

SPECIFICATIONS

Model	OS-101	OS-102	OS-103	OS-105
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	0.5"/1"	1"/5"		
	(0.0001/0.0003gon, 0.002/0.005m)	(0.0002/0.001gon, 0.005/0.02mil)		
Accuracy (ISO 17123-3:2001)	1"	2"	3"	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	Reflectorless ^{*1}	0.3 to 500m (1.0 to 1,640ft.)		
(under average conditions ^{*2})	Reflective sheet ^{*3, *4}	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 ^{*5} : 1.3 to 5,000m (16,400ft.)		
	Three prisms	to 5,000m (16,400ft.) / Under good conditions ^{*5} : to 6,000m (19,680ft.)		
Display resolution	Fine/Rapid: 0.001m / 0.01ft. / 1/8in. Tracking: 0.01m / 0.1ft. / 1/2in.			
Accuracy ^{*7}	Reflectorless ^{*3}	(3 + 2ppm x D) mm ^{*7}		
(ISO 17123-4:2001)	Reflective sheet ^{*3}	(3 + 2ppm x D) mm		
(D=measuring distance in 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)			
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.) ^{*12}			
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 (655nm±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 ^{*14}	Control panel on both faces: W191 x D190 x H548mm (W75 x D75 x H13.7in.) Control panel on one face: W191 x D174 x H348mm (W75 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. 20 hours (single distance measurement every 30 seconds)		
	External battery (option) ^{*14}	BT-73Q: approx. 49hours (single distance measurement every 30 seconds)		

*1 I1 C60825-1, 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 k 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.



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

Onboard Station

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

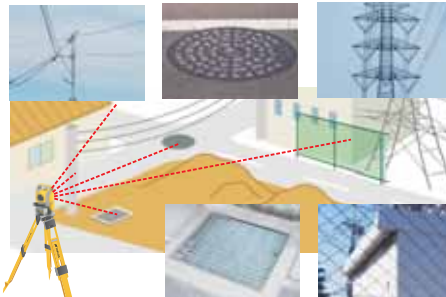
- Windows® CE provides a familiar, comfortable operating environment.
- Completely new onboard application "MAGNET™ Field" is installed as standard feature.

Data collection, stakeout, roads, and coordinate geometry.



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.

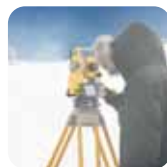


The ultra-narrow EDM beam can precisely measure walls, corners, manholes on the surface, even chain-link fences and tree branches.



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.

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



PRIMARY FEATURES

USB Type A and Type miniB port

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.

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

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.



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 pinx2 • Cleaning cloth
- Operation manual • USB memory key
- Laser caution sign-board • Carrying case
- Carrying strap