SOKKIA

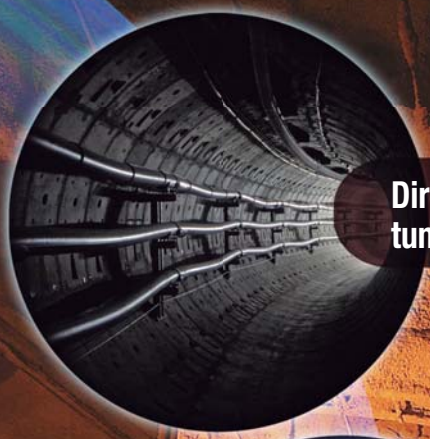
GYRO X II

GYRO1X II / GYRO3X II

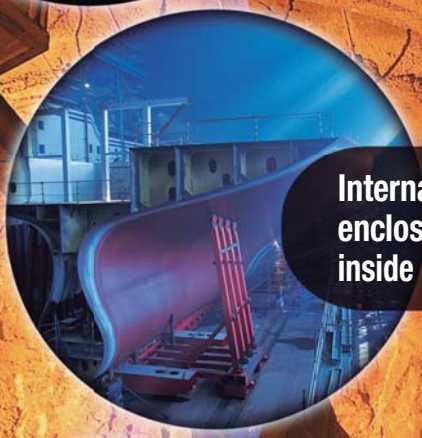
Automated Gyro Stations

Determine Azimuth Anywhere, Anytime.

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.



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

	Restriction by Location	Restriction by Weather	Restriction by Time	Accuracy	Speed
GYRO STATION	**None**	**None**	**None**	**High**	**Fast**
RTK-GPS/GNSS	Yes	None	None	High	Fast
GPS/GNSS Static	Yes	None	None	High	Slow
Total Station	Yes	Yes	Yes	High	Slow
Astronomical	Yes	Yes	Yes	High	Slow
Magnetic Compass	None	None	None	Low	Fast

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.

*Combination of preliminary measurement and regular measurement. In the regular measurement, users have a choice of follow-up or time measurement. When measured at 35° latitude area. Measurement time differs by the latitude due to the nature of gyro motor.

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" (5mgon/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 gyroscope 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		15"/5mgon/0.074mil (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		W145 x D186 x H416mm (W5.7 x D7.3 x H16.4in.)	
Weight		4.0kg (8.8 lb.)	
Power supplies			
Inverter	Input	12V DC	
	Output	115V AC, 400Hz/12V DC	
	Size	W130 x D55 x H240mm (W5.1 x D2.2 x H9.4in.)	
	Weight	1.6kg (3.5 lb.)	
BDC7A Battery	Type	Ni-MH external rechargeable battery	
	Output	12V DC	
	Operating time	5 hours at 20°C (68°F)	
	Size	W140 x D50 x H250mm (W5.5 x D2.0 x H9.8in.)	
	Weight	2.2kg (4.7 lb.)	
SX Series Total Station for GYRO X II*2			
		SX-101P	**SX-103P**
Angle measurement		**Rotary absolute encoder scanning**	
Minimum Reading (selectable)		0.5"/1"	1"/ 5"
Accuracy (ISO 17123-3:2001)		1"	3"
Tilt Compensation		Dual Axis, Compensation Range: ±6'	
Distance measurement			
Prism	Measuring range	ATP1/ATP1S 360° Prism: 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	(1.5mm + 2ppm x D) mm (D=measuring distance in mm)	
Reflective sheet target	Measuring Range	1.3 to 500m (4.3 to 1,640ft.) with RS90N-K reflecting sheet	
	Accuracy	(2 + 2ppm x D) mm	
Reflectorless*4	Measuring Range	0.3 to 1,000m (1 to 3,281ft.)*3	
	Accuracy	(2 + 2ppm x D) mm (D: 0.66 ~ 200m)	
Auto-Pointing			
Operating range		ATP1/ATP1S 360° Prism: 2 to 600m (6.6 to 1,969ft.) CP01 mini prism: 1.3 to 700m (4.3 to 2,297ft.) 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		85°/s	
General			
Signal source / Laser output		Red laser diode (690nm) /Reflectorless mode: Class 3R, Prism / Reflective sheet mode: Class 1 equivalent	
Laser pointer		Coaxial red laser pointer using EDM measuring beam, Class 3R laser	
Guide light		Green and Red LEDs, Working 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. 7.1kg (15.7 lb.)	

*1 Follow-up measurement: When telescope pointed to within ±2° of true north,
Time measurement: When telescope pointed to within ±20′ of true north.
*2 For the specifications of the SX Series, see SX Series operator's manual
*3 Under good conditions: No haze with visibility about 40km, overcast with no heat shimmer.
*4 Fine mode: With Kodak Gray Card White Side (90% reflective). Brightness level at object surface: ≦500 lx. When brightness on measured surface is 30,000 lx. or less. Reflectorless range/accuracy may vary according to measuring objects, observation situations and environmental conditions.

Standard Equipment

SX main unit (SX-101P or SX-103P), Gyroscope 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 (DOC213), Fuse, Lens hood, Tubular compass (Exclusively for gyroscope unit), Clamp lock, Vinyl cover, Cleaning cloth, Operator's manual (USB), Clamp caution card, Carrying case

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Specifications subject to change without notice

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