

KIT COMPONENTS



Standard package components

- ES main unit • Battery (BDC70)
- Battery charger (CDC68) • Power Cable
- Lens cap • Lens hood • Tool pouch • Screwdriver
- Lens brush • Adjusting pin x 2 • Cleaning cloth
- Operation manual • USB memory key
- Laser caution sign-board • Carrying case
- Carrying strap

SPECIFICATIONS

Model	ES-101	ES-102	ES-103	ES-105	ES-107
Telescope					
Magnification / Resolving power	30x / 2.5"				
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					
1" / 5"					
Display resolution	0.5" / 1" (0.001 / 0.002gon), 1" / 5" (0.0002 / 0.001gon, 0.005 / 0.02mil)				
Accuracy (ISO 17123-3:2001)	1"	2"	3"	5"	7"
Dual-axis compensator / Collimation compensation	Dual-axis liquid tilt sensor, working range: ±6" (±111mgon) / Collimation compensation available				
Distance measurement					
Laser output *	Reflectorless mode: Class 3R / Prism/sheet mode: Class 1				
Measuring range (under average conditions *)	Reflectorless **	0.3 to 500m (1.0 to 1,640ft.)			
	Reflective sheet **	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	1.3 to 500m (1,640ft.)			
	One prism	1.3 to 4,000m (4.3 to 13,120ft.) / Under good conditions **: 1.3 to 5,000m (16,400ft.)			
	Three prisms	to 5,000m (16,400ft.) / Under good conditions **: to 6,000m (19,680ft.)			
Display resolution	Fine/Rapid: 0.001m / 0.01ft. / 1/8in. Tracking: 0.01m / 0.1ft. / 1/2in.				
Accuracy #1 (ISO 17123-4:2001) (measuring distance in mm)	Reflectorless **	(3 + 2ppm x D) mm **			
	Reflective sheet **	(3 + 2ppm x D) mm			
	AP/CP prism	(2 + 2ppm x D) mm			
Measuring time **	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 **	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) **	Bluetooth Class 1, Ver.2.1+EDR, Operating range: up to 300m (980ft.) **				
General					
Laser pointer **	Coaxial red laser using EDM beam				
Guide light **	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	IP66 (IEC 60529:2001)				
Operating temperature #13	-20 to +50°C (-4 to +122°F)				
Size with handle **	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.)				
Power supply					
Battery	BDC70 detachable battery	Li-ion rechargeable battery			
Operating time (23°C)	BDC70	Approx. 36 hours (single distance measurement every 30 seconds)			
	External battery (option)	BT-73Q, approx. 89 hours (single distance measurement every 30 seconds)			



A New Classic

- Fast & Powerful EDM
- LongLink Data Communication*
- Advanced Angle Accuracy
- The Longest Battery Life – 36 Hours!
- Rugged and User-friendly Design

*Factory Option

Your local Authorized Topcon dealer is:

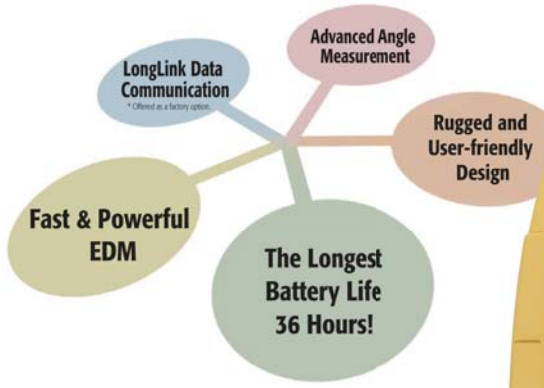


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The perfect combination of easy operation and powerful features.



Fast and Powerful EDM

- Fast and accurate pinpointing with phase shift technology.
- Fast distance measurement of 0.9s regardless of object.
- Minimum reflectorless measuring distance – just 30cm.
- Improved collimation with super-bright pointer.
- Smaller EDM beam spot size for minimal distance measuring error.
- Dependable measuring even at shallow incidence angles.
- Ensures accurate reflective sheet distance measurement.



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



LongLink Data Communication*

- Long-distance communications with *Bluetooth*™ Class 1.
 - *Bluetooth* Class 1 realizes long-distance and stable connection
 - Link between total station and rover-end data collector, both equipped with Bluetooth Class 1, facilitates quick surveying only by sighting the object.
- * Offered as a factory option.



Advanced Angle Measurement System

- ES features advanced absolute encoders for long-term reliability in all work conditions. Dual-axis compensation ensures accurate leveling even on rough terrain.
- Motion clamp and tangent screw ensure stable angle measurement.
- ES-101 and ES-102 feature angle measuring accuracy of 1" equipped with groundbreaking technology for extremely reliable angle measurement.

The Longest Battery Life – 36 Hours!

- Just one battery last 36 hours. It runs one week in full charge and no longer requires extra batteries.
- *As of December, 2011.



Rugged and User-friendly Design

- IP66 dustproof/waterproof performance
 - Standard usage temperature range -20° to +50°C. Low temperature models can be used as low as -30°C* and High temperature Models up to +60°C*
- * Low and High temperature models available as options.

- USB Type A port for convenient added memory. Use of included USB accessory assures IP66 protection.
 - 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 10-key pad with LCD for easy viewing of graphics*.
- *Control panel location may vary depending on region or model.



- Green/red Guide Light is built into the telescope as a standard feature, enhancing setting-out work efficiency in a range of 1.3 to 150m.
 - Trigger key is ergonomically placed so that measurement can be taken at any time with just the push of a button.
 - Built-in laser plummet is equipped for quick instrument setting. 5 brightness levels are ready for optimum visibility.*
- *Offered as an option in some areas.

