

SOKKIA

GP1X · GP2X GP3X · GP5X

GYRO STATION

Determine Azimuth Anywhere, Anytime

The GYRO STATION locates true north and determines azimuth without any other aid.

Ideal for surveying and engineering applications where no known station is available.

Applications

- Directional controls for tunnelling
- Setting-out in underground constructions
- Roads, Railroads, Power lines, Pipelines and similar long and narrow construction projects



Set the Azimuth and Start Surveying

This Unique Instrument Provides Superior Solutions Beyond the Reach of Other Technologies

20" Azimuth Accuracy

The GYRO STATION incorporates the GP1 manual gyroscope mounted on the SET X total station. It can locate true north and determine the azimuth with 20" (6 mgon / 0.1 mil) precision within 20 minutes.

Comparison with Other Solutions

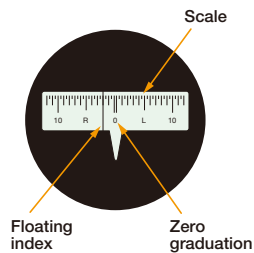
	Restriction by Location	Restriction by Weather	Restriction by Hour	Accuracy	Speed
GYRO STATION	None	None	None	High	Fast
RTK-GPS/GNSS	Yes	None	None	High	Fast
GPS/GNSS Static	Yes	None	None	High	Slow
Total Station	Yes	Yes	Yes	High	Slow
Astronomical	Yes	Yes	Yes	High	Slow
Magnetic Compass	None	None	None	Low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

Two Modes for Seeking True North

Observe the precession of the "floating index" through the GP1's eyepiece. The following two measurement modes are available.

Follow-up Measurement

Rotate the SET X horizontally to keep the floating index at the zero (0) graduation. At the turning point of precession, just press a key on the SET X or the DLC1 remote trigger. With two or more turning points, the azimuth is automatically calculated.



Time Measurement

Make a provisional determination of true north within a precision of ±20' (0.37gon, 6mil) using Follow-up Measurement or a magnetic compass. Press a key each time the floating index crosses the zero graduation.

DLC1 Remote Trigger

Simple 3-key remote trigger facilitates Enter key operation during gyro measurement procedures. It also allows distance measurement to be triggered wirelessly.



SET X Total Stations

These total stations implement the gyro calculation program. The red laser beam of its reflectorless EDM can be utilized as a directional reference for tunnel excavation, a pointer for setting-out, etc. Four models of differing angle accuracy levels are available.

Product names mentioned in this brochure are trademarks of their respective holders. Product colors in this brochure may vary slightly from those of actual products owing to limitations of the printing process. Designs and specifications are subject to change without notice.

www.sokkia.co.jp

75-1, HASUNUMA-CHO, ITABASHI-KU, TOKYO, 174-8580 JAPAN

Specifications

GP1 Gyroscope			
Accuracy of azimuth determination	20"/6mgon/0.1mil (standard deviation)		
Running-up time	Approx. 60 seconds		
Half period (at middle latitudes)	Approx. 3 minutes		
Minimum interval between main divisions	Approx. 10' (0.185gon, 3mil)/div		
Operating temperature	-20 to +50°C (-4 to +122°F)		
Operating area	Up to 75° latitude		
Size	W145 x D186 x H416mm (W5.7 x D7.3 x H16.4in.)		
Weight	Approx. 3.8kg (8.4 lb.)		
Power supplies for GP1			
Inverter (plugs into GP1)	Input	12V DC	
	Output	115V AC, 400Hz/12V DC	
	Size	W130 x D55 x H240mm (W5.1 x D2.2 x H9.4in.)	
BDC7 Battery	Weight	Approx. 1.7kg (3.8 lb.)	
	Type	Ni-Cd external rechargeable battery	
	Output	12V DC	
	Operating time	Approx. 3 hours at 25°C (77°F)	
	Size	W140 x D50 x H250mm (W5.5 x D2.0 x H9.8in.)	
	Weight	Approx. 2.0kg (4.4 lb.)	
SET X Total Station for GP1		SET1X SET2X SET3X SET5X	
Telescope	Magnification 30x, Resolving power 2.5" Minimum focus 1.3m (4.3ft.)		
Angle measurement (Absolute encoder scanning with diametrical detection)			
Display resolution (selectable)	0.5"/1", 0.1/0.2mgon	1"/5", 0.2/1mgon	
	0.002/0.005mil	0.005/0.02mil	
Accuracy (ISO 17123-3:2001)	1"	2"	3"
	0.3mgon	0.6mgon	1mgon
Dual-axis compensator	Working range ±4' (±74mgon)		
Distance measurement (Modulated laser, phase comparison method with red laser diode)			
Measuring Range	Reflectorless*1	0.3 to 500m (1 to 1,640ft.)	
	With reflective sheet*2	1.3 to 500m (4.3 to 1,640ft.)	
	With 1 AP prism	1.3 to 6,000m (4.3 to 19,680ft.)	
Accuracy (D=measuring distance, unit:mm, Fine mode)	Reflectorless*1	(3+2ppm x D)mm: 0.3 to 200m (1 to 650ft.)	
		(5+10ppm x D)mm: 200 to 350m (650 to 1,140ft.)	
		(10+10ppm x D)mm: 350 to 500m (1,140 to 1,640ft.)	
	With reflective sheet*2	(3+2ppm x D)mm	
	With prism	(2+2ppm x D)mm	
With CPS12 precision prism system	(1.5+2ppm x D)mm	n/a	
General			
Operating system	Windows CE Ver.5.0		
Control panel layout	On both faces		
Size with handle and battery	W201 x D220 x H379mm (W8.0 x D8.6 x H14.8in.)		
Weight with handle and battery	Approx. 7.2kg (15.9 lb.)		

*1 With Kodak Gray Card white side (90% reflective).

*2 When the measuring beam's incidence angle is within 30° in relation to the reflective sheet target.

Gyro Station Standard Configuration

GP1 gyroscope, SET1X/2X/3X/5X total station, DLC1 Remote trigger

GP1 Standard Accessories

Inverter, BDC7 external battery, charger, 5-pin cable, 3-pin cable, Tubular compass, Eyepiece hood, Bulbs, Fuses, Clamp lock, Cleaning cloth, Vinyl cover, Tool kit, Operator's manual, Carrying case