

SOKKIA

SX Series

Superior X-ellence Station

Automatic Precision

- Superior Auto-Pointing Technology
- Advanced Angle Measurement System
- RED-tech Technology Reflectorless EDM
- LongRange Data Communication
- Dust and Water Protection IP65
- MAGNET™ Field On-Board Application Software



Rapidly Points. Accurately Measures.

■ Superior Auto-Pointing Technology



Incorporating cutting-edge laser and image processing technologies, the SX provides extremely reliable auto-pointing capability. Even in dense woods or in dim conditions, the SX rapidly finds a prism and accurately measures its position, ensuring maximum work efficiency under all job site environments. The SX provides a wide auto-pointing range from 1.3m to 1,000m with a standard prism.

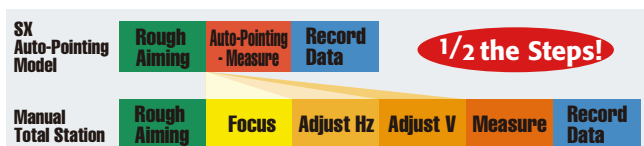


● Simple and Easy

Point the SX in the general direction of the prism, press the trigger key, and the SX automatically points to the prism center. This enables even a beginner to rapidly take accurate measurements.

● Faster, Less Effort

By eliminating the need for the focusing telescope and adjusting fine motion screws, the SRX dramatically increases survey speed.



■ Advanced Angle Measurement System

- SX features SOKKIA's original absolute encoders that provide long-term reliability in any job site condition. Dual-axis compensator ensures stable measurements even when setup on uneven terrain.



- SX-101 and SX-102 feature groundbreaking IACS (Independent Angle Calibration System) technology for extremely reliable and accurate angle measurement.

■ RED-tech Technology Reflectorless EDM

- Fast distance measurement of 0.9s regardless of object.
- SOKKIA's traditional pinpoint precision in reflectorless distance measurement.
- Reflectorless operation from 30cm to 1,000m*.
- Coaxial EDM beam and laser-pointer provide fast and accurate aiming.
- Ensures accuracy even with reflective sheets.

*With Kodak Gray Card white side (90% reflective). Brightness level at object surface: ≤ 500 lx.

● Ultra-Narrow Laser Beam

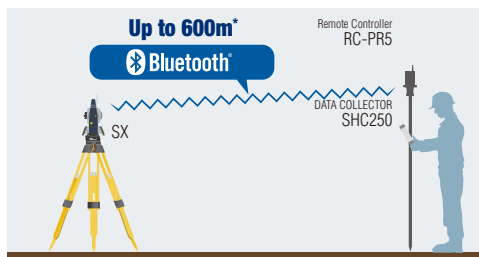
Ultra-narrow red laser beam is also used for the laser pointer, ensuring exceptional pinpoint precision in reflectorless measurement.

Measuring beam spot size (reflectorless mode)

Distance	10m (32ft.)	40m (130ft.)	100m (320ft.)	300m (980ft.)	500m (1,640ft.)
Beam spot size (height x width)	7 x 9mm (0.28 x 0.35in.)	14 x 14mm (0.55 x 0.55in.)	29 x 24mm (1.14 x 0.94in.)	76 x 56mm (2.99 x 2.2in.)	123 x 89mm (4.84 x 3.5in.)

■ Auto-Tracking Model feature

● LongRange Data Communication



- The SX series of total stations features *Bluetooth®* Class1 wireless technology for reliable data communications.
- All SX data is instantly available at the Bluetooth-equipped controller.

* Wireless communication range may vary depending on obstruction and other environmental conditions.

● RC-PR5 Remote Control System

The RC-PR5 On-Demand Remote Control allows for rapid prism search regardless of your position.

A built-in directional sensor constantly monitors the prism movement so the SX can turn left or right whichever direction is closer.



● Precision 360° Prisms

Advanced 6-prism configuration provides unsurpassed measurement precision due to a minimum offset of each prism center. ATP1 fits a range pole; ATP1S sliding prism is designed for a pin pole.



ATP1 360° Prism



ATP1S sliding prism

■ Rugged, and User Friendly Operation

- IP65 dustproof / waterproof rating.
- Metal chassis and heavy duty handle.
- Standard usage temperature range -20 to +50°C.



- New star key [★] instantly brings up functions.
- Trigger key lets you take a series of measurements without taking your eye off the telescope.
- Control panel consists of 10-key board with color LCD touch screen display.
- USB type A / mini B as well as serial ports.



- Green / Red telescope guide lights provide efficient guidance in a range up to 150m.



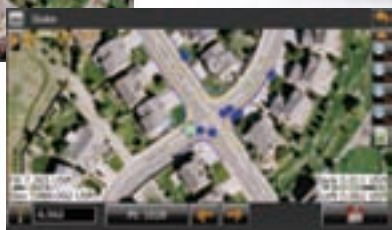
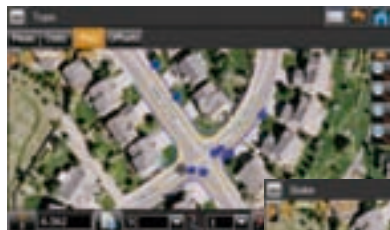
■ MAGNET™

● Cloud-based Solutions for Precise Positioning

MAGNET™ is a software family that uses the “cloud” for seamless data connection between the field and office, in Real-time, when and where you need, for data exchange, communications, asset tracking and more.

● MAGNET™ Field

Powerful on-board software that covers full functions for surveying and engineering tasks. MAGNET™ Field handles data collection, stake out, roads and coordinate geometry.



MAGNET™
Field

World's First
integrated support service

TSshield

The industry first! New function to protect your investment

TSshield is a standard feature on all new model of SOKKIA total stations. Its advanced communication system provides new opportunities to secure and maintain your instrument.

*For more detail of TSshield, please refer to the TSshield's leaflet.
This service may not be available in some areas.



SX Series

SX-101T/SX-102T/SX-103T/SX-105T/SX-101P/SX-102P/SX-103P/SX-105P

SPECIFICATIONS

Superior X-ellence Station

Product Type	Auto-Tracking Model				Auto-Pointing Model			
Model	SX-101T	SX-102T	SX-103T	SX-105T	SX-101P	SX-102P	SX-103P	SX-105P
Auto-Tracking / Auto-Pointing								
Auto-Tracking	●	●	●	●	-	-	-	-
Auto-Pointing	●	●	●	●	●	●	●	●
Rotation speed / Auto-Tracking speed	85°/sec (at 20°C) / 20°/sec							
Working range	ATP1 / ATP1S 360° Prism: 2 to 600m (6.6 to 1,960ft.), CP01 mini prism: 1.3 to 700m (4.3 to 2,290ft.) OR1PA mini prism: 1.3 to 500m (4.3 to 1,640ft.) , AP prism: 1.3 to 1,000m (4.3 to 3,280ft.)							
Angle measurement								
Display resolutions (selectable)	0.5" / 1"		1" / 5"		0.5" / 1"		1" / 5"	
Accuracy (ISO 17123-3:2001)	1"	2"	3"	5"	1"	2"	3"	5"
Dual-axis compensator	Dual Axis, Compensation Range: ±6'							
IACS (Independent Angle Calibration System)	Provided		-		Provided		-	
Distance measurement								
Laser output ^{*1}	Reflectorless mode: Class 3R, Prism / Sheet mode: Class 1 equivalent							
Measuring range ^{*2}	Prism	ATP1 / ATP1S 360° Prism: 1.3 to 1,000m (4.3 to 3,280ft.), CP01 mini prism: 1.3 to 2,500m (4.3 to 8,200ft.) OR1PA mini prism: 1.3 to 500m (4.3 to 1,640ft.), AP prism: 1.3 to 6,000m (4.3 to 19,680ft.) under good conditions ^{*3}						
		Reflective sheet ^{*4}	RS90N-K: 1.3 to 500m (4.3 to 1,640ft.), RS50N-K: 1.3 to 300m (4.3 to 980ft.), RS10N-K: 1.3 to 100m (4.3 to 320ft.)					
		Reflectorless ^{*5}	0.3 to 1,000m (1 to 3,280ft.) under good conditions ^{*3}					
		Prism	(1.5 + 2ppm x D) mm					
Accuracy ^{*2} (ISO 17123-4:2001) (D=measuring distance in mm)	Reflective sheet ^{*4}	(2 + 2ppm x D) mm						
	Reflectorless ^{*5}	(2 + 2ppm x D) mm ^{*6}						
Interface and Data management								
Operating system / Application	Windows® Embedded CE.6.0 / MAGNET Field							
Display	3.5 inch, Transmissive TFT QVGA color LCD							
Memory	500MB internal memory, USB flash memory (max. 8GB)							
Interface	Serial RS-232C, USB2.0 (Type A / mini B)							
Bluetooth modem	Bluetooth Class 1, Ver.2.1+EDR,Operating range: 600m (1,960ft.) ^{*7}							
General								
Laser pointer ^{*8}	Coaxial red laser using EDM beam, Class 3R laser							
Guide light ^{*8}	Green and Red LED, Working range: 1.3m to 150m (4.3 to 490ft.)							
Dust and water protection (IEC 60529:2001)	IP65							
Operating temperature	-20 to +50°C (-4 to +122°F)							
Size with handle	W230 x D207 x H393mm (W9.1 x D8.2 x H15.5in.)							
Weight with battery and tribrach	7.0kg (15.4lb.)							
Power supply								
BDC70 standard battery	7.2V, 5.2Ah							
Operating time (20°C)	Approx. 4 hours ^{*9}							

RC-PR5 Remote Control System (Optional of Auto-Tracking Model)

Operating range (slope distance)	Far mode: 2m to 300m (6.6 to 980ft.) / Standard mode: 2m to 100m (6.6 to 320ft.)	-
Measuring time	15 sec	-

*1 IEC60825-1:Ed.2.0:2007 / FDA CDRH 21 CFR Part 1040.10 and 1040.11 *2 Average conditions: Slight haze, visibility about 20km (12 miles), sunny periods, weak scintillation. *3 Good conditions: No haze, visibility about 40km (25 miles), overcast, no scintillation. *4 When the measuring beam's incidence angle is within 30° in relation to the reflective sheet target. *5 Fine mode. With Kodak Gray Card White Side (90% reflective). Brightness level at object surface: ≥500 lx. When brightness on measured surface is 30,000 lx. or less. Reflectorless range/accuracy may vary according to measuring objects, observation situations and environmental conditions. *6 Measuring range: 0.3 to 200m *7 Paired with RC-PR5, with instrument height to be more than 1.5m, no obstacles (like building structures, trees or vehicles) causing interrupting/reflecting radio wave, few sources of radio emissions/interference in the near vicinity of the instrument, no rain. *8 The laser-pointer and the guide light do not work simultaneously. *9 Continuous Auto-Tracking and distance measurement, or Auto-Pointing by both faces with 180° H&V rotation and fine-single distance measurement every 30s, at 20°C (68°F).

Standard Accessories

- SX main unit ● Battery (BDC70) ● Battery charger (CDC68) ● Power Cable I/Lens cap ● Lens hood ● Tool pouch ● Screwdriver
- Lens brush ● Adjusting pin x2 ● Cleaning cloth ● Operation manual ● USB memory ● Laser caution sign-board ● Carrying case
- Carrying strap



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