the all-in one, universal total station

The Trimble® sps730 and sps930 universal total stations provide five ways to measure with one instrument: servo, autolock, Robotic, Reflectorless and aTs Grade Control modes of operation all in a single instrument.

Industry-leading, incredibly fast 20 Hz dynamic positioning update rate

DR300+ long-range reflectorless measurement allows high accuracy measurement without the risk and delay of walking the surface with a target.

Trimble MagDrive™ servos provide unmatched instrument turning and tracking speeds and silent precise operation.

Trimble SurePoint™ technology autocorrects instrument pointing for mislevel so you'll always capture accurate 3D information.

Unique Trimble MultiTrack™ technology allows operation with conventional prisms or active targets.

accuracy to match Job site requirements

The sps930 provides 1 second horizontal and vertical angle accuracy for any precise measurement, stakeout or fine grading task.

The sp730 provides 2 second vertical and 3 second horizontal angle accuracy to meet the needs of all but the highest precision measurement or stakeout functions on site.

dr300+ long-range reflectorless measurement

The dR300+ long range reflectorless measurement capability allows you to quickly and safely measure hard-to-reach or unsafe places 300 meters away and beyond. There is no need to walk the surface with a target. You’ll realize significant increases in productivity and safety when measuring stockpiles, profiling cuttings and rock faces.

trimble multitrack technology

Trimble MultiTrack technology locks on and tracks passive prisms for applications such as monitoring or control measurements and active targets for dynamic measurement, stakeout and grade control applications.

active targets provide enhanced dynamic tracking performance and guaranteed lock to the correct target, especially in dusty construction site conditions. Up to 16 unique channels of target identification can be used to differentiate survey crews and grade checkers from machine control operations, eliminating down time caused by unnecessary interference.

unmatched dynamic positioning

Grade control for earthmoving and fine grading machinery requires an updated, highly accurate position delivered on a very frequent basis. The more data provided, the smoother the hydraulic control and the higher gear that the machine can operate in. The Trimble sps730 and sps930 instruments deliver an unmatched 20 hertz update rate combined with low latency, synchronized data measurements for unmatched machine performance.

Combined with the Trimble MT900 active machine target they can operate at ranges up to 700 meters at +/-45 degree slopes, in the highest gear and in the dustiest conditions at the same time delivering the smoothest and most accurate finish available. Repeatability in the accuracy of graded layers results in fewer passes, reduced fuel and maintenance, reduced rework not to mention material savings, time and associated cost benefits.
market-leading trimble technology
Whether site positioning or operating machines, tracking the target especially at short range or in areas where the rate of change of angle is high always creates a challenge. Having fast response time and fast servos allows the instrument to change direction, and track more reliably. The Trimble SPS730 and SPS930 utilize Trimble’s patented Magdrive fourth generation servo technology, which utilizes magnetic levitation to eliminate direct drive and friction from the servo system. Combined with the USB communications network for the fastest command response time, the instruments deliver the fastest tracking, fastest turning, most responsive instrument available, perfect for high speed dynamic operation for grade control applications.

Total stations depend on being level to deliver accurate results. When an instrument is knocked, buffeted by wind or subjected to ground vibration or settlement it’s level is affected. Dual axis compensation corrects the angle measurement system for mislevel, but doesn’t change the instruments pointing to account for the associated errors. Trimble’s patented surepoint technology not only corrects the angles for mislevel, it also continually adjusts the instruments pointing for that mislevel delivering the most accurate automated positioning system available.

powered by trimble SCS900 site controller software
The power of the instrument is unleashed through the software that drives it. SCS900 software has been developed as a contractor’s tool, to provide simple easy to understand workflows which are dedicated to the construction jobsite. Combined with Trimble’s Intelligent data Tracking technology, SCS900 will meet all of your stakeout, measurement, grade control and quality control requirements.

The Trimble SPS730 and SPS930 universal Total stations are packed with market leading features such as:

• Long life integrated smart batteries
• Bluetooth for cable free operation
• Ergonomic servo focus
• Detachable control unit
• Eccentric and detachable handle for a full vertical sweep of the telescope

Combined, these features make the instrument the simplest yet most sophisticated instrument available for all your jobsite needs. No matter what job they are doing, SPS total stations will deliver unmatched user experience, all round capability and incredible results.
### unique performance specifications

**Trimble SPS730 universal total station**

- **Angle Measurement**
  - horizontal accuracy: standard deviation based on Dln 18723: ±3° (0.3 mgon)
- **Vertical Accuracy**
  - standard deviation based on Dln 18723: ±2° (0.6 mgon)
  - angle Reading (least count): 3" (0.008 mgon)
- **Tracking Mode**
  - tracking mode: ±6' (±0.1 mgon)
- **Automatic Level Compensator**
  - dual-axis compensator: ±6° (±100 mgon)

**Trimble SPS930 universal total station**

- **Angle Measurement**
  - horizontal accuracy: standard deviation based on Dln 18723: ±1° (0.3 mgon)
- **Vertical Accuracy**
  - standard deviation based on Dln 18723: ±1° (0.3 mgon)
  - angle Reading (least count): 1° (0.1 mgon)
- **Tracking Mode**
  - tracking mode: ±6° (±0.1 mgon)
- **Automatic Level Compensator**
  - dual-axis compensator: ±6° (±100 mgon)

### common performance specifications

**Trimble SPS730 and SPS930 universal total stations**

- **Distance Measurement Accuracy**
  - standard deviation based on Dln 18723: ±(3 mm + 2 ppm) ±(0.01 ft + 2 ppm)
  - tracking mode: ±(10 mm + 2 ppm) ±(0.032 ft + 2 ppm)
- **Position Update Rate**
  - up to 20 Hz
- **Dynamic Measurement Capability**
  - ±0.032 ft (±0.3 mgon)
- **Positioning System Accuracy**
  - at commonly encountered ranges from the instrument:
    - up to 20 Hz

#### Trimble SPS730

- **Telescope**
  - Magnification: 30x
  - Field of view at 100 m (328 ft): 2.5° at 100 m (8.5° at 328 ft)
  - Shortest focusing distance: 1.5 ft (0.49 m)
  - Illuminated crosshair
  - Variable (10° to 15°)
- **Tracking System**
  - Maximum tracking speed: 3.2 s

#### Trimble SPS930

- **Telescope**
  - Magnification: 30x
  - Field of view at 100 m (328 ft): 2.5° at 100 m (8.5° at 328 ft)
  - Shortest focusing distance: 1.5 ft (0.49 m)
  - Illuminated crosshair
  - Variable (10° to 15°)
- **Tracking System**
  - Maximum tracking speed: 3.2 s

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**Performance Specifications**

- **Sensitivity**
  - Laser class 2
  - Laser pointer coaxial (standard)
  - Laser class 1
  - Pulsed laser diode 870 nm, Laser class 1
- **Laser Source**
  - Pulsed laser diode 870 nm, Laser class 1
  - Laser pointer coaxial (standard)
  - Laser class 2
  - Beam divergence horizontal: 4 cm/100 m (0.013 ft/328 ft)
  - Vertical: 8 cm/100 m (0.026 ft/328 ft)
- **Atmospheric Correction**
  - ~130 ppm to 160 ppm continuous
- **Leveling**
  - 130 ppm to 160 ppm continuous
  - Circular level in Tripod
  - 8½' (8'/0.007 ft)
  - Electronic 2-axis level in the LC-display
  - 0.3° (0.1 mgon)
- **Centering**
  - Centering system: Trimble 3-pin
  - Optical plummet: Alidade optical plummet
  - Magnification/shortest focusing distance: 2.3 x/0.5 m–Infinity
  - Sensor electromagnetic direct drive
- **Rotation**
  - 0.15°/sec (120 gon/sec)
  - Servo-assisted on side cover
- **Temperature Range**
  - Operating temperature: -20°C to +50°C (-4°F to +122°F)
  - Storage: -20°C to +60°C (-4°F to +140°F)
  - Dust and water proofing

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**Wood Construction**

- Range: 200–400 m (656–1312 ft)
- Reflective foil: 20 mm (0.8 in)
- Reflective foil: 60 mm (2.4 in)

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**Concrete Construction**

- Range: 300–400 m (984–1312 ft)
- Reflective foil: 20 mm (0.8 in)
- Reflective foil: 60 mm (2.4 in)

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**Kodak Gray Card**

- 90% reflective: 800 m (2,625 ft)
- 18% reflective: 200–400 m (656–1312 ft)

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**Prism Construction**

- Range: 1 prism: 2,500 m (8,202 ft)
  - 3 prism: 3,500 m (11,482 ft)
  - 5,500 m (18,044 ft)
- Range: 1 prism: 2,500 m (8,202 ft)
  - 3 prism: 3,500 m (11,482 ft)
  - 5,500 m (18,044 ft)

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**Measurement Time**

- Prism: 0.4s
- Reflectorless mode: 1.2s
- Standard mode: 1.2s

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**Reflective Foil**

- Reflective foil: 20 mm (0.8 in)
- Reflective foil: 60 mm (2.4 in)

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**Height Accuracy**

- 200–400 m (656–1312 ft)
- Reflective foil: 20 mm (0.8 in)
- Reflective foil: 60 mm (2.4 in)

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**Height Source**

- Pulsed laser diode 870 nm, Laser class 1
- Laser pointer coaxial (standard)
- Laser class 2
- Beam divergence horizontal: 4 cm/100 m (0.013 ft/328 ft)
- Vertical: 8 cm/100 m (0.026 ft/328 ft)
Power supply
- Internal battery: Rechargeable Li-Ion battery 11.1 V, 4.4 Ah
- Operating time: 4.5 hours
- One internal battery: approximately 6 hours
- Triple battery pack: approximately 18 hours
- TCu Robotic holder: approximately 12 hours

Weight
- Instrument (servo/autolock): 5.15 kg (11 lb)
- Instrument (Robotic): 5.25 kg (11 lb)
- Trimble Cu controller: 0.35 kg (0.77 lb)
- Internal battery: 0.1 kg (0.22 lb)
- Trunnion axis height: 196 mm (7.71 in)
- Handle: detachable and eccentric for unrestricted sighting

Robotic specifications
- Range
  - Robotic: 700 m (2,297 ft)
  - Autolock: 200 m (656 ft)
  - Shortest search distance: 2 m (6.6 ft)
- Autolock pointing precision at 200 m (656 ft): <2 mm (0.007 ft)
- Angle reading (least count)
  - Standard mode: 0.1" (0.01 mgon)
  - Tracking mode: 0.05" (0.005 mgon)

- Type of radio
  - Internal / External 2.4GHz spread spectrum
- Search area (typical)
  - 360 degrees (400 gon)
- Search area (defined)
  - Horizontal: ± (2 mm + 14 ppm) ± (0.007 ft + 14 ppm)
  - Vertical: ± (2 mm + 14 ppm) ± (0.007 ft + 14 ppm)
  - Slope distance: ± (2 mm + 14 ppm) ± (0.007 ft + 14 ppm)

Autolock and Robotic Total Stations Only
- Accuracy to a target moving at 1 m/s
  - Horizontal: ± (2 mm + 14 ppm) ± (0.007 ft + 14 ppm)
  - Vertical: ± (2 mm + 14 ppm) ± (0.007 ft + 14 ppm)
- Accuracy to a target moving at 5 m/s
  - Horizontal: ± (2 mm + 14 ppm) ± (0.007 ft + 14 ppm)
  - Vertical: ± (2 mm + 14 ppm) ± (0.007 ft + 14 ppm)
- Accuracy to a target moving at 10 m/s
  - Horizontal: ± (2 mm + 14 ppm) ± (0.007 ft + 14 ppm)
  - Vertical: ± (2 mm + 14 ppm) ± (0.007 ft + 14 ppm)
- Maximum velocity of target
  - Robotic: 700 m (2,297 ft)
  - Autolock: 196 mm (7.71 in)
- Maximum radial acceleration of target
  - Robotic: 148 degrees/sec/165 gon/sec
  - Autolock: 148 degrees/sec/165 gon/sec
- Maximum angular acceleration of target
  - Robotic: 148 degrees/sec/165 gon/sec
  - Autolock: 148 degrees/sec/165 gon/sec
- Maximum axial speed
  - Robotic: 700 m (2,297 ft)
  - Autolock: 23 ms
- Maximum radial speed
  - Robotic: 114°/sec
  - Autolock: 114°/sec
- Maximum radial acceleration
  - Robotic: 6 m/s2
  - Autolock: 6 m/s2
- Maximum axial acceleration
  - Robotic: 1,000 m/s2
  - Autolock: 1,000 m/s2
- Axial speed
  - Robotic: 600 m/s
  - Autolock: 600 m/s
- Radial speed
  - Robotic: 114°/sec
  - Autolock: 114°/sec
- Angle reading (least count)
  - Standard mode: 0.1" (0.01 mgon)
  - Tracking mode: 0.05" (0.005 mgon)

Tracker performance characteristics
- Autolock and Robotic Total Stations Only
  - Coaxial with telescope
  - Passive tracking capability: 110° (1 mgon)
  - Active target capability: 110° (1 mgon)
  - Number of Target ID channels: 16
  - Automatic lock on sighting prism: Yes

Note: USB Stick or CF Card can be connected to Robotic holder or docking cradle to transfer information from controller to stick or card.

Specifications subject to change without notice.

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