

**SOKKIA**

**CX Series**

**Compact X-ellence Station**

# Tradition Meets Innovation

- **RED-tech Technology Reflectorless EDM**
- **LongLink Data Communication\*<sup>1</sup>**
- **Advanced Angle Measurement System**
- **The Longest\*<sup>2</sup> Battery Life — 36 Hours!**
- **Waterproof, Rugged, and Operator Friendly**

\*<sup>1</sup> Offered as an option in some areas.

\*<sup>2</sup> As of December, 2011.



**Exclusive  
TSshield  
technology built-in**

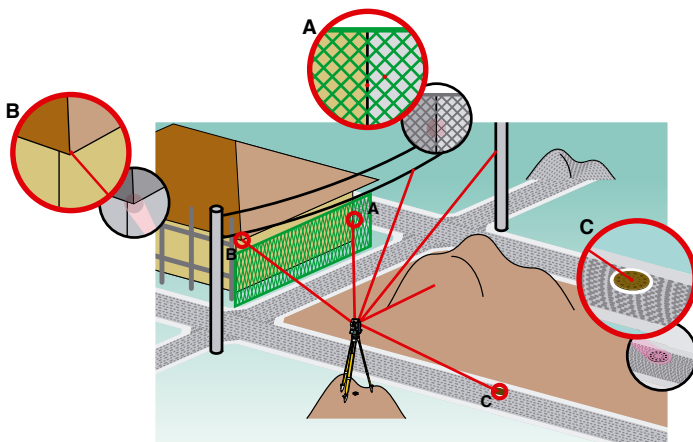
**World's First**  
integrated support service

# The All New Sokkia CX: Inspired

## ■ RED-tech Technology Reflectorless EDM

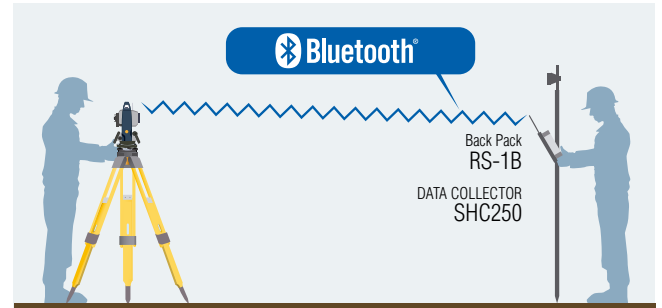


- Fast distance measurement of 0.9s regardless of object.
- SOKKIA traditional pinpoint precision in reflectorless distance measurement
- Reflectorless operation from 30cm to 500m.
- Coaxial EDM beam and laser-pointer provide fast and accurate aiming.
- Ensures accuracy even with reflective sheets.



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

## ■ LongLink Data Communication\*

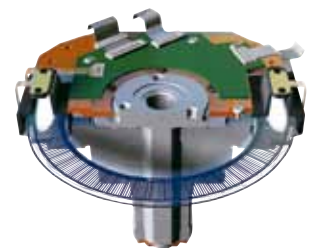


- The CX series of total stations features **Bluetooth®** Class1 wireless technology for reliable data communications.
- All CX data is instantly available at the Bluetooth-equipped controller.

\*Offered as an option in some areas.

## ■ 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.
- CX-101 and CX-102 feature groundbreaking IACS (Independent Angle Calibration System) technology for extremely reliable angle measurement.



## ■ The Longest\*<sup>1</sup> Battery Life — 36 Hours!

- The CX single battery can last up to 36 hours.\*<sup>2</sup>
- Greatly reduces likelihood of low power during any full-days work.
- Eliminates the need for nightly recharging or carrying extra batteries.



\*<sup>1</sup> As of December, 2011.

\*<sup>2</sup> Operating time will vary depending upon environmental conditions and CX activity.



# by Tradition, Ready for The Future.

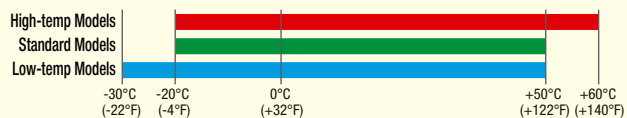
## Waterproof, Rugged, and Operator Friendly

- 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



- USB TypeA port for convenient added memory. Use of included USB accessory assures IP66 protection.



- 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.\*

\*Offered as an option in some areas.

**World's First**  
integrated support service

## TSshield

**An industry first! New function to protect your investment**

TSshield is a standard feature on all new model 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.



### Compact X-ellence Station

| Model  | CX-101  | CX-102   | CX-103 | CX-105 | CX-107      |
|--|---|--|--------|--------|-------------|
| <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"<br>(0.0001 / 0.0002gon, 0.002 / 0.005mil)   | 1" / 5"<br>(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 *1  | Reflectorless mode: Class 3R / Prism / sheet mode: Class 1  |  |        |        |             |
| Measuring range  | Reflectorless*3   | 0.3 to 500m(1.0 to 1,640ft.)   |        |        |             |
| (under average conditions*2)                                     | Reflective sheet*4/*5   | RS90N-K: 1.3 to 500m (4.3 to 1,640ft.)<br>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*2<br>(ISO 17123-4:2001)<br>(D=measuring distance in mm) | Reflectorless*3   | (3 + 2ppm x D) mm*7  |        |        |             |
|  | Reflective sheet*4  | (3 + 2ppm x D) mm  |        |        |             |
|  | AP/CP prism   | (2 + 2ppm x D) mm  |        |        |             |
| Measuring time*8   | 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*9   | 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 (option)*10                                      | Bluetooth Class 1, Ver.2.1+EDR, Operating range: up to 300m (980ft.)*11   |  |        |        |             |
| <b>General</b>   |   |  |        |        |             |
| Laser-pointer*12   | Coaxial red laser using EDM beam  |  |        |        |             |
| Guide light*12   | Green LED (524nm) and Red LED (626nm), Operating range: 1.3 to 150m (4.3 to 490ft.)*2   |  |        |        |             |
| 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*13   | -20 to +50°C (-4 to +122°F)   |  |        |        |             |
| Size with handle*9   | Control panel on both faces: W191 x D181 x H348mm (W7.5 x D7.1 x H13.7in.)<br>Control panel on one face: W191 x D174 x H348mm (W7.5 x D6.9 x H13.7in.)  |  |        |        |             |
| Weight with battery & tribrach                                   | 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*14 (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 Measuring range: 0.3 to 200m \*8 Typical, under good conditions. Reflectorless measurement time may vary according to measuring objects, observation situations and environmental conditions. \*9 Control panel location may vary depending on region or model. \*10 Usage approval of Bluetooth wireless technology varies according to country. Please consult your local office or representative in advance. \*11 No obstacles, few vehicles or sources of radio emissions/interference in the near vicinity of the instrument, no rain. \*12 The laser-pointer and the guide light do not work simultaneously. \*13 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. \*14 For CX-101, CX-102 and Low temperature models.

#### Standard Accessories

- CX main unit ●Battery (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



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