 hrs</td>
</tr>
<tr>
<td>1200 m</td>
<td>40 min</td>
<td>4 hrs</td>
<td>8 hrs</td>
<td>52 hrs</td>
</tr>
</tbody>
</table>

* Assuming an average wireline speed of 30 m/min. Depending on winch this can be faster.
isSurveyor™

- The standard gyro software from Inertial Sensing
- Operates isGyro and SlimGyro
- Procedures for inclined, orientation and vertical surveys
- Traditional multi-shot mode
- Data synch function for Cloud based solutions

**COMPARISON OF TIMES REQUIRED TO COMPLETE A SURVEY OF THE GIVEN STATIONS TWICE**

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<tr>
<th>Hole depth</th>
<th>300 m</th>
<th>600 m</th>
<th>1200 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of 3 m stations</td>
<td>100</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>TwinGyro continuous</td>
<td>10 min</td>
<td>20 min</td>
<td>40 min</td>
</tr>
<tr>
<td>TwinGyro multi-shot</td>
<td>1 hr</td>
<td>2 hrs</td>
<td>4 hrs</td>
</tr>
<tr>
<td>isGyro/SlimGyro multishot</td>
<td>2 hrs</td>
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<td>North finding multishot</td>
<td>13 hrs</td>
<td>26 hrs</td>
<td>52 hrs</td>
</tr>
</tbody>
</table>

* Assuming an average wireline speed of 30 m/min. Depending on winch this can be faster.
• Edit, correct and export survey data
• Import and visualize data from groups of surveys
• Horizontal and vertical section plots
• Bull’s eye and 3D plots
• Survey misclose analysis
• Tie in multi-leg surveys
• Automated survey reports
• Digital wireless depth tracker
• Transform drill rig wireline into a logger for surveying
• Built for drillers - robust & reliable - safe & simple
• Long battery life
• Light weight

<table>
<thead>
<tr>
<th>WDT Specifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth accuracy</td>
<td>0.1 %</td>
</tr>
<tr>
<td>Wireline diameter</td>
<td>Up to 12 mm</td>
</tr>
<tr>
<td>Wireline speed</td>
<td>100 m/min</td>
</tr>
<tr>
<td>Communication</td>
<td>Bluetooth 4.0</td>
</tr>
<tr>
<td>Battery type</td>
<td>Re-chargeable Li-ion with 15 hours continuous operation.</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-20° C - 85° C</td>
</tr>
</tbody>
</table>
Smart Aligner

• Portable GPS for survey and alignment
• Instant measurements in real time
• Measure, verify and save data with Android app
• Send reports wirelessly
• Suitable for surface applications

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<thead>
<tr>
<th>Smart Aligner Specifications</th>
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<tbody>
<tr>
<td>Angle accuracy</td>
<td>Azimuth ≤ 0.5°, Inclination &amp; roll: ≤ 0.2°</td>
</tr>
<tr>
<td>Position accuracy</td>
<td>60 cm with SBAS</td>
</tr>
<tr>
<td>Set up time</td>
<td>&lt; 30 s</td>
</tr>
<tr>
<td>Size</td>
<td>483x114x76 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>2.3 kg</td>
</tr>
<tr>
<td>Battery runtime</td>
<td>Re-chargeable Li-ion with 10 hours continuos operation.</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-30°C - 70°C</td>
</tr>
<tr>
<td>Environmental</td>
<td>Waterproof (NEMA 4X, IP63), shockproof (IEC-68-2-27 / IEC 68-2-6)</td>
</tr>
</tbody>
</table>
ADW Survey Winch

- Compact and portable
- 600/800 m of 1/8” wire
- Helicoidal cable spindle
- Electronic depth encoder with display
- Asynchronous electric motor (0.75 kW)
- Electric brake
- Interface for continuous gyro surveys
  (monoconductor wire available on request)
Tripod

- For single operator vertical surveys
- Detachable pulley
- Telescopic legs
- Adjustable ties
- 3 ground anchors
Running gear

- 38 mm RG for isGyro/TwinGyro/NorthFinder
- 26 mm RG for SlimGyro
- 26 mm & 38 mm spring blades centralizers
- Back sighting tripod for Smart Aligner
- Wireline encoder USB converter
- Optical sighting device