

# SOKKIA

## DT210 · DT510 DT510A · DT610

Electronic Digital Theodolites

# 110/75\* *working hours!*

Ultra-low power consumption with  
Sokkia's advanced absolute encoders

IP66-compliant superior protection  
against dust and water



\*DT510A·DT610:110 hours, DT210·DT510: 75 hours



\*DT210·DT510 \*\*DT210·DT510·DT510A

DT510

**DT210 · DT510 · DT510A · DT610****Variety of display modes**

You can select the angle display unit that best suits you. Horizontal angle is switchable between clockwise and counterclockwise, and angle Hold and 0-set functions are also provided. Vertical angle can be set to Zenith=0, Horizontal=0, Horizontal=0±, or % of slope.

**Enhanced reliability with absolute encoders**

Sokkia's market-proven advanced absolute encoders, which utilize RAB (Random Bi-directional) code and digital sampling technology, further enhance the reliability of angle measurement. DT210 guarantees 2" accuracy, DT510/DT510A ensure 5" accuracy and DT610-7" for both horizontal and vertical angles.

**Ultra-long working hours**

With Sokkia's new algorithm in operating absolute encoders, power consumption has been dramatically reduced. Powered by 2 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.

**One-key start**

You can start taking measurements as soon as you turn on the power, thanks to the absolute encoders. Moreover, azimuth is kept when restart the instrument after turning off the power.

**Easy-to-read, easy-to-use control panels**

A large LCD screen provides clear angle readings under all conditions, and thanks to simple 4-key operation no training is required. The DT210 and DT510 have control panels on both faces for added convenience.

**Dual-axis compensator**

The DT210/DT510 automatically compensate both Vertical and Horizontal angles by monitoring the tilt of instrument in X&Y two directions.

**Audible right-angle notification**

Once the zero (0) horizontal angle direction is determined, all models emit audible tones for each of the four right-angle directions. Specifically, it sounds two different tones within ±15° of 90° and stops beeping when it comes within ±1°.

**Superior IP66 protection**

Complying with the tough IP66 standard for resistance to dust and water, both models offer superior dependability even under harsh environmental conditions.

**RS-232C port (DT210-DT510-DT510A)**

Measurement data can be output to external devices via the RS-232C data port.

**DT210 · DT510 · DT510A · DT610 Specifications**

		DT210	DT510	DT510A	DT610
Telescope					
Length		165mm(6.5in.)			160mm(6.3in.)
Objective aperture		45mm(1.8in.)			35mm(1.4in.)
Magnification		30x			26x
Image		Erect			
Resolving power		3"			3.5"
Field of view		1°30'(26m/1,000m)			
Minimum focus		0.9m(3.0ft.) from telescope center			
Stadia	Multiplication constant	100			
	Additive constant	0			
Reticle illumination		Built-in. Bright/Dim, selectable			—
Angle measurement		Photoelectrical absolute encoder scanning, diametrical detection			
Display unit		Degree/Gon/Mil, selectable			
Display resolutions		1"/5", 0.2/1mg, 0.005/0.02mil, selectable			5"/10", 1/2mg, 0.02/0.05mil
Accuracy (ISO/DIS 12857-2:1997)		2"/0.6mg/ 0.01mil	5"/1.5mg/0.025mil		7"/2.2mg/ 0.035mil
Measuring mode	H	Clockwise, Counterclockwise, selectable. Hold, 0-set, available			
	V	Zenith 0 / Horizontal 0 / Horizontal 0± / % of slope, selectable			
Automatic dual-axis compensator		Dual-axis liquid tilt sensor Working range ±3'(±55mg)		—	
General					
Display		LCD, 8 digits x 2 lines with backlight			
Keyboard		4 keys			
Control panel location		On both faces		On one face	
Interface		Asynchronous serial, RS-232C compatible, baud rate 1,200bps			—
Self diagnostic function		Provided			
Right angle buzzer		Provided			
Sensitivity of levels	Plate level	20"/2mm	40"/2mm		60"/2mm
	Circular level	10"/2mm			
Optical plummet		Image:Erect, Magnification:3x, Minimum focus:0.3m(1ft.)			
Tribrach		Detachable			Fixed
Operating temperature		-20 to +50°C (-4 to +122°F)			
Dust and water protection		IP66 (IEC 60529:1989)			
Instrument height		236mm(9.3in.) from tribrach bottom			
Size with handle		W165 x D165 x H341mm (W6.5 x D6.5 x H13.4in.)			
Weight with handle		4.7kg(10.3lb.)		4.5kg (9.9lb)	4.2kg (9.3lb)
Power supply					
Battery		LR14/C batteries x 2			
Continuous use with alkaline batteries at 25°C(77°F)		Approx. 75 hours		Approx. 110 hours	
Automatic power cut off		Auto-off time is selectable from 5, 10, 15, 30 minutes or none.			

**Standard accessories**

- R14/C alkaline batteries (x2) • Lens cap • Lens hood • Plumb bob • Tool kit
- Operator's manual • Carrying case • Shoulder strap

- Optional accessories:** • CP7 tubular compass • DE25 diagonal eyepiece  
• EL6 30x eyepiece (for DT610) • ACE1 auto-collimation eyepiece

Product colors in this leaflet may vary slightly from those of the actual products owing to limitations of printing process. Designs and specifications are subject to change without notice.

**SOKKIA CO.,LTD.**

ISO9001 Certified (JQA-0557)

<http://www.sokkia.co.jp/english/>

INTERNATIONAL SALES DEPARTMENT  
260-63 HASE, ATSUGI, KANAGAWA, 243-0036 JAPAN  
PHONE +81-46-248-7984 FAX +81-46-247-1731

