

# ES-60 Series

## Easy Station



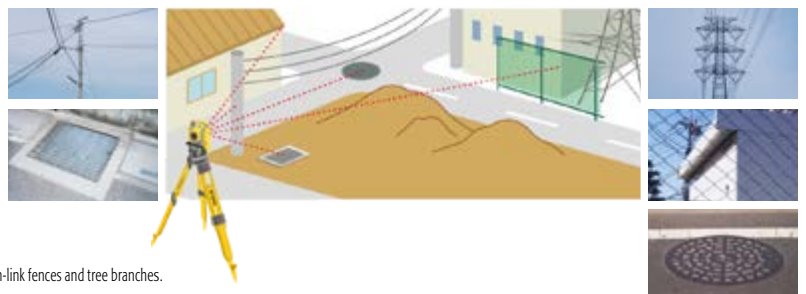
### High Reliability, High Quality and Environmentally-Resistant

- Fast and Powerful Reflectorless EDM
- Advanced Angle Measurement System
- Waterproof, Rugged, and Operator Friendly
- USB data transfer
- Available two types of batteries
- On-board application, "Topbasic"

### Fast and Powerful Reflectorless 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 road surface, even chain-link fences and tree branches.



## Advanced Angle Measurement System

- ES-60series 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.

## Waterproof, Rugged, and Operator Friendly

- IP66 dustproof / waterproof rating.
- Metal chassis and heavy duty handle add ruggedness.
- Standard usage temperature range -20° to +60°C.



## USB data transfer

- USB type A port for convenient data transfer. Easy data input and output supports project site efficiency.



## Available two types of batteries

- Both BDC46C (standard accessory) and BDC70(option) fit the ES-60series.
- High capacity BDC70 battery expands operating time to 36 hours.

## On-board application, "Topbasic"

"Topbasic" is based on Topcon's traditional and conventional total station application to provide you the simple operation for Topo and Stake Out.

## Standard Accessories

- ES main unit • Battery (BDC46C) • Battery adapter
- Battery charger (CDC68A) • Power Cable
- Lens cap • Lens hood • Tool pouch
- Screwdriver • Lens brush • Adjusting pin x2
- Wiping cloth • Operation manual (CD-R)
- Laser caution sign-board • Carrying case
- Carrying strap



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## SPECIFICATIONS

Model	ES-62	ES-65
<b>Telescope</b>		
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	
<b>Angle measurement</b>		
Display resolution	1" / 5" (0.0002 / 0.001gon, 0.01 / 0.1mil)	
Accuracy (ISO 17123-3:2001)	2"	5"
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 (under average conditions <sup>*2</sup> )	Reflectorless <sup>*3</sup>	0.3 to 350m (1.0 to 1,150ft.)
	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.)
	Mini prism	Prism-5: 1.3 to 500m (1,640ft.)
	One prism	Prism-2: 1.3 to 4,000m (4.3 to 13,120ft.)
Display resolution	Fine/Rapid: 0.001m / 0.005ft. / 1/8in. Tracking: 0.01m / 0.02ft. / 1/2in.	
Accuracy <sup>*2</sup> (ISO 17123-4:2001) (D=measuring distance in mm)	Reflectorless <sup>*3</sup>	(3 + 2ppm x D) mm <sup>*6</sup>
	Reflective sheet <sup>*4</sup>	(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	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 <sup>*8</sup>	
<b>General</b>		
Laser-pointer	Coaxial red laser using EDM beam	
Levels	Graphic	6' (Inner Circle)
	Circular level	10' / 2mm
Plummet	Optical: Magnification: 3x, Minimum focus: 0.3m (11.8in.) from tribrach bottom Laser(option): Red laser Class2, Spot diameter φ3mm or less	
Dust and water protection	IP66 (IEC 60529:2001)	
Operating temperature	-20 to +60°C (-4 to +140°F)	
Size with handle	Control panel on both faces: W191x 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 battery & tribrach	Approx. 5.4kg (11.9 lb.)	
<b>Power supply</b>		
Battery	BDC46C detachable battery	Li-ion rechargeable battery
Operating time (20°C)	BDC46C	Approx. 15 hours (single distance measurement every 30 seconds)

\*1 IEC60825-1:Ed.3.0:2014 / 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 50 to 60°C (122 to 140°F): 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 Measuring range: 0.3 to 200m \*7 Typical, under good conditions. Reflectorless measurement time may vary according to measuring objects, observation situations and environmental conditions. \*8 Bluetooth is available at the factory option. Usage approval of Bluetooth wireless technology varies according to country. Please consult your local office or representative in advance.

- Specifications may vary by region and are subject to change without notice.  
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