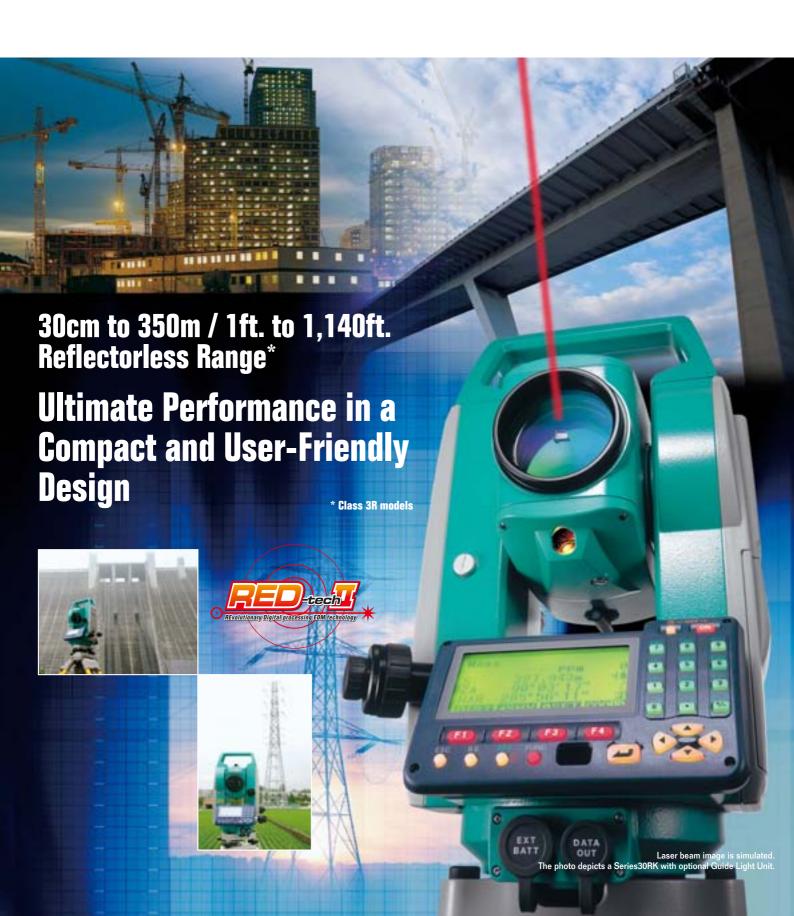


Series30RK

Reflectorless Total Stations with illuminated alphanumeric keypad



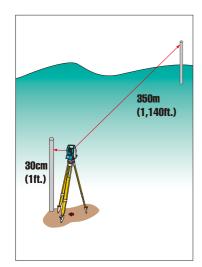


Innovative RED-tech EDM Makes Reflectorless Distance Measurement More Powerful Than Ever

■ EDM technology takes a big leap forward with state-of-the-art RED-tech II EDM

Pinpoint reflectorless measurement over an ultra-wide range

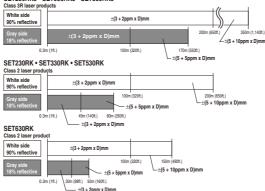
RED-tech II EDM retains the best of first-generation RED-tech EDM technology —including close-range reflectorless measurement from just 30cm (1ft.)—and takes it to a whole new level of performance.



● 350m or 200m—choose the range you need

The Class 3R laser models provide reflectorless measurement up to 350m (1,140 ft.), while the Class 2 laser models cover a range up to 200m (650ft.). All models offer measurement from as close as 30cm (1ft.) for reflectorless measurement over a tremendous range of distances, while assuring survey-grade accuracy.

● Reflectorless measurement range and accuracy with a Kodak Gray Card SET230RK3 • SET330RK3 • SET530RK3



High-speed measurement now over 30% faster*

Measurement is fast at every 0.9 second and just 1.7 seconds for the initial measurement (in fine mode) for speed gains of over 30%.

* Compared with first-generation RED-tech EDM models.

Distance measurement speed





■ The proven technology behind RED-tech II EDM

RED-tech II EDM is a high-performance phase-comparison measuring system that delivers unprecedented distance measurement of a variety of objects under conditions difficult or impossible with other EDMs.

Phase-comparison measurement

RED-tech II EDM uses phase comparison technology, which provides notable advantages in accuracy compared with EDMs using pulse measurement methods. Combined with Sokkia's leading edge digital signal processing technology and refined optics, superbly accurate reflectorless measurement is now a reality.

Digital signal processing

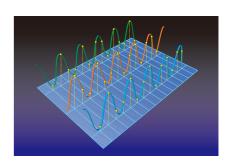
RED-tech II EDM simultaneously samples measuring signals in three different frequencies and calculates distances using advanced digital signal processing software. A calculation method best suited to the condition of the measuring signals is selected, and receiving signals are amplified to ensure a high level of reliability. Thanks to leading-edge signal processing techniques, RED-tech II EDM delivers superior accuracy and with greater speed and efficiency compared with conventional EDMs.

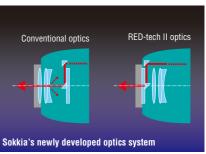
High-precision optics

Sokkia has further refined its traditional optics system, which emits measuring light from the objective lens center and receives the returning light along its periphery.

With enhanced optics that provide the ideal light path, RED-tech II EDM dramatically increases reliability by emitting the laser beam from in front of the objective lens to eliminate errors caused by internal reflection. And its highly tunable optical components ensure that only the necessary returning light is directed to the receiver for faster, more efficient measurement. What's more, the telescope provides an extremely bright and sharp sight, and its compact size makes sighting easier than ever.

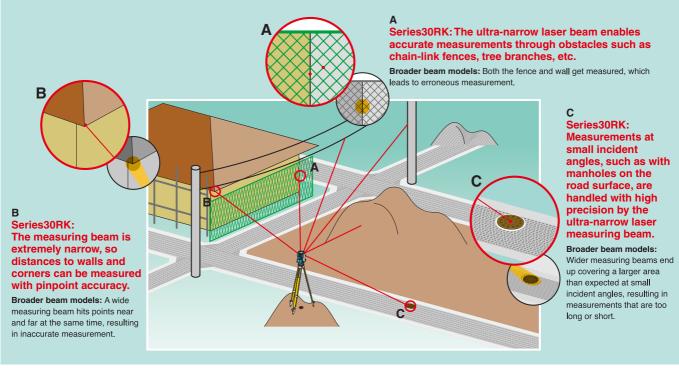
With its one light source, with its one optics system, RED-tech II EDM emits an ultra-narrow visible laser beam along the same axis as the telescope's sighting axis to enable accurate pointing using a distinct laser spot, pinpoint reflectorless measurement, as well as long-range distance measurement using prisms or reflective sheet targets.







■ Ultra-narrow visible laser for pinpoint accuracy



The Series30RK employs an ultra small-diameter visible laser to obtain measurements with pinpoint accuracy. Fine objects, as well as the corners of walls and other structures, can be measured precisely. You can also make accurate measurements through obstacles such as chain-link fences and tree branches.



■ Laser-pointer function

The visible laser beam can be conveniently used as a laser pointer for interior leveling work, vertical alignment, setting out, and other tasks.

■ Long-distance measurement with reflectors

Measure long distances by directing the laser beam at a reflector. When using a single AP prism, you can measure as far as 5,000m (16,400ft.)* at once, with an accuracy of $\pm(2+2ppm \times D)mm$. In addition, reflective sheet targets may be used to get measurements of up to 500m (1,640ft.)** with $\pm(3+2ppm \times D)mm$ precision. Choose from Sokkia's wide selection of sheet targets to suit your needs. Rotating pin-pole targets, two-point target for measuring hidden points, and many other innovative reflective targets are available.

 * In good weather conditions except SET630RK. ** When using RS90N-K.



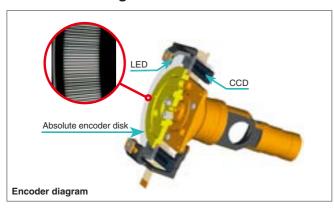
In the reflective sheet or prism modes, maximum laser output is automatically reduced to 0.22mW. This is equivalent to the level of a Class 1 laser. The Series30RK also includes a safety filter in the telescope, which protects your eye from the laser beam if you happen to sight a reflective prism or sheet target while in reflectorless mode.





A Tough, Heavy-Duty Partner That Delivers Exceptional Operability and Ease-of-Use

■ Sokkia's original absolute encoder



The Series30RK models are equipped with Sokkia-developed absolute encoders. These encoders feature the RAB (RAndom Bidirectional) code technology first used in the SDL30 digital level, which provides high stability and reliability. You do not need to reset for 0 indexing at the start of a job, so surveying can begin from the moment you turn on the power. Work efficiency is also boosted by the immediate display of azimuth whenever you restart the total station.

■ Highest Level of Robustness

jets from any direction.

The Series30RK complies with IEC (International Electrotechnical Commission) environmental standard IP66 (IEC 60529). The first digit following IP indicates the level of protection against the ingress of solid foreign objects, of which 6 is the highest grade—dust-tight, meaning no dust can enter the unit. The second digit indicates the level of protection against the ingress of water. Grade 6 indicates protection against powerful water

■ Triple-axis compensation for high reliability

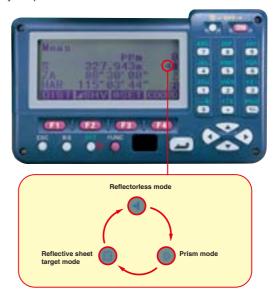
Vertical and horizontal angles are compensated for by a dual-axis compensator that detects the tilt of the total station in two directions. In addition, a collimation function corrects the deviation of the telescope's mechanical axis. Working together, these features offer maximum reliability with angle measurements.

■ Password function for security

The Series30RK includes a password-protection function for security purposes. You can assign your own password to the instrument to prevent unauthorized use.

■ Status check at a glance

The built-in control panel has an easy-to-view LCD screen with 192 x 80 pixel resolution. Key information, such as EDM mode (reflectorless, prism, or reflective sheet target) and laser beam status, can be checked at a glance. And equipped with a temperature sensor, the LCD maintains optimal contrast and visibility in any temperature.



■ One-touch target selection

There are no complicated operations when it comes to selecting targets. The Series30RK total stations let you switch between reflectorless, prism, and reflective sheet target just by pressing the SFT key in sequence. The selected target is displayed on the operation panel for easy confirmation.

■ User-friendly 10-key keypad plus softkeys

The control panel features a 10-key alphanumeric keypad for convenient manual input of data. And for further productivity and



ease of use, the control panel also includes four softkeys (F1 – F4) that you can customize to perform functions of your choice. What's more, all keys are backlit and glow brightly, so you can see exactly what you are doing—even when working in low light conditions.



■ SF14 wireless keyboard

This wireless keyboard has a total of 37 keys (including alphanumeric keys, softkeys, and measurement controls), to enable quick and easy data entry of point



names and coordinate values. Protection against dust and water is another advantage, as you can use the keyboard without worry in the rain or at a dusty construction site. (IP44 compliant)

SF14 is an optional accessory. Not available for SET630RK



The Guide Light Unit GDL1 boosts efficiency of setting-out measurements. Its guide light is composed of two lights of different colors that are emitted from one aperture. When you are on the left side, the green light is visible, and when you are on the right side, the red light can be seen. When green and red are flashing back and forth, you are on the telescope sighting direction.

1.3m~150m



The light may be used up to a range of 150m (490ft.).

A special flashing pattern is also included to assist users with color weakness

Guide Light Unit GDL1	Green LED (524nm) and Red LED (630nm) (Class 1 LED)
Visible range	1.3m to 150m (4.3ft. to 490ft.)
Visible width	Horizontal & vertical: more than ±4°; approx. 7m at 100m (23ft. at 320ft.)
Center resolution	Within 4'; approx. 12cm at 100m (4.7in. at 320ft.)

The Guide Light Unit cannot be used simultaneously with the laser pointer function. The Guide Light Unit is a factory option.

■ Large internal memory

The Series30RK can store approximately 10,000 data points, including known points and other information. To facilitate concurrent use at different work sites, data may be sorted into 10 different job

■ CompactFlash card unit



A card unit for commercially available CompactFlash memory cards can be added as a factory option. 576,000 points (114 files, each holding 4,000 points) can be stored with an 64MB memory card. Cards up to 512MB are supported.

The CompactFlash card unit is a factory option. Not available for SET630RK.

■ Compact lithium-ion battery



Take 7 hours of continuous angle and distance measurements with the Series30RK's rechargeable lithium-ion battery. Unlike Ni-Cd cells, the Series30RK's battery can be fully recharged at any time, without diminishing its energy capacity. The BDC46A battery is commonly used for Sokkia's Series30R/Series10 total stations, digital levels, and other equipment.









































The International Electrotechnical Commission standard IEC 60529 describes a system for classifying degrees of protection provided by enclosures of electrical equipment. The IP Code consists of the letters IP and two numerals. Larger numbers represent greater levels of protection.

Protection against ingress of solid foreign objects Highest level: 6 7 levels: 0 to 6



Protection against ingress of Highest level: 8



Packed with Versatile Functions for High Work Efficiency at Diverse Sites

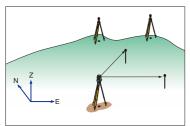
■ Missing Line Measurement (MLM)

At the touch of a key, the Series30RK measures horizontal distance, slope distance, height difference and percentage of slope between two points.

■ Remote Elevation Measurement (REM)

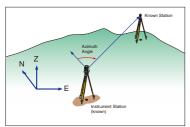
The Series30RK easily determines the height of a point where distance cannot be measured directly. Sight a point either directly above or directly below the target point, and then sight the target point.

■ 3-D Coordinate Measurement



The Series30RK calculates 3-D coordinate values of measuring points and displays them either as N, E, Z or E, N, 7

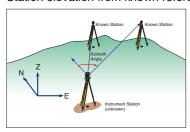
■ Automatic Azimuth Angle Setting



The Series30RK can automatically set the horizontal angle to the azimuth of a back sight by using the coordinates of the instrument station and the back sight point.

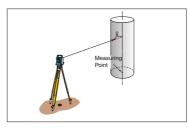
■ Resection

The Series30RK can determine the azimuth and coordinates of an unknown instrument station with 2 to 10 known points. When using two points, measure both angles and distances. When using three or more points, the distance is not required. Station elevation from known reference points (up to 10



points) can also be calculated and each deviation of multiple reference points is displayed. If a bad point is selected it can be recalculated, re-observed or replaced with a new point.

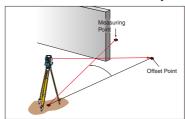
■ Offset/Distance



The Series30RK calculates the angles and distance, or the coordinates of the measuring point by inputting the distance and direction between the measuring point and the offset point.

■ Offset/Angle

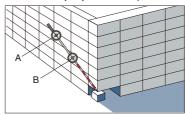
The Series30RK automatically calculates the position of



measuring points. First, measure a point on either side of the measuring point at the same distance from the Series30RK instrument. Then sight the measuring point.

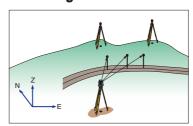
■ Two-Distance Offset

With the use of a 2RT500-K two-point target, the Series30RK can measure hidden points easily and efficiently. Set the two-point target on the measuring point (the target does not have to be perpendicular), measure targets A and B, and



input the length between target B and the measuring point. The Series30RK calculates the position of the measuring point in angles and distance, or in coordinate values.

■ Setting Out



The Series30RK performs three-dimensional setting out with N, E and Z or E, N and Z coordinates. Directions and distances to the setting out position are indicated on the screen.



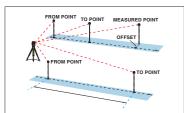
■ Set-out Line

The Set-out line program is used for setting out and checking alignment of curb lines, construction boards and grades of pipes. A baseline or an offset from baseline can be defined. When calculating the measuring point, it's possible to calculate and use the scaled down coefficient of the distance and surveyed value that was calculated using the known coordinate values of 2 points.

■ Point Projection

This program projects a point onto a line. It calculates the distance and offset of the point relative to the specified baseline, and it computes the coordinates of the intersection point, which can then be directly set out. Elevations are interpolated where possible.

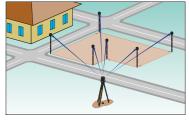
When calculating the measuring point, it's possible to calculate and use the scaled down coefficient of the distance and surveyed value that was calculated using the known coordinate values of 2 points.



Set-out Line and Point Projection

■ Area Calculation

The Series30RK can use measured points or stored data—



up to 50 points in totalto calculate an area. Area calculations are made with 3D coordinates, so even sloped surfaces can be measured with ease and precision.























Standard accessories

BDC46A rechargeable battery: 2 pcs. (SET630RK: 1 pc.) • CDC68 quick charger with EDC113A/113B/113C power cable ● CP7 tubular compass ● Lens hood ● Lens cap ● Plumb bob ● Tool kit ● Wiping cloth ● Operator's manual • Carrying case and shoulder strap

Optional accessories

SF14 wireless keyboard* ● GDL1 guide light unit (factory option) ● CF card unit* (factory option) ● BDC57 external Ni-MH battery*, EDC3A power cable for BDC57 (2m)*, EDC7A power cable for BDC57 (0.5m)*, CDC14 battery charger for BDC57* ● EDC2A AC power adapter (100 to 240V)* ● EDC14 external battery adapter*, EDC5 car battery cable for EDC14*, EDC4 car cigarette lighter cable for EDC14* ● OF3A solar filter ● DE25 diagonal eyepiece ● EL7 eyepiece (40x) ● EL6 eyepiece for SET630RK (30x) • DOC46 printer cable • DOC25 (25 pins, male), DOC26 (25 pins, female), DOC 27 (9 pins, female), DOC1 (w/o connector) interface cables • LAP1 laser plummet • 20"/2mm plate level for SET230RK/230RK3 (factory option) • SC189 back pack

* Not available for SET630RK

For more information, please consult your local sales representative.



SPECIFICATIONS

SET230RK3 · SET330RK3 · SET530RK3 · SET230RK · SET330RK · SET530RK · SET630RK

Laser class*1 Telescope			SET230RK3 SET330RK3 SET530RK3 SET230RK SET330RK SET530RK Class 3R Laser Product Class 2 Laser Product	SET630RK		
			Fully transiting, coaxial sighting and distance measuring optics			
Magnification / Reso	luing power		30x / 2.5"	26x / 3.5"		
others	Jiviliy powei		Length: 171mm (6.7in.), Objective aperture: 45mm (1.8in.) (EDM 48mm (1.9in.)), Image: Erect, Field of view: 1°30' (26m/1,000m), Minir			
55			Length. 17 min. (c).min, Objective aperulae. 4 min (1.5m.) (EDM 40mm (1.5m.)), mage. Lieu, field of view. 1.30 (20m/1,000m), willimini focus. 1.3m. (4.5m.) Reticle illumination: 5 brightness levels			
Angle measurement			Photoelectrical absolute encoder scanning, both circles adopt diametrical detection			
Jnit / Display resolu			Degree / Gon / Mil, selectable / 1" / 5", 0.2 / 1mgon, 0.005 / 0.02mil, selectable			
Accuracy (ISO17123				nil 6" / 1.9mg / 0.03m		
Aeasuring time	0.2001)		0.5s or less, continuous	iii 0 / 1.0iiig / 0.00iii		
Measurement mode			H: Clockwise / Counterclockwise, selectable; 0 set, Hold, Angle input, Repetition, available V: Zenith 0 / Horizontal 0 / Horizontal 0 ± / Sloj	ne in % selectable		
Automatic dual-axis			Dual-axis liquid tilt sensor, Working range: ±3' (±55mg)	po III 70, solostablo		
Collimation compens			On / Off, selectable			
ine motion screws	oution		2-speed motion 1-speed motion 2-speed motion 1-speed motion			
Distance measureme	ent		Modulated laser, phase comparison method with red laser diode, coaxial optics			
aser output			Reflectorless mode: Class 3R (max. 5mW) Reflectorless mode: Class 2 (max. 0.99mW)			
			Prism/Sheet mode: Class 1 equivalent (max. 0.22mW) Prism/Sheet mode: Class 1 equivalent (max. 0.22mW)			
Jnit / Display resolut	tions		meters / feet / feet-inches, selectable / Fine, Rapid single: 0.001m / 0.01ft. / 1/8in. Tracking: 0.01m / 0.1ft. / 1/2in.			
Measuring range	Reflectorless*2		0.3 to 350m (1 to 1,140ft.) (White side, 90% reflective) 0.3 to 200m (1 to 650ft.) (White side, 90% reflective)	0.3 to 150m (490f		
(slope distance)	(with Kodak Gray Card)		0.3 to 170m (1 to 550ft.) (Gray side, 18% reflective) 0.3 to 80m (1 to 260ft.) (Gray side, 18% reflective)	(white side, 90% reflection		
	With reflective sheet target	t	RS90N-K: 1.3 to 500m (1,640ft.), RS50N-K: 1.3 to 300m (980ft.), RS10N-K: 1.3 to 100m (320ft.)			
	With mini prisms		CP01: 1.3 to 800m (2,620ft.), OR1PA: 1.3 to 500m (1,640ft.)			
	With 1 AP prism		1.3 to 4,000m (13,120ft.)	1.3 to 3,000m (9,840		
			1.3 to 5,000m (16,400ft.)	1.3 to 4,000m (13,12		
	With 3 AP prisms	A*3	to 5,000m (16,400ft.)	to 4,000m (13,120		
			to 6,000m (19,680ft.)	to 5,000m (16,400		
ccuracy	Reflectorless*2/*5		0.3 to 200m (1 to 650ft.): ±(3 + 2ppm x D)mm	0.3 to 100m (1 to 320ft.		
D=measuring	(Fine mode)		Over 200 to 350m (over 650 to 1,140ft.): ±(5 + 10ppm x D)mm Over 100 to 200m (over 320 to 650ft.): ±(5 + 10ppm x D)mm	±(3 + 2ppm x D)mm		
istance, unit: mm)				Over 100 to 150m (over		
				490ft.): ±(5 + 10ppm x [
	Reflectorless*2/*5		0.3 to 200m (1 to 650ft.): ±(6 + 2ppm x D)mm	0.3 to 100m (1 to 320ft.)		
	(Rapid single mode)		Over 200 to 350m (over 650 to 1,140ft.): ±(8 + 10ppm x D)mm Over 100 to 200m (over 320 to 650ft.): ±(8 + 10ppm x D)mm	±(6 + 2ppm x D)mm		
				Over 100 to 150m (over		
				490ft.): ±(8 + 10ppm x D		
	With reflective sheet target		Fine: ±(3 + 2ppm x D)mm, Rapid single: ±(6 + 2ppm x D)mm			
	With AP prism		Fine: ±(2 + 2ppm x D)mm, Rapid single: ±(5 + 2ppm x D)mm			
Measuring time Fine mode / Rapid single / Tracking			Fine repeat: Every 0.9s (initial 1.7s) / Rapid single: 1.4s / Tracking: Every 0.3s (initial 1.4s)			
Measuring mode			Fine (single / repeat / average), Rapid (single), Tracking			
Atmospheric correction / Prism constant correction			Temperature / Pressure / ppm input, available / -99 to +99mm (1mm steps), 0 fixed in reflectorless mode			
	urvature correction		Yes (K=0.142 / 0.20) / No, selectable			
Data storage and trai						
Data storage	Internal memory		Approx. 10,000 points			
	CF memory card unit		Factory option, the 64MB CF card stores approx. 576,000-point data			
Scale factor setting / Sea level correction				n/a		
cale factor setting ,	/ Oca icver correction		0.5 to 2.0 / Yes / No, selectable	n/a		
nterface / Printer o			0.5 to 2.0 / Yes / No, selectable Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable)	n/a		
nterface / Printer o General			Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable)	n/a		
nterface / Printer o General Display / Keyboard	output		Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight			
nterface / Printer o General Display / Keyboard Control panel locatio	output		Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces	On one face		
nterface / Printer o General Display / Keyboard Control panel locatio Vireless keyboard S	output on F14		Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional			
nterface / Printer o General Display / Keyboard Control panel locatio Wireless keyboard S aser-pointer functic	output on F14		Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light)	On one face		
nterface / Printer of General Display / Keyboard Control panel locatio Vireless keyboard S aser-pointer functio Guide light GDL1	on F14 on		Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option	On one face		
nterface / Printer of General Display / Keyboard Control panel locatio Vireless keyboard S .aser-pointer functio Guide light GDL1	on F14 on Plate level		Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional D0C46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm *7 30° / 2mm 30° / 2mm 30° / 2mm	On one face		
nterface / Printer of General Display / Keyboard Control panel locatio Vireless keyboard S aser-pointer functio Buide light GDL1 Gensitivity of levels	on Flate level Circular / Graphic		Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm * 7 30° / 2mm 30° / 2mm* 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle	On one face		
nterface / Printer o beneral Display / Keyboard Control panel locatio Vireless keyboard S aser-pointer functio Buide light GDL1 Gensitivity of levels Optical plummet / Tr	on F14 F14 F16 F17		Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm * 7 30° / 2mm 30° / 2mm 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable	On one face		
nterface / Printer o ieneral Display / Keyboard Control panel locatio Vireless keyboard S aser-pointer functio Buide light GDL1 Gensitivity of levels Optical plummet / Tr Dust and water protes	on Flate level Circular / Graphic	re	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30" / 2mm * 7	On one face		
nterface / Printer o ieneral Display / Keyboard Control panel locatio Vireless keyboard S aser-pointer functio Buide light GDL1 Gensitivity of levels Optical plummet / Tr Dust and water protes	on F14 F14 F16 F17	re	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm * 7 30° / 2mm 30° / 2mm 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable	On one face n/a 40" / 2mm		
nterface / Printer of beneral bisplay / Keyboard control panel location Vireless keyboard S aser-pointer function buide light GDL1 censitivity of levels optical plummet / Tr bust and water protes instrument height	on F14 F10 Plate level Circular / Graphic ribrach ection / Operating temperatur	re	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm * 7 30° / 2mm 30° / 2mm* 7 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable Conforms to IP66 (IEC 60529) / -20 to +50°C (-4 to +122°F) 236mm (9.3in.) from tribrach bottom	On one face n/a 40° / 2mm		
nterface / Printer of ieneral bisplay / Keyboard bisplay / Keyboard bisplay / Keyboard S aser-pointer function iude light GDL1 iensitivity of levels uptical plummet / Trust and water prote instrument height itize with handle and	on F14 On Plate level Circular / Graphic ribrach section / Operating temperatur	re	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm*7 30° / 2mm 30° / 2mm* 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable Conforms to IP66 (IEC 60529) / -20 to +50°C (-4 to +122°F) 236mm (9.3in.) from tribrach bottom W 165 x D 180 x H 341 mm (W 6.5 x D 7.1 x H 13.5 in.)	On one face n/a 40" / 2mm W 165 x D 173 x H 341 (W 6.5 x D 6.8 x H 13.5		
nterface / Printer of printer of peneral objective in the peneral objec	on F14 On Plate level Circular / Graphic ribrach section / Operating temperatur	re	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm * 7 30° / 2mm 30° / 2mm* 7 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable Conforms to IP66 (IEC 60529) / -20 to +50°C (-4 to +122°F) 236mm (9.3in.) from tribrach bottom W 165 x D 180 x H 341 mm (W 6.5 x D 7.1 x H 13.5 in.) Approx. 5.5kg (12.2 lb.)	On one face n/a 40" / 2mm W 165 x D 173 x H 341 (W 6.5 x D 6.8 x H 13.5		
nterface / Printer of Seneral Display / Keyboard Control panel locatio Wireless keyboard S a.aser-pointer functic Senide light GDL1 Sensitivity of levels Optical plummet / Tr Dust and water prote Instrument height Display with handle and Weight with handle a	on IF14 on Plate level Circular / Graphic ribrach ection / Operating temperatur I battery and battery	re	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm * 7 30° / 2mm 30° / 2mm * 7 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable Conforms to IP66 (IEC 60529) / -20 to +50°C (-4 to +122°F) 236mm (9.3in.) from tribrach bottom W 165 x D 180 x H 341 mm (W 6.5 x D 7.1 x H 13.5 in.) Approx. 5.5kg (12.2 lb.) 7.2V DC	On one face n/a 40° / 2mm W 165 x D 173 x H 341 r (W 6.5 x D 6.8 x H 13.5 i Approx. 5.4kg (11.8		
nterface / Printer of interface / Printerface	putput pin F14 pin Plate level Circular / Graphic ribrach section / Operating temperatur I battery and battery Li-lon rechargeable battery	re	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm * 7 30° / 2mm 30° / 2mm 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable Conforms to IP66 (IEC 60529) / -20 to +50°C (-4 to +122°F) 236mm (9.3in.) from tribrach bottom W 165 x D 180 x H 341 mm (W 6.5 x D 7.1 x H 13.5 in.) Approx. 5.5kg (12.2 lb.) 7.2V DC 2 BDC46A are included	On one face n/a 40" / 2mm W 165 x D 173 x H 341 (W 6.5 x D 6.8 x H 13.5 Approx. 5.4kg (11.1)		
nterface / Printer of Seneral Display / Keyboard Control panel locatio Wireless keyboard S a.aser-pointer functic Suide light GDL1 Sensitivity of levels Diptical plummet / Tr Dust and water prote Instrument height Display with handle and Weight with handle and Dewer supply	putput pin F14 pin Plate level Circular / Graphic ribrach action / Operating temperatur I battery and battery Li-lon rechargeable battery Continuous use per battery	re	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm*7 30° / 2mm 30° / 2mm*7 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable Conforms to IP66 (IEC 60529) / -20 to +50°C (-4 to +122°F) 236mm (9.3in.) from tribrach bottom W 165 x D 180 x H 341 mm (W 6.5 x D 7.1 x H 13.5 in.) Approx. 5.5kg (12.2 lb.) 7.2V DC 2 BDC46A are included Approx. 7 hours (800 points) for single measurement every 30s	On one face n/a 40" / 2mm W 165 x D 173 x H 341 (W 6.5 x D 6.8 x H 13.5 Approx. 5.4kg (11.1)		
nterface / Printer of Seneral Display / Keyboard Control panel locatio Wireless keyboard S a.aser-pointer functic Senide light GDL1 Sensitivity of levels Optical plummet / Tr Dust and water prote Instrument height Display with handle and Weight with handle a	Plate level Circular / Graphic ribrach ection / Operating temperatur I battery and battery Li-lon rechargeable battery continuous use per battery at 25°C (77°F)	re	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm * 7 30° / 2mm 30° / 2mm * 7 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable Conforms to IP66 (IEC 60529) / -20 to +50°C (-4 to +122°F) 236mm (9.3in.) from tribrach bottom W 165 x D 180 x H 341 mm (W 6.5 x D 7.1 x H 13.5 in.) Approx. 5.5kg (12.2 lb.) 7.2V DC 2 BDC46A are included Approx. 7 hours (800 points) for single measurement every 30s Approx. 8.5 hours for angle measurement only	On one face n/a 40" / 2mm W 165 x D 173 x H 341 (W 6.5 x D 6.8 x H 13.5 Approx. 5.4kg (11.		
nterface / Printer of interface / Printerface / Printer	Plate level Circular / Graphic ribrach ection / Operating temperatur I battery and battery Li-Ion rechargeable battery Continuous use per battery at 25°C (77°F) Recharging time at 25°C (6°C)	re	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm*7 30° / 2mm 30° / 2mm*7 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable Conforms to IP66 (IEC 60529) / -20 to +50°C (-4 to +122°F) 236mm (9.3in.) from tribrach bottom W 165 x D 180 x H 341 mm (W 6.5 x D 7.1 x H 13.5 in.) Approx. 5.5kg (12.2 lb.) 7.2V DC 2 BDC46A are included Approx. 7 hours (800 points) for single measurement every 30s	On one face n/a 40° / 2mm W 165 x D 173 x H 341 (W 6.5 x D 6.8 x H 13.5 Approx. 5.4kg (11.		
nterface / Printer of interface / Printerface / Printer	Plate level Circular / Graphic ribrach ection / Operating temperatur I battery and battery Li-lon rechargeable battery Continuous use per battery at 25°C (77°F) Recharging time at 25°C (7 HH battery (optional)	re /	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm * 7 30° / 2mm 30° / 2mm* 7 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable Conforms to IP66 (IEC 60529) / -20 to +50°C (-4 to +122°F) 236mm (9.3in.) from tribrach bottom W 165 x D 180 x H 341 mm (W 6.5 x D 7.1 x H 13.5 in.) Approx. 5.5kg (12.2 lb.) 7.2V DC 2 BDC46A are included Approx. 7 hours (800 points) for single measurement every 30s Approx. 8.5 hours for angle measurement only Within 2 hours with CDC68 standard quick charger	On one face n/a		
nterface / Printer of iteneral ibisplay / Keyboard control panel location Vireless keyboard S aser-pointer functic itensitivity of levels puts and water prote instrument height ite with handle and Veight with handle at lower supply iDC46A detachable	Plate level Circular / Graphic ribrach ection / Operating temperatur I battery and battery Li-Ion rechargeable battery Continuous use per battery at 25°C (77°F) Recharging time at 25°C (6°C)	re /	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm*7 30° / 2mm 30° / 2mm*7 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable Conforms to IP66 (IEC 60529) / -20 to +50°C (-4 to +122°F) 236mm (9.3in.) from tribrach bottom W 165 x D 180 x H 341 mm (W 6.5 x D 7.1 x H 13.5 in.) Approx. 5.5kg (12.2 lb.) 7.2V DC 2 BDC46A are included Approx. 7 hours (800 points) for single measurement every 30s Approx. 8.5 hours for angle measurement only Within 2 hours with CDC68 standard quick charger	On one face n/a 40" / 2mm W 165 x D 173 x H 341 (W 6.5 x D 6.8 x H 13.5 Approx. 5.4kg (11.		
nterface / Printer of interface / Printer of	Plate level Circular / Graphic ribrach ection / Operating temperatur I battery and battery Li-lon rechargeable battery Continuous use per battery at 25°C (77°F) Recharging time at 25°C (7 HH battery (optional)	re /	Asynchronous serial RS-232C compatible, Baud rate 1,200 to 38,400bps / Centronics compatible (with optional DOC46 printer cable) Alphanumeric/graphic dot matrix LCD, 192 x 80 dots, with backlight, with contrast adjustment / 27 keys with backlight On both faces Optional ON (auto off in 5 minutes) / OFF, selectable (Does not work simultaneously with the Guide Light) Factory option 30° / 2mm * 7 30° / 2mm 30° / 2mm* 7 30° / 2mm Circular level: 10° / 2mm / Graphic LCD level: 3° / outer circle Image: Erect, Magnification: 3x, Minimum focus: 0.3m (0.98ft.) / Detachable Conforms to IP66 (IEC 60529) / -20 to +50°C (-4 to +122°F) 236mm (9.3in.) from tribrach bottom W 165 x D 180 x H 341 mm (W 6.5 x D 7.1 x H 13.5 in.) Approx. 5.5kg (12.2 lb.) 7.2V DC 2 BDC46A are included Approx. 7 hours (800 points) for single measurement every 30s Approx. 8.5 hours for angle measurement only Within 2 hours with CDC68 standard quick charger	On one face n/a		

- *1 IEC 60825-1Amd 2: 2001 / FDA CDRH 21 CFR Part1040.10 and 1040.11 (Complies with FDA performance standards for laser products except for deviations pursuant to Laser Notice No.50, dated July 26, 2001.)
- *2 Reflectorless range/accuracy may vary according to measuring objects, observation situations and environmental conditions *3 Average conditions: Slight haze, visibility about 20km (12 miles), sunny periods, weak scintillation.

- 14 Good conditions: No haze, visibility about 40km (25 miles), overcast, no scintillation.

 15 With Kodak Gray Card White Side (90% reflective).

 16 When the beam's incident angle is within ±30" up and down / right and left in relation to the surface of the target.

 17 20" / 2mm plate level is available as a factory option.

LASER RADIATION AVOID DIRECT EYE EXPOSURE LASER RADIATION DO NOT STARE INTO BEAM

of the International Federation

 \neg

 \Box

SOKKIA CO., LTD. Head Office, Japan Phone +81-46-248-7984 www.sokkia.co.jp ISO9001 Certified (JQA-0557)

SOKKIA CORPORATION Head Office U.S.A. Phone +1-913-492-4900 www.sokkia.com

SOKKIA CORPORATION Head Office Canada Phone +1-905-238-5810 www.sokkia.com

SOKKIA LATIN AMERICA Head Office Latin America Phone +1-305-599-4701 www.sokkia.com

SOKKIA PTY. LTD. Head Office Australia, New Zealand and South Pacific Phone +61-2-9638-2400 www.sokkia.com.au SOKKIA B.V. Head Office Europe & other CIS countries Phone +31-(0)36-5496000 www.sokkia.net

SOKKIA KOREA CO., LTD. Head Office Republic of Korea Phone +82-2-514-0491 www.sokkia.co.kr

SOKKIA SINGAPORE PTE. LTD. Head Office South & Southeast Asia, Initiale East, and Africa Prone +65-6479-3966 www.sokkia.com.sg
SOKKIA SURVEYING INSTRUMENTS TRADING (SHANGHAI) CO., LTD. Shanghai Office, People's Republic of China Phone +86-21-63541844 www.sokkia.com.cn

SOKKIA SURVEYING INSTRUMENTS TRADING (SHANGHAI) CO., LTD. Beijing Office People's Republic of China Phone +86-10-65056066 www.sokkia.com.cn A-233-E-3-0610-CH-AB Printed in Japan on 100% recycled paper with ecologically safe soy ink.

© 2006 SOKKIA CO., LTD.

Sokkia is a sponsor of Surveyors

Г