

**SOKKIA**

# **SDL50**

**DIGITAL LEVEL**

1.5mm Standard Deviation for 1km Double-run Leveling

## **A New Level in Operating Ease**



**POWER/LEVEL**



# “Digital” Makes Measurement *Easy, Accurate and Fast*

## Easy

With the SDL50, taking measurements is remarkably simple. Just aim the telescope at the staff, adjust the focus, and press a single key. The SDL50 measures the height and distance simultaneously.



## Fast

Measurement is completed in less than 3 seconds (single and repeat modes). 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.

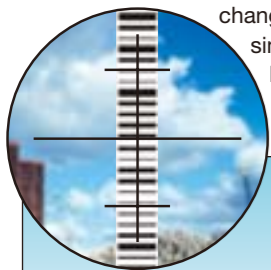
## Accurate

Because it takes measurements automatically, the SDL50 enables accurate measurements by any operator, with no experience necessary. Automatic operation eliminates conventional errors arising from misreading or variant results depending on the operator. Accuracy is outstanding: a standard deviation of only 1.5mm for 1km double-run leveling.



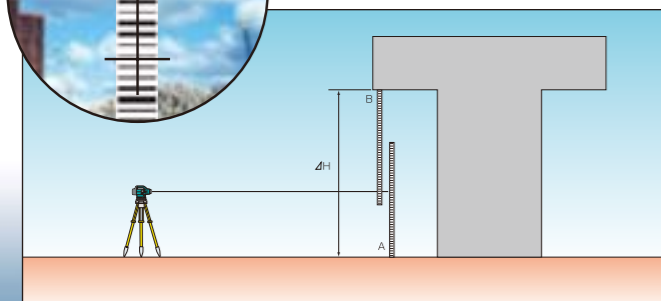
### • Unique “RAB-Code” Staves

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 ceilings and the like.

RAB-Code staves are interchangeable for use with the top-of-the-line SDL30 digital levels.

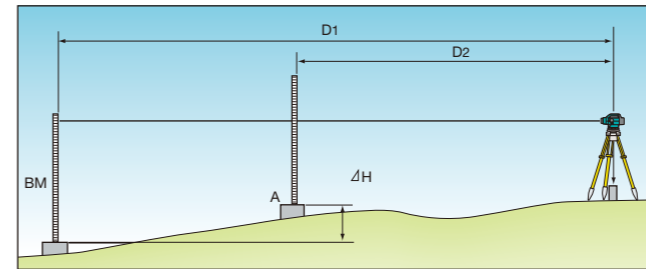


## No Need for a Calculator

The SDL50 performs calculations that have normally required use of a pocket calculator. Also, measurement results can be conveniently stored in the internal memory.

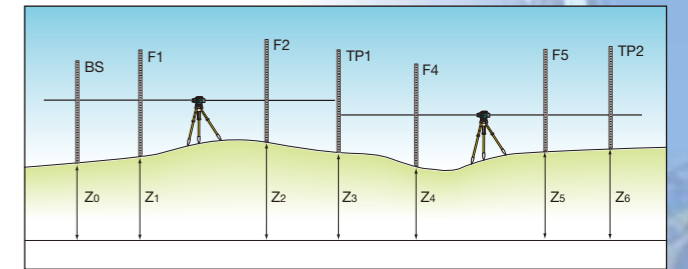
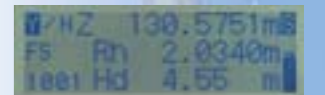
### • Height Difference Measurement

The SDL50 calculates and displays the height difference between backsight and foresight points. The backsight point can be fixed, to permit successive calculations of multiple foresight heights.



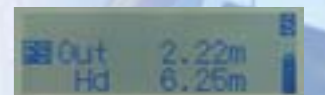
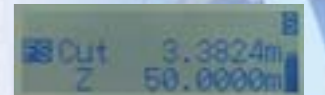
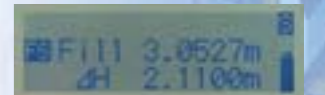
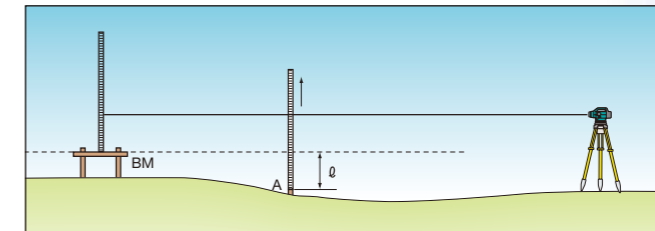
### • Elevation Measurement

When the backsight elevation is entered, the SDL50 automatically calculates the foresight height. Calculation results can be stored in the internal memory.



### • Setting-Out Measurement

The SDL50 can perform setting-out measurements in three ways: by height difference, elevation and horizontal distance.



## Large-Capacity Internal Memory

Data on roughly 2,000 measurement points can be stored in the SDL50’s internal memory. Manual numerical input is also possible. Double-run level loops can be set up not only using point numbers but also by setting the attributes of backsight and foresight points. A maximum of 20 JOB files can be created. A utility program “SDL TOOL” is available to enable easy downloading of recorded data to a computer in readily applicable CSV format.

### Water-Resistant



The SDL50 boasts excellent water resistance, and conforms with IPX4 (IEC 60529). The main unit is protected against water splashes from all directions. Sudden showers are no longer a reason to panic.

### Wide-Ranging, Reliable Automatic Compensation

The SDL50 can automatically compensate its tilt over a broad range of ±15°. Automatic compensation, a highly acclaimed feature of Sokkia’s automatic levels, consistently enables outstandingly accurate measurements even in locations susceptible to broad temperature changes and strong vibrations.

### Battery Interchangeable with Total Stations

The SDL50 is powered by a BDC46A lithium-ion battery. It enables a continuous supply of power for 8.5 hours, and is fully compatible with the Series10 and Series30R total stations.



◀ For demonstration purpose, the RAB-code appearing here may be used with the SDL50 for actual measurement.

SDL50 Specifications		
Height accuracy* Standard deviation for 1km double-run leveling	Electronic measurement	1.5mm (0.06in.)
	Visual measurement	2.0mm (0.08in.)
Distance accuracy (D=measuring distance, unit:m)	Electronic measurement*	Up to 10m (33ft.) : within ±10mm (±0.4in.) 10 to 50m (33 to 160ft.) : ±0.1% x D Over 50m (160ft.) : ±0.2% x D
	Measuring mode	Single / Repeat / Average / Tracking (selectable)
	Measuring range	Electronic measurement* 1.6 to 100m (5.3 to 320ft.)
Minimum display	Height	Single, Repeat or Average mode : 0.0001m / 0.001m, 0.001ft. / 0.01ft. or 1/8in. Tracking : 0.001m, 0.01ft. or 1/8in.
	Distance	Single, Repeat or Average mode : 0.01m (0.1ft. or 1in.) Tracking mode : 0.1m (1ft.)
Measuring time		Single, Repeat or Average mode : Less than 3s Tracking mode : Less than 1s
	Telescope	Magnification Image Objective aperture Field of view Resolving power Minimum focus Stadia ratio Stadia additive constant
Compensator	Type	Pendulum compensator with magnetic dumping system
	Working range	More than ±15'
Sensitivity of circular level		10'/2mm
Horizontal circle	Graduation	1° / 1gon
Display		Dot matrix LCD, 128 x 32 dots, with backlight
Data storage (Internal memory)	Capacity	2000 points
	JOB control	Up to 20 JOB (JOB name definable)
	Data output format	CSV / SDR Selectable
	Interface	RS-232C compatible
Water resistance		1,200bps to 38,400bps
		Conforms to IPX4 (IEC60529 : 1989)
Operating temperature		-20 to 50°C (-4 to 122°F)
	Power supply	Battery BDC46A Rechargeable Li-Ion battery
Working duration at 25°C(77°F)		More than 8.5 hours
	Charging time at 25°C (77°F)	Less than 2 hours
Size		W158 x D257 x H182mm (W10.2 x D15.6 x H8.8in.)
Weight with battery		2.4kg (5.3lb.)

\* With BGS40 / 50 / 50G3

#### Standard Configuration

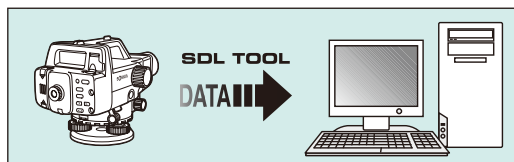
SDL50 comes with an internal BDC46A battery, CDC68 charger, EDC113A / B / C power cable, dust cover, tool kit, operator's manual and a carrying case.

#### Optional Accessories

DE23: Diagonal Eyepiece  
GS60L: Circular Level for staff

#### Software Program

SDL TOOL



#### SDR Series Data Collectors

Measurement data can be logged in the Sokkia's SDR series data collectors which have a complete library of surveying programs that can be used with Sokkia's total stations and GPS receivers.

#### Fiberglass RAB-Code Staves

Front: RAB-Code, Reverse: graduated  
BGS40: 4.0m (13.3ft), 3 sections, 2.4kg (5.3lb.)  
BGS50: 5.0m (16.7ft), 4 sections, 3.0kg (6.6lb.)  
BGS50G3: 5.0m (16.7ft), 4 sections, 3.0kg (6.6lb.), feet / 10th / 100th

#### Aluminum RAB-Code Reflective Staff

Front: RAB-Code, Reverse: graduated on reflective surface  
BRS55: 5.0m (16.7ft), 5 sections, 1.95kg (4.3lb.)

#### Aluminum RAB-Code Staff

Front: RAB-Code, Reverse: graduated  
BAS55: 5.0m (16.7ft), 5 sections, 1.9kg (4.3lb.)

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