

# SOKKIA



## ***SURVEYING INSTRUMENTS CATALOG 2007-2008***

### **CONTENTS**

SRX Flagship Total Station .....	2
Reflectorless Total Stations .....	4
Total Stations .....	8
Reflective Prisms .....	9
Reflective Sheet Targets and Staves .....	9
GPS/GIS .....	10
Software .....	12
3-D Coordinate Measuring System MONMOS.....	13
Theodolites.....	14
Levels.....	15
Construction Laser Instruments.....	17
Survey Equipment.....	19



# Flagship Total Station

## SRX

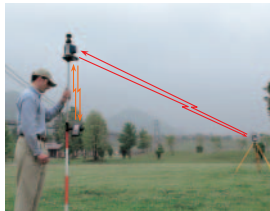
### SRX

#### Total Stations

#### SRX1·SRX2·SRX3·SRX5

Set your sight on SOKKIA's flagship total station SRX

- SRX achieves “stress-free complete remote control” with a combination of SRX series auto-tracking and an RC-PR3 on-demand remote control system
- SOKKIA's innovative RED-tech EX technology performs fast, survey-grade accuracy reflectorless measurement with an extended range of 500m (1,640ft.) while maintaining the industry's shortest distance measurement of 30cm (1ft.).
- SOKKIA's original absolute encoders have been enhanced with IACS (Independent Angle Calibration System) technology providing unprecedented high precision angle measurement.
- Multiple data interfaces provide seamless data storage and transfer.
- Fully wireless. License-free long-range data communication is easily performed using **Bluetooth®** Class 1 wireless technology.
- SRX is available in fully robotic and upgradeable auto-pointing configurations. An additional control panel on face 2 is available as a factory option.

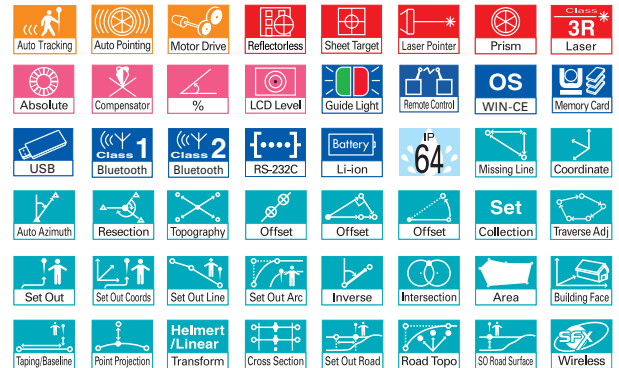


#### Auto-Pointing

Point SRX roughly toward the target, press a button and SRX takes care of the rest.

#### Auto-Tracking

SRX continuously tracks the prism, updating distance and angle values in real-time. Measurement can be taken at any time with a simple press of the measurement key.



	SRX1	SRX2	SRX3	SRX5
Auto-tracking*1	Pulse laser transmitter and CCD detector with co-axial optics			
Maximum Range	With ATP1 prism	500m (1,640ft.)		
Auto-pointing	Pulse laser transmitter and CCD detector with co-axial optics			
Range	With ATP1 prism	2 to 600m (6.5 to 1,960ft.)		
	With AP01 prism	2 to 1,000m (6.5 to 3,280ft.)		
Angle measurement	Absolute encoder scanning. Both circles adopt diametrical detection.			
Display resolutions (selectable)	0.5" / 1", 0.1 / 0.2mg, 0.002 / 0.005mil		1" / 5", 0.2 / 1mg, 0.005 / 0.02mil	
Accuracy (ISO17123-3)	1" / 0.3mg / 0.005mil	2" / 0.6mg / 0.01mil	3" / 1mg / 0.015mil	5" / 1.5mg / 0.025mil
Automatic dual-axis compensator	Dual-axis liquid tilt sensor, Working range: -4' (-74mg), out-of-range warning display and audio beep provided			
Distance measurement	Modulated Laser, phase comparison method with red laser diode			
Measuring range*2	Reflectorless*3	0.3 to 500m (1 to 1,640ft.) (White side, 90% reflective)		
(slope distance)	(With Kodak Gray Card)	0.3 to 250m (1 to 820ft.) (Gray side, 18% reflective)		
	With RS90N-K Reflective sheet target	1.3 to 500m (4.3 to 1,640ft.)		
	With ATP1 prism	1.3 to 1,000m (4.3 to 3,280ft.)		
	With 1 AP prism	1.3 to 5,000m (4.3 to 16,400ft.), Under good conditions*4: 1.3 to 6,000m (4.3 to 19,680ft.)		
Accuracy	Reflectorless*3*5	0.3 to 200m (1 to 650ft.): (3+2ppm x D)mm		
(ISO 17123-4)	(Fine mode)	Over 200 to 350m (over 650 to 1,140ft.): (5+10ppm x D)mm		
(D=measuring distance, unit:mm)		Over 350 to 500m (over 1,140 to 1,640ft.): (10+10ppm X D)mm		
	With prism	(1.5+2ppm x D)mm*6	(2+2ppm x D)mm	
	With reflective sheet	(3+2ppm x D)mm		

\*1 Available for Auto-tracking model only. \*2 Average conditions: Slight haze, visibility about 20km (12miles), sunny periods, weak scintillation.

\*3 Reflectorless range/accuracy may vary according to measuring objects, observation situations and environmental conditions.

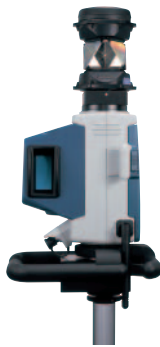
\*4 Good conditions: No haze, visibility about 40km (25miles), overcast, no scintillation. \*5 With Kodak Gray Card White Side (90% reflective).

\*6 With CPS12 high precision glass prism, more than 4m.

## RC-PR3

### On-Demand Remote Control Unit

- The lightweight RC-PR3 combines external cables and separate components into a single compact system. RC-PR3 is equipped with both **Bluetooth®** Class 1 and Class 2, an industry first! Enjoy license-free wireless communication with SRX and data collectors. Complete prism-side operation gives you the freedom to survey the way you want to.
- A wide search beam is emitted from the beam emitter for more effective searches.



On-Demand Remote Control Unit		Beam Emitter, Bluetooth® Unit and Magnetic compass sensor. Recommended for use with ATP1 360° prism.
Range*1 (slope distance between SRX and RC-PR3)	Standard mode	2 to 100m*2 (7 to 320ft.)
	Far mode	2 to 250m*3 (7 to 820ft.), 2 to 300m*2 (7 to 980ft.)

- \*1 Average conditions: Slight haze, visibility about 20km (12miles), sunny periods, weak scintillation.  
\*2 When the vertical interval between SRX and the RC-PR3 beam emitter is no more than 20m.  
\*3 When the vertical interval between SRX and the RC-PR3 beam emitter is no more than 40m.

## ATP1 360° Prism

- SOKKIA's unique ATP1 360° prism plays an important role in high-precision measurement by minimizing sighting error. The focally aligned 6-piece ATP1 offers the industry's best accuracy.



High-precision Reflectorless Measurement  
Using Innovative RED-tech EDM Technology

## RED-tech Series

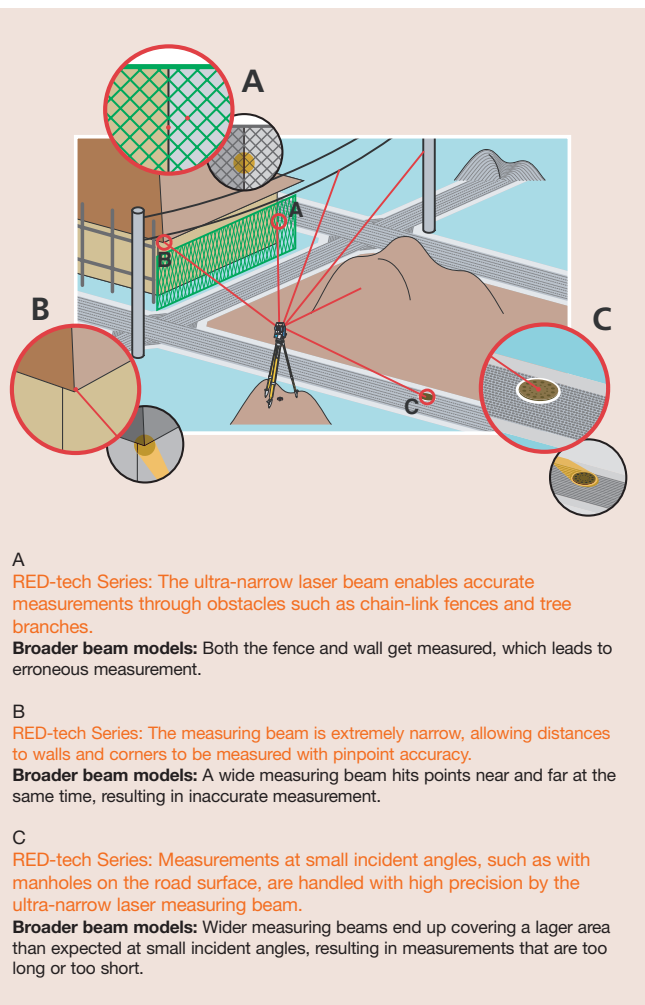
**Survey-grade accuracy from 30cm/1ft. to 500m/1,640ft.**

RED-tech reflectorless EDMs are acclaimed for high-precision pinpoint accuracy and the flexibility to measure from distances as close as 30cm (1ft.). SRX features RED-tech EX, the latest in SOKKIA's innovative reflectorless measurement technology. RED-tech EX performs fast, stable measurements with an extended measurement range of 500m (1,640ft.). RED-tech II EDMs are available in both Class 3R and Class 2 configurations. RED-tech II Class 3R EDMs have a measurement range of 350m (1,140ft.) and Class 2 have a measurement range of 200m (650ft.). RED-tech II EDMs are available in Series030R, Series130R, Series30RK and Series30R total stations.



- **Single beam for measuring and pointing**  
RED-tech uses the same ultra-narrow beam for pointing and measuring, meaning you measure exactly what you see.
- **Ultra-narrow visible laser for pinpoint accuracy**  
RED-tech EDMs use an ultra-narrow visible laser to obtain results with pinpoint accuracy. RED-tech EX features an automatically optimized laser beam diameter providing stability like you have never experienced before.
- **Long range distance measurement with prisms and reflective sheets**  
Using a single AP prism, you can perform measurement up to 6,000m (19,680ft.)\*1 with an accuracy of (2+2ppmxD)mm\*2. Convenient reflective sheet targets can be used for measurements up to 500m (1,640ft) with (3+2ppmxD)mm accuracy\*3

- \*1 Good conditions using RED-tech EX. RED-tech II can measure up to 5,000m (16,400ft.)  
\*2 Using SRX1 with CPS12 high precision prism realizes an accuracy of (1.5+2ppmxD)mm  
\*3 With RS90N-K



# Total Stations

## Reflectorless Total Stations

### Series030R

Reflectorless Total Stations with Integrated Data Collectors

SET1030R3-SET2030R3-SET3030R3

SET1030R-SET2030R-SET3030R

The Series030R models are high-precision reflectorless total stations featuring comprehensive Expert software, a full alphanumeric keypad on both faces, absolute encoders and other options. The Series030R is the perfect solution for demanding users.

- Expert software provides an integrated solution to a wide variety of data collection and processing tasks, including Topography, Set collection, Traverse adjustment, Building face survey, Set out line, Taping from baseline, Set out arc, Transformation, Set out road surface, and more.

#### Applications

- In-field traverse adjustments
- Topo objects inventory
- Cadastral border reconstruction
- 3-D modelling survey
- Feature coding
- Setting out road lines
- Intersection
- Area calculation
- Monitoring deformations
- Shipyard positioning
- Heavy industry projects



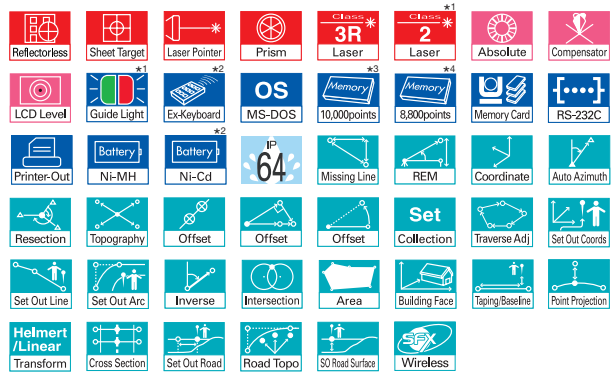
SF14



SET2030R3 with GDL2

### SOKKIA Field-info Xpress

With an Internet-capable cellular phone the Series030R total station can send surveyed data to a specified e-mail address or FTP server and can also receive coordinate data for setting-out from an office computer or FTP server.



\*1 Factory option \*2 Option \*3 With SDR2x format \*4 With SDR33 format

	SET1030R3	SET2030R3	SET3030R3	SET1030R <sup>*1</sup>	SET2030R <sup>*1</sup>	SET3030R <sup>*1</sup>
Telescope Magnification	30x					
Angle Measurement	Absolute rotary encoder scanning					
Display resolutions (selectable)	0.5"/1", 0.1 / 0.2mg, 0.002 / 0.005mil		1"/5", 0.2 / 1mg, 0.005 / 0.02mil	0.5"/1", 0.1 / 0.2mg, 0.002 / 0.005mil		1"/5", 0.2 / 1mg, 0.005 / 0.02mil
Accuracy (ISO 17123-3:2001)	1" / 0.3mg	2" / 0.6mg	3" / 1mg	1" / 0.3mg	2" / 0.6mg	3" / 1mg
Compensator	Automatic dual-axis compensator with working range ±3' (±55mg)					
Distance measurement	Modulated laser, phase comparison method with red laser diode					
Measuring range	Reflectorless <sup>*2</sup>	0.3 to 350m (1 to 1,140ft.)		0.3 to 200m (1 to 650ft.)		
	Prism <sup>*3</sup> /Sheet	One AP01 Prism: 1.3 to 5,000m (16,400ft.), Reflective Sheet RS90N-K: 1.3 to 500m (1,640ft.)				
Accuracy	Reflectorless <sup>*2</sup>	0.3 to 200m (1 to 650ft.): ±(3 + 2ppm x D)mm Over 200 to 350m (over 650 to 1,140ft.): ±(5 + 10ppm x D)mm		0.3 to 100m (1 to 320ft.): ±(3 + 2ppm x D)mm Over 100 to 200m (over 320 to 650ft.): ±(5 + 10ppm x D)mm		
	Prism/Sheet	Glass prism: ±(2 + 2ppm x D)mm, Reflective sheet: ±(3 + 2ppm x D)mm				
Data Storage	Internal memory	Approx. 10,000 points with SDR2x format, approx. 8,800 points with SDR33 format				
	Memory card drive	CF card drive incorporated as standard				
Weight w/handle and battery	5.9kg (12.9lb.)					

\*1 The SET1030R/2030R/3030R Class 2 laser models are factory options.

\*2 With the white side of a KODAK Gray Card (90% reflective).

\*3 Under good conditions: no haze, visibility about 40km (25miles), overcast, no scintillation.

# Series 130R

## Reflectorless Total Stations

**SET1130R3 · SET2130R3 · SET3130R3 · SET4130R3**  
**SET1130R · SET2130R · SET3130R · SET4130R**

The Series130R reflectorless total stations deliver virtually the same distance and angle measurement capabilities as the Series030R, with the most frequently used, popular data collection programs pre-installed instead of Expert.

- A full range of programs becomes available when combined with SOKKIA's SDR series data collectors.
- **Bluetooth®** wireless technology can be incorporated as a factory option.

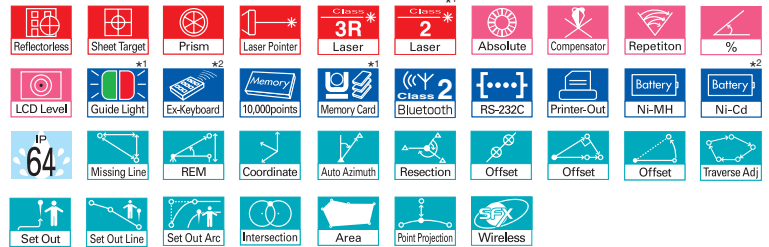
### Applications

- Setting out road lines
- Intersections
- In-field traverse adjustments
- Topo objects inventory
- Cadastral border reconstruction
- 3-D modelling survey
- Feature coding
- Area calculation
- Monitoring deformations



SF14

SET2130R with GD2 and CF card unit



\*1 Factory option \*2 Option

		SET1130R3	SET2130R3	SET3130R3	SET4130R3	SET1130R <sup>*1</sup>	SET2130R <sup>*1</sup>	SET3130R <sup>*1</sup>	SET4130R <sup>*1</sup>
Telescope	Magnification	30x							
Angle Measurement		Absolute rotary encoder scanning							
Display resolutions (selectable)		0.5"/1", 0.1 / 0.2mg, 0.002 / 0.005mil		1"/5", 0.2 / 1mg, 0.005 / 0.02mil		0.5"/1", 0.1 / 0.2mg, 0.002 / 0.005mil		1"/5", 0.2 / 1mg, 0.005 / 0.02mil	
Accuracy (ISO 17123-3:2001)		1" / 0.3mg	2" / 0.6mg	3" / 1mg	5" / 1.5mg	1" / 0.3mg	2" / 0.6mg	3" / 1mg	5" / 1.5mg
Compensator		Automatic dual-axis compensator with working range ±3' (±55mg)							
Distance measurement		Modulated laser, phase comparison method with red laser diode							
Measuring range	Reflectorless <sup>*2</sup>	0.3 to 350m (1 to 1,140ft.)				0.3 to 200m (1 to 650ft.)			
	Prism <sup>*3</sup> /Sheet	One AP01 Prism: 1.3 to 5,000m (16,400ft.), Reflective Sheet RS90N-K: 1.3 to 500m (1,640ft.)							
Accuracy	Reflectorless <sup>*2</sup>	0.3 to 200m (1 to 650ft.): ±(3 + 2ppm x D)mm Over 200 to 350m (over 650 to 1,140ft.): ±(5 + 10ppm x D)mm				0.3 to 100m (1 to 320ft.): ±(3 + 2ppm x D)mm Over 100 to 200m (over 320 to 650ft.): ±(5 + 10ppm x D)mm			
	Prism/Sheet	Glass prism: ±(2 + 2ppm x D)mm, Reflective sheet: ±(3 + 2ppm x D)mm							
Data storage	Internal memory	Approx. 10,000 points with max. 10 job files							
	Memory card unit	CF card unit available as a factory option							
Weight w/handle and battery		5.8kg (12.7lb.)							

\*1 The SET1130R/2130R/3130R/4130R Class 2 laser models are factory options. \*2 With the white side of a KODAK Gray Card (90% reflective). \*3 Under good conditions: no haze, visibility about 40km (25miles), overcast, no scintillation.

## Gyro Station

### GP3130R3 Gyro Station

With the GP3130R3, true north can be located at any time, day or night, regardless of visibility or weather conditions, even when working underground, and without the need of any gyro station. The GP3130R3, a combination of the GP1 manual gyroscope and the SET3130R3 total station, locates true north and determines true azimuth with 20 arc-second (6mgon, 0.1mil) precision in

approximately 20 minutes. All operations can be directly performed with ease using the total station's control panel or the SF14 wireless keyboard. The calculated true azimuth is instantly set to the total station's horizontal angle without the need for numeric data input or manual circle orientation.

Accuracy of azimuth determination (Standard deviation)	±20" (6mgon)
Measuring time	Approx. 20 min.
Weight of gyro unit	3.8kg (8.4 lb.)
Weight of total station	5.8kg (12.7 lb.)



# Total Stations

## Reflectorless Total Stations

### Series30RK

#### Reflectorless Total Stations

#### SET230RK3 · SET330RK3 · SET530RK3

#### SET230RK · SET330RK · SET530RK · SET630RK

The Series30RK further enhances SOKKIA's RED-tech II total station line-up. The Series30RK models are compact yet versatile reflectorless total stations with a wealth of user-friendly features.

The Series30RK is the perfect solution for your day-to-day surveying challenges.

- The control panel features a backlit, 10-key alphanumeric keypad equipped on both faces of the instrument (on one face for SET630RK).
- Highest level of robustness complying with IP66 dust and water protection.

#### Applications

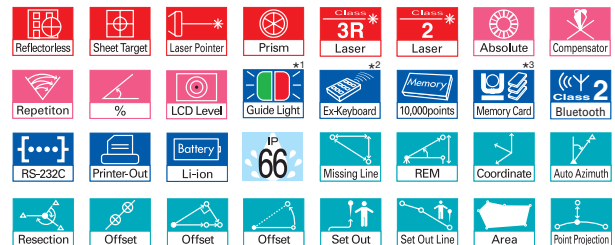
- Setting out
- Setting out road lines
- Objective alignment
- Positioning concrete frames
- Controlling construction development
- Area calculation
- Monitoring deformations



SF14



SET230RK3 with GDL1 and CF card unit



\*1 Factory option for all models \*2 Option except for SET630RK \*3 Factory option except for SET630RK

		SET230RK3	SET330RK3	SET530RK3	SET230RK	SET330RK	SET530RK	SET630RK	
Telescope	Magnification	30x							26x
Angle measurement		Absolute rotary encoder scanning							
	Display resolutions (selectable)	1" / 5", 0.2 / 1 mg, 0.005 / 0.02 mil							
	Accuracy (ISO17123-3:2001)	2"/0.6mg	3"/1mg	5"/1.5mg	2"/0.6mg	3"/1mg	5"/1.5mg	6"/1.9mg	
	Compensator	Automatic dual-axis compensator with working range: ± 3' (± 55mg)							
Distance measurement		Modulated laser, phase comparison method with red laser diode							
Measuring range	Reflectorless*1	0.3 to 350m (1 to 1,140ft.)			0.3 to 200m (1 to 650ft.)			0.3 to 150m (490ft.)	
	Sheet	Reflective sheet RS90N-K: 1.3 to 500m (1,640ft.)							
	Prism*2	One AP01 Prism: 1.3 to 5,000m (16,400ft.),						One AP01 Prism*3: 1.3 to 4,000m (13,120ft.),	
Accuracy	Reflectorless*1	0.3 to 200m (1 to 650ft.): ±(3+2ppm x D)mm Over 200 to 350m (over 650 to 1,140ft.): ±(5+10ppm x D)mm			0.3 to 100m (1 to 320ft.): ±(3+2ppm x D)mm Over 100 to 200m (over 320 to 650ft.): ±(5+10ppm x D)mm			0.3 to 100m (1 to 320ft.): ±(3+2ppm x D)mm Over 100 to 150m (over 320 to 490ft.): ±(5+10ppm x D)mm	
	Prism/Sheet	Glass prism: ±(2+2ppm x D)mm, Reflective sheet: ±(3+2ppm x D)mm							
Data storage	Internal memory	Approx. 10,000 points							
	Memory card	CF card unit available as factory option							
General	Keyboard	27 keys with backlight on both faces							
	Weight w/handle and battery	5.5kg (12.2lb.)						5.4kg (11.8lb.)	

\*1 With the white side of a KODAK Gray Card (90% reflective).

\*2 Under good conditions: no haze, visibility about 40km (25miles), overcast, no scintillation.

# Series30R

## Reflectorless Total Stations

### SET230R3 · SET330R3 · SET530R3

### SET230R · SET330R · SET530R · SET630R

The Series30R models are compact, robust and versatile, taking full advantage of the RED-tech II EDM. With the coaxial phase-method distance measurement technology, the Series30R is able to perform pinpoint, high accuracy measurements of hard to reach locations. Measurement to object corners, high-voltage electrical wires and building face surveys are only a few of the many applications that can be executed using a Series30R total station.

- Highest level of robustness complying with IP66 dust and water protection.
- **Bluetooth®** wireless technology can be incorporated as a factory option.
- The Low Temperature models of SET530R3/530R (factory option) provide smooth operation in climates as cold as -30°C (-22°F), without compromising performance at high temperatures.

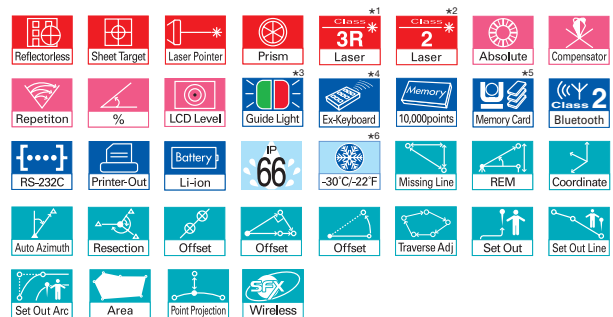
#### Applications

- Setting out
- Setting out road lines
- Objective alignment
- Positioning concrete frames
- Controlling construction development
- Intersections
- Area calculation
- In-field traverse adjustment
- Monitoring deformations



SF14

SET230R with GDL1 and CF card unit



+1 SET230R3/330R3/530R3 +2 SET230R/330R/530R/630R +3 Factory option +4 Option except for SET630R  
 \*5 Factory option except for SET630R \*6 Low Temperature Models only (factory option)

	SET230R3	SET330R3	SET530R3	SET230R <sup>+1</sup>	SET330R <sup>+1</sup>	SET530R <sup>+1</sup>	SET630R <sup>+1</sup>	
Telescope Magnification				30x			26x	
Angle measurement	Absolute rotary encoder scanning.							
Display resolutions (selectable)	1" / 5", 0.2 / 1mg, 0.005 / 0.02mil							
Accuracy (ISO 17123-3:2001)	2" / 0.6mg	3" / 1mg	5" / 1.5mg	2" / 0.6mg	3" / 1mg	5" / 1.5mg	6" / 1.9mg	
Compensator	Automatic dual-axis compensator with working range ±3'(±55mg)							
Distance measurement	Modulated laser, phase comparison method with red laser diode							
Measuring range	Reflectorless <sup>*2</sup>	0.3 to 350m (1 to 1,140ft.)		0.3 to 200m (1 to 650ft.)			0.3 to 150m (490ft.)	
	Reflective Sheet RS90N-K	1.3 to 500m (1,640ft.)						
	One AP01 Prism <sup>*3</sup>	1.3 to 5,000m (16,400ft.)						
Accuracy	Reflectorless <sup>*2</sup>	0.3 to 200m (1 to 650ft.): ±(3 + 2ppm x D)mm Over 200 to 350m (over 650 to 1,140ft.): ±(5 + 10ppm x D)mm		0.3 to 100m (1 to 320ft.): ±(3 + 2ppm x D)mm Over 100 to 200m (over 320 to 650ft.): ±(5 + 10ppm x D)mm			0.3 to 100m (1 to 320ft.): ±(3+2ppm x D)mm Over 100 to 150m (over 320 to 490ft.): ±(5+10ppm x D)mm	
	Prism / Sheet	Glass prism : ±(2 + 2ppm x D)mm			Reflective sheet : ±(3 + 2ppm x D)mm			
Data storage	Internal memory	Approx. 10,000 points						
	Memory card	CF card unit available as factory option						
General	Keyboard	15 keys on both faces						
	Weight w/handle and battery	5.4kg (12 lb.)						
		n / a						
		15 keys on one face						

\*1 The SET230R/330R/530R/630R are Class 2 laser models. \*2 With the white side of a KODAK Gray Card (90% reflective).  
 \*3 Under good conditions: no haze, visibility about 40km (25miles), overcast, no scintillation.

# Total Stations

## Total Stations

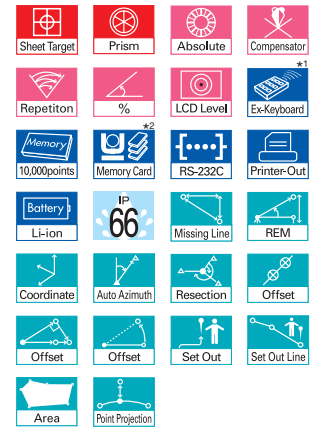
### Series 10K Total Stations SET210K·SET310K·SET510K·SET610K

The Series10K models are compact and versatile total stations for a wide range of applications from construction to surveying. The backlit alphanumeric keys facilitate easy and quick operation.

- The control panel features a backlit, 10-key alphanumeric keypad equipped on both faces of instrument (SET610K on one face).
- The pre-installed, versatile survey programs enhance work efficiency in the field.
- Supreme dust and water resistance compliant with IP66.

#### Applications

Setting out, Setting out road lines, Objective alignment, Positioning concrete frames, Controlling construction development, Area calculation, Monitoring deformations



\*1 Option for SET210K/310K/510K  
\*2 Factory option for SET210K/310K/510K

		SET210K	SET310K	SET510K	SET610K
Telescope	Magnification		30x		26x
Angle measurement		Absolute rotary encoder scanning			
	Display resolutions (selectable)	1" / 5", 0.2 / 1 mg, 0.005 / 0.02 mil			
	Accuracy (ISO17123-3:2001)	2"/0.6mg	3" / 1mg	5"/1.5mg	6" /1.9mg
	Compensator	Automatic dual-axis compensator with working range: ± 3' (± 55mg)			
Distance measurement		Modulated near infrared light (IEC Class 1 LED)			
	Maximum measuring range	One AP01 Prism*1: 1 to 2,700m (8,850ft.), Reflective sheet: RS90N-K: 2 to 120m (390ft.)			
	Accuracy	Glass prism: ± (2+2ppm x D)mm, Reflective sheet: ± (4+3ppm x D)mm			
Data storage	Internal memory	Approx. 10,000 points			
	Memory card	CF card unit available as factory option			
General	Keyboard	27 keys with backlight on both faces			n/a
	Weight w/handle and battery	5.2kg (11.5lb.)			27 keys with backlight on one face 5.1kg (11.2lb.)

\*1 Under good conditions: no haze, visibility about 40km (25miles), overcast, no scintillation.

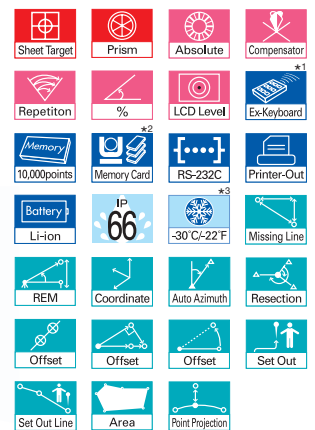
### Series 10 Total Stations SET210·SET310·SET510·SET610

The Series10 models meet your day-to-day surveying needs. The full alphanumeric keys of the SF14 (option except for SET610) facilitate quick operation of onboard software.

- The pre-installed, versatile survey programs enhance work efficiency in the field allowing an operator to perform a wide variety of survey tasks with ease.
- Supreme dust and water resistance compliant with IP66.
- The low temperature model of SET510 is available as a factory option.

#### Applications

Setting out, Setting out road lines, Objective alignment, Positioning concrete frames, Controlling construction development, Monitoring deformations



\*1 Option for SET210/310/510 \*2 Factory option for SET210/310/510  
\*3 Low Temperature Model only (factory option)

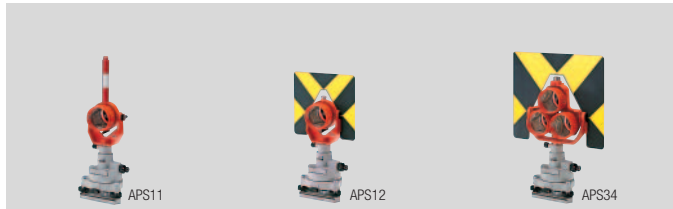
		SET210	SET310	SET510	SET610
Telescope	Magnification		30x		26x
Angle measurement		Absolute rotary encoder scanning			
	Display resolutions (selectable)	1"/5", 0.2/1mgon, 0.005/0.02mil			
	Accuracy (ISO 17123-3:2001)	2" / 0.6mg	3" / 1mg	5" / 1.5mg	6" / 1.9mg
	Compensator	Automatic dual-axis compensator with working range ±3'(±55mg)			
Distance measurement		Modulated near infrared light (IEC Class 1 LED)			
	Maximum measuring range	One AP01 Prism*1: 1 to 2,700m (8,850ft.), Reflective sheet RS90N-K: 2 to 120m (390ft.)			
	Accuracy	Glass prism: ±(2 + 2ppm x D)mm, Reflective sheet: ±(4 + 3ppm x D)mm			
Data storage	Internal memory	Approx. 10,000 points			
	Memory card	CF card unit is available as a factory option			
General	Keyboard	15 keys on both faces			15 keys on one face
	Weight w/handle and battery	5.2 kg (11.4 lb.)			5.0 kg (11.1 lb.)

\*1 Under good conditions: no haze, visibility about 40km (25miles), overcast, no scintillation.



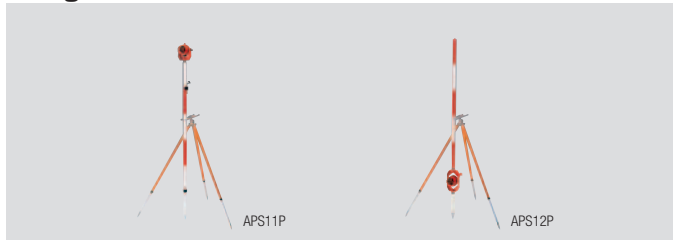
## Reflective Prisms

### Prism Sets with detachable tribrach

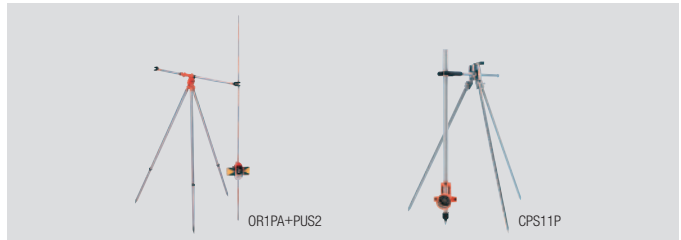


Model	Description
APS11-MAR	Single tilting prism complete with WA100
APS12-MAR	Single tilting prism complete with coaxial target and WA100
APS34-MAR	Triple tilting prism complete with coaxial target and WA100

### Range Pole Prisms



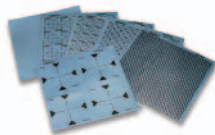
### Mini Prisms



## Reflective Sheet Targets and Staves

### Reflective Sheet Targets RS Series Reflective Sheets (self-adhesive type)

Model	Size (mm)	Model	Size (mm)
RS10N-K	10 x 10	RS50N-K	50 x 50
RS15N-K	15 x 15	RS70N-K	70 x 70
RS20N-K	20 x 20	RS90N-K	90 x 90
RS30N-K	30 x 30	RS00-K	230 x 230

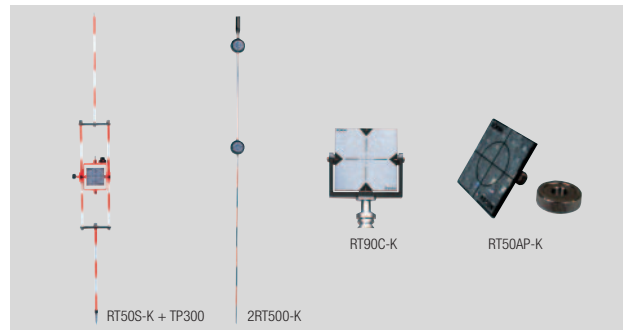


**RT50S-K Pin-Pole Reflective Target** A 50 x 50mm, fully rotatable reflective target to be used with pin-poles. TP300 Twin Poles and a tribrach adaptor are available as options. The target slides up and down within a 30cm range along the TP300.

**2RT500-K Two-Point Target** Two reflective targets attached on a narrow pole for 2-distance offset measurements of hidden points with all of the SOKKIA total stations.

**RT90C-K Detachable Rotary Target** A 90 x 90mm, fully rotatable reflective target to be used on tribrachs or prism poles.

**RT50AP-K Reflective Sheet Target for AP Prism Mount** A 50 x 50mm sheet target to be used with AP11 Single Tilting Mount of AP Series glass prism.



### Reflective Staves

#### BRS55 Aluminum RAB-Code Reflective Staff

The BRS55 can be used for distance and height measurement with total stations, as well as for height measurement using SOKKIA digital levels. Front: metric graduation on reflective surface. Reverse: RAB-Code 5.0m (16.7ft.), 5 sections, 1.95kg (4.3 lb.), metric

## Options

### CompactFlash Card Unit for Series130R, Series30RK, Series30R, Series10K and Series10

The memory capacity becomes virtually infinite with the use of commercially available CompactFlash memory cards. (Series030R incorporates a card drive as standard.)

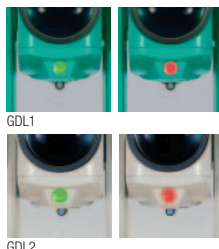
The CompactFlash Card Unit is a factory option. Not available for SET630RK.



### Guide Light Unit GDL1 for Series30R and Series30RK GDL2 for Series030R and Series130R

The Guide Light Units GDL1 and GDL2 boost efficiency in setting-out jobs. When you see green and red flashing back and forth simultaneously, you are on the telescope sighting direction. The GDL1 and GDL2 have a range of up to 150m (490ft.). A special flashing pattern is also selectable to assist users with color weakness. (SRX incorporates a guide light unit as standard.)

The Guide Light Unit is a factory option.



### SF14 Wireless Keyboard for Series030R, Series130R, Series30RK, Series30R, Series10K and Series10

This ergonomically designed infrared wireless keyboard provides powerful operation in the palm of your hand. A total of 37 keys enable quick and easy entry of job names, point numbers, notes, codes, and coordinates, increasing the work efficiency of data collection and setting-out work.

Not available for SET630RK.



SF14

## Survey Grade GPS

### GSR2700 ISX Fully Integrated High-Performance GNSS System

The GSR2700 ISX is an advanced GNSS (Global Navigation Satellite System) receiver from SOKKIA that delivers it all. Triple-frequency GPS + GLONASS tracking capability. Improved RTK performance. Seamless VRS support. Multiple **Bluetooth®** connections for cable-free surveying convenience. And it's the first and only receiver of its kind to offer voice messages for audible status notification in the field.



Position accuracy	RTK	10.0 mm + 1 ppm (horizontal); 20.0 mm + 1 ppm (vertical)
	Static	3.0 mm + 0.5 ppm (horizontal); 10.0 mm + 1 ppm (vertical)
Channels	72 universal channels; 14 L1, 14 L2, 6 L5 GPS 12 L1, 12 L2 GLONASS, 2 SBAS	
Cold start / Signal reacquisition	50 sec. / 0.5 sec. L1, 1.0 sec. L2	
Dimensions	22.5 x 10.5 cm (8.9 x 4.1 in)	
Water resistance	Complete protection against dust ingress. Protected against immersion up to 1.0 m (3.3 ft)	
Shock	2.0m (6.6 ft.) pole drop	

### L1/L2 GPS L-Band System

SOKKIA's dual-frequency GSR2650 LB is capable of utilizing OmniSTAR HP, OmniSTAR VBS and WAAS corrections, based on your application, and can deliver centimeter-level results in RTK mode. The versatility of the GSR2650 LB lets you switch from GIS and Mapping applications to high-accuracy surveying within one system.



Position accuracy	WAAS	L1	1.2 m CEP
		L1 / L2	0.8 m CEP
OmniSTAR	VBS		0.8 m CEP
	HP		10.0 cm CEP
RTK	10.0 mm + 1 ppm horizontal ; 20.0 mm +1 ppm vertical		
Channels	12 x L1 and 12 x L2 with full code and carrier		
Cold start/Signal reacquisition	50 sec./0.5 sec. L1, 1.0 sec. L2		
Dimensions	180 x 154 x 71 mm ( 7.1x 6.1 x 2.8 in)		
Water resistance	IPX4, IPX7		
Shock	1.0 m (3.3 ft.) drop		

### High-Accuracy L1/L2 GPS System

The high-accuracy GSR2600 receiver can function as either a rover or base and provides millimeter-level accuracy for your most demanding survey jobs. The receiver also comes equipped with a convenient front-panel LCD display and easy interface keypad. RTK or post-processing capabilities give you much needed versatility in the field. The GSR2600 system is compatible with a wide range of data collection packages.



Position accuracy	RTK	10.0 mm + 1 ppm (horizontal); 20.0 mm + 1 ppm (vertical)
	Static	3.0 mm + 0.5 ppm (horizontal); 10.0 mm + 1 ppm (vertical)
Channels	12 x L1 and 12 x L2 with full code and carrier	
Cold start/Signal reacquisition	50 sec. / 0.5 sec. L1, 1.0 sec. L2	
Dimensions	Receiver: 183 x 150 x 70 mm (7.2 x 6.0 x 2.8 in)	
Water resistance	IPX7	
Shock	1.0 m (3.3 ft) drop	

## L1 Integrated GPS System

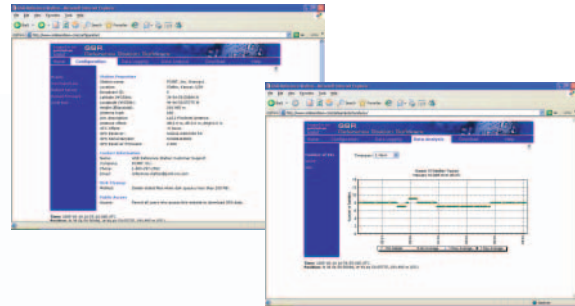
SOKKIA's L1 Integrated GPS System combines a 12-channel, L1 GPS receiver, antenna and batteries in one lightweight enclosure (0.8 kg / 1.8 lb with batteries). Single-button operation and LED display offer a full range of operational information. Perform static and kinematic applications without switching equipment. When utilized with the system's Controller software, you'll experience versatility in the field and office.



Position accuracy	Static	5.0 mm + 1 ppm (horizontal); 10.0 mm + 2 ppm (vertical)
	Kinematic, Stop and go	12.0 mm + 2.5 ppm (horizontal); 15.0 mm + 2.5 ppm (vertical)
Channels		12 x L1 with full code and carrier
Dimensions		15.5 x 15.5 mm (6.0 x 5.0 in)
Water resistance		IPX4
Shock		2.2 m (7.2 ft.) pole / 1.0 m (3.3 ft.) stand-alone

## GSR2700 RS and GSR Reference Station Software

With SOKKIA's GSR2700 RS and GSR Reference Station Software, you can access valuable GPS data via the Internet 24 hours a day, seven days a week. The GSR2700 RS features a high-precision, dual-frequency GPS receiver and an Intel Windows XP based PC with an 80 GB hard drive. GSR Reference Station Software is accessible from any computer with an available Internet browser. Use the software to create custom log configurations, gather graphical plots of recent and past satellite information and more. The software is compatible with all SOKKIA GPS dual-frequency receivers.

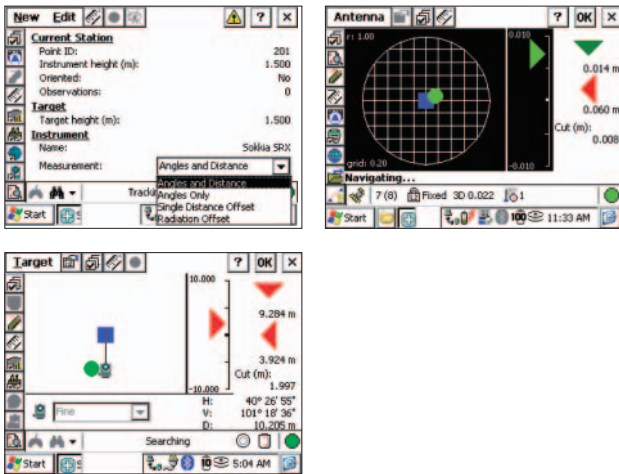


Position accuracy	Static	3.0 mm + 0.5 ppm (horizontal); 10.0 mm + 1 ppm (vertical)
Channels		12 x L1 and 12 x L2 with full code and carrier
Cold start/Signal reacquisition		50 sec. (typical) / 0.5 sec. L1, 1.0 sec. L2 (typical)
Dimensions (h x w x d)		4.5 x 43.0 x 60.9 cm (1.8 x 16.9 x 23.9 in)



## SDR+ Data Collection Software

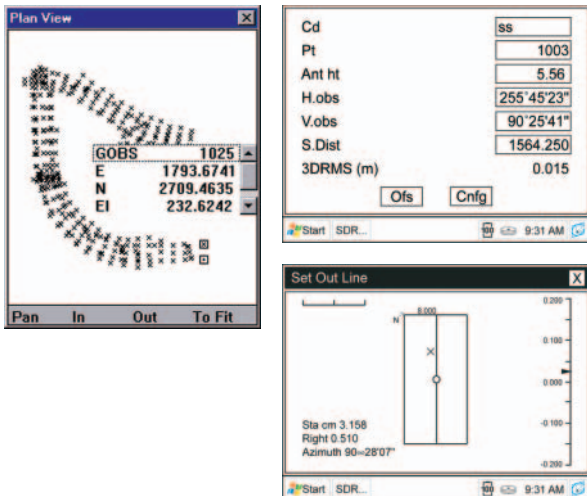
SOKKIA's SDR+ is the most flexible software of its kind on the market. It offers a powerful RTK filtering technique for quality assurance, a fully customizable tool bar for increased productivity, and the industry's only fully "live" database and editing facility. Combine SDR+ with SOKKIA's new GSR2700 ISX Fully Integrated High-Performance GNSS System or SRX total station for unprecedented freedom and efficiency on the job.



## SDR Level 5 Data Collection Software

Built on knowledge from surveyors and previous generations of SDR electronic fieldbooks, SDR Level 5 data collection software is assembled to follow a logical field collection process. Its full functionality increases your productivity by offering topographic surveying, stake out, roading and coordinate geometry (COGO).

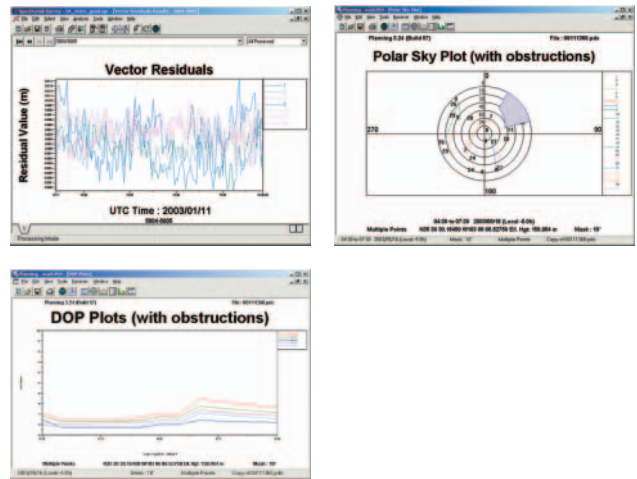
SDR Level 5 runs on multiple platforms, including Allegro CX, JETT ce and Pocket PC PDAs. Save time with the ability to switch between GPS and Total Station sensors, and ensure the quality of the reading as you check the coverage of collected points using a graphical view.



## Spectrum Survey GPS Post-Processing Software

Spectrum Survey is a comprehensive, user-friendly, Windows based post-processing software package that supports all phases of GPS survey operations. It supports commonly used methods of survey data collection, including static, rapid-static, kinematic and stop-and-go.

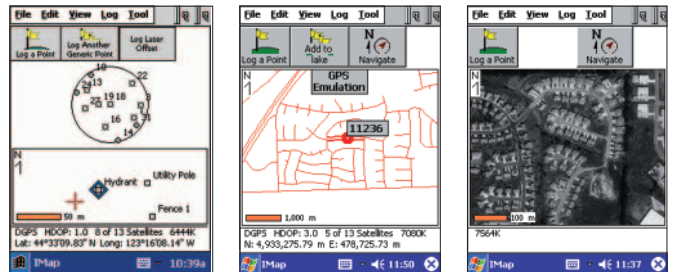
Spectrum Survey Suite combines Spectrum Survey and Planning into one software package. This package provides all of the tools you need to successfully manage your project, from planning to processing, adjusting and analyzing GPS survey data.



## IMap GIS Data Collection Software

IMap data collection and office software provides comprehensive GIS mapping tools with a remarkably simple interface and intuitive workflow. It offers up-to-the-second positional information, including easy-to-interpret graphical status displays and quality indicators ensuring accurate data collection and navigation.

IMap consists of IMap data collection software, a Windows CE data collector and IMap Office—an optional office software and companion to IMap.



# 3-D Coordinate Measuring System MONMOS

## MONMOS 3-D COORDINATE MEASURING SYSTEM

The MONMOS system handles large-scale 3-D measurement tasks with unprecedented ease. A single operator with a single unit can derive 3-D coordinate values of large structures. MONMOS can be applied in virtually any situation using reflectorless measurement and with no known station required. MONMOS applications include: tunnel and landslide deformation and displacement measurement, construction supervision and shape measurement of domes and train bogies, dimension and shape measurement of large-scale parts used in plants and for construction and repair of ships and aircraft.

### NET 1200 3-D Station Bluetooth®

The NET1200 is equipped with an ultra-high performance EDM and absolute encoders, setting the standard for 3-D measurement operability and functionality. NET1200 features *Bluetooth®* Class 2 wireless technology for licence-free wireless communication with data collectors\*. The NET1200 displays angles at 0.5" (0.1mgon) resolution and distances at 0.1mm (0.01 in.). It delivers 1" angle measurement accuracy and  $\pm(0.6 + 2 \text{ ppm} \times D)\text{mm}$  accuracy for distance measurements up to 200m (650ft.) using a 50 x 50 mm sheet target. Convenient reflectorless measurement is available with  $\pm(1 + 2 \text{ ppm} \times D)\text{mm}$  accuracy up to 40m (130ft.). Longer distances can be achieved with glass prisms. All operations can be performed using the application software (except target sighting).

\*Bluetooth wireless technology is available as a factory option.

### NET 1100M Motorized 3-D Station (manufactured to order)

The NET1100M features highly accurate remote control angle positioning made possible thanks to the original servo-motor-driven gear reduction mechanism and control algorithm using information obtained directly from the angle-measuring encoders. Semi-auto performance is made available when combined with application software. The NET1100M displays angles at 0.5" (0.1mgon) resolution with 1" (0.3mgon) accuracy. It measures distances up to 300m (980 ft.) using a 50 x 50 mm sheet target with  $\pm(1+2\text{ppm} \times D)\text{mm}$  accuracy. Up to 3,000m (9,840 ft.) can be measured with an AP prism. Reflectorless measurement up to 100m (320 ft.) is achieved with  $\pm(3+2\text{ppm} \times D)\text{mm}$  accuracy.

### Application Software for MONMOS

Applications providing measurement support and data log functions are available. Contact your local SOKKIA representative for details.

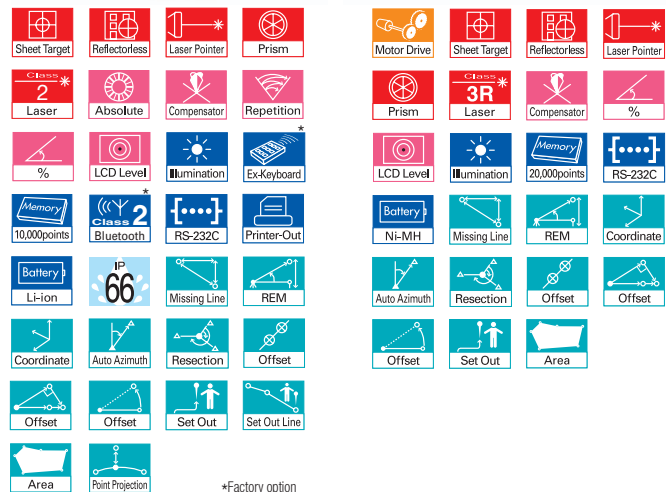
## MONMOS



NET1200



NET1100M



### Targets for MONMOS

A complete line-up of reflective targets is another essential component of the system. Adhesive-backed reflective sheet targets are available in a variety of sizes to match the size and shape of the object or the measuring distance. Rotary targets are conveniently used at datum points or coordinate system connecting points. A two-point target is suitable for measuring hidden points that cannot be directly sighted.



		NET1200	NET1100M*
Telescope	Magnification	30x	
Angle measurement		Absolute encoder scanning	Incremental rotary encoder scanning
	Display resolutions	0.5"/1", 0.1 / 0.2mgon, 0.002 / 0.005mil	
	Accuracy (ISO 12857-2:1997)	1" / 0.3mgon / 0.005mil	
	Compensator	Automatic dual-axis compensator with working range $\pm 3'$ ( $\pm 55\text{mgon}$ )	
Distance measurement		Modulated laser, phase comparison method with red laser diode, coaxial optics	
Measuring range	Reflective sheet target	1.3 to 200m (4.3 to 650ft.) (using 50 x 50mm sheet) <sup>3</sup>	1.3 to 300m (4.3 to 980ft.) (using 50 x 50mm sheet)
	Reflectorless <sup>2</sup>	1.3 to 40m (4.3 to 130ft.)	1.3 to 100m (4.3 to 320ft.)
	One AP01 Prism <sup>4</sup>	1.3 to 2,000m (4.3 to 6,500ft.)	1.3 to 3,000m (4.3 to 9,840ft.)
Accuracy	Reflective sheet target	$\pm (0.6 + 2\text{ppm} \times D)\text{mm}$	$\pm (1 + 2\text{ppm} \times D)\text{mm}$
	Reflectorless <sup>2</sup>	$\pm (1 + 2\text{ppm} \times D)\text{mm}$	$\pm (3 + 2\text{ppm} \times D)\text{mm}$
	AP01 Prism	$\pm (2 + 2\text{ppm} \times D)\text{mm}$ (4 to 2,000m)	$\pm (2 + 2\text{ppm} \times D)\text{mm}$ (4 to 2,000m)
Motor drive	Motion range H & V	n / a	360° (400 gon)
	Rotating time	n / a	Less than 10s for 180° (200 gon) rotation
Weight		5.5kg (12.1lb.)	7.0kg (15.4lb.)

\*1 Manufactured to order. Contact your local Sokkia representative for details.

\*2 With the white side of a KODAK Gray Card (90% reflective).

\*3 Brightness 5000lx or less.

\*4 Under good conditions: no haze, visibility about 40km (25miles), overcast, no scintillation.

## DT210·DT510·DT510A·DT610 Electronic Digital Theodolites

SOKKIA's electronic digital theodolites feature ultra-low power consumption and advanced absolute encoders. IP66-compliant bodies securely protect the instruments against dust and water.

- Powered by two standard LR14/C alkaline batteries, the DT210 and DT510 will operate for 75 hours, while the DT510A and DT610 will work for an astonishing 110 hours.
- Angle display units are selectable from 1", 5", 0.2mgon, 1mgon, 0.005mil, or 0.02mil (DT210, DT510, DT510A); or 5", 10", 1mgon, 2mgon, 0.02mil, or 0.05mil (DT610).
- Once the zero (0) horizontal angle direction is determined, all models emit audible tones for each of the four right-angle directions.
- The DT610 has a fixed base. A shifting tribrach model is also available as a factory option (DT610S).

	DT210	DT510	DT510A	DT610
Telescope magnification	30x			26x
Display resolutions	1"/5", 0.2 / 1mg, 0.005 / 0.02mil, selectable			5"/10", 1 / 2mg, 0.02 / 0.05mil
Accuracy (ISO 17123-3:2001)	2" / 0.6mg	5" / 1.5mg		7" / 2.2mg
Display	LCD, 8 digits x 2 lines with backlight			
Display location	On both faces		On one face	
Compensator	Dual-axis compensator, working range $\pm 3'$ ( $\pm 55$ mgon)		n / a	
Dust and water protection	IP66 (IEC60529)			
Weight w/handle	4.7kg (10.3 lb.)	4.5kg (9.9 lb.)	4.2kg (9.3 lb.)	
Battery	LR14/C batteries x 2			
Continuous use with alkaline batteries	Approx. 75 hours		Approx. 110 hours	



\*1 DT210·DT510 \*2 DT210·DT510·DT510A

## LDT50 Laser Digital Theodolite

The LDT50 emits a visible laser beam to the measuring points. Direction control or positioning in dark working sites such as tunnel excavation can be performed efficiently. The laser beam reaches over 400m (1,310 ft.) in cloudy daylight conditions and even further in dark environments.



Beam spot diameter	Focused beam	0.5mm at 5m, 2.1mm at 20m, 10.3mm at 100m
	Parallel beam	15.0mm at 5m, 15.1mm at 20m, 15.3mm at 100m
Telescope magnification	30x	
Angle display resolution	1"/5", 0.2/1mg, 0.005/0.02mil, selectable	
Angle accuracy (ISO 17123-3:2001)	5" / 1.5mg / 0.02mil	
Display	LCD, 20 characters x 4 lines, on both faces	
Weight w/battery	5.7kg (12.6 lb.)	

## Accessories for Total Stations and Theodolites

### LAP1 Laser Plummet Module

LAP1's visible laser plummet makes centering total stations and theodolites quicker and easier.

### LSE1 Laser Sighting Eyepiece

The LSE1 emits a visible laser beam along the telescope collimation axis. Ideal for interior leveling work, vertical alignment, and other applications.

### ACE5 Auto-Collimation Eyepiece

The ACE5 emits a parallel light beam to enable highly accurate collimation essential for installation of industrial equipment as well as measurement.

Please consult your local SOKKIA representative for model compatibility.

## Digital Levels



### SDL30 Digital Level

Simply focus on the RAB-Code staff and press a button. The measurement result of both height and distance is displayed on the screen in 3 seconds. Digital levels minimize human error and maximize the ease of leveling work, allowing an increased level of productivity and cost performance.

- Height accuracy of 1.0mm can be achieved using fiberglass RAB-Code staves. With the top-of-the-line invar RAB-Code staves, 0.6mm accuracy is a reality (Standard deviation for 1km double-run levelling).
- The SDL30 employs a reliable pendulum compensator with magnetic damping system. Its working range is more than  $\pm 15'$ .
- The SDL30 calculates height difference, elevation, setting-out and more. When measuring height of the ceilings, bridges and other objects, there is no need to change the measuring mode when the staff is held upside-down.
- 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".



SDL30



### SDL50 Digital Level

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.

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



	SDL30	SDL50
Height accuracy* (with RAB-Code staves)	0.6mm (0.03in.) (with Invar BIS20/30), 1.0mm (0.04in.) (with Fiberglass BGS40/50/50G3)	1.5mm (0.06in.) (with Fiberglass BGS40/50/50G3)
Distance accuracy (with RAB-Code staves)	Up to 10m (33ft.) : Within $\pm 10$ mm ( $\pm 0.4$ in.), 10 to 50m (33 to 160ft.) : Within $\pm 0.1\%$ x D (D=measuring distance)	
Measuring range (with RAB-Code staves)	1.6 to 100m (5.3 to 320ft.)	
Minimum display (Single, Repeat, Average)	Height : 0.0001m / 0.001m, 0.001ft. / 0.01ft. or 1/8in., Distance: 0.01m (0.1ft. or 1in.)	
Measuring time	Single mode: Less than 3s, Tracking: Less than 1s	
Telescope magnification	32x	28x
Compensator	Type: Pendulum compensator with magnetic damping system, Working Range: More than $\pm 15'$	
Horizontal circle	Graduation: $1^\circ$ (1gon)	
Data storage	2,000 points in max. 20 job files, (Job name user-definable)	
Weight w/battery	2.4kg (5.3 lb.)	

\* Standard deviation for 1km double-run leveling.

### RAB-Code Staves

The Invar RAB-Code staves provide superb accuracy of 0.6mm. The Fiberglass RAB-Code staves provide 1.0mm accuracy and have conventional graduations on the reverse side for visual measurements.



BGS40-BGS50

#### Invar RAB-Code Staves

Front: RAB-Code, Reverse: not applicable

**BIS20:** 1.9305m (6.333ft), 1 section, 4.3kg (9.5lb.)

**BIS30:** 2.9725m (9.752ft), 1 section, 5.5kg (12.1lb.)

#### Fiberglass RAB-Code Staves

Front: RAB-Code, Reverse: graduated

**BGS40:** 4.0m (13.3ft), 3 sections, 2.5kg (5.5lb.)

**BGS50:** 5.0m (16.7ft), 4 sections, 3.2kg (7.1lb.)

**BGS50G3:** 5.0m (16.7ft), 4sections, 3.2kg (7.1lb.), 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.)

# Levels

## Automatic Levels

**B1C · B1**  
**B2<sub>0</sub> · B2<sub>1</sub>**  
**C3<sub>00</sub> · C3<sub>10</sub> · C3<sub>20</sub> · C3<sub>30</sub>**  
**C4<sub>10</sub>**  
**Automatic Levels**

SOKKIA provides a wide range of automatic levels to suit your specific needs. All models incorporate exclusively designed precision compensators that employ a magnetic damping system for outstanding accuracy and dependability. B2<sub>0</sub>, B2<sub>1</sub>, C3<sub>00</sub>, C3<sub>10</sub>, C3<sub>20</sub> and C3<sub>30</sub> are IPX4 compliant water resistant.



	B1C	B1	B2 <sub>0</sub>	B2 <sub>1</sub>	C3 <sub>00</sub>	C3 <sub>10</sub>	C3 <sub>20</sub>	C3 <sub>30</sub>	C4 <sub>10</sub>	
Telescope Objective aperture	45mm (1.8in)		42mm (1.7in.)		36mm (1.4in.)		32mm (1.3in.)		30mm (1.2in.)	
Magnification	32x			30x	28x	26x	24x	22x	20x	
Minimum focus	2.3m (7.5ft.)		0.3m (1.0ft.)							0.9m (3.0ft.)
Accuracy	Standard deviation for 1km double-run leveling									
Without micrometer	0.8mm (0.03in.)		1.0mm (0.04in.)	1.5mm (0.06in.)	2.0mm (0.08in.)				2.5mm (0.1in.)	
With micrometer	0.5mm (0.02in.)		0.8mm (0.03in.)	1.2mm (0.05in.)	n / a					
Compensator Type	4 wire pendulum compensator with magnetic damping system									
Working range	±10'		±15'							
Horizontal circle graduation	1° (1gon)	n / a	1° (1gon)							
Water resistance	n / a		IPX4 (IEC60529)						n / a	
Weight	3.2kg (7.1 lb.)	3.0kg (6.6 lb.)	1.85kg (4.1 lb.)		1.7kg (3.7 lb.)				1kg (2.2 lb.)	

## Tilting Levels

**PL1 First-order Precision Tilting Level**  
**GS1 Super Invar Staff**

The PL1 and GS1 are specially designed for the most precise leveling tasks. GS1's thermal expansion is theoretically "zero".



**TTL6 Tilting Level**

The TTL6 provides standard deviation of 2.0mm for 1km double-run leveling.



	PL1	TTL6
Telescope Objective aperture	50mm (2.0in.)	40mm (1.6in.)
Magnification	42x	25x
Minimum focus	2.0m (6.6ft.)	1.8m (5.9ft.)
Accuracy Without micrometer	n / a	2.0mm (0.08in.)
With micrometer	0.2mm (0.01in.)	n / a
Horizontal circle graduation	n / a	1° (1gon)
Weight	4.8kg (10.6 lb.)	1.9kg (4.2 lb.)



# Construction Laser Instruments

## LP310 Leveling Laser

The LP310 features high-performance tilt sensors that permit self-leveling.

- The LP310 always finds the true horizontal, generating a laser plane accurate to within 10 arc seconds.
- Compliant with the IP55 (IEC60529) standard, the LP310 offers superb resistance to dust and water.
- The laser beam is shut off and a warning lamp flashes if the unit is tilted or jarred during operation.
- With the Windy function, the LP310 ignores slight movements, saving time on sites that are windy or subject to vibration.
- The LP310 operates for 100 hours with four alkaline batteries and 40 hours with Ni-Cd rechargeable battery BDC39A.
- In addition to the standard LR100 detector, an LR105 is available as an option to handle a wider range of operations.



LP310



		LP310
Horizontal accuracy		10" (1.5mm /30m) (0.06 in./100 ft.)
Typical measuring range	Diameter	LR100: 240m (800ft.), LR105: 600m (2,000ft.)
Self-leveling range		±4°
Rotation speed		600rpm
Weight w/battery		2.3kg (5.1lb.)

## LP30A·LP31A Leveling Lasers

Whether used indoors or outdoors, the LP30A and LP31A answer a wide range of leveling application requirements.

- The LP30A and LP31A employ SOKKIA's precision pendulum compensator with air damper which is unaffected by temperature variations.
- Both models operate for 90 hours with four alkaline batteries and 40 hours with Ni-Cd rechargeable battery BDC39A.
- The LR100 detector is included as standard.



LP30A



LP31A



		LP30A	LP31A
Horizontal accuracy		7" (1mm/30m) (0.04 in./100 ft.)	10" (1.5mm /30m) (0.06 in./100 ft.)
Typical measuring range	Diameter	LR100: 600m (2,000ft.)	LR100: 240m (800ft.)
Compensation range		±10'	±10'
Rotation speed		600rpm	
Weight w/battery		2.5kg (5.5lb.)	

## LR100·LR105 Detectors

The LR100 and LR105 are compact, easy-to-handle detectors for Sokkia leveling lasers.

- Displays are fitted on both front and reverse faces.
- The LCD displays automatically illuminate when the laser beam is detected.
- The LR100 and LR105 operate for approx. 100 hours with two alkaline batteries.
- IPX7 (IEC60529) compliant.
- Optional rubber protector protects the detector from hard shocks.



LR100



	LR100		LR105
	When used with LP30A/31A	When used with LP310	When used with LP310
Detection Sensitivity Setting 1	H: ±0.8mm, L: ±2.5mm	H: ±0.7mm, L: ±2.0mm	H: ±1.8mm, L: ±3.2mm
Setting 2	H: ±2.5mm, L: ±4.3mm	H: ±2.0mm, L: ±2.6mm	H: ±3.2mm, L: ±3.7mm
Weight w/battery	200g (7.1 oz)		

## LV1 Precision Laser Plummet

The LV1 offers a high level of plumb precision. The laser beams directed both up and down to easily locate points that are vertically above and directly below a given reference point.



Beam accuracy	Upward: ±5", Downward: ±1"
Measuring range	Upward: 100m (330ft.), Downward: 5m (16ft.)
Beam spot diameter (at emission)	Upward: 7mm (9/32in.), Downward: 2mm (1/12in.)
Weight w/battery	2.5kg (5.5 lb.)

# Construction Laser Instruments

## SLB110 Tunnel Laser

- Easy install on tunnel walls with alignment base plate.
- Targets mounted on same base allowing easy forward movement.
- Perfect for aligning conveyors, cables, tracks, etc.
- Visible laser.
- Rugged, IPX7-compliant design.



SLB110 + LB10



Beam spot diameter	Approx. 20mm at 200m, 70mm at 600m
Weight	2kg

## GradeLight 2500 Pipe Laser

The GradeLight 2500 emits a visible laser. The rugged body is charged with nitrogen gas to prevent intrusion of water and dirt. The unique slide legs and auto-target alignment function provide outstanding productivity.



Beam accuracy	±10", ±1.5mm at 30m (±1/16in. at 100ft.)
Grade range	-10% to +40%
Self-leveling range	±5.7° (±10%) grade axis
Dimensions	ø132 x 288mm (5.2 x 11.3in.)
Weight w/battery	4.5kg (9.8 lb.)

## OMNI-7 Machine Control Receiver

- Combination laser receiver/display.
- Powered by alkaline or Ni-Cd rechargeable batteries or direct 12/24V DC.
- User selectable display intensity.
- Heavy duty clamps for secure mounting to any mast up to 45mm (1.75in.) in diameter.
- Add the remote display for in-the-cab or multiple-angle viewing.



## EAGL-20 Construction Tough Electronic Level

- Visible laser.
- Rugged design for durability and toughness.
- Unique cam drive self-leveling system.
- Horizontal operating mode.
- Tactile keypad (no protruding knobs).



Measuring range	Diameter	600m (2,000ft.)
Self-leveling range		2.2° (±4%)
Beam accuracy		±10", ±1.5mm at 30m (±1/16in. at 100ft.)
Rotor speed		Fixed 600 rpm
Power source		6 V lead acid battery, optional 12 VDC power cord, optional AC operation w/charger
Weight		4.6kg (10.2 lb.)

### LS-5 Detector Specifications

Detection sensitivity	Setting 1	H: ±0.8mm (±1/30in.), L: ±2.5mm (±1/10in.)
	Setting 2	H: ±2.5mm (±1/10in.), L: ±4.2mm (±1/6in.)

## EAGL 3 Series EAGL-310·EAGL-310XR EAGL-350 Dual Slope Transmitters

- Visible laser.
- Dual slope made easy.
- Electronic self-leveling.
- Negative grade entry.
- Fine and stepped grade keyboards.
- Variable speed rotation.
- Optional fine adjusting target base.
- Optional alignment scope.
- Optional steep slope bracket.
- Dedicated keyboard for each grade axis.



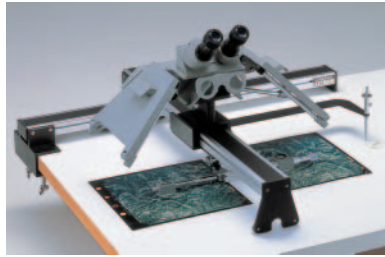
	EAGL-310	EAGL-310XR	EAGL-350
Typical measuring range	915m	1,220m	915m
Diameter	(3,000ft.)	(4,000ft.)	(3,000ft.)
Self-leveling range	±5.7° (±10%)		
Beam accuracy	±10", ±1.5mm at 30m (±1/16" at 100ft.) at 0.000% grade		
Slope range	-5% to +10%		-5% to +50%
Power supply	12V rechargeable battery, Optional 12V power code, Optional AC operation w/charger		
Dimensions	H 267 x W 163 x D 154mm (10.5 x 6.5 x 6.125in.)		

# Survey Equipment

## MS27 Mirror Stereoscope

The MS27 offers unmatched precision and ease of use for viewing and interpreting aerial photographs.

- The distance between the stereo pairs is 27cm, and the field of view is a generous 18 x 23cm.
- TRA2 tracking device (option) allows for accurate stereoscopic observation over entire overlapped portions of photographs.
- Illumination unit LA3 is provided as an optional accessory.



MS27+ TRA2

<b>Main Unit</b>	
Distance of optical path	27cm
Magnification	Swing-in Magnifier: 1.8x, BN3 Binocular: 3x, BN8A Binocular: 8x
Field of view of stereoscope	18 x 23cm
Field of view of binocular	BN3: 70mm, BN8A: 27mm
Range of eye-span	55 to 75mm
Weight	4.0kg (8.8 lb.)
<b>PB1 Parallax Measuring Bar</b>	
Minimum graduation / Estimation	0.05mm / 0.01mm
Measurement range	0 to 50mm
Length / Weight	39.5cm / 0.5kg (1.1 lb.)
<b>TRA2 Tracking Device (option)*</b>	
Size of photographs	Up to 45 x 45cm
Range of displacement	Latitudinal: 550mm / Longitudinal: 450mm

\* The TRA2 cannot be used together with the LA3 Illumination Unit.

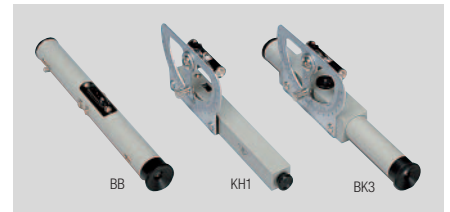
## MS16 Small Mirror Stereoscope

- Compact yet practical mirror stereoscope.
- 16cm optical path provides a wide field of view.



Distance of optical path	16cm
Magnification	1.5x
Field of view	10 x 10cm
Weight	0.7kg (1.5 lb.)

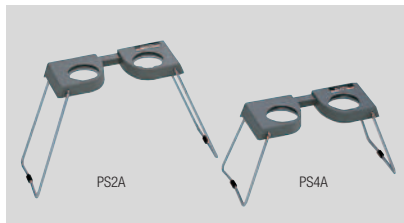
## BB·KH1·BK3 Hand Levels



	BB	KH1	BK3
Length	200mm	170mm	200mm
Magnification	5x	—	5x
Stadia multiplication constant	100	—	100
Vertical reading	—	1°	—
Vernier reading	—	10'	—

## PS4A·PS2A Pocket Stereoscopes

- Handy lens-type stereoscopes.
- Distance between lenses is adjustable from 56mm to 75mm.
- Two magnifications available, 4x (PS4A) and 2x (PS2A).



## OS1 Optical Square

- Two pentaprisms are precisely located on either side of a parallel plate.
- Three points can be located by sighting through the optical square.



## TRIPODS

An extensive range of tripods is available from Sokkia to suit specific instrument types.

Model	Material	Head	Head Screw	Clamp	Weight
PFW1	Hardwood	Flat	ø 5/8in.	Screw	6.3kg (13.9 lb.)
PFA1	Aluminum	Flat	ø 5/8in.	Screw	4.4kg (9.7 lb.)
PFA1L	Aluminum	Flat	ø 5/8in.	Lever	4.6kg (10.2 lb.)
PSA1	Aluminum	Domed	ø 5/8in.	Screw	4.3kg (9.5 lb.)
PSA1L	Aluminum	Domed	ø 5/8in.	Lever	4.6kg (10.2 lb.)

For Total Stations,  
Theodolites and GPS Antennas



For Levels  
and Leveling Lasers



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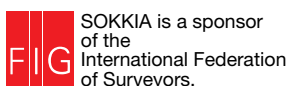
Protection against ingress of solid foreign objects Highest level: 6  
 7 levels: 0 to 6, X: unspecified.

Protection against ingress of water Highest level: 8  
 9 levels: 0 to 8, X: unspecified.

**IP 66**



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