

SOKKIA

REFLECTING PRISMS

*For the ultimate in
accuracy and versatility
in field applications*

AP Series **Compact Prism** **Mini Prisms**

*Reflecting prisms
and accessories
for Sokkia
Total Stations and
Electronic Distance
Meters*



AP01 Prism — an advance in

Now, the prism system that meets the challenge of today's electronic measuring instruments

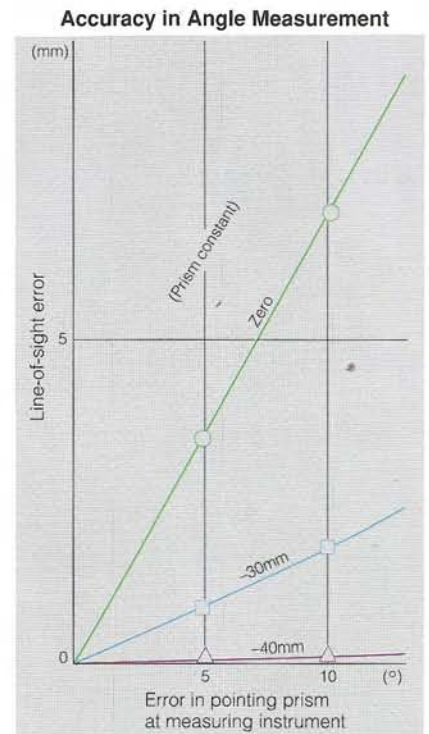
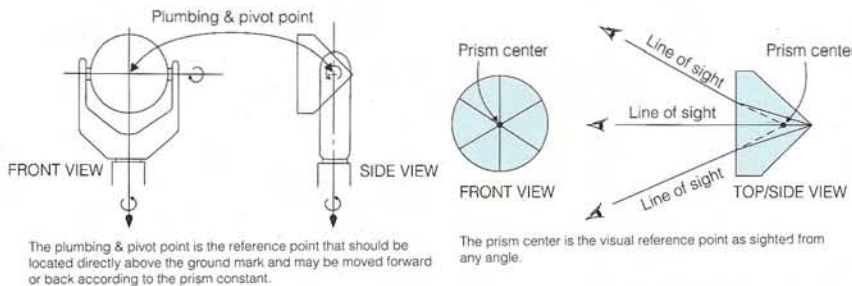
Today's electronic measuring instruments are capable of higher accuracy in angle and distance measurement than ever before. The Sokkia AP (Advanced Prism) Series improves the precision and convenience of the entire surveying system to meet the challenge of the latest developments in total stations.

Horizontal and vertical angle accuracy

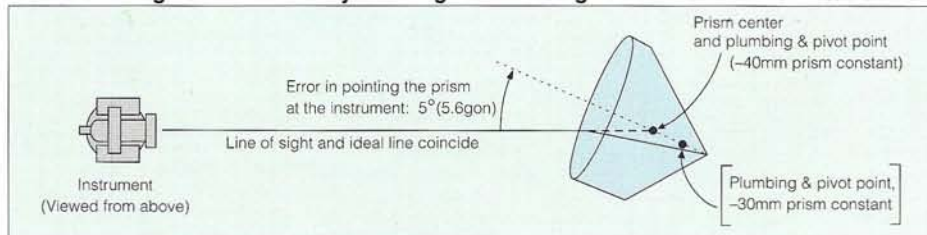
At close range work, when the center of the prism as sighted through the telescope serves as the reference point for angle and distance measurement, accuracy depends on the precise alignment of the center of the total station, the prism center, and the plumbing & pivot point. Ideally, the plumbing & pivot point and the prism center should coincide to reduce error resulting from not perfectly pointing the prism at the total station.

When the spacer is removed, the -40mm prism constant of the AP01 prism provides this ideal reflecting point.

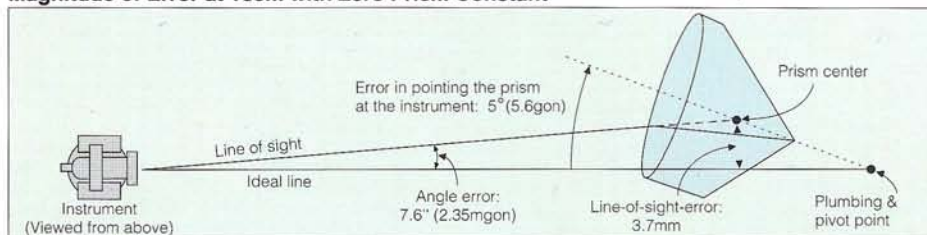
For comparison, the plumbing & pivot point of a zero prism constant is located far behind the prism center. With a 5° (5.6gon) error in pointing the prism, a typical margin of error in the field, the line-of-sight error is about 3.7mm, yielding an angle error of as much as $7.6''$ (2.35mgon) at 100m. The AP01 prism provides consistency and improved accuracy for close-range angle measurement by eliminating the error inherent in not perfectly pointing the prism.



Ideal Reflecting Point Provided by Locating the Plumbing & Pivot Point at the Prism Center (-40mm prism constant)



Magnitude of Error at 100m with Zero Prism Constant



Only a prism system in which the plumbing & pivot point is located at the prism center fully supports the accuracy afforded by the latest instruments.

quality and convenience

Innovative design means improved reflectivity, durability, and convenience

Reflectivity Improved prism optics minimizes energy loss for greater accuracy over longer distances. A reflective silver coating applied to the back surfaces eliminates polarization of the reflected signal.

Durability Patented O-ring sealing system prevents dust and moisture from entering the prism housing and provides a shock-resistant mount for undiminished performance under the most demanding conditions.

Compact and convenient With a diameter of 60mm, the AP01's prism is 26% smaller than earlier systems, yet supports an even longer measuring distance range with greater accuracy.

Easy, versatile operation

Screw-on mounting

AP01 prisms are easily mounted or removed by means of a threaded stud; no other parts are required.

Spacer for -30mm prism constant

While the AP Series is designed to give the optimum accuracy of the -40mm prism constant, a spacer ring is included to allow use of the same prism at the -30mm prism constant. Surveyors who place higher priority on convenience and uniformity with other equipment or do not require the highest level of accuracy can still retain all the other advantages of the AP Series.



Double yoke mount, AP12

Designed for use with a range pole, this double yoke mount permits the mounting of other devices such as a target pole and a plumbing pole to position the prism closer to the ground mark for increased accuracy. The double yoke mount is fitted with an integral circular vial.



Non-tilting targets, AP11T and AP32T

Tilting single and triple prism mounts for total station applications are designed with targets that remain fixed in the vertical plane. This innovation allows for much higher accuracy in the measurement of horizontal angles when the target is not perfectly aimed at the measuring instrument.



Sighting collimators

The AP11 and AP13 mounts are fitted with sighting collimators, and the AP31 and AP32 mounts have pin hole sights to ensure the highest degree of accuracy in pointing.



Triangular-shaped triple clusters, AP31 and AP32

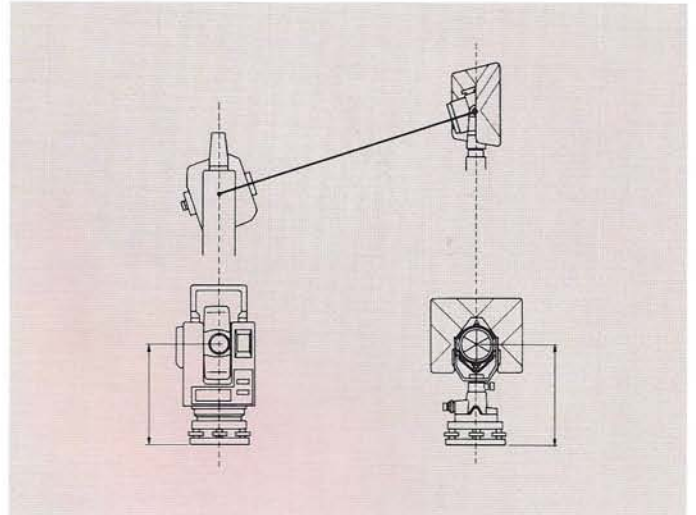
The triple cluster design gives the surveyor maximum flexibility. It is provided with a fourth mounting hole in the center of the mount so that it may be accurately used with a single prism as well. Two types of triple mount are available—the APS31 stationary type and the APS32 tilting type.



Mounting system sets new standards in flexibility

Improved prism height adapters, AP41 and AP44

The AP41 contains an optical plummet and is designed to fit in standard tribrachs. Both AP41 and AP44 contain a tubular vial. The tubular vial and optical plummet can be rotated to ensure that the vial and optical plummet are in adjustment. The height of the AP41 and the AP44 can be adjusted so that the prism and the target height above the tribrach is identical to the instrument's tilting axis height above its tribrach. The height settings are graduated in 3mm steps from 230mm to 248mm from the tribrach bottom. Both the AP41 and the AP44 are capable of accommodating any Sokkia total stations and theodolites.

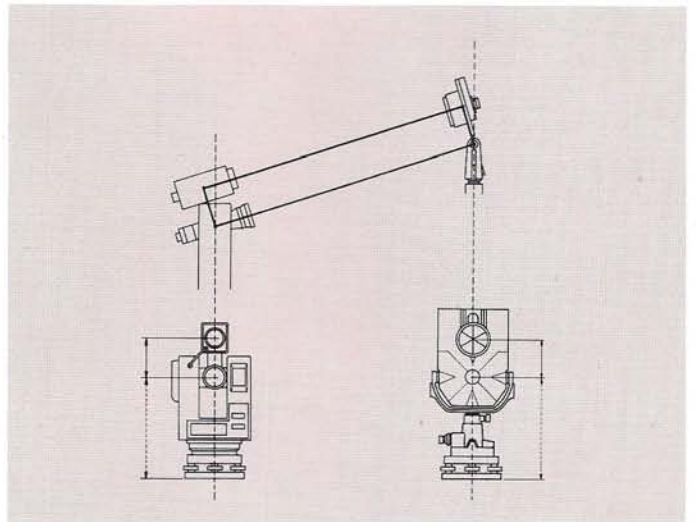


Target for yoke and telescope mounting system

The target systems for non-total station use have been improved by including variable adjustment of target and prism height.

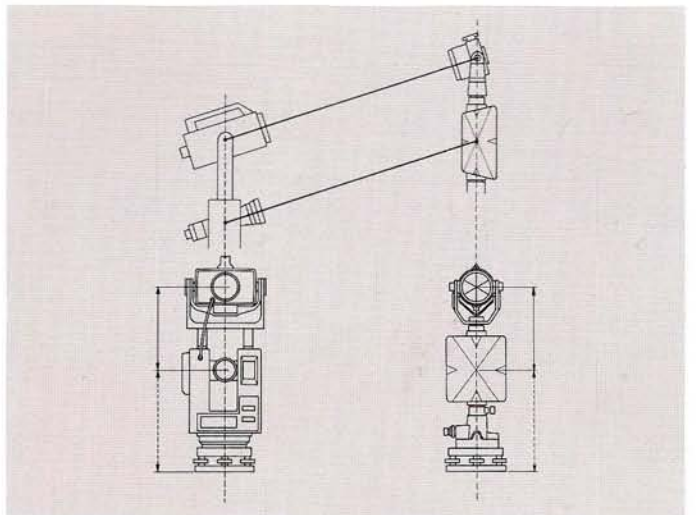
Mount with offset target for telescope mounting system EDM, AP13

The prism-target distance can be continually adjusted from 84mm to 124mm to correspond to the distance from the telescope mount EDM to the theodolite's telescope.



Target for standard yoke mounting system EDM, AP51

The distance from the target to a mounted prism is adjustable in 5mm steps from 194mm to 204mm so that the distance will correspond to the distance from the yoke-mounted RED-line EDM to any Sokkia theodolite.



Standards for accuracy and

Cases

Each tribrach-type APS complete set is provided with a durable hard case. For complete single and triple prism sets, a durable, orange-colored plastic case is provided, while the complete nine prism set includes a duralumin case.

In addition, a universal soft case, SC67, is also available as an option.

The SC67 case can hold most components of the complete prism sets (except the target for the triple prism, AP31T and AP32T; APS91 nine prism complete; APS151 fifteen prism complete; the long pole; and the tripod).



CPS11P Compact Reflecting Prism

A prism for difficult measuring situations

The CPS11P permits independent use of the CP01 prism. For example, when the point to be measured is directly on a wall or in a corner, the CP01 can be held by hand and directly placed at the required location.

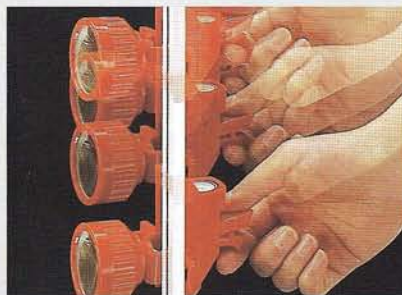
Reading prism height is simple and direct

Simply slide the prism to the required height and read the value on the rod scale at the upper edge of the prism mount. Divisions on the scale are set at 1cm intervals.

Clip arm is freely adjustable

The prism can be quickly and precisely set at the required height using the provided rod and rod tripod. Adjusting the clip arm allows the position of the rod to be easily shifted to the right or left, back or forward until it is precisely over the target point. Perpendicularity is maintained by referring to the circular level as the rod is moved.

Simply lower the clamp lever to secure the rod in position. Clamp mechanism makes set-up quick and easy while maintaining the perpendicularity of the rod over the target point.



The height of the prism in the photo is 20cm.




* Remember to set the prism constant correction value of the total station or EDM to 0mm before implementing measurement.

sets to meet your specific needs

Complete mini-prism sets


for REDMINI3



OR1PA
+
PUS2 tripod

for MiNiAR

PR1PF
+
AP71 tripod

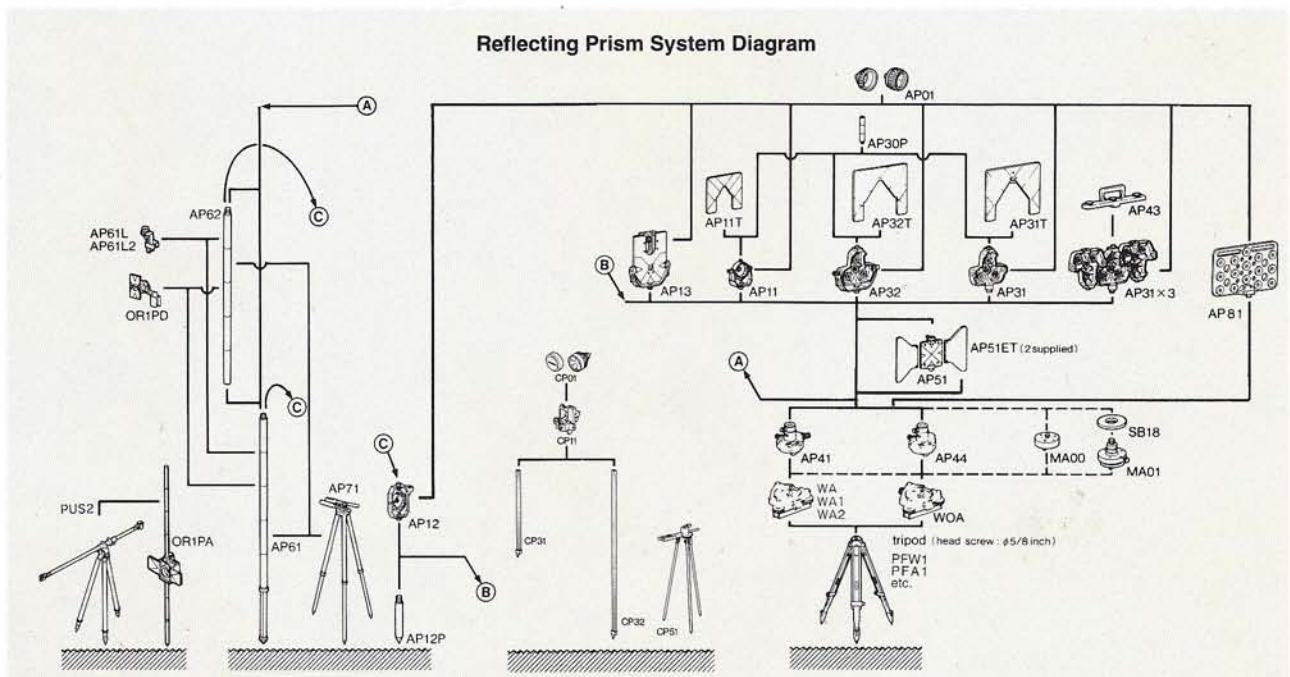


Complete sets

For	AP Series		
Total station	Range pole prism	APS11P	Range pole prism complete (single, tilting)
		APS12P	Range pole prism complete (single, double yoke tilting)
Telescope m. EDM		APS13P	Range pole prism complete (single, tilting w/offset target)
Total station & Azimuth base system EDM	Single prism	APS11	Single tilting prism complete
		APS12	Single tilting prism complete with coaxial target
Standard yoke m. EDM		APS13	Single tilting prism complete with offset target
Telescope m. EDM		APS14	Single tilting prism complete with offset target
Total station & Telescope m. EDM	Triple prism	APS31	Triple stationary prism complete
		APS32	Triple tilting prism complete
		APS33	Triple stationary prism complete with coaxial target
		APS34	Triple tilting prism complete with coaxial target
Standard yoke m. EDM		APS35	Triple stationary prism complete with offset target
		APS36	Triple tilting prism complete with offset target
All types	Nine prism	APS91	Nine prism complete
	Fifteen prism	APS151	Fifteen prism complete

For	Mini prism		
REDMINI3	Pin pole prism	OR1PA	Pin pole mini prism complete
MINI AR	Range pole prism	PR1PF	Range pole mini prism complete

For	Compact prism		
Short range measurement	Compact prism	CPS11P	Compact reflecting prism complete



Components and Complete Sets

△ Options

			APS11P	APS12P	APS13P	APS11	APS12	APS13	APS14	APS31	APS32	APS33	APS34	APS35	APS36	APS91	APS151	CPS11P	OR1PA	PR1PF		
Prism	AP01	Prism (-40mm p.c.), includes spacer (-30mm p.c.), cap	1	1	1	1	1	1	1	3	3	3	3	3	3	9	15					
Compact Prism	CP01	Prism (0mm p.c.)																	1			
Mini prism	OR1PD	Offset mini prism assembly (-30mm p.c.) with target																			1	
	OR1PA	Pin pole mini prism complete (-30mm p.c.), includes targets pin poles, soft case																			1	
Mount	AP11	Single tilting mount	1			1	1	1														
	AP12	Double yoke tilting mount with circular level (10'/2mm)		1																		
	AP13	Single tilting mount with offset target			1				1													
	AP31	Triple stationary mount								1	1		1			3						
	AP32	Triple tilting mount									1		1		1							
	AP81	Prism mount																			1	
	CP11	Prism mount with circular level (30'/2mm)																			1	
Target	AP11T	Coaxial target for single tilting mount	△			1																
	AP31T	Coaxial target for triple stationary mount							△		1											
	AP32T	Coaxial target for triple tilting mount								△		1										
	AP51	Target for yoke mounting system					1						1	1	△							
	AP51ET	Extension targets for AP51, 2 supplied				△							△	△	△							
Carrier	AP41	Prism height adapter with optical plummet (3x) and plate level (60'/2mm)				1	1	1	1	1	1	1	1	1	1	1	1					
	AP44	Prism height adapter with plate level (60'/2mm)			△	△	△	△	△	△	△	△	△	△	△	△	△					
	MA00	Simple carrier (Geodimeter type)																				
	SB18	Spacer																				
	MA01	Simple carrier (DIN/Geodimeter type)																				
Tribrach	WA2	Tribrach (base screw: Ø5/8 inch)				1	1	1	1	1	1	1	1	1	1	1	1					
	WOA	Tribrach with optical plummet (base screw: Ø5/8 inch)			△	△	△	△	△	△	△	△	△	△	△	△	△					
Range Pole	AP61	2m telescopic range pole, includes soft case	1	△	1																1	
	AP62	1m range pole for extension	△	1	△																△	
Rod	CP31	50cm rod																			1	
	CP32	1m rod																			△	
Level	AP61L	Range pole level (60'/2mm)	1		1																1	
	AP61L2	Range pole level (10'/2mm)	△		△																△	
Misc.	AP30P	Sighting pole				1				1	1											
	AP43	Nine prism connecting bar														1						
	AP12P	Plumbing pole			1																	
Tripod	AP71	Range pole tripod with soft case	1	1	1																△	
	CP51	Rod tripod																			1	
	PUS2	Pin pole tripod with soft case																			△	
	PFW1	Hardwood telescopic tripod (head screw: Ø5/8 inch)				△	△	△	△	△	△	△	△	△	△	△	△	△				
	PFA1	Aluminum telescopic tripod (head screw: Ø5/8 inch)				△	△	△	△	△	△	△	△	△	△	△	△	△				
Case	SC59	Hard case for APS14							1													
	SC60	Hard case for APS11, APS12				1	1															
	SC61	Hard case for APS13, APS35, APS36						1							1	1						
	SC62	Hard case for APS31, APS32, APS33, APS34								1	1	1	1									
	SC63	Hard case for APS91															1					
	SC64	Soft case for single prism (AP01 + AP11)	1																			
	SC65	Soft case for single prism (AP01 + AP12 + AP12P)		1																		
	SC66	Soft case for single prism (AP01 + AP13)			1																	
	SC67	Soft case for any prism complete (except AP31T, AP32T, APS91, APS151, range pole, tripod)	△	△	△	△	△	△	△	△	△	△	△	△	△	△					△	△
	SC68	Soft case for AP31T, AP32T target									1	1										
SC77	Soft case for CPS11P																				2	
	SC79	Hard case for APS151																			1	

Designs and specifications are subject to change without notice.

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A full range of complete prism

Complete prism sets provided with WA tribrach

for Total station and Azimuth base system EDM

for Telescope mounting system EDM



APS11

APS12

APS31

APS33

APS32

APS34

APS14

for Standard yoke mounting system EDM

for long distance range



APS13

APS35

APS36



APS91

APS151

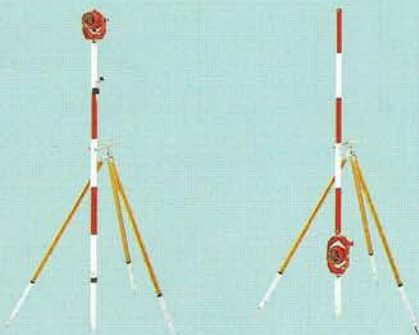
Complete range pole prism sets for topographic surveying

Compact reflecting prism

for Total station

for Telescope mounting system EDM

for short-range measurement



APS11P

APS12P



APS13P



CPS11P