TOPCON

SPECIFICATIONS

Model		OS-101	OS-102	OS-103	OS-105	OS-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"
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 *2)	Reflectorless *3	0.3 to 500m(1.0 to 1,640ft.)				
	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	1.3 to 500m (1,640ft.)				
	One prism	1.3 to 4,000m (4.3 to 13,120ft.) / Under good conditions *6: 1.3 to 5,000m (16,400ft.)				
	Three prisms	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 *5	(3 + 2ppm x D) mm *7				
	Reflective sheet *4	(3 + 2ppm x D) mm				
	Prism	(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	500MB internal memory (includes memory for program files)				
	Plug-in memory device	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	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		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	Approx. 20hours (single distance measurement every 30 seconds)				
	External battery (option)*14	BT-73Q: 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 OS-101, OS-102 and Low Temperature models.

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Your local Authorized Topcon dealer is:

OS series

TOPCON

OS
Onboard Station

Highly functional total station with outstanding operability

- Windows® CE is ready in a lightweight, compact body
- MAGNET™ Field On-Board Application Software
- Fast and Powerful Reflectorless EDM
- LongLink Data Communication*
- Advanced Angle Measurement System
- Long-lasting battery
- Rugged and User-friendly Design

*Factory Option

All functions needed in the field are packed into a compact, lightweight body Windows® CE total station.

Windows® CE is ready in a lightweight, compact body

- Windows® CE provides a familiar, comfortable operating environment.
- Completely new onboard application "MAGNET™ Field" is installed as standard feature.

MAGNET™ Field

Data collection, stakeout, roads, and coordinate geometry.

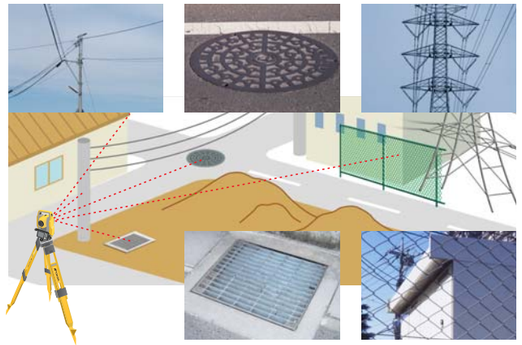
LongLink Data Communication*

- Long-distance communications with *Bluetooth*® Class 1.
- Bluetooth Class1 communications ensures a long-distance, stable connection.
- Link between total station and rover-end data collector, both equipped with Bluetooth Class1, facilitates quick surveying only by sighting the object.

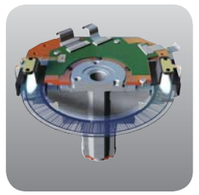
* Offered as a factory option.

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 surface, even chain-link fences and tree branches.



Advanced Angle Measurement System

- OS 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.
- OS-101 and OS-102 equipped with ground-breaking technology for extremely reliable angle measurement.

Rugged Design

- IP65 dustproof/waterproof performance Standard usage temperature range -20°C 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.

PRIMARY FEATURES

USB Type A and Type miniB port

Long-lasting battery: one battery provides 20 hours of power.

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 lets you take a series of measurements without taking your eye off the telescope.Trigger key is ergonomically placed so that measurement can be taken at any time with just the push of a button.

Star key [★] instantly brings up functions.

Control panel consists of 10-key pad with color LCD touch screen display for easy viewing of graphics*.

*Control panel location may vary depending on region or model.

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.

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. For data exchange, communications, asset tracking and more.

KIT COMPONENTS

Standard package components

- OS 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