

**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

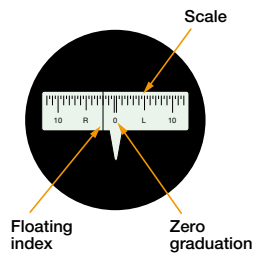
	Restriction by Location	Restriction by Weather	Restriction by Hour	Accuracy	Speed
<b>GYRO STATION</b>	None	None	None	High	Fast
RTK-GPS/GNSS	Yes	None	None	High	Fast
GPS/GNSS Static	Yes	None	None	High	Slow
Total Station	Yes	Yes	Yes	High	Slow
Astronomical	Yes	Yes	Yes	High	Slow
Magnetic Compass	None	None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

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## 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"	5"	
	0.3mgon	0.6mgon	1mgon	1.5mgon	
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