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FX Series

FX-101/FX-102/FX-103/FX-105/FX-107

SPECIFICATIONS

Model	FX-101	FX-102	FX-103	FX-105	FX-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 **)	Reflectorless*3 Reflective sheet*4*5 Mini prisms One AP prism Three AP prisms	Reflectorless mode: Class 3R / Prism / sheet mode: Class 1 0.3 to 500m (1.0 to 1,640ft.) 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.) 1.3 to 4,000m (4.3 to 13,120ft.) / Under good conditions*6: 5,000m (16,400ft.) 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 (ISO 17123-4:2001) (D=measuring distance in mm)	Reflectorless*3 Reflective sheet*4 AP/CP prism	(3 + 2ppm x D) mm*7 (3 + 2ppm x D) mm (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)				
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*9	On both faces (Face 2 is only touch screen display)				On one face
Trigger key	On right instrument support				
Data storage	Internal memory Plug-in memory device	500MB internal memory (includes memory for program files) USB flash memory (max. 8GB)			
Interface	Serial RS-232C, USB2.0 (Type A / mini B)				
Bluetooth modem (Factory option)*10	Bluetooth Class 1, Ver.2.1+EDR, Operating range: up to 300m (980ft.)*11				
General					
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 Circular level	6' (Inner Circle) 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*13	-20 to +50°C (-4 to +122°F)				
Size with handle*9	Control panel on both faces: W191 x D190 x H348mm (W7.5 x D7.5 x H13.7in.) Control panel on one face: W191 x D174 x H348mm (W7.5 x D6.9 x H13.7in.)				
Weight with battery & tribrach	Approx. 5.7kg (12.6 lb.)				
Power supply					
Battery	BDC70 detachable battery	Li-ion rechargeable battery			
Operating time (20°C)	BDC70 External battery *14 (option)	Approx. 20hours (single distance measurement every 30 seconds) BDC60: approx. 24hours, BDC61: approx. 49hours (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 Fine mode. 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 FX-101, FX-102 and Low Temperature models.

Standard Accessories

- FX 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



Logo

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SOKKIA

FX Series

Functional X-ellence Station

Totally Functional

- Windows® CE is Ready in a Lightweight, Compact Body
- MAGNET™ Field On-Board Application Software
- RED-tech Technology Reflectorless EDM
- LongLink Data Communication *
- Advanced Angle Measurement System
- Long-lasting Battery
- Waterproof, Rugged, and Operator Friendly

*Offered as a factory option.



The FX Total Station Offers High Performance in a Compact Size.

■ Windows® CE is Ready in a Lightweight, Compact Body

WINDOWS® PROVIDES A COMFORTABLE OPERATING ENVIRONMENT COMPLETELY NEW ONBOARD APPLICATIONS ARE INSTALLED AS STANDARD FEATURES

■ MAGNET™

● Cloud-based Solutions for Precise Positioning

MAGNET™ IS A SOFTWARE FAMILY THAT USES THE CLOUD TO SEAMLESSLY CONNECT DATA IN THE FIELD AND OFFICE. REAL TIME CONNECTIONS WHEN YOU NEED IT WHERE YOU NEED IT AND DATA EXCHANGE COMMUNICATIONS AS SET TRACKING AND MORE

● MAGNET™ Field

DATA COLLECTION STAKE OUT ROADS AND COORDINATE GEOMETRY



■ RED-tech Technology Reflectorless EDM

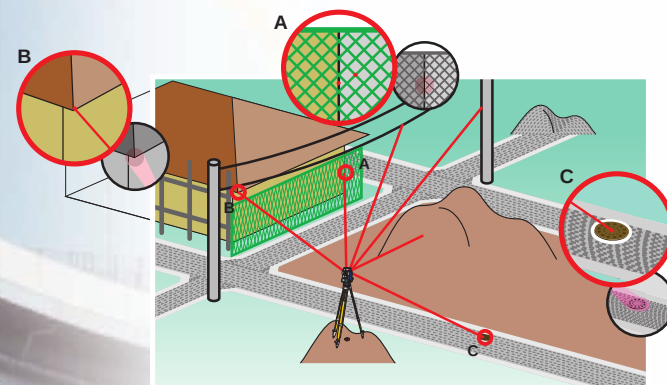
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TRADITIONAL PINPOINT PRECISION IN REFLECTORLESS DISTANCE MEASUREMENT

REFLECTORLESS OPERATION FROM CM TO M

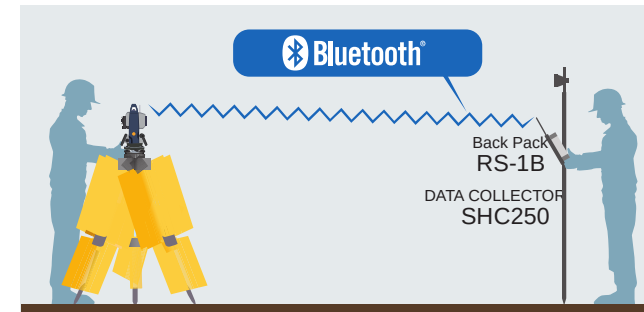
AXIAL LASER BEAM AND LASER POINTER PROVIDE FAST AND ACCURATE AIMING

ENSURES ACCURACY EVEN WITH REFLECTIVE SHEETS



4HE ULTRA NARROW LASER BEAM CAN PRECISELY MEASURE WALL CORNERS, MANHOLES ON THE ROAD SURFACE, EVEN CHAIN LINK FENCES AND TREE BRANCHES

■ LongLink Data Communication *



THE 8 SERIES OF TOTAL STATIONS FEATURES BLUETOOTH WIRELESS TECHNOLOGY FOR RELIABLE DATA COMMUNICATIONS

DATA IS INSTANTLY AVAILABLE AT THE TOUCH OF A BUTTON ON THE EQUIPPED CONTROLLER. REFER TO THE USER MANUAL FOR FACTORY OPTION

■ Advanced Angle Measurement System

FEATURES 3+ ORIGINAL ABSOLUTE ENCODERS THAT PROVIDE LONG TERM RELIABILITY IN ANY JOB SITE CONDITION. X AXIS COMPENSATOR ENSURES STABLE MEASUREMENTS EVEN WHEN SET UP ON UNEVEN TERRAIN



AS TRADITIONAL MOTION CLAMP AND TANGENT SCREW ARE EMPLOYED TO ENSURE STABLE ANGLE MEASUREMENT

AND FEATURE GROUND BREAKING INDEPENDENT ANGLE CALIBRATION SYSTEM TECHNOLOGY FOR EXTREMELY RELIABLE ANGLE MEASUREMENT

■ Long-lasting Battery

THE SAME HIGH CAPACITY BATTERY AS THE 43 AND 33

BATTERY PROVIDES HOURS OF POWER



■ Waterproof, Rugged, and Operator Friendly

DUST PROOF WATER PROOF RATING IP 65
CHASSIS AND HEAVY DUTY HANDLE
STANDARD USAGE TEMPERATURE RANGE TO LOW TEMPERATURE MODEL CAN BE USED AS LOW AS AND HIGH TEMPERATURE MODELS UP TO



STAR KEY (★) INSTANTLY BRINGS UP FUNCTIONS

RIGGER KEY LETS YOU TAKE A SERIES OF MEASUREMENTS WITHOUT TAKING YOUR EYE OFF THE TELESCOPE

CONTROL PANEL CONSISTS OF KEYPAD WITH COLOR TOUCH SCREEN DISPLAY

3" TYPE MINI AS WELL AS SERIAL PORTS



RED TELESCOPE GUIDELIGHT ENHANCES WORK EFFICIENCY IN A RANGE UP TO M



BUILT IN LASER PLUMMET WITH FIVE BRIGHTNESS LEVELS IS EQUIPPED FOR QUICK INSTRUMENT SETTING IN ALL LIGHTING CONDITIONS

AND (HIGH TEMPERATURE MODELS AVAILABLE AS OPTIONS) AND ONLY TOUCH SCREEN DISPLAY CONTROL PANEL LOCATION MAY VARY DEPENDING ON REGION OR MODEL

REFER TO THE USER MANUAL FOR SOME AREAS