DX Series

DX-101AC/DX-102AC/DX-103AC/DX-105AC

Direct aiming X-ellence station

SPECIFICATIONS

Model		DX-101AC	DX-102AC	DX-103AC	DX-105AC
Telescope					
Magnification / Resolving power		30x / 2.5"			
Length: 168mm (6.6in.), Objective aperture: 45mm (1.8in.) (50mm (2.0in.) for EDM), Image: Erect, Field of view: 1°30' (26m/1,000m), Minimum focus: 1.3m (4.3ft.), Reticle illumination: 5 brightness levels					
Angle measurement					
Display resolutions (selectable)		0.5" / 1" (0.0001 / 0.0002gon, 0.002 / 0.005mil)	1" / 5" (0.0002 / 0.001gon, 0.005 / 0.02mil)		
Accuracy (ISO 17123-3:2001)		1"	2"	3"	5"
IACS (Independent Angle Calibration System)		Provided		-	
Dual-axis compensator / Collimation compensation		Dual-axis liquid tilt sensor, working range: ±6' / Collimation compensation available			
Distance measurement					
Laser output[*1]		Reflectorless mode: Class 3R / Prism/sheet mode: Class 1			
Measuring range (under average conditions[*2])	Reflectorless[*3]	0.3 to 800m (2,620ft) / Under good conditions[*5]: to 1,000m (3,280ft.)			
	Reflective sheet[*4]	RS90N-K: 1.3 to 500m (4.3 to 1,640ft.), RS50N-K: 1.3 to 300m (4.3 to 980ft.), RS10N-K: 1.3 to 100m (4.3 to 320ft.)			
	Mini prisms	CP01: 1.3 to 2,500m (8,200ft.), OR1PA: 1.3 to 500m (1,640ft.)			
	One AP prism	1.3 to 5,000m (4.3 to 16,400ft) / Under good conditions[*5]: 6,000m (16,680ft.)			
	Three AP prism	to 8,000m (26,240ft.) / Under good conditions[*5]: to 10,000m (32,800ft.)			
Display resolution		Fine: 0.0001 / 0.001m (0.001 / 0.01ft., 1/16 / 1/8in.) / Rapid: 0.001m / 0.01ft. / 1/8in. Tracking: 0.01m / 0.1ft. / 1/2in.			
Accuracy[*2] (ISO 17123-4:2001) (D=measuring distance in mm)	Reflectorless[*3]	(2 + 2ppm x D) mm[*6]			
	Reflective sheet[*4]	(2 + 2ppm x D) mm			
	AP/CP prism	(1.5 + 2ppm x D) mm			
Measuring time[*7]		Fine: 0.9s (initial 1.5s), Rapid: 0.6s (initial 1.3s), Tracking: 0.3s (initial 1.3s)			
Motor drive system					
	Type	DC Servo motor			
	Max Rotation speed	70°/sec			
Auto Pointing					
Working range[*2]	One AP prism[*8]	1.3 to 1,000m			
	Reflective sheet[*9]	5 to 50m			
	360° prism[*10]	2 to 600m			
	Mini prisms[*11]	CP01: 1.3 to 700m, OR1PA 1.3 to 500m			
OS, Interface and Data management					
Operating system / Application		Microsoft Windows CE 6.0 / MAGNET FIELD			
Display / Keyboard		3.5inch, Semi-transmissive TFT QVGA color LCD with LED backlight, Touch screen, Automatic brightness control / 26 keys with backlight			
Control panel location[*12]		On both faces (Face 2 is only touch screen display)			
Trigger key		On right instrument support			
Data storage	Internal memory	500MB internal memory			
	Plug-in memory device	USB flash memory (max. 8GB)			
Interface		Serial RS-232C, USB2.0 (Type A / miniB)			
Bluetooth modem (option)[*13]		Bluetooth Class 1, Ver.2.1+EDR, Operating range: up to 300m (980ft.)[*14]			
General					
Laser-pointer[*15]		Coaxial red laser using EDM beam			
Guide light[*15]		Green LED (524nm) and Red LED (626nm), Operating range: 1.3 to 150m (4.3 to 490ft.)			
Levels	Graphic	6' (Inner Circle)			
	Circular level	10' / 2mm			
Optical plummet		Magnification: 3x, Minimum focus: 0.3m (11.8in.) from tribrach bottom			
Laser plummet (option)		Red laser diode (635nm±10nm), Beam accuracy: ≦1.0mm@1.3m, Class 2 laser product			
Dust and water protection		IP65 (IEC 60529:2001)			
Operating temperature		-20 to +50ºC (-4 to +122ºF)			
Size with handle		W207 (W) X 190 (D) X 372 (H) mm (W8.1 x D7.5 x H14.6in.)			
Weight with battery & tribrach		Approx. 6.1kg (13.4lb.)			
Power supply					
Battery	BDC70 detachable battery	Li-ion rechargeable battery			
Operating time (20ºC)	BDC70	Approx.5hours (Fine distance measurement (single) using Auto Pointing, repeated every 30 seconds)			
	External battery (option)	BDC60: approx.7hours, BDC61: approx.14.5hours (Fine distance measurement (single) using Auto Pointing, repeated every 30 seconds)			

*1 IEC60825-1:Ed.2.0:2007 / FDA CDRH 21 CFR Part 1040.10 and 11 *2 Average conditions: Slight haze, visibility about 20km (12 miles), sunny periods, weak scintillation. *3 With Kodak Gray Card White Side (90% reflective). When brightness on measured surface is 30,000 lx. or less. Reflectorless range/accuracy may vary according to measuring objects, observation situations and environmental conditions. *4 When the measuring beam's incidence angle is within 30º in relation to the reflective sheet target. *5 Good conditions: No haze, visibility about 40km (25 miles), overcast, no scintillation. *6 Measuring range:0.3 to 200m *7 Typical, under good conditions. Reflectorless measurement time may vary according to measuring objects, observation situations and environmental conditions. *8 AP01 prism *9 When using a reflective sheet for Auto Pointing, the size of sheet (10 to 90 mm) must be selected to correspond to the distance being measured. Use smaller reflective sheets for shorter distances. Figures when the Auto Pointing beam strikes within 15° of the reflective sheet target. *10 ATP1(S) prism *11 OR1PA prism *12 Control panel location may vary depending on region or model. *13 Usage approval of Bluetooth wireless technology varies according to country. Please consult your local office or representative in advance. *14 No obstacles, few vehicles or sources of radio emissions/interference in the near vicinity of the instrument, no rain. *15 The laser-pointer and the guide light do not work simultaneously.

Standard Accessories

●DX main unit ●Battery x2 (BDC70) ●Battery charger (CDC68) ●Power Cable ●Lens cap ●Lens hood ●Tool pouch ●Screwdriver ●Lens brush ●Adjusting pin x2 ●Cleaning cloth ●Operation manual ●USB memory ●Laser caution sign-board ●Carrying case ●Carrying strap x2

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Specifications subject to change without notice

Your local Authorized Dealer is:

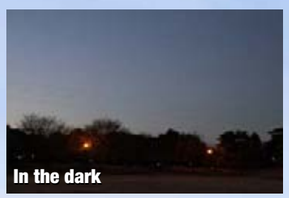
SOKKIA

DX Series

Direct Aiming X-ellence Station

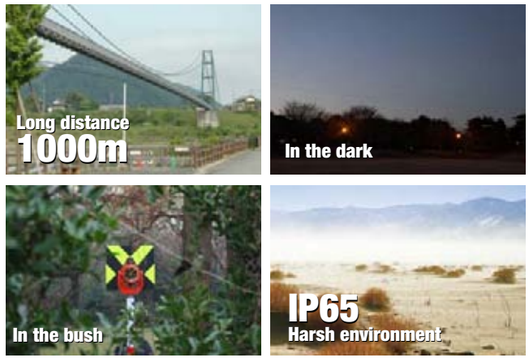
Get the job done easily and quickly in any environment

- Superior Auto Pointing Technology
- Advanced Angle Measurement System
- RED-tech Technology Reflectorless EDM
- LongRange Data Communication
- Waterproof, Rugged, and User Friendly Operation
- MAGNET™ Field On-Board Application Software



TS shield
Exclusive TSshield technology built-in
World's First integrated support service

Get the Job Done Easily and Quickly in any Environment



■New DX Direct Aiming technology supports

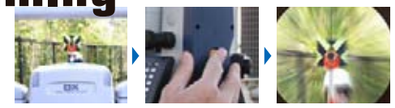
DX series provides consistent auto pointing accuracy speed regardless of operators skill levels.

- **More than what human Eyes can do**
- **Higher Productivity in your job field**
- Easy “TOPO” operation
- Easy “Stake-out” operation
- Mesh Scan Operation

■New Auto Pointing "Direct Aiming Technology"

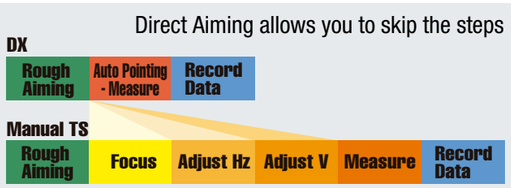
DX series employed "Direct Aiming Technology" featuring a new intelligent algorithm that automatically aim to the prisms with precisely corrected angle readings.
The technology works even in dim or dark conditions where the prism is difficult to be found. Whatever the job requires and wherever operators must go, the DX makes your job done easier and faster still maintaining the accuracy.

Direct Aiming



Rough Aiming | Push the Trigger key | Auto Pointing

Direct Aiming allows you to skip the steps



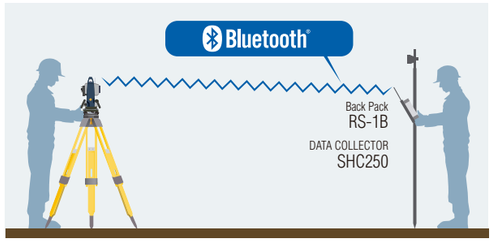
Easy “TOPO” operation
Just “Rough Aim” and “Press Trigger button” to get precise aiming and measurement to prism target.

Easy “Stake-out” operation
Stake-out can be easily done by automatic turning and guide light.

Mesh Scan Operation*
“Simple” & “Easy” Mesh Scan in your field work
*Supported by MAGNET Field on-board

■LongRange Data Communication

- The DX series of total stations feature *Bluetooth*® Class1 wireless technology for reliable data communications.



* Wireless communication range may vary depending on obstruction and other environmental conditions.

■RED-tech Technology Reflectorless EDM

- Reflectorless operation from 30cm to 1,000m*.
- SOKKIA’s traditional pinpoint precision in reflectorless distance measurement.

- Fast distance measurement of 0.9s.
- Coaxial EDM beam and laser-pointer provide fast and accurate aiming.
- Ensures accuracy even with reflective sheets.

*With Kodak Gray Card white side (90% reflective). Brightness level at object surface: ≦500 lx.

■Advanced Angle Measurement System

- SOKKIA's original absolute encoders provide long-term reliability in any job site condition.
- DX-101 and DX-102 feature groundbreaking IACS (Independent Angle Calibration System) technology for extremely reliable angle measurement.

■Waterproof, Rugged, and User Friendly Operation

IP65

- IP65 dustproof / waterproof rating.
- Standard usage temperature range -20 to +50°C.
- Star key [★] instantly brings up functions.
- Trigger key lets you take a series of measurements without taking your eye off the telescope.

- Control panel consists of 26-key board with color LCD touch screen display.*1
- USB type A / mini B as well as serial ports.
- Green / Red telescope guide lights provide efficient guidance in a range up to 150m.

- Built-in laser plummet with five brightness levels is equipped for quick instrument setting in all lighting conditions.*2

*1 Face 2 is only touch screen display. Control panel configuration may vary depending on region or model.
*2 Offered as an option in some areas.

■MAGNET™ Family

MAGNET™

Cloud-based Solutions for Precise Positioning*

MAGNET™ is a software family that uses the “cloud” for seamless data connection between the field and office, in Real-time, when and where you need, for data exchange, communications, asset tracking and more.

*Cell modem or WIFI is required for data transfer from cloud to MAGNET with your data collector.

MAGNET™ Field

Powerful on-board software that covers full functions for surveying and engineering tasks. MAGNET™ Field handles data collection, stake out, roads and coordinate geometry.

World's First integrated support service

TSshield

The industry first! New function to protect your investment

TSshield is a standard feature on all new model of SOKKIA total stations. Its advanced communication system provides new opportunities to secure and maintain your instrument.

*For more detail of TSshield, please refer to the TSshield's leaflet.
This service may not be available in some areas.

TS shield