

SOKKIA



SRX

New Generation Robotics

Tightly Tracks. Accurately Measures.



Extremely Robust Auto-Tracking

Incorporating cutting-edge laser and image processing technologies, the SRX offers extremely robust prism tracking capability that provides exemplary performance on any job site. Advanced tracking algorithms also enhance the ability to predict future prism positions, dramatically increasing tracking stability. Even with intensive reflections from behind a prism, or with repetitive interruptions in the line-of-sight, the SRX tightly tracks a moving prism.



Predicting future prism positions

Rapid On-Demand Prism Search

The RC-PR4 On-Demand Remote allows for rapid prism search no matter your position. A built-in directional sensor constantly monitors the prism movement so the SRX can turn left or right whichever direction is closer. The SRX stops turning as soon as it detects the vertical laser fan beam projected by the RC-PR4 to quickly locate the prism. Class 1 *Bluetooth*® technology creates a strong data link between the SRX and a data collector at distances up to 300m (984ft.).



* Red fan beam image is for explanation purposes only. The actual search beam is an eye-safe Class 1 invisible laser.



RC-TS3 handle



RC-PR4

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



New Technologies Boost All Robotic Performances.

■ 1000m (3281ft.) Reflectorless Measurement

The RED-tech 800 EDM incorporates new optical design, enhanced signal processing algorithms and ultra-high signal modulation frequencies of up to 468.75MHz. These advanced technologies increase both measurement accuracy and range ... with or without reflectors.



Ultra-Narrow Laser Beam

Ultra-narrow red laser beam is also used for a laser pointer, ensuring exceptional pinpoint precision in reflectorless measurement. In the modes for prism or sheet target, laser output level is automatically switched to Class 1 equivalent for eye safety.

Measuring beam spot size (reflectorless mode)

Distance	10m (33ft.)	40m (131ft.)	100m (328ft.)	300m (984ft.)	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.)

■ Technologies for Angle Measurement

Market-proven absolute encoder system provides accurate and reliable angle readings as well as long-term durability. One and two-arc second models (1" and 2") incorporate IACS (Independent Angle Calibration System) for maximum dependability. Programmable two-speed jog dials offer optimum motions to all users. New telescope maintains the industry's highest 2.5" resolving power. The SRX ensures unmatched precision and productivity even in manual angle readings, an important feature for accurate reflectorless measurement.



■ 3.7 inch Display with Automatic Brightness Control

Large 3.7 inch LCD display offers superior visibility even under direct sunlight. Using a built-in light sensor, the LCD brightness is automatically adjusted to optimum level.



■ Guide Light

Highly visible green and red LEDs allow for quick prism placement on the line of sight in a wide range of 1.3 to 150m (4.3 to 492ft.), significantly increasing setting-out/stakeout efficiency. It also assists the users with color perception disability by differentiating flashing pattern of each LED.



■ SSF Software

Spectrum Survey Field data collection software offers full robotic control capability. An onboard version of this software is also available for standalone use of the SRX.



Model	SRX1X	SRX2X	SRX3X	SRX5X
Telescope	Fully transiting, coaxial optics for sighting, EDM, Auto-Tracking/-Pointing Length: 168mm (6.61in.), Objective aperture: 45mm (1.77in.) [EDM/Auto-Tracking: 50mm (1.97in.)], Magnification: 30x, Resolving power: 2.5", Minimum focus: 1.3m (4.3ft.), Field of view: 1°30', Reticle illumination: 5 brightness levels			
Angle measurement	Rotary absolute encoder scanning. Both circles adopt diametrical detection.			
Accuracy (ISO17123-3:2001)	1" (0.3mgon)	2" (0.6mgon)	3" (1mgon)	5" (1.5mgon)
Display resolution (selectable)	0.5"/1" (0.0001/0.0002gon, 0.002/0.005mil)		1"/5" (0.0002/0.001gon, 0.005/0.02mil)	
IACS (Independent Angle Calibration System)	Provided			
Dual-axis compensator	2-axis liquid tilt sensor, Working range: ±4' (±74mgon)			
Collimation compensation	On / Off, selectable			
Distance measurement	Coaxial phase shift measuring system			
Signal source / Laser output ¹	Red laser diode (690nm) / Reflectorless mode: Class 3R, Prism/Sheet mode: Class 1 equivalent			
Measuring range ²	1 AP prism	1.3 to 5,000m (4.3 to 16,404ft.) / to 6,000m (to 19,685ft.) under good conditions ³		
	3 AP prisms	to 8,000m (26,247ft.) / to 10,000m (32,808ft.) under good conditions ³		
	ATP1/ATP1S 360° Prism	1.3 to 1,000m (4.3 to 3,281ft.)		
	Reflective sheet target ⁴	1.3 to 500m (4.3 to 1,640ft.) with RS90N-K (90x90mm) reflective sheet		
	Reflectorless ^{5,6}	0.3 to 800m (1 to 2,625ft.) / 0.3 to 1,000m (1 to 3,281ft.) ⁷		
Accuracy ² (ISO17123-4:2001) (D=measuring distance in mm)	Prism	(1.5 + 2ppm x D)mm		
	Reflective sheet target ⁴	(2 + 2ppm x D)mm		
	Reflectorless ^{5,6}	(2 + 2ppm x D)mm ; D≤200m (D≤656ft.) ⁸ (5 + 10ppm x D)mm ; 200<D≤350m (656<D≤1,148ft.) (10 + 10ppm x D)mm ; 350<D≤1,000m (1,148<D≤3,281ft.)		
Measuring time ⁶	Fine: Every 0.9s (initial 1.5s), Rapid: Every 0.6s (initial 1.3s), Tracking: Every 0.4s			
Auto-Tracking / Auto-Pointing / Motor drive				
Operating range ⁹	AP prism	1.3 to 1,000m (4.3 to 3,281ft.)		
	ATP1/ATP1S 360° Prism	2.0 to 600m (6.6 to 1,969ft.)		
	Reflective sheet target ¹⁰	5 to 50m (16.4 to 164ft.): Auto-Pointing only		
Laser	Infrared laser diode (980nm), Class 1 laser ¹			
Rotation speed at 20°C (68°F)	Max. 60°/s (approx. 7s for 180° rotation)			
Fine motion	Programmable 2-speed jog dials			
Interface and Data management				
Operating system	Windows CE Ver.5.0			
Display	Size / Type	3.7 inch / Transmissive TFT QVGA color LCD with LED backlight		
	Brightness control	Automatic control / 9 levels manual adjustment		
Keyboard	Fully backlit 32 keys and 1 trigger key			
Data storage	750MB internal memory, CF card (up to 4GB), USB flash memory (up to 4GB)			
Interface	USB1.1 Host (Type A) and Client (Type mini B) / RS-232C (baud rate: 1,200 to 38,400bps)			
Bluetooth wireless ¹¹ (built into RC-TS3 / H-BT1 handles)	Ver.2.0+EDR, Class 1, Communication range: 300m (984ft.) ¹²			
General				
Laser pointer	Coaxial red laser pointer using EDM measuring beam, Class 3R laser ¹			
Guide light	Green and Red LED, Working range: 1.3 to 150m (4.3 to 492ft.)			
Sensitivity of levels	Plate level	20"/2mm	30"/2mm	
	Circular level	10"/2mm		
Optical plummet	Magnification / Minimum focus	5.5x / 0.3m (1ft.)	3x / 0.3m (1ft.)	
Handles	RC-TS3: Bluetooth + RC-Detector / H-BT1: Bluetooth / H-BC1: Basic			
Dust and water protection	IP64 (IEC 60529:2001)			
Operating temperature	-20 to +50°C (-4 to +122°F)			
Size (with handle)	Single display model	W201 x D202 x H375mm (W7.91 x D7.95 x H14.76in.)		
	Dual display model	W201 x D220 x H375mm (W7.91 x D8.66 x H14.76in.)		
Weight (with battery and RC-TS3 handle)	Single display model: 7.6kg (16.8 lb.) / Dual display model: 7.8kg (17.2 lb.)			
Power supply				
BDC58 standard battery	Li-ion rechargeable battery, 7.2V, 4.3Ah, 195g (6.9oz.), 2 pcs. included as standard			
Operating time in Auto-Tracking/-Pointing mode ¹³	Approx. 4 hours (approx. 8 hours using two standard batteries)			
Recharging time with CDC68 standard charger	Approx. 4 hours (two batteries can be recharged consecutively)			

RC-PR4 On-Demand Remote Control System

Operating range (slope distance)	Far mode: 2 to 300m (6.6 to 984ft.) / Standard mode: 2 to 100m (6.6 to 328ft.)
Bluetooth wireless ¹¹	Ver.2.0+EDR, Class 1, Communication range: 300m (984ft.) ¹²
Dust and water protection	IP55 (IEC 60529:2001)
Size / Weight (with battery)	W80.5 x D69 x H131mm (W3.17 x D2.72 x H 5.16in.) / 410g (14.5 oz.)
Operating time with BDC46B battery	Far mode: Approx. 35 hours / Standard mode: Approx. 40 hours

*1 IEC60825-1: Ed.2.0:2007 / FDA CDRH 21 CFR Part 1040.10 and 1040.11 *2 Under average conditions: Slight haze, visibility about 20km (12 miles), sunny periods, weak scintillation. *3 Under good conditions: No haze, visibility about 40km (25 miles), overcast, no scintillation. *4 When the measuring beam's incidence angle is within ±30° to the target surface. *5 With Kodak Gray Card white side (90% reflective). *6 Reflectorless range/accuracy/time may vary depending on measuring objects, observation situations and environmental conditions. *7 Brightness level at object surface: ≤500 lx. *8 (5 + 2ppm x D)mm: 0.3≤D≤0.66m (1≤D≤2.17ft.) *9 Atmospheric conditions: No haze, visibility 20km (12 miles) or more, slightly overcast (brightness 30,000 lx. or less), no scintillation. *10 When the measuring beam's incidence angle is within ±15° to the target surface. *11 Availability and usage approval of Bluetooth wireless technology varies according to country. Please consult your local Sokkia office or representative in advance. *12 Range between SRX and RC-PR4. *13 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).

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