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## CX Series

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

### SPECIFICATIONS

Total Stations		CX-101	CX-102	CX-103	CX-105	CX-107
<b>Model</b>						
<b>Telescope</b>						
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				
<b>Angle measurement</b>						
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				
<b>Distance measurement</b>						
Laser output <sup>*1</sup>		Reflectorless mode: Class 3R / Prism / sheet mode: Class 1				
Measuring range	Reflectorless <sup>*3</sup>	0.3 to 500m (1.0 to 1,640ft.)				
(under average conditions <sup>*2</sup> )	Reflective sheet <sup>*4/*5</sup>	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.) CP01: 1.3 to 2,500m (8,200ft.), OR1PA: 1.3 to 500m (1,640ft.)				
	Mini prisms	1.3 to 4,000m (4.3 to 13,120ft.) / Under good conditions <sup>*6</sup> : 5,000m (16,400ft.)				
	One AP prism	to 5,000m (16,400ft.) / Under good conditions <sup>*6</sup> : to 6,000m (19,680ft.)				
	Three AP prisms	to 5,000m (16,400ft.) / Under good conditions <sup>*6</sup> : 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 <sup>*7</sup>		Fine: 0.9s (initial 1.7s), Rapid: 0.7s (initial 1.4s), Tracking: 0.3s (initial 1.4s)				
<b>Interface and Data management</b>						
Display / Keyboard		Graphic LCD, 192 x 80 dots, backlight, contrast adjustment / Alphanumeric keyboard / 25 keys with backlight				
Control panel location <sup>*8</sup>		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) <sup>*9</sup>		Bluetooth Class 1, Ver.2.1+EDR, Operating range: up to 300m (980ft.) <sup>10</sup>				
<b>General</b>						
Laser-pointer <sup>*11</sup>		Coaxial red laser using EDM beam				
Guide light <sup>*11</sup>		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 <sup>*12</sup>		-20 to +50°C (-4 to +122°F) <sup>*2</sup>				
Size with handle <sup>*8</sup>		Control panel on both faces: W191 x D181 x H348mm (W7.5 x D7.1 x H13.7in.) Control 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.)				
<b>Power supply</b>						
Battery	BDC70 detachable battery	Li-ion rechargeable battery				
Operating time (20°C)	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 30° in relation to the reflective sheet target. \*5 Measuring range in temperatures of -30 to -20°C (-22 to -4°F) with Low Temperature models and 50 to 60°C (122 to 140°F) 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

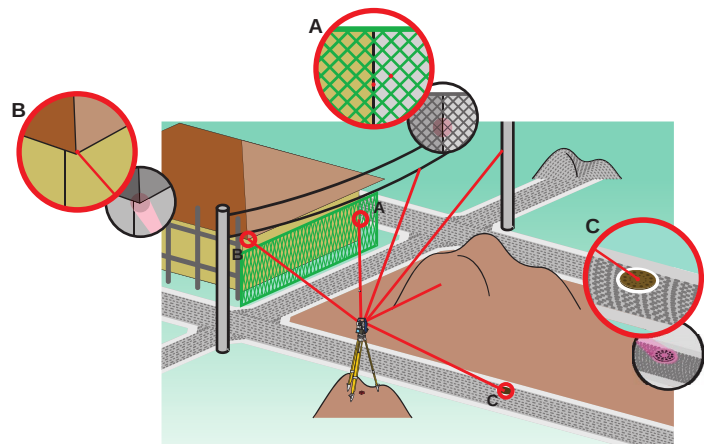


# The CX maintains SOKKIA's tradition for accuracy and quality while setting new standards in total stations.

## ■ RED-tech technology reflectorless EDM

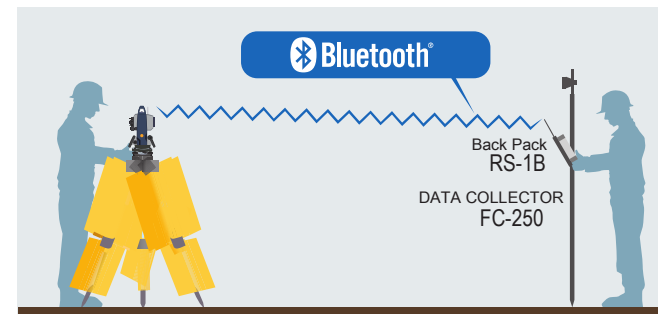


- Fast distance measurement of 0.9s regardless of object.
- SOKKIA traditional pinpoint precision in reflectorless distance measurement
- Reflectorless operation from 30cm to 500m.
- Coaxial distance measurement and laser-pointer with same light source.
- Ensures accuracy even with reflective sheets.



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



- 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 ensure stable 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 work
- Eliminates the need for nightly recharging or carrying extra batteries.



\*Operating time will vary depending upon environmental conditions and CX activity.

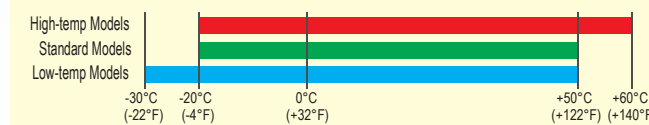
## ■ Waterproof, rugged, and operator friendly

- 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.

### Operating temperature range



- 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.

