CX Series
CX-101/CX-102/CX-103/CX-105/CX-107

SPECIFICATIONS

Total Stations

Model	CX-101	CX-102	CX-103	CX-105	CX-107
Telescope					
Magnification / Resolving power	30x / 2.5"				30x / 3.5"
Others	Length: 171mm (6.7in.), Objective aperture: 45mm (1.8in.) (48mm (1.9in.) 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 resolution	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"	7"
IACS (Independent Angle Calibration System)	Provided		-		
Dual-axis compensator / Collimation compensation	Dual-axis liquid tilt sensor, working range: ±6' (±111mgon) / 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 500m(1.0 to 1,640ft.)				
Reflective sheet[4]/[5]	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 4,000m (4.3 to 13,120ft.) / Under good conditions[6]: 5,000m (16,400ft.)				
Three AP prisms	to 5,000m (16,400ft.) / Under good conditions[6]: to 6,000m (19,680ft.)				
Display resolution	Fine/Rapid: 0.001m / 0.01ft. / 1/8in. Tracking: 0.01m / 0.1ft. / 1/2in.				
Accuracy (ISO 17123-4:2001) (D=measuring distance in mm) — Reflectorless	0.3 to 200m: (3 + 2ppm x D) mm, over 200 to 350m: (5 + 10ppm x D) mm over 350 to 500m: (10 + 10ppm x D) mm				
Reflective sheet	(3 + 2ppm x D) mm				
AP/CP prism	(2 + 2ppm x D) mm				
Measuring time[7]	Fine: 0.9s (initial 1.7s), Rapid: 0.7s (initial 1.4s), Tracking: 0.3s (initial 1.4s)				
Interface and Data management					
Display / Keyboard	Graphic LCD, 192 x 80 dots, backlight, contrast adjustment / Alphanumeric keyboard / 25 keys with backlight				
Control panel location[8]	On both faces				On one face
Trigger key	On right instrument support				
Data storage — Internal memory	Approx. 10,000 points				
Plug-in memory device	USB flash memory (max. 8GB)				
Interface	Serial RS-232C, USB2.0 (Type A, for USB flash memory)				
Bluetooth modem (factory option)[9]	Bluetooth Class 1, Ver.2.1+EDR, Operating range: up to 300m (980ft.)[10]				
General					
Laser-pointer[11]	Coaxial red laser using EDM beam				
Guide light[11]	Green LED (524nm) and Red LED (626nm), Operating range: 1.3 to 150m (4.3 to 490ft.), Class 1 LED				
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	IP66 (IEC 60529:2001)				
Operating temperature[12]	-20 to +50ºC (-4 to +122ºF)[2]				
Size with handle[8]	Contorol panel on both faces: W191 x D181 x H348mm (W7.5 x D7.1 x H13.7in.) Contorol panel on one face: W191 x D174 x H348mm (W7.5 x D6.9 x H13.7in.)				
Weight with handle and battery	Approx. 5.6kg (12.3 lb.)				
Power supply					
Battery — BDC70 detachable battery	Li-ion rechargeable battery				
Operating time (20ºC) — BDC70	Approx. 36 hours (single distance measurement every 30 seconds)				
External battery (option)	BDC60: approx. 44 hours, BDC61: approx. 89 hours (single distance measurement 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] Measuring range in temperatures of -30 to -20ºC (-22 to -4ºF) with Low Temperature models and 50 to 60ºC (122 to 140ºF) with High Temperature models: RS90N-K: 1.3 to 300m (4.3 to 980ft.), RS50N-K: 1.3 to 180m (4.3 to 590ft.), RS10N-K: 1.3 to 60m (4.3 to 190ft.) [6] Good conditions: No haze, visibility about 40km (25 miles), overcast, no scintillation. [7] Typical, under good conditions. Reflectorless measurement time may vary according to measuring objects, observation situations and environmental conditions. [8] Control panel location may vary depending on region or model. [9] Usage approval of Bluetooth wireless technology varies according to country. Please consult your local office or representative in advance. [10] No obstacles, few vehicles or sources of radio emissions/interference in the near vicinity of the instrument, no rain. [11] The laser-pointer and the guide light do not work simultaneously. [12] Low Temperature models:-30 to 50 °C (-22 to 122°F) and High Temperature models:-20 to 60°C (-4 to 140°F, No direct sunlight) are available on built-to-order basis.

Standard Accessories

● CX main unit● Battery (BDC70)● Battery charger (CDC68)● Power Cable (EDC113)● Lens cap● Lens hood● Tool pouch ●Screwdriver● Lens brush● Adjusting pin x2● Cleaning cloth● Operation manual● USB memory key● Laser caution sign-board ● Carrying case● Carrying strap

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Your local Authorized Dealer is:

SOKKIA

CX Series
Reflectorless Total Stations

Tradition Meets Innovation

■ **LongLink™ data communications** *
■ **Advanced angle measurement systems**
■ **Super-long battery life**
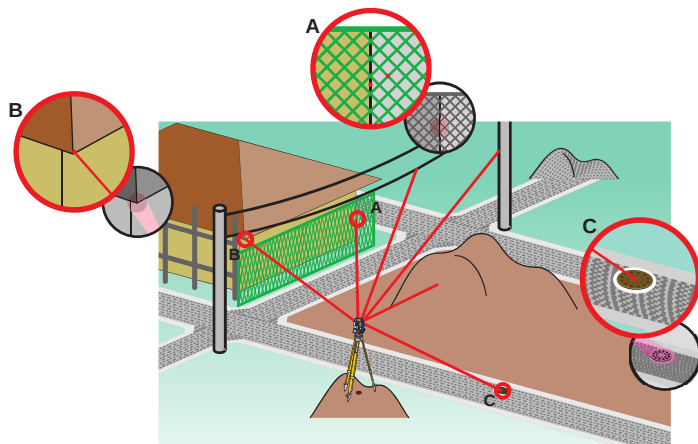■ **Waterproof, rugged, and operator friendly**

*Factory option

The CX maintains SOKKIA's tradition for accuracy and quality while setting new standards in total stations.

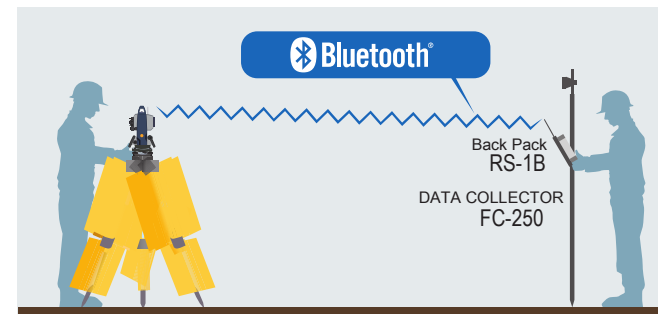## ■RED-tech technology reflectorless EDM

- Fast distance measurement of 0.9s regardless of object.
- SOKKIA traditional pinpoint precision in reflectorless distance measurement
- Reflectorless operation from 30cm to 500m.
- Coaxial distance measurement and laser-pointer with same light source.
- Ensures accuracy even with reflective sheets.

The ultra-narrow laser beam can measure precisely walls, corners, manholes on the road surface, even chain-link fences and tree branches.

■LongLink Data Communication *1

Back Pack
RS-1B

DATA COLLECTOR
FC-250

- The CX series of total stations features Bluetooth Class1 *1 wireless technology for reliable data communications up to 300m *2.
- All CX data is instantly available at the Bluetooth-equipped controller.
- Eliminate the frustration of hand-signals and errors on all mid-range layout, staking, and other jobs.

*1 Factory option
*2 No obstacles, few vehicles or sources of radio emissions/interference in the near vicinity of the instrument, no rain.

■Advanced Angle Measurement System

- CX features SOKKIA's original absolute encoders that provide long-term reliability in any job site condition. Dual-axis compensator ensures stable measurements even when setup on uneven terrain.
- Sokkia's traditional motion clamp and tangent screw are employed to ensurestable angle measurement.
- CX101 and CX102 feature groundbreaking IACS (Independent Angle Calibration System) technology for extremely reliable angle measurement.

■Unprecedented Battery Life 36 Hours!

- The CX single battery can last up to 36 hours.*
- Greatly reduces likelihood of low power during any full-days wor
- Eliminates the need for nightly recharging or carrying extra batteries.

*Operating time will vary depending upon environmental conditions and CX activity.
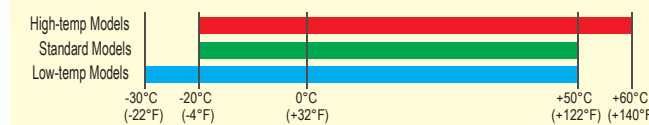
■Waterproof, rugged, and operator friendly

- IP66 dustproof / waterproof rating.
- Metal chassis and heavy duty handle add ruggedness.
- Standard usage temperature range -20° to +50°C. Low temperature models can be used as low as -30°* and high temperature models up to 60°C.*

* Low and High temperature models available as options.

IP 66

Operating temperature range

	-30°C (-22°F)	-20°C (-4°F)	0°C (+32°F)	+50°C (+122°F)	+60°C (+140°F)
High-temp Models					
Standard Models					
Low-temp Models					

- Environmentally protected USB port provides added security, as well as added convenience and data storage and transfer.
- One-touch star key [★] offers instant access to functions.
- Conveniently located "trigger" key lets you take a series of measurements with the push of a button without taking your eye off the telescope.
- Control panel features large 10-key pad with LCD that provides optimum viewing and convenience.*

*Control panel location may vary depending on region or model.

- Green/red telescope guide light enhances work efficiency in a range up to 150m.
- Built-in laser plummet with five brightness levels is equipped for quick instrument setting in all lighting conditions.