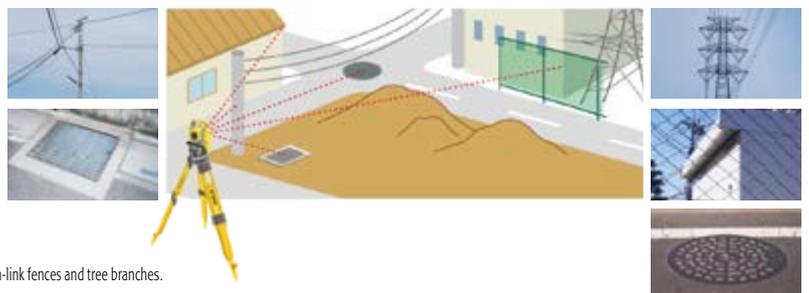# ES-60 Series

TOPCON

ES-60 Series
Easy Station

High Reliability, High Qulity 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.

ES-60 Series

TOPCON

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.

IP 66

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

SPECIFICATIONS

Model		ES-62	ES-65
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			
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	
Distance measurement			
Laser output[*1]		Reflectorless mode: Class 3R / Prism / sheet mode: Class 1	
Measuring range (under avarage conditions[*2])	Reflectorless[*3]	0.3 to 350m(1.0 to 1,150ft.)	
	Reflective sheet[*4/*5]	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[*2] (ISO 17123-4:2001) (D=measuring distance in mm)	Reflectorless[*3]	(3 + 2ppm x D) mm[*6]	
	Reflective sheet[*4]	(3 + 2ppm x D) mm	
	AP/CP prism	(2 + 2ppm x D) mm	
Measuring time[*7]		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[*8]	
General			
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 φ 3mm or less	
Dust and water protection		IP66 (IEC 60529:2001)	
Operating temperature		-20 to +60ºC (-4 to +140ºF)	
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.)	
Power supply			
Battery	BDC46C detachable battery	Li-ion rechargeable battery	
Operating time (20ºC)	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 30º in relation to the reflective sheet target. *5 Measuring range in temperatures of 50 to 60ºC (122 to 140ºF): 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.

TOPCON

TOPCON CORPORATION

75-1 Hasunuma-cho, Itabashi-ku, Tokyo 174-8580, Japan
Phone: (+81)3-3558-2993 Fax: (+81)3-3960-4214
www.topcon.co.jp

- Specifications may vary by region and are subject to change without notice.
- Windows® is a registered trademark of Microsoft Corporation in the United States and other countries.
- Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Topcon is under license.
- Other trademarks and trade names are those of their respective owners.

Your local Authorized Dealer is: