

SOKKIA



Series 120

SET1120/SET2120/SET3120/SET4120

TOTAL STATIONS



Enhanced productivity with IPX4 water resistance and extremely low power consumption.

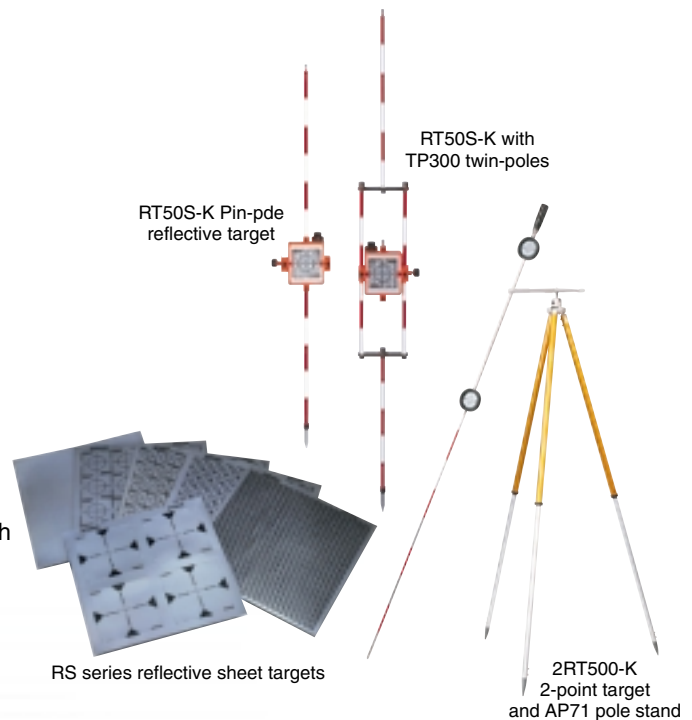
Besides the convenient onboard software and internal memory, the powerful SDR series data collectors further support a wide range of survey operations.

Fast and reliable EDM.

Series 120 total stations measure the distance every 1.6 seconds through use of the fine-continuous measurement mode. With glass prisms, a high accuracy of $\pm(2 + 2\text{ppm} \times D)\text{mm}$ is achieved. With the rapid measurement mode, distance is measured every 0.8 seconds, and the tracking mode updates the distance data every 0.3 seconds.

Variety of reflective sheet targets for more versatility in the field.

Sokkia offers a large lineup of reflective sheet targets including; adhesive sheet type targets, rotating type targets with pin-poles, rotating type targets for tribrachs, 2-point targets for hidden points and reflective staves for cross-sectional surveying. These innovative targets extend the boundaries of your survey tasks while lowering costs.



Triple-axis compensation for dependable angle measurement.

The dual-axis compensator monitors instrument tilt in two directions and corrects both vertical and horizontal angle values. The collimation function corrects the deviations of the telescope's mechanical axis. These monitoring systems automatically provide the maximum angle measurement accuracy.

Enhanced water-resistance.

The Series 120 is protected against water splash from any direction, conforming to IEC standard **IPX4**. This means that you can continue surveying even in sudden showers or continuous drizzling rain.

A full day's work on one battery.

By reducing the total power consumption, the Series 120 offers an enormous **8.5 hours** of continuous use with one BDC35A water-resistant detachable battery. A full day's work can be carried out with one single battery. Two batteries are equipped as standard accessories.



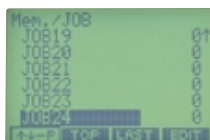


Easy operation with customizable soft keys.

Displays and 10-keys are located on both faces for easy access from either side. Customizable soft keys enable reconfiguration of desired functions to any key position.



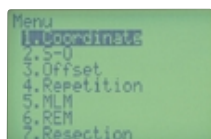
AUTO measurement & data recording



Max. 24 JOB files

3,000-point internal memory with 24 different JOB files.

Multiple job files allow a maximum of 24 different job files and the internal memory is capable of holding a total of 3,000 data points. 40 feature codes can be stored in memory for easy recall and recording with point data. The "AUTO" key provides single touch operation for measurement and automatic data recording. A parallel printer (Centronics compatible with ESC/P mode) can be connected for direct printing of data.



Program menu

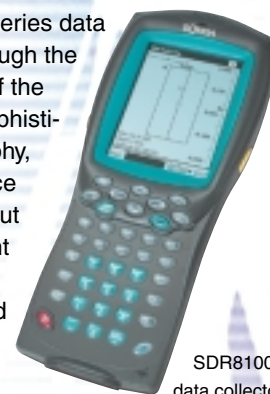
User-friendly, comprehensive onboard software

The Series 120 is equipped with convenient measurement programs that can be used along with the user-friendly, easy to use operation algorithm. The program includes: Angle repetition, Offset measurement (2-distance offset, angle offset and distance offset), Missing Line Measurement (MLM), Remote Elevation Measurement (REM), Resection, Setting out and 3-D coordinate measurement.



The perfect partner for SDR series data collectors.

Sokkia's extremely popular SDR series data collectors can be fully utilized through the 2-way communication capability of the Series 120 instruments. Highly sophisticated programs such as Topography, Traverse Adjustment, Building Face Survey, various types of Setting Out measurement, Road measurement and more are available through combined use of the Series 120 and SDR data collectors.



SDR8100 data collector

Standard Accessories

A detachable tribrach, two BDC35A water-resistant detachable batteries, CDC39/40/48 quick charger, CP7 tubular compass, lens cap, sunshade, plumb bob, vinyl cover, tool kit, operator's manual, carrying case and shoulder strap.

Optional Accessories

BDC40A Ni-Cd battery, CDC41 charger for car cigarette lighter outlet, DE25 diagonal eyepiece, OF3A solar filter (flip-up type), SC153A back pack. For more information, please consult your local dealer.



Series 120 Specifications

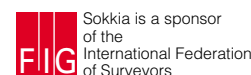
		SET1 120	SET2 120	SET3 120	SET4 120
Telescope		Fully transiting, coaxial sighting and distance measuring optics.			
Length		170mm (6.7in.)			
Objective aperture		45mm (1.8in.) (EDM 48mm (1.9in.))			
Magnification		30X			
Image		Erect, with "∞" directional indication in telescope sight.			
Resolving power		3"			
Field of view		1° 30' (26m/1,000m)			
Minimum focus		1.0m (3.3ft.)			
Reticle illumination		Built-in (bright/dim, selectable)			
Angle Measurement		Photoelectrical incremental rotary encoder scanning. Both circles adopt diametrical detection and are provided with absolute 0 index points.			
Unit	H&V	360°/40gon/mil, selectable			
Display resolutions	H&V	0.5"/1", 0.1mgon/0.2mgon, 0.002mil/0.005mil, selectable		1"/5", 0.2mgon/1mgon, 0.005mil/0.02mil, selectable	
Accuracy (ISO12857-2 1997)	H&V	1" (0.3mgon)	2" (0.6mgon)	3" (1mgon)	5" (1.5mgon)
Measuring time		Less than 0.5 sec., continuous			
Display mode	H V	Clockwise/Counterclockwise, selectable. Repetition, 0 set, Hold, angle input, available.			
Dual-axis compensator		Zenith 0°, Horizontal 0°, Horizontal 0° ±90°, slope in %, selectable.			
	Type	ON (H&V) / ON (V only) / OFF, selectable			
	Range	Dual-axis liquid tilt sensor			
	Display	±3' (±55mgon), out-of-range warning display provided			
Collimation program		Digital/graphic, selectable. Resolution: According to selection of display resolution.			
Clamps / Fine motion screws		ON/OFF, selectable			
		Co-axial clamp and fine motion screw, Fine/Coarse two-speed motion			
Distance Measurement		Modulated near infrared light (IEC Class 1 LED)			
Measuring range					
	With reflective sheet target RS90N-K	2m to 120m (390ft.)		2m to 100m (320ft.)	2m to 80m (260ft.)
	With CP01 compact prism	1m to 800m (2,600ft.)		1m to 700m (2,200ft.)	1m to 600m (1,900ft.)
	Atmospheric conditions*1				
	With one AP01 prism	Average 1m to 2,400m (7,800ft.)		1m to 2,200m (7,200ft.)	1m to 1,600m (5,200ft.)
		Good 1m to 2,700m (8,800ft.)		1m to 2,500m (8,200ft.)	1m to 1,800m (5,900ft.)
	With three AP01 prisms	Average 1m to 3,100m (10,100ft.)		1m to 2,900m (9,500ft.)	1m to 2,100m (6,800ft.)
		Good 1m to 3,500m (11,400ft.)		1m to 3,300m (10,800ft.)	1m to 2,400m (7,800ft.)
	With nine AP01 prisms	Average 1m to 3,700m (12,100ft.)		1m to 3,500m (11,400ft.)	1m to 2,500m (8,200ft.)
		Good 1m to 4,200m (13,700ft.)		1m to 4,000m (13,000ft.)	1m to 2,900m (9,500ft.)
Accuracy*2	With glass prism	Fine meas. ±(2 + 2ppm x D) mm			
		Rapid meas. ±(5 + 5ppm x D)mm			
	With reflective sheet target	Fine meas. ±(4 + 3ppm x D) mm			
		Rapid meas. ±(5 + 5ppm x D)mm			
Unit		Meters / Feet, selectable			
Display resolutions	Fine meas.	0.0001m/0.001m (0.001ft./0.01ft.)		0.001m (0.01ft.)	
	Rapid meas.	0.001m(0.01ft.)			
	Tracking	0.01m (0.1ft.)			
Measuring time	Fine meas.	Every 1.6 sec. (initial 3.3 sec.)			
	Rapid meas.	Every 0.8 sec. (initial 2.8 sec.)			
	Tracking	Every 0.3 sec. (initial 2.3 sec.)			
Measuring mode		Fine(single/repeat/average)/Rapid(single/repeat)/Tracking, selectable			
Atmospheric correction		Temperature, pressure, humidity and/or ppm can be input.			
Prism constant correction		-99mm to +99mm (1mm steps)			
Refraction & earth-curvature correction		ON (K=0.142 / K=0.20) / OFF, selectable			
Data storage & transfer					
Internal memory		Approx. 3,000 points with max. 24 JOB files			
Calendar-clock function		Provided			
Interface		Asynchronous serial, RS-232C compatible, baud rate: 1,200 to 38,400bps			
Printer output		Centronics compatible (with optional DOC46 printer cable)			
General					
Display		Alphanumeric/graphic dot matrix LCD, 20 characters x 8 lines, on both faces with backlight			
Keyboard		Alphanumeric and soft keys, 28 keys on both faces			
Sensitivity of levels	Plate level	20"/2mm		30"/2mm	
	Circular level	10"/2mm			
	Graphic LCD level	3"/outer circle			
Optical plummet		Image: Erect, Magnification: 3x, Minimum focus: 0.5m (1.64ft.)			
Tribrach		Detachable			
Water resistance		Conformity to class IPX4 (IEC 60529)*3			
Operating temperature		-20°C to +50°C (-4° F to +122° F)			
Tilting/trunnion axis height		236mm (9.3in.) from tribrach bottom, 193mm (7.6in.) from tribrach dish			
Size with handle and battery		W175 x D170 x H345 mm (W6.9 x D6.7 x H13.6 in.)			
Weight with handle and battery		5.8kg (12.8 lbs)			
Power supply		6V DC			
BDC35A Ni-MH detachable battery		Angle & distance continuous use*4: approx. 8.5 hours (approx. 900 points)			
		Angle only continuous use: approx. 10.5 hours			
		Recharging time with standard quick charger: Approx. 70 min.			
Battery level display		4 steps with warning message			
Automatic power cut-off		Automatic cut-off 30 minutes after operation, ON/OFF selectable			

*1 Average conditions: slight haze, visibility about 20km (12 miles), sunny periods, weak scintillation. Good conditions: no haze, visibility about 40km (25 miles), overcast, no scintillation.

*2 D=measuring distance, unit : mm

*3 IPX4 is applicable when the standard water-resistant battery BDC35A and connector caps are installed.

*4 Fine & single measurement with 30 sec. measurement intervals at 25°C(77°F).



Designs and specifications are subject to change without notice.

SOKKIA CO.,LTD.

ISO9001 Certified (JQA-0557)

<http://www.sokkia.co.jp/english/>

INTERNATIONAL SALES DEPARTMENT

260-63 HASE, ATSUGI, KANAGAWA, 243-0036 JAPAN

PHONE +81-46-248-7984 FAX +81-46-247-1731