SOKKIA

GYRO X

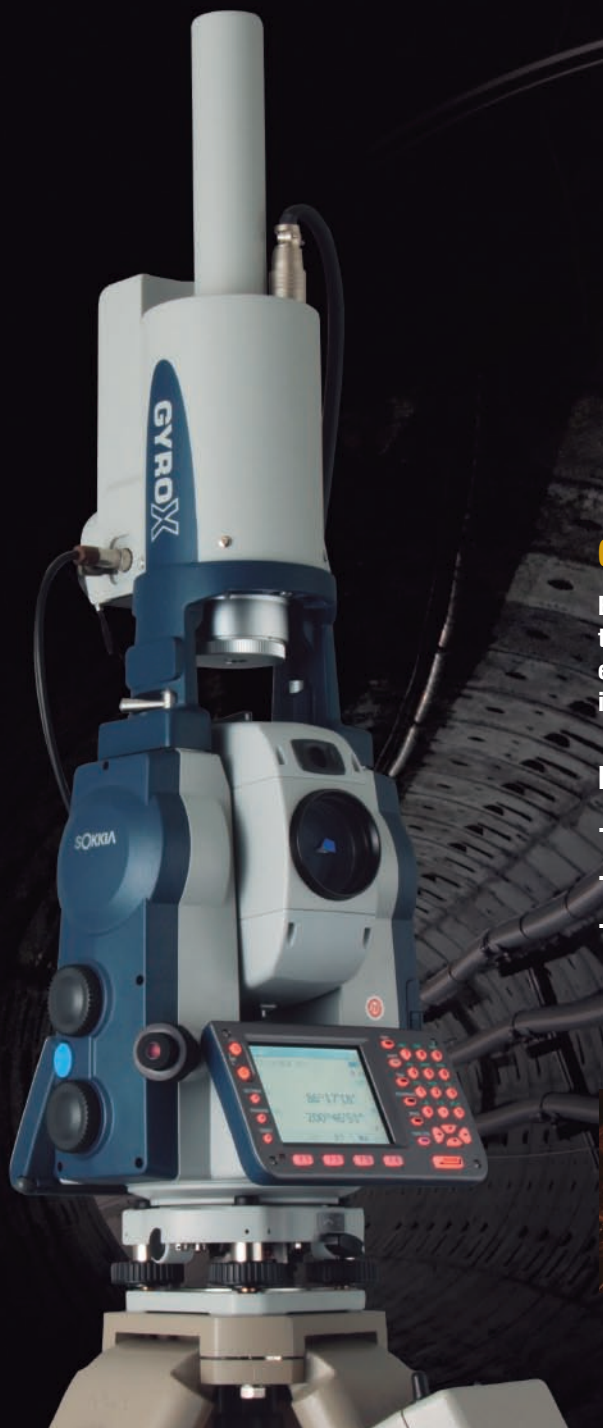
GYRO1X / GYRO2X / GYRO3X

Automated Gyro Stations

19 minutes* in 15" precision to determine True North

Sokkia's market-proven precision Gyro Station now incorporates auto-pointing capability and automates the observation of the pendulum gyro oscillation (precession) by newly equipped image sensor. It automatically finds true north in 19 minutes and determines the azimuth with 15" precision regardless of the work site environment. Operation is speedy and easy even for unskilled operators to reduce stress and fatigue.

*When measured at 35° latitude area. Measurement time differs by the latitude due to the nature of gyro motor.



Gyro X does not require station or astronomical observation

Backsight, traverse, and solar observation are no longer required for seeking true north when Gyro X 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.

Range of applications

- Directional controls for tunnel construction
- Internal baseline setup for enclosed spaces -- inside buildings or hull blocks
- Directional controls for parabola antennas

Acquire true north anytime and anywhere

GYRO X 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 requires only 19 minutes for measurement, effectively doubling your work efficiency,* and decreasing operators' stress anytime and anywhere, on every job.

*Combination of follow-up measurement and 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 position to be automatically calculated in accuracy of ±15" (5mgon/0.074 mil). Gyro X 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. It eliminates reticle reading error or timing measurement error. With Gyro X, even unpracticed operators can produce consistent accurate results.

Easy operation even for unskilled operators

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

Auto-pointing total stations

Gyro Station incorporates a gyroscope unit on auto-pointing total stations. These total stations implement the gyro calculation programs as well as work as surveying instruments 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 middle latitudes)		Approx. 3 minutes		
Operating temperature		-20 to +50°C (-4 to+122°F)		
Operating area		Up to latitude 75°		
Size		W145 x D186 x H416mm (W5.7 x D7.3 x H16.4in.)		
Weight		Approx.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	Approx.1.6kg (3.5 lb.)		
BDC7A Battery	Type	Ni-MH external rechargeable battery		
	Output	12V DC		
	Operating time	Approx.5 hours at 20°C (68°F)		
	Size	W140 x D50 x H250mm (W5.5 x D2.0 x H9.8in.)		
	Weight	Approx.2.2kg (4.7 lb.)		
SRX Total Station for GYRO X*2		**SRX1X**	**SRX2X**	**SRX3X**
Telescope		Magnification:30x, Resolving power:2.5", Minimum focus:1.3m (4.3ft.)		
Angle measurement (Rotary absolute encoder scanning. Both circles adopt diametrical detection)				
Accuracy (ISO 17123-3:2001)		1" (0.3mgon)	2" (0.6mgon)	3" (1mgon)
Display resolution (selectable)		0.5"/1", 0.1/0.2mgon 0.002/0.005mil		1"/ 5", 0.2/1mgon 0.005/0.02mil
Dual-axis compensator		2-axis liquid tilt sensor, Working range: ±4' (±74mgon)		
Distance measurement		**Coaxial phase shift measuring system**		
Signal source		Red laser diode (690nm)		
Laser output		Reflectorless mode: Class 3R, Prism/Sheet mode: Class 1 equivalent		
Measuring range*3	With 1 AP prism	1.3 to 5,000m (4.3 to 16,404ft.) / to 6,000m (to 19,685ft.) under good conditions		
	With reflective sheet	1.3 to 500m (4.3 to 1,640ft.) with RS90N-K (90x90mm) reflective sheet		
	Reflectorless*4	0.3 to 800m (1 to 2,625ft.) / 0.3 to 1,000m (1 to 3,281ft.)*5		
Accuracy*3 (ISO17123-4:2001) (D=measuring distance in mm))	With prism	(1.5 + 2ppm x D)mm		
	With reflective sheet	(2 + 2ppm x D) mm		
	Reflectorless*4	(2 + 2ppm x D)mm : D≦200m (D≦656ft.)*6 (5 + 10ppm x D)mm : 200<D≦350m (656<D≦1,148ft.) (10 + 10ppm x D)mm : 350<D≦1,000m (1,148<D≦3,281ft.)		
Motor drive				
Rotation speed at 20°C (68°F)		Max.60°/s (Approx.7s for 180° rotation)		
Fine motion		Programmable 2-speed jog dials		
Auto-Pointing				
Operating range	With AP prism	1.3 to 1,000m (4.3 to 3,281ft.)		
	With Reflective sheet	5 to 50m (16.4 to 164ft.)		
Laser		Infrared laser diode (980nm), Class 1 laser		
General				
Laser pointer		Coaxial red laser pointer using EDM measuring beam, Class 3R laser		
Guide light		Green and Red LED, Working range: 1.3 to 150m (4.3 to 492ft.)		
Size (with handle)		W201 x D220 x H379mm (W7.9 x D8.7 x H14.9in.) (with optional Face 2 display, excluding protruding sections)		
Instrument weight (with BDC58 and handle)		7.6kg (16.8 lb)		

*1 When telescope pointed to within ±20' of true north. *2 For the specifications of the SRX, see Series SRX operator's manual *3 Under average conditions:slight haze, visibility about 20km (12 miles), sunny periods, weak scintillation, verified by prisms and reflective sheet targets made by Sokkia *4 Brightness level at object surface:≦5,000 lx. with Kodak Gray Card white side (90% reflective). *5 Brightness level at object surface:≦500 lx. with Kodak Gray Card white side (90% reflective). *6 (5 + 2ppm x D)mm within the distance range of 0.3~0.66m.

Standard Equipment

SRX main unit (SRX1X, SRX2X or SRX3X), Gyroscope unit with bridge, Battery (BDC7A), Charger (CDC75), AC plug, Inverter, 5-pin cable, 3-pin cable, Communication cable (DOC135), Fuse, Tool pouch, Watch-maker's screwdrivers, Screwdriver, Lens brush, Adjusting pin, Lens hood, Tubular compass (Exclusively for gyroscope unit), Clamp lock, Vinyl cover, Cleaning cloth, Operator's manual, Clamp caution card, Carrying case

Optional Accessory

Y Cable (EDC140)

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