

**SOKKIA**

**PL1**

**FIRST-ORDER PRECISION LEVEL**

*42X Telescope Magnification  
0.2mm Standard Deviation for 1km Double-run Leveling*



First-Order Precision Level **PL1** Free from error and easy to use

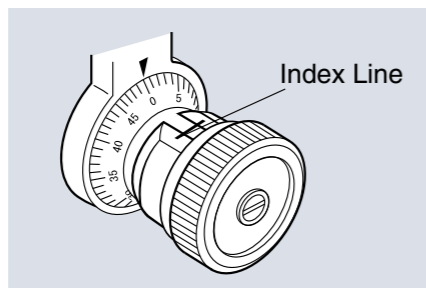


## HIGH PERFORMANCE WITH THE

SOKKIA's PL1 is the product of extensive experience in the field of high technology and sophisticated instrument making. The PL1 First Order Precision Level was developed after long and thorough research into every aspect of use under all possible working conditions. The PL1 has been subject to strict quality control to ensure high accuracy and ease of use. The combination of a tilting mechanism with a sensitivity of 10"/2mm, a coincidence observation mechanism, and an optical micrometer with a direct reading of 0.1mm combine to guarantee precise leveling and accurate measurement.

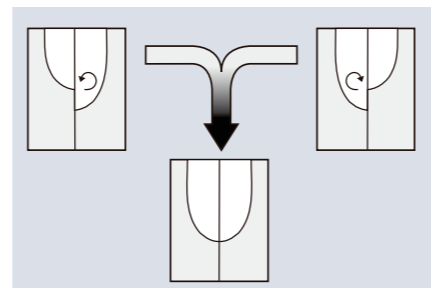
### TILTING SCREW MECHANISM FOR FINE LINE-OF-SIGHT ADJUSTMENT

The tilting screw used to level the line of sight is engraved with graduations that accurately indicate the inclination, and index lines that indicate the number of turns of the tilting screw. The tilting screw is divided into 50 equal divisions, each division equaling 2" of inclination.



### SHARP BUBBLE IMAGE WITH COINCIDENCE OPTICS

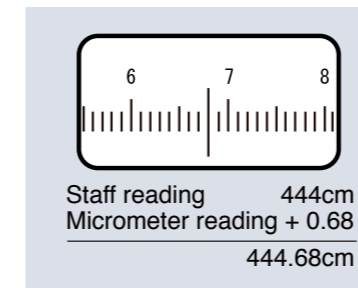
An innovative optical design sharply magnifies the bubble and quickly indicates the direction in which the tilting screw is to be turned in order to achieve coincidence.



## HIGHEST POSSIBLE ACCURACY

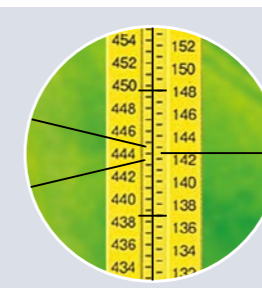
### OPTICAL MICROMETER FOR PRECISE READING

The PL1 is equipped with an optical micrometer which enables staff graduations to be subdivided directly to 0.1mm and to 0.01mm by estimation. The micrometer reading is added to the staff reading to give direct reading accuracy to 0.01mm.



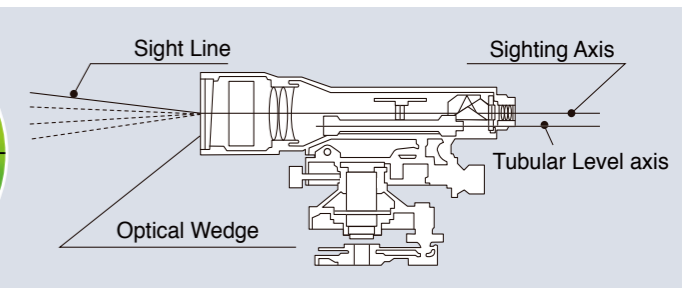
### WEDGE-SHAPED RETICLE FOR PRECISE READING

The high resolution telescope has a wedge shaped reticle for accurate staff graduation reading. The distance to the staff can be easily obtained using the stadia lines.



### OPTICAL WEDGE PROVIDES EASY LINE OF SIGHT ADJUSTMENT

Line of sight adjustment is easy. Simply turn the optical wedge until the line of sight is horizontal to get exact results.



## PL1 First-Order Precision Level SPECIFICATIONS

Telescope	
Length	303mm (11.9in)
Objective aperture	50mm (2.0in)
Magnification	42x
Resolving power	2"
Image	Erect
Field of view (at 100m)	1°10' (2.0m)
Minimum focus	2.0m (6.6ft)
Stadia multiplication constant	100
Main Level	
Sensitivity	10"/2mm
Observation	Bubble coincidence
Magnification	x2
Levelling Accuracy	
Standard Deviation for 1km double run leveling	0.2mm (0.0008in)
Circular Level	
Sensitivity	3.5"/2mm
Micrometer	
Measuring Range	10mm
Scale Division	0.1mm
Tilting Mechanism	
Tilting Range	±5.8'
One Knob Revolution	100"
General	
Dimensions	L 303 x W140 x H 180 mm (L 11.9 x W 5.5 x H 7.1 in)
Weight	4.8kg (10.6lb)

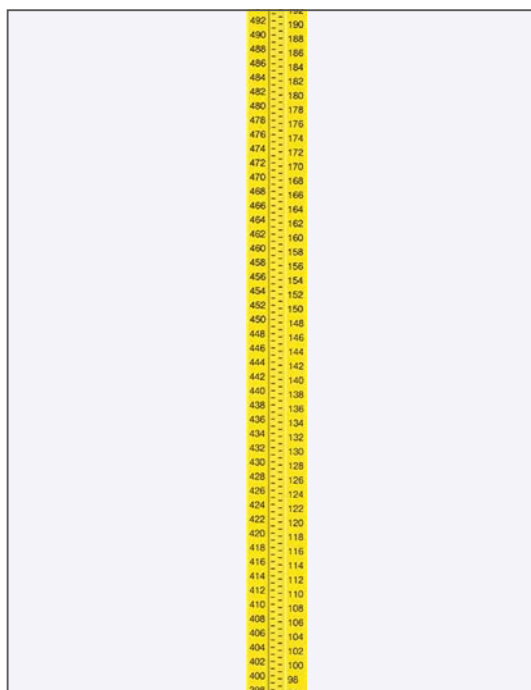
### Standard Accessories

Lens cap · Vinyl cover · Tool kit · Operator's manual · Carrying case

## GS1 SUPER INVAR STAFF

GS1 was designed exclusively for first-order surveying. Graduations are calibrated using laser interferometer technology and inscribed on invar tape. The tape and the frame offset expansion and contraction resulting in a thermal expansion coefficient of theoretically "zero".

Effective length..... 3m  
 Scale divisions ..... 10mm  
 Size ..... L3069 x W100m x H51mm  
 Weight..... 5.6kg  
 One complete set includes two staves in a wooden case.



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