

SOKKIA



Precision &
Reliability

CONSTRUCTION
INSTRUMENTS



Sokkia Visions

Translated into instruments

From the beginning in 1920, the Sokkia development team has not only been developing construction instruments, surveying instruments and industrial measuring solutions. They developed visions and translated them to the needs of the user. To ensure Sokkia continues to innovate and lead the world construction market, thinking and acting with vision is more important than ever. Sokkia keeps on developing new solutions to simplify people's jobs all around the world.

Sokkia instruments give the professional user a clear advantage. The new construction total station range offers three models, of which two are equipped with the established and technically advanced RED-tech electronic distance meter that delivers high accuracy reflectorless measurements up to 400 meter.

A complete new laser range has been introduced, including leveling, dual grade, Cross Line, Multi Cross Line and Multi Purpose lasers.

All Sokkia instruments from total station to laser undergo rigorous testing to make sure that they are able to withstand tough working conditions. This reduces down time and need for repair.

Reflectorless Total Stations

Series50X – Series50RX

The Series50X and Series50RX total stations provide exceptionally dependable performance at an affordable price.

It has longer range, faster measurement time and greater accuracy than before. This field-proven accuracy and all-weather dependability is supported by easy-to-use powerful onboard software. The data management and storage is offered through all available industry standards like SD-cards, USB ports and Bluetooth®. All these advanced features are packed in a tough and compact body.

- Intuitive control panel for a clear view both in direct sunlight and in low light conditions.
- LCD display with automatic contrast and visibility control using integrated temperature sensors.
- 5000 meter measuring distance on a single prism
- 0.7 sec measurement time
- IP66; Fully water proof and dustproof and working temperature – 20° to + 50° Celsius
- More than a full days operation on a single battery charge

- Standard built-in Guide Light navigates the rodman during stake-out routines.
- Optional Laser plummet for easy stationing.
- Long range reflectorless EDM to 0.3m to 400 m (RX)
- Precise small dot laser pointer (RX)
- Compatibility with USB memory devices

In addition, EDM performance has been increased. The Series50RX reflectorless range is now available to 400m, with measurement times reduced considerably up to 30%. Both models benefit from IP66 environmental protection, offering the highest possible protection from dust, powder, sand, mud and water. The Series50X and Series50RX – The ultimate Standard from Sokkia.



Series50RX



Optional SF14 Wireless Keypad



SPECIFICATIONS	Series50X	Series50RX
Telescope	Fully transiting, coaxial sighting and distance measuring optics	
Accuracy (ISO 17123-3:2001)	Available in 2", 3", 5", 6" model	
Compensator	Dual axis collimation-compensated tilt sensor ± 6'	
Distance Measurement	Modulated laser, phase comparison method with red laser diode (690 nm)	
Laser Class	Prism/sheet mode: Class 1	Reflectorless mode: Class 3R / Prism/sheet mode: Class 1
Measuring Range		
– Reflectorless	x	0.3 to 400 m
– One prism	4000 m	5000 m
Accuracy (ISO 17123-4:2001)		
– Reflectorless	x	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
– Reflective sheet	(3 + 2 ppm) mm	
– AP/CP prism	(2 + 2 ppm) mm	
– Measuring time	Fine 0.9 sec., Rapid 0.7 sec., Tracking 0,3 sec.	
Data storage	10.000 points, storage on SD, SDHC- card, USB flash memory	
Dust and water protection	IP66 (IEC 60529:2001)	
Operating temperature	–20 to +50°C	
Interface	RS232 or optional Bluetooth®	
Optical plummet	3x (optional laser plummet)	
Power	Onboard rechargeable battery BDC46B	
Operating time	8.5 hours (with BDC46B)	
Onboard programs	Resection, 3D Coordinate Measurement, Setting-out, Set-out Line, Set-out Arc, Point Projection, Intersection, Traverse Adjustment, Single-distance offset, Two-distance offset (hidden point), Offset-angle, MLM (Missing Line Measurement), REM (Remote Elevation Measurement), Area Calculation.	

For more detailed specifications please consult the specific product brochures

Construction Software

Layout and Layout Office

Sokkia's advanced software solution for construction layout:

This new software system is designed to assist a contractor or builder with virtually any type of construction staking and layout application, regardless of terrain, weather or job site restrictions. The Sokkia Layout and Layout Office software is easy to learn and use, and will guide a user effortlessly through almost any layout task. You do not need to be an educated surveyor to accomplish an accurate and reliable survey stakeout job when using this software system with the industry proven Sokkia hardware.

This new software solution is completely integrated within Sokkia's instrument and field data collection technology. It delivers complete input/output integration which allows the operator to work with design files in the office or even onsite and export customized design data directly to the field controller to start laying out the project.

Sokkia's Layout and Layout Office also provide seamless integration with AutoCAD™ and other engineering design software suites and with all Sokkia total stations.

- Simple user interface for total stations
- Drive robotic total stations with the optional robotic module.
- Turn measurements from total stations into graphical data.
- Special software features reduce the potential for angular mistakes.
- Live map view with touch screen selection
- Touch any point or line on the map and press the Stake button to layout the point.
- Touch any line to quickly calculate and generate graphical offsets.
- Directional graphical arrows assist in fast plan line additions.
- Plans stored in format to send to DXF files.



- Quick dimension information; click the tape measure icon to quickly get the dimension between points.
- View summary of multiple point selections.
- Simple offsets, offset line segments, figures and create offset points from lines.
- Calculate down and out from any line to a point to offset corners.
- The software will also store bolt patterns templates, and you can project bolt patterns from any project to your job file.



Electronic Digital Theodolites

DT220 • DT520 • DT520A • DT620

Featuring cutting-edge power-saving technology, an advanced angle measurement system and industry-leading dust & water protection, the Sokkia Digital Theodolites offer unprecedented reliability and versatility in construction and engineering applications.

- Sokkia's innovative technology achieves the world's longest operating time – 220 hours with the DT620. At seven hours a day, the DT620 operates 31 days without changing batteries.
- Advanced angle measurement system: Advanced coding and digital processing technologies provide long-term reliability in any work-site conditions.



DT220



- Industries highest dust and water protection: IP66
- Quick, user friendly operation: No need for 0-indexing at power on, Easy to read LCD display.
- Dual-axes compensation: DT220 and DT520 models automatically compensate both vertical and horizontal angles.
- Right angle beeps: Instrument beeps at each of the four right-angle directions to assist squaring.
- RS-232C Data port for data output to external devices



DT220

SPECIFICATIONS	DT220	DT520	DT520A	DT620
Telescope Magnification	30x			26x
Display Resolution (selectable)	1" / 5", 0.2 / 1 mgon, 0.005 / 0.02 mil			5" / 10", 1 / 2 mgon, 0.02 / 0.05 mil
Accuracy (17123-3:2001)	2" / 0.6 mgon, 0.01 mil	5" / 1.5 mgon / 0.025 mil		7" / 2.2 mgon, 0.035 mil
Automatic dual-axis compensator	Dual-axis liquid tilt sensor, Working range $\pm 3' (\pm 55 \text{ mgon})$			–
Display	LCD, 8 digits x 2 lines with backlight			
Control panel location	On both faces		On single face	
Dust and water protection	IP66 (IEC 60529:2001)			
Weight with handle	4.4kg	4.3kg	4.2kg	3.9kg
Power supply	LR14 (C) batteries x 2			
Battery	LR14 (C) batteries x 2			
Operating time w/alkaline batteries at 25°C	Approx. 130 hours		Approx. 200 hours	Approx. 220 hours

Levels

B20 • C300 • C320 • C410

Sokkia provides a wide range of fast, easy-to-use and accurate automatic levels, suited for both indoor and outdoor use. All models are simple to sight and immune to vibration and shock. Sokkia

levels incorporate exclusively designed precision compensators that employ a magnetic damping system for outstanding accuracy and dependability. The B20, C300 and C320 guarantee superior per-

formance regardless of weather conditions (IPX4). Even in sudden weather changes you won't be disturbed by fogging of the instrument.



B20 



C300 



C320 



C410

SPECIFICATIONS	B20	C300	C320	C410
Telescope				
– Objective aperture	42 mm	36 mm	32 mm	30 mm
– Magnification		28 x	24 x	20 x
– Minimum focus			0.3 m	0.9 m
Accuracy	Standard deviation for 1 km double-run leveling			
– Without micrometer	1.0 mm	2.0 mm		2.5 mm
– With micrometer	0.8 mm	n/a		
Compensator				
– Type	4 wire pendulum compensator with magnetic damping system			
– Working range	±15'			
Horizontal circle graduation	1° (1 gon)			
Water resistance	IPX4 (IEC60529)			n/a
Weight	1.85 kg	1.7 kg		1 kg

Digital Level

SDL50

The SDL50 is a reliable, easy to use digital level ideal for the construction field. Functionality and performance of higher class models are available at an affordable price.

Automatic operation eliminates conventional errors arising from misreading or variant results caused by the operator. Measurements are completed in less than 3 seconds. Displays of measurement results and calculations of height differences are also carried out with remarkable speed. The SDL50 delivers unprecedented efficiency in completing all measurement tasks.

- Height accuracy of 1.5 mm can be achieved using fiberglass RAB-Code staves (Standard deviation for 1 km double-run levelling).

- The SDL50 is equipped with the same compensator as the SDL30, assuring a reliable, wide compensating range more than $\pm 15'$.
- The SDL50 incorporates the same programs to help speed up construction work.
- The internal memory holds 2,000 points of data in a maximum of 20 job files.
- Measured data can be exported in CSV format using the software "SDL TOOL".



SDL50

RAB-Code Staves

The SDL50 employs Sokkia's uniquely designed "RAB-Code (RAndom Bi-directional Code)" staves. They provide superior accuracy in both height and distance measurement applications even where light and shade are uneven. The SDL50 can read the staff when it is positioned upside-down without changing measuring mode, making for simple leveling of for example ceilings.



BGS40-BGS50

SPECIFICATIONS	SDL50
Height accuracy* (with RAB-Code Staves)	1.5 mm (with Fiberglass BGS40/50/50G3)
Distance accuracy (with RAB-Code Staves)	Up to 10 m: Within ± 10 mm, 10 to 50 m: Within $\pm 0.1\% \times D$ (D = measuring distance)
Measuring range (with RAB-Code Staves)	1.6 to 100 m
Minimum display	0.0001 m / 0.001 m (Height)
(Single, Repeat, Average)	0.01 m (Distance)
Measuring time	Single mode: Less than 3s, Tracking: Less than 1 s
Telescope magnification	28x
Compensator	Type: Pendulum compensator with magnetic damping system, Working Range: More than $\pm 15'$
Horizontal circle	Graduation: 1° (1 gon)
Data storage	2,000 points in max. 20 job files, (Job name user-definable)
Weight w/battery	2.4 kg

* Standard deviation for 1 km double-run leveling.

Construction Lasers

Leveling Laser

LP415

A compact and rugged self leveling laser offering superior reliability at an affordable price.

- ø 300 m working range
- highly-reliable, high-speed self leveling
- visible red laser
- compact, lightweight and rugged
- TILT alert for reliability
- LR200 advanced detector



LP415

Leveling Laser

LP415S

A compact, rugged and reliable self leveling laser offering versatility for slope work at an affordable price.

- ø 300 m working range
- single-grade laser with ±8,7% grade range
- highly reliable, high-speed self leveling
- visible red laser
- LR200 advanced detector



LP415S

Leveling Laser

LP410

A 500-meter self leveling laser that boosts productivity in large-scale construction.

- ø 500 m working range
- highly reliable, high-speed self leveling
- visible red laser
- compact, lightweight and rugged
- TILT alert for extra reliability
- LR200 advanced detector



LP410

SPECIFICATIONS	LP415	LP415S	LP410
Rotation	600 rpm	600 rpm	600 rpm
Measuring Range	300 m	300 m	500 m
Accuracy	2,2 mm / 30 m	2,2 mm / 30 m	1,5 mm / 30 m
Weight w / battery	2 kg	2 kg	2 kg
Laser Class	2	2	2
Waterproof	IP56	IP56	IP56

Construction Lasers / Multi Purpose Lasers

Dual Grade Laser

SDG1



Rugged dual grade laser.

- \varnothing 800 m working range
- wide grade range
X-axis: -10% to +10%
Y-axis: -5% to +25%
- LRC6 wireless remote control
- LR200 advanced detector



LRC6

LR200

SDG1

Pipe Laser

SP1



Outstanding accuracy and robustness.

- precise grade settings
- grade range -15% to +40%
- robust and watertight body
- high visibility beam spot
- including targets
- SPRC1 remote control



Targets

SPRC1

SP1

Multi-Purpose Rotation Laser

TRIAx MP500 HV



The horizontal / vertical rotation laser.

The new laser for inside and outside use offering a complete package with a sensor and remote control as well as protecting glasses. The MP500 HV also offers a scan- and slope function. Extremely good value for money.

- laser class 3R
- bright red laser beam with a plumb point up and a down
- horizontal / vertical self leveling
- accuracy 1 mm / 10 m
- waterproof IP54



TLS50

TRC25

MP500HV



TLS50 detector

TRC25 remote control

- Up to 150m working range

- Up to 25m working range

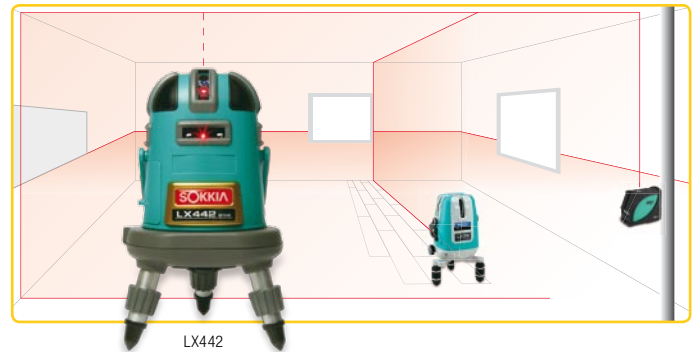
Interior Lasers

Multi-Cross Line laser

LX442

The LX442 is a fully automatic leveling cross line laser, offering a professional way of working. This laser can be used inside as well as outside and helps you doing an outstanding and accurate job. Complete package in an aluminum case including sensor, remote control, protecting glasses, charger and target.

- accuracy: 1 mm / 10 m
- laser class 2
- 8 beams 360° working range
- automatic self leveling
- operating range 40 m



LX442

SPECIFICATIONS	SDG1	SP1	LX442
Rotation	300/900rpm	x	x
Measuring Range	800m	x	20m
Accuracy	10sec	10sec	1 mm/10 m
Weight w/battery	3,6kg	3,8kg	1.8kg
Laser Class	3A	3A	2
Waterproof	IP66	IP66	IP54

Cross Line Laser Tool

LT40

Compact tool for inside and outside jobs.

- horizontal / vertical self leveling
- simultaneous horizontal / vertical line
- plumb up and down
- sets 90° angle
- scan mode with optional detector



LT40

Multi-Cross Line Lasers

LX32-LX34

Thanks to the remarkable leveling speed, and wide operating area the LX32 and LX34 greatly increase work efficiency in leveling, plumbing, alignment and lay-out applications. The extreme visibility of the beam ensures that you see it in all circumstances. Complete package in a aluminium case including a detector, laser glasses and target.



LX32

- laser class 2
- 4 beams 180° working range
- operating range 40 m with detector
- accuracy: LX32 1 mm / 10 m
- accuracy: LX34 2 mm / 10 m



LD601

SPECIFICATIONS	LP415	LP415S	LP410	SDG1	SP1	MP500	LT40	LX32	LX34	LX442
Rotation	600 rpm	600 rpm	600 rpm	300/900rpm	x	600 rpm	x	x	x	x
Measuring Range	ø300 m	ø300 m	ø500 m	ø800 m	x	ø300 m	40 m	40 m	40 m	20 m
Accuracy	2,2 mm/30 m	2,2 mm/30 m	1,5 mm/30 m	10 sec	10 sec	1 mm/10 m	3 mm/10 m	1 mm/10 m	2 mm/10 m	1 mm/10 m
Weight w/battery	2 kg	2 kg	2 kg	3,6 kg	3,8 kg	2,1 kg	0,47 kg	0,9 kg	0,9 kg	1,8 kg
Laser Class	2	2	2	3A	3A	2	2	2	2	2
Waterproof	IP56	IP56	IP56	IP66	IP66	IP54	x	IP54	IP54	IP54

Product / application matrix

Applications		General Construction							Civil works / Roading						Building			Maintenance				
		Land development	Earth moving	Roading	Landscaping	Tunneling	Jobsite preparation	Foundation	Cadastral survey	Road construction	Drainage sewer	Landscaping	Volumetrics	Setting out	Elevation measurement	Paving	Foundation / piling	Floor plan layout	Steel erection	Topo measurements	Monitoring	Cadastral boundaries
Total Stations	Page 3																					
Series50X		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Series50RX		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Theodolites	Page 5																					
DT220					●	●	●	●			●			●			●	●	●			
DT520					●	●	●	●			●			●			●	●	●			
DT520A					●	●	●	●			●			●			●	●	●			
DT620					●	●	●	●			●			●			●	●	●			
Levels	Page 6																					
B20		●	●	●	●	●	●	●		●	●	●	●		●	●	●	●	●			
C300		●	●	●	●	●	●	●		●	●	●	●		●	●	●	●	●			
C320							●	●									●	●	●			
C410							●	●									●	●	●			
Digital levels	Page 7																					
SDL50		●	●	●	●	●	●	●		●	●	●	●		●	●	●	●	●			

Applications		Construction							Interior						Technic			Finishing						
		Road Construction	House-building	Warehouse Constr	Landscaping	Piping	Roofing	Slope constructions	Earth Moving	Window/Door	Dry-wall construction	Interior decoration	Kitchen / Bathrooms	Exhibition construction	Stairs	Electricians	Sanitary	Heating / Airco	Tiler	Painter	Plasterer	Prefab construction	Renovation	Decorator
General Construction	Page 8																							
LP415		●	●	●	●																	●		
LP415S (slope)		●	●	●	●			●	●													●	●	
LP410		●	●	●	●	●																●		
Slope	Page 9																							
SDG-1		●		●	●			●	●													●		
Pipe	Page 9																							
SP1		●		●		●																	●	
Multi-Purpose	Page 9																							
MP500 HV			●	●			●		●	●	●	●	●	●		●	●	●	●		●	●	●	●
Line-Cross Laser	Page 10																							
LT40			●				●		●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
LX32/34			●				●		●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
LX442			●				●		●	●	●	●	●	●		●	●	●	●	●	●	●	●	●

SOKKIA

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SOKKIA

www.sokkia.eu

Your local authorised Sokkia distributor is:

www.grafit-werbeagentur.de



SOKKIA CO. LTD., founded in 1920 in Japan, is a leading manufacturer in developing complete measurement solutions for surveying, construction and industrial measurement applications. Sokkia's portfolio includes GNSS systems (Global Navigation Satellite Systems), reflectorless and robotic total stations, digital theodolites, automatic/digital levels, rotation/line lasers and software.

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