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

* Option

TSshield
Exclusive TSshield technology built-in
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 on-board software “MAGNET™ Field” is installed as standard feature.

Magnet™ Field On-Board Software
Powerful on-board software that covers full functions for surveying and engineering tasks. MAGNET™ Field handles data collection, stake out, 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.

LongLink Data Communication*
- 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.
* Option

Advanced Angle Measurement System
- OS features advanced absolute encoders for long-term reliability in all work conditions.
- Dual-axis compensation ensures accurate leveling even through 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 +60°C. Low temperature models can be used in range -30°C to +50°C. *
* Low temperature models are available as options.
MAGNET is a software family that uses the "cloud" for seamless data connection between field and office, in Real-time, when and where you need, for data exchange, communications, asset tracking and more. To establish such connection, following items are required.

- **MAGNET Enterprise**
- **MAGNET Office**
- **Data collector** with MAGNET Field software

*Data collector should be equipped with cell modem or WIFI

**Cloud-Based Magnet™ Software**

**MAGNET™**

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 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 alphabet entry with color LCD touch screen display for easy viewing of graphics.*

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

**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
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>OS-101</th>
<th>OS-102</th>
<th>OS-103</th>
<th>OS-105</th>
<th>OS-107</th>
</tr>
</thead>
</table>

### Telescope
- **Magnification / Resolving power**: 30x / 2.5" **10x / 3.5"**
- **Others**: Length: 171mm (6.7in.), Objective aperture: 45mm (1.8in.) (44mm (1.7in.) for EDM), Image: Erect, Field of view: *1*°50’ (265") / 1,000m.
- **Minimum focus**: 1.3m (4.3ft.), Reticle illumination: 5 brightness levels

### Angle measurement
- **Display resolution**: 0.5° / 1° (0.001 / 0.01"")
- **Accuracy (ISO 17123-3:2001)**: 1° *2°* *3°* *4°* *5°* *6°*

### Distance measurement
- **Laser output**: Reflectometer mode: Class 3R / Prism / Sheet mode: Class 1
- **Measuring range (under average conditions)**: RS10N-K: 1.3 to 500m (4.3 to 1,640ft.), R510N-K: 1.3 to 500m (4.3 to 1,640ft.), R510N-K: 1.3 to 100m (4.3 to 328ft.)/ One prism: 1.3 to 4,000m (4.3 to 13,120ft.)/ Under good conditions: 1.3 to 5,000m (16,400ft.) *7*
- **Display resolution**: Fine / Rapid: 0.001m / 0.01ft. / 1/8", Tracking: 0.01m / 0.1ft. / 1/24".
- **Accuracy (ISO 17123-4:2001)**: Reflectometer mode: 0.002 / 0.005mil
- **Prism**: 0.3 to 500m (1.0 to 1,640ft.)
- **Measuring time**: Fine: 0.5% (initial 1.5m), Rapid: 0.7% (initial 1.6m), Tracking: 0.5% (initial 1.6m)

### 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**: 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-252C, USB2.0 (Type A / mini B)
- **Bluetooth modem (option)**: Bluetooth Class 1, Ver.2.1+EDR, Operating range: up to 300m (984ft.)

### General
- **Laser-pointer**: Coaxial red laser using EDM beam
- **Guide light**: Green LED (524nm) and Red LED (625nm), Operating range: 1.5 to 150m (4.9 to 492ft.)
- **Levels**: Graphic: 6 (inner circle)
- **Circular level**: ±2 / 2" / 5m
- **Optical plummet (option)**: Magnification: 3x, Minimum focus: 0.5m (1.6ft.) and 0.5m (1.6ft.) from tribrach bottom
- **Laser plummet (option)**: Red laser diode (655nm/100m), Beam accuracy: ±0.03mm/20m, Class 2 laser product
- **Dust and water protection**: IP65 (IEC 60529:2001)
- **Operating temperature**: -20 to +60°C (-4 to +140°F)
- **Size with handle**: Control panel on both faces: W191 x D174 x H348mm (W7.5 x D6.9 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 (12.6lb.)

### Power supply
- **Battery**: BDC70 detachable battery
- **External battery (option)**: ST-75Q: approx. 49hours (single distance measurement every 30 seconds)

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*OS series

**World's first support service only from Topcon**

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**For more detail of TSshield, please refer to the TSshield’s leaflet.**

**This service may not be available in same areas.**