SOKKIA

SDL30/SDL50

DIGITAL LEVELS

Save Time with Innovative, Industry-Leading Technologies

2.5-second High-speed Measurement, 20 lux Minimum Brightness, Inverted Staff Recognition, Wave-and-Read, and the Highest Accuracy in its Class

■ 2.5 seconds – High-speed Measurement

Aim, focus, and press a key. Height and distance are simultaneously measured in 2.5 seconds, 20 percent faster than ordinary digital levels.

■ Wave-and-Read Technology

The innovative "Wave-and-Read" technology provides an additional survey style option. The SDL30/50 tracks the RAB-Code staff waved back and forth to read the correct height. The staff reading becomes the minimum when it is in vertical position. The SDL30/50 automatically detects the least value of staff readings.

■ Choice of Accuracy

SDL30: 0.4mm (New Super-Invar Staff) / 0.6mm (Invar) / 1.0mm (Fiberglass)
SDL50: 0.6mm (New Super-Invar Staff) / 0.8mm (Invar) / 1.5mm (Fiberglass)

Choose the digital level and staffs according to the accuracy* you need. Sokkia offers the top-of-the-line SDL1X model for higher accuracy of up to 0.2mm.

* 1km double-run leveling

■ Consistent Performance in Diverse Environments

The SDL30/50 provides the superior measurement capability under a variety of environmental conditions. Even when the staff surface is partially shaded, or in dim lighting conditions where the brightness at staff surface is as low as 20 lux*, the SDL30/50 consistently provides reliable measurement results without downtime. A small flashlight is enough to illuminate the staff in the dark.

*20 lux is defined as the minimum brightness with which human face can be recognized.

■ Internal Memory

Up to 2,000 measurement data of elevation or height difference can be recorded in the internal memory. Auto mode records data as soon as the measurement is taken, while manual mode allows you to check the measurement results before recording. Stored data can be exported using the "Spectrum Link" software.

■ Automatic Recognition of Inverted Staff

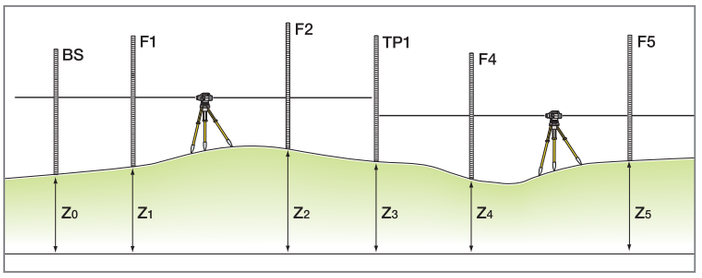
The SDL30/50 automatically recognizes directions of RAB-Code staffs and displays the results with a minus sign (-) when the staff is inverted. Height of ceiling, overpass, bridge, road sign, tree branch, tunnel crown, and other objects can be easily measured without a calculator.

■ Convenient Onboard Programs

The onboard measurement programs of SDL30/50 facilitate leveling and setting-out tasks. Programs include:

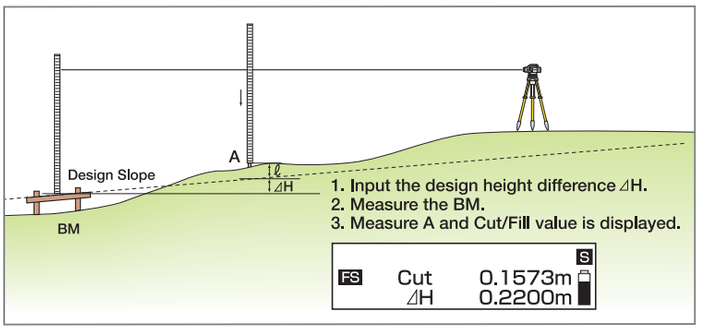
● Elevation ● Height Difference
● Cut and Fill Setting-out ● Setting-out in Distance

■ Elevation / Height Difference



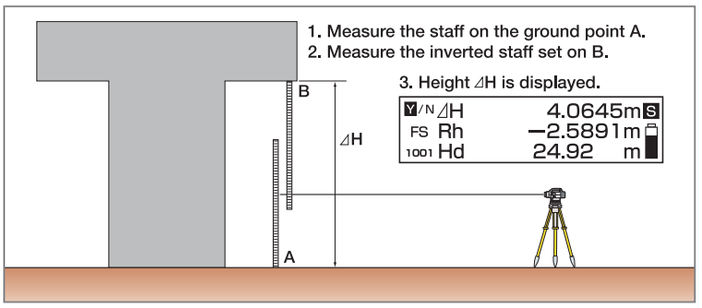
- The SDL30/50 calculates height difference between backsight (BS) and foresight (FS).
- Elevation of foresight can be calculated by inputting BS elevation.

■ Cut and Fill Setting-out



- Slope can be set using Cut and Fill Setting-out program.
- Leveling is possible by inputting the height difference zero (0).

■ Height Measurement



- Two measurements provide the height of point B.
- Elevation can be calculated by inputting BS elevation.

■ SDL30 / SDL50 Specifications

Model			SDL30	SDL50
Height accuracy (ISO 17123-2)*	Electronic	BIS30A staff	0.4mm (0.016in.)	0.6mm (0.024in.)
		BIS20/30 staffs	0.6mm (0.024in.)	0.8mm (0.03in.)
		BGS staffs	1.0mm (0.04in.)	1.5mm (0.06in.)
	Visual	BGS staffs	1.0mm (0.04in.)	2.0mm (0.08in.)
Distance accuracy (D: measuring distance)	Electronic		<±10mm (±0.4in.) [D≦10m (D≦33ft.)] <±0.1% x D [10<D≦50m (33<D≦164ft.) <±0.2% x D [50<D≦100m (164<D≦328ft.)]	
Measuring range	Electronic		1.6 to 100m (5.3 to 328ft.)	
	Visual		from 1.5m (5.0ft.)	
Measuring mode			Single / Repeat / Average / Tracking / Wave-and-Read	
Display resolution	Height		0.0001/0.001/0.01m (0.001/0.01/1ft., 1/8in.)	
	Distance		0.01/0.1m (0.1/1ft., 1in.)	
Measuring time	Single/Repeat		<2.5s	
	Average		<2.5s x [number of measurements]	
	Tracking		<1s	
Minimum brightness condition			20 lux at the surface of staff (with natural light)	
Telescope	Objective aperture		45mm (1.8in.)	36mm (1.4in.)
	Magnification / Resolving power		32x / 3"	28x / 3.5"
	Minimum focus / Field of view		1.5m (5ft.) / 1°20'	
Compensator	Type		Pendulum compensator with magnetic damping system	
	Working range		±15'	
Sensitivity of circular level			10'/2mm	
Horizontal circle			Diameter: 103mm (4in.), Graduation: 1° (1gon)	
Display			Dot matrix LCD (128 x 32 dot) with illuminator	
Keyboard			8 keys (7 keys on front panel, 1 key on side panel)	
Data storage			2,000 points internal memory	
Interface			RS-232C, baud rate 1,200 to 38,400bps	
Onboard programs			Elevation / Height difference / Cut & Fill setting-out / Setting-out distance / Height measurement	
Water resistance			IPX4 (IEC60529:2001)	
Operating temperature			-20 to +50°C (-4 to 122°F)	
Size			W158 x D257 x H182mm (W6.2 x D10.1 x H7.2in.)	
Weight with battery			2.4kg (5.3 lb.)	
Standard battery			BDC46B (Rechargeable Li-ion, 7.2V, 2.45Ah)	
Operating time			Approx. 16 hours at 25°C (77°F)	

* Standard deviation for 1km double-run leveling

■ Standard Configuration

SDL30/SDL50 digital level, BDC46B battery, CDC68 charger, EDC113A/B/C power cable, tool kit, dust cover, cleaning cloth, operator's manual, carrying case

■ Optional Accessories

DE23 Diagonal eyepiece
GS60L Circular level for staff

■ RAB-Code Staff

Material	Model	Length	Linear expansion	Sections	Weight
New Super-Invar	BIS30A	3m (9.9ft.)	±0.1ppm/°C	1	5.5kg (12.2 lb.)
Invar	BIS20	2m (6.6ft.)	1ppm/°C	1	4.3kg (9.5 lb.)
	BIS30	3m (9.9ft.)	1ppm/°C	1	5.5kg (12.2 lb.)

Material	Model	Length	Rear graduation	Sections	Weight
Fiberglass	BGS40	4m (13.2ft.)	Metric	3	2.4kg (5.3 lb.)
	BGS50	5m (16.4ft.)	Metric	4	3kg (6.6 lb.)
	BGS50G3	5m (16.4ft.)	feet/10th/100th	4	3kg (6.6 lb.)
Aluminum	BAS55	5m (16.4ft.)	Metric	5	1.9kg (4.2 lb.)

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