Backsight, traverse, and solar observation are no longer required for seeking true north when Gyro X II is at your job site. It operates anywhere, any time, even where other technologies do not work or even when no known station is available.

Determine Azimuth Anywhere, Anytime.

- Directional controls for tunnel construction
- Internal baseline setup for enclosed spaces – inside buildings or hull blocks
- Directional controls for parabola antennas or power line
Acquire true north anytime and anywhere

GYRO X II uses a suspended gyromotor that oscillates around the earth’s meridian (true north) due to the principle of precession caused by the rotation of the earth. This principle realizes faster and more precise measurement than other solutions.

Comparison with Other Solutions

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Restriction by Location</th>
<th>Restriction by Weather</th>
<th>Restriction by Time</th>
<th>Accuracy</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>GYRO STATION</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>High</td>
<td>Fast</td>
</tr>
<tr>
<td>RTK-GPS/GNSS</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>High</td>
<td>Fast</td>
</tr>
<tr>
<td>GPS/GNSS Static</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>High</td>
<td>Slow</td>
</tr>
<tr>
<td>Total Station</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>High</td>
<td>Slow</td>
</tr>
<tr>
<td>Astronomical</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>High</td>
<td>Slow</td>
</tr>
<tr>
<td>Magnetic Compass</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Low</td>
<td>Fast</td>
</tr>
</tbody>
</table>

Only 19 minutes* for measurement

While the conventional type of instruments requires more than 40 minutes for measurement, GYRO X II requires only 19 minutes for a measurement, effectively doubling your work efficiency,* and decreasing operators’ stress anytime and anywhere, on every job.

15” Azimuth Accuracy

The combination of special application software and advanced motor drive system allows the true north direction to be automatically calculated in accuracy of ±15” (6mgon/0.074 mil), GYRO X II increased accuracy by 25 percent compared to the conventional manual type.

Eliminates the chance of human error

Freedom from human error is another advantage of GYRO X II. It eliminates floating index reading error and timing measurement error. With GYRO X II, even unpracticed operators can produce consistent and accurate results.

Easy operation even for unskilled operators

Only three steps are required for the measurement.
1. Point the Gyro Station roughly to the direction of true north.
2. Release the clamp
3. Push measurement button

Auto-pointing total stations

GYRO X II incorporates a gyrocompass unit on auto-pointing total stations. These total stations are equipped with the gyro calculation programs as well as functions for ordinary surveying works to enhance efficiency and productivity on all survey projects after the measurement of true north.

Specifications

**Gyroscope**
- Accuracy of azimuth determination: 1"/5mgon/0.074mm (standard deviation)
- Running-up time: Approx. 60 seconds
- Half period (at 35° latitude area): Approx. 3 minutes
- Operating area: Up to latitude 75°
- Operating temperature: -20° to +50°C (4° to +122°F)
- Size: W165 x D186 x H141mm (W5.7 x D7.3 x H5.6in.)
- Weight: 4.0kg (8.8 lb.)

**Power supplies**
- Inverter: Input 12V DC
- Output 115V AC, 400Hz/12V DC
- Size: W230 x D55 x H94mm (W9.1 x D2.2 x H3.7in.)
- Weight: 1.6kg (3.5 lb.)
- DBC7A Battery: Type Ni-MH external rechargeable battery
- Output 12V DC
- Operating time: 5 hours at 20°C (68°F)
- Size: W240 x D55 x H150mm (W9.5 x D2.2 x H5.9in.)
- Weight: 2.2kg (4.7 lb.)

**SX Series Total Station for GYRO X II**

<table>
<thead>
<tr>
<th>Angle measurement</th>
<th>Rotary absolute encoder scanning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Reading (selectable)</td>
<td>0.5”/1”</td>
</tr>
<tr>
<td>Accuracy (ISO 17123-3:2001)</td>
<td>1”</td>
</tr>
<tr>
<td>Tri-Compensation</td>
<td>Dual Axis, Compensation Range: ±6”</td>
</tr>
</tbody>
</table>

**Distance measurement**
- Prism: Measuring range ATP1/ATP1S: 1.3m to 1,000m (4.3 to 3,281ft.)
- CP01 mini prism: 1.3 to 2,500m (4.3 to 8,200ft.)
- OR1PA mini prism: 1.3 to 500m (4.3 to 1,640ft.)
- AP prism: 1.3m to 6,000m*3 (4.3 to 19,685ft.)
- Accuracy: (1mm + 2ppm x D) mm (measuring distance in mm)
- Reflective sheet target: Measuring Range: 1.3 to 300m (4.3 to 984ft.) at slow rotation
- Accuracy: (2mm + 2ppm x D) mm
- Reflectless*4: Measuring Range: 0.3 to 1,000m (1 to 3,281ft.)
- Accuracy: (2mm + 2ppm x D) mm (0.66 to 200m)

**Auto-Pointing**
- Operating range: ATP/ATP1S: 360° Prism: 2 to 600m (6.6 to 1,969ft.)
- CP01 mini prism: 1.3 to 2,500m (4.3 to 8,200ft.)
- OR1PA mini prism: 1.3 to 500m (4.3 to 1,640ft.)
- AP prism: 1.3 to 1,000m (4.3 to 3,281ft.)
- Rotation speed: 857/s

**General**
- Signal source / Laser output: Red laser diode (690nm) / Reflectors: Class 3R, Prism: Reflective sheet mode: Class 1 equivalent
- Laser pointer: Coaxial red laser pointer using EDM measuring beam, Class 3R spot
- Guide light: Green and red LEDs, Wanning range: 1.3 to 150m (4.3 to 492ft.)
- Size (with handle): 230(W) x 207(D) x 401(H)mm (W9.1 x D8.2 x H15.8in.)
- Weight (with handle and battery): Approx. 7.5kg (16.7 lb.)

*1 Follow-up measurement: When telescope pointed to within ±2° of true north,
*2 Time measurement: When telescope pointed to within ±2° of true north.
*3 Limited good conditions: No haze with visibility about 40km, overcast with no heat shimmer.
*4 Fine mode: With Kodal Gray Card White Side (90% reflective), Brightness level at object surface ±500 lx. When brightness on measured surface is ±30,000 lx, or less. Reflectless range/accuracy may vary according to measuring objects, observation situations and environmental conditions.

Standard Equipment

SX main unit (SX-101P or SX-103P), Gyroscopic unit with bridge, Battery (BDC7A), Charger (CDC75), AC plug (EDC80 or EDC81), (Already installed to CDC75), Inverter, 5-pin cable, 3-pin cable, Communication cable (DDC213), Fuse, Lens hood, Tubeless compass (Exclusively for gyroscopic unit), Clamp lock, Vinyl cover, Cleaning cloth, Operator’s manual (USB), Clamp caution card, Carrying case

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