SOKKIA

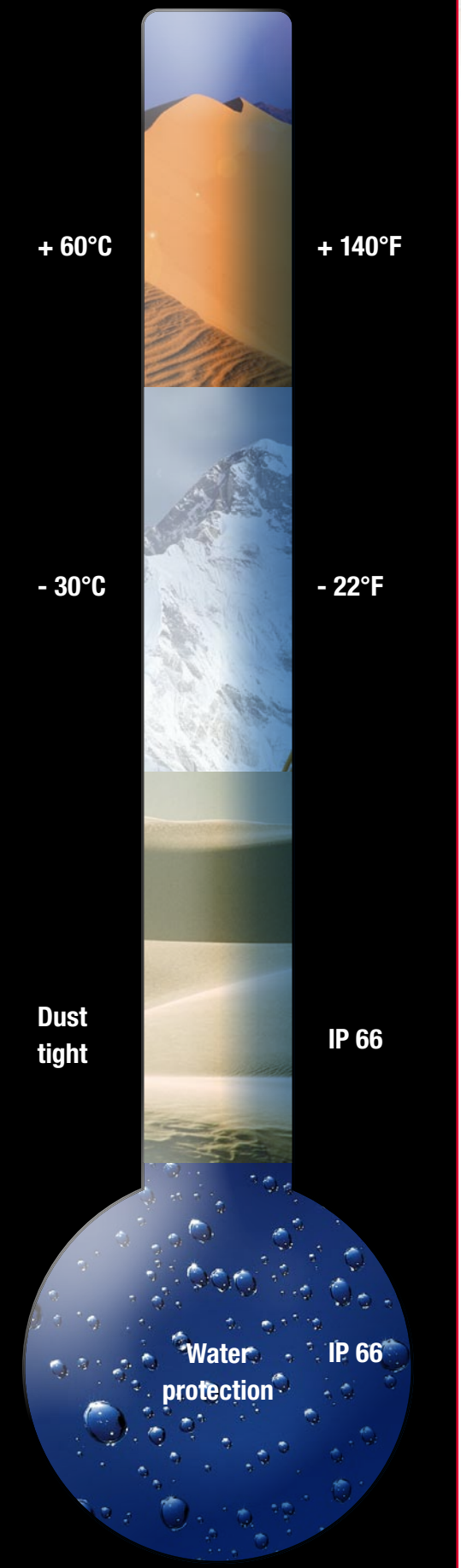
Precision & Reliability

Series50RX

Reflectorless Total Stations

ULTIMATE RELIABILITY

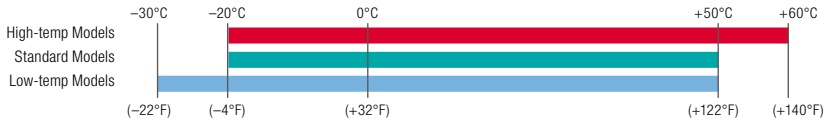
All Environments – All Applications – All Tasks



Challenging Environments Measure the Dimensions of Reliability

The Series50RX operates in heat or frost, in sand or snow, in powder dust or driving rain with unprecedented reliability and accuracy. The Enhanced RED-tech II EDM consistently measures to a wide variety of objects without compromising on speed, range and accuracy.

Operating temperature range



*High Temperature Models and Low Temperature Models are available on built-to-order basis.

Maximum Reliability in Extreme Conditions

In addition to the Standard model, High and Low Temperature models are available for use in extreme cold or heat! These models enable a working range from –30°C up to +60°C.

Maximum Protection from dust and water

The Series50RX withstands the finest dust as well as the hardest driving rain and showers. The industry-leading IP66 protection provides unparalleled reliability in the harshest work site conditions. No matter the circumstances on the jobsite, the Series50RX always works without downtime.

Environmental Durability

The Series50RX total stations offer the industry's highest durability to withstand the most severe climates as well as the harshest work site conditions.

Simple Operation in All Conditions

The focus of the operator should always be on the job, so Sokkia provides a wide variety of technologies that allow simple intuitive operation:

- Intuitive control panel for a clear view both in direct sunlight and in low light construction sites.
- LCD display for automatic contrast and visibility using a built-in temperature sensor.
- Backlit keys enable operation in low lighting conditions.
- The standard built-in Guide Light navigates the rod-man during stake-out routines.
- The compact body and telescope allow easy aiming.
- A built-in laser-pointer marks the spot.
- Infra red Remote control *.
- The optional laser-plummet for easy set up *.
- A diagonal eyepiece can be applied for upright sighting *.

Cover all applications

All day to day routines and applications are featured in the intuitive onboard software:

- Resection
- Traverse Adjustment
- Topo Survey
- 3D Coordinate Measurement
- Feature coding
- Offset
- Setting-out routines (Point, Line, Arc)
- Point Projection
- Intersection
- Missing Line Measurement
- Remote Elevation Measurement
- Area Calculation

* Optional

Enhanced RED-tech II EDM

Further enhanced RED-tech II distance meter provides pinpoint precision in reflectorless measurement as well as greater range with consistent measurement speed.

SF14
Wireless keyboard

400 m Reflectorless Range
Extended reflectorless measurement range increases work efficiency by reducing number of instrument set-ups.

- Measures the industry's shortest distance of 30 cm. Ideal for measurements to bench marks close to the instrument or to points on the ground in archaeological survey.
- Narrow visible laser beam is also used as a laser pointer: the EDM precisely measures the point the laser dot indicates.
- Laser output level is automatically switched to Class 1 specification in "prism" and "reflective sheet" modes to ensure safety.

Beam spot size		
Distance :	10 m	40 m
Spot size :	6.5 x 7 mm	19 x 14 mm

Reduced Measurement Time

Refined digital signal processing algorithms allow the Series50RX to reduce the variation in reflectorless measurement time due to the ranges and object types.

- 1.7 seconds – typical initial measurement time.
- 4.2 seconds – maximum time before results are displayed.
- Consistent, high-speed measurement eliminates operator's stress and increases overall productivity.

Angular Reading System

Sokkia's innovative absolute encoder system provides unsurpassed, extra long-term reliability that has been proven in all worksite conditions across the globe since it's introduction in 2002.

- Simplified optical and mechanical structure maximizes reliability even in the harshest environmental conditions.
- Advanced coding and digital processing technologies provide the Series50RX with the ability to automatically detect and correct misread encoder patterns.
- The 2" model incorporates IACS (Independent Angle Calibration System) for the highest reliability possible.

Guide Light Speeds Up Setting-out Tasks

Green/Red guide lights built into the telescope as a standard feature.

- The lateral position of a prism can be easily determined in a wide range of 1.3 to 150 m.
- Special flashing pattern is included to assist users with color perception disability.

Quick Operation in All Conditions

Easy-to-use control panel is clearly viewable both in direct sunlight and in low light underground construction sites.

- The LCD display automatically maintains optimal contrast and visibility using a built-in temperature sensor.
- Backlit keys facilitate operation in low lighting conditions.
- The SF14 wireless keyboard is optionally available for 2", 3" and 5" models.

Security and Data Management

- Password function prevents unauthorized use.
- 10,000-point internal memory
- SD/SDHC card
- USB memory devices
- Optional built-in Bluetooth® module for wireless connection

Built-in Laser Plummet (optional)

Optional laser plummet allows for quick instrument setting up in low light conditions.

- 5 brightness levels for optimum visibility.

SPECIFICATIONS

Model		SET250RX	SET350RX	SET550RX	SET650RX
TELESCOPE		**Fully transiting, coaxial sighting and distance measuring optics**			
Magnification		30x			26x / 3.5"
Field of View		1°30'			
Minimum Focus		1.3 m			
Reticle Illumination		5 Brightness Levels			
ANGLE MEASUREMENT		**Absolute rotary encoder scanning, both circles adopt diametrical detection**			
Display resolution		1" / 5", 0.3 / 1 mgon (selectable)			
Accuracy (ISO 17123-3:2001)		2" / 0.6 mgon	3" / 1 mgon	5" / 1.5 mgon	6" / 1.9mgon
IACS (Independent Angle Calibration System)		Provided			
Dual-axis compensator carriage return Collimation compensation		Dual-axis liquid tilt sensor, working range: ±6' (±111 mgon) Collimation compensation available			
DISTANCE MEASUREMENT		**Modulated laser, phase comparison method with red laser diode (690 nm)**			
Laser class		Reflectorless mode: Class 3R / Prism/sheet mode: Class 1			
Measuring range	Reflectorless*2 Mini prism One prism Three prisms	0.3 to 400 m CP01: 1.3 to 2,500 m 1.3 to 5,000 m up to 6,000 m			
Unit		Meter, Feet, Feet + inch, US Feet, US Feet + inch			
Display resolution		Fine/Rapid: 0.001 m Tracking: 0.01 m			
Accuracy*1 (ISO 17123-4:2001)	Reflectorless*2 Reflective sheet*3 AP/CP prism	0.3 to 200 m: (3 + 2 ppm) mm, over 200 to 350 m: (5 + 10 ppm) mm, over 350 to 400 m: (10 + 10 ppm) mm (3 + 2 ppm) mm (2 + 2 ppm) mm			
Measuring time*4		Fine: 0.9 s (initial 1.7 s), Rapid: 0.7 s (initial 1.4 s), Tracking: 0.3 s (initial 1.4 s)			
Measuring beam spot size in reflectorless mode	Height x Width	19 x 14 mm at 40 m			
INTERFACE AND DATA MANAGEMENT					
Display / Keyboard		Graphic LCD, 192 x 80 dots, backlight, contrast adjustment / Alphanumeric keyboard, 27 keys with backlight (optional SF14 wireless keyboard)			
Control panel location		On both faces			On one face
Data storage	Internal memory Plug-in memory device	Approx. 10,000 points SD card and SDHC card (max. 4 GB) / USB flash memory (max. 4 GB)			
Interface		Serial RS-232C (baud rate: 1,200 to 38,400 bps) (optional modem Bluetooth Class 2, Ver.1.2. / SFX data transfer via Bluetooth® connection with a cellular phone supporting GPRS)			
GENERAL					
Optical plummet		Magnification: 3x, Minimum focus: 0.3 m			
Dust and water protection		IP66 (IEC 60529:2001)			
Operating temperature	Standard models High Temperature models*5 Low Temperature models*5	–20 to +50°C –20 to +60°C *6 –30 to +50°C			
Size with handle & battery		W166 x D180 x H341 mm			W166 x D173 x H341 mm
Weight with	Standard/High Temp. models Low Temperature models	5.6 kg 5.6 kg	5.5 kg	5.4 kg	
POWER SUPPLY					
Rechargable BDC46B Battery		Li-ion battery (7.2 V, 2.4 Ah), two batteries included in 2", 3", 5" models, one for 6" model			
Operating time		Approx. 8.5 hours (approx. 12.5 hours in angle measurement only)			
External power*7	Input voltage	6.0 to 8.0 V DC			

***1** Average conditions: Slight haze, visibility about 20km (12 miles), sunny periods, weak scintillation. ***2** With Kodak Gray Card White Side (90% reflective). 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. ***3** When the measuring beam's incidence angle is within 30° in relation to the reflective sheet target. Measuring range in temperatures of -30 to -20°C (-22 to -4°F) with Low Temperature models: RS90N-K: 1.3 to 300m (4.3 to 980ft.), RS50N-K: 1.3 to 180m (4.3 to 590ft.), RS10N-K: 1.3 to 60m (4.3 to 190ft.) ***4** Typical, under good conditions. Reflectorless measurement time may vary according to measuring objects, observation situations and environmental conditions. ***5** Low Temperature models and High Temperature Models are available on built-to-order basis. ***6** The instrument should be kept from direct sunlight at over +50°C (+122°F). ***7** Applicable to 2" model and Low Temperature models only.

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www.sokkia.eu

Your local authorised Sokkia distributor is:

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