

ES-105C

 TOPCON

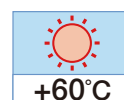
# ES-105C

Civil Total Station



## A New Classic

- Advanced Angle Accuracy
- The Longest Battery Life - 36 Hours!
- Rugged and User-friendly Design



**TSshield**

Exclusive TSshield technology built-in

**World's First**  
integrated support service

## World's first support service only from Topcon

TSshield is a standard feature on all new model Topcon Group 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.  
\*This service may not be available in some areas.

### 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×2 • Cleaning cloth
- Operation manual • USB memory key
- Laser caution sign-board • Carrying case
- Carrying strap

### SPECIFICATIONS

Model		ES-105C
<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 resolutions (selectable)	1" / 5"	
Accuracy (ISO 17123-3:2001)	5"	
Dual-axis compensator	Dual-axis liquid tilt sensor, working range: ±6'	
<b>Distance measurement</b>		
Laser output**	Class 1	
Measuring range (under average conditions <sup>5</sup> )	Reflective sheet <sup>3,4</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 prisms	CP01: 1.3 to 2,500m (8,200ft.), OR1PA: 1.3 to 500m (1,640ft.)
	One prism	1.3 to 4,000m (4.3 to 13,120ft.) / Under good conditions <sup>5</sup> : 5,000m (16,400ft.)
	Three prisms	to 5,000m (16,400ft.) / Under good conditions <sup>5</sup> : to 6,000m (19,680ft.)
Accuracy <sup>2</sup> (ISO 17123-4:2001) (D=measuring distance in mm)	Reflective sheet <sup>3</sup>	(3 + 2ppm x D) mm
	AP/CP prism	(2 + 2ppm x D) mm
Measuring time <sup>6</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>		
Data storage	Internal memory	Approx. 10,000 points
<b>General</b>		
Laser-pointer <sup>7</sup>	Coaxial red laser using EDM beam, Class 3R	
Guide light <sup>7</sup>	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
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)

\*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 When the measuring beam's incidence angle is within 30° in relation to the reflective sheet target.

\*4 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.)

\*5 Good conditions: No haze, visibility about 40km (25 miles), overcast, no scintillation.

\*6 Typical, under good conditions. Reflectorless measurement time may vary according to measuring objects, observation situations and environmental conditions.

\*7 The laser-pointer and the guide light do not work simultaneously.

## Onboard Programs Software

Topography, Resection, Setting-out, Setting-out arc, Setting-out line, Single-distance offset, Two-distance offset, Angle offset, Plane offset, Column offset, MLM, REM, Area calculation, Route surveying, Point to Line, Intersections, Point projection, Traverse, Xsection



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