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. Servo, Autolock, Robotic, Reflectorless and aTs Grade Control modes provide the ability to tackle any measurement, stakeout, reflectorless or grade control task on the jobsite – all from one instrument.

**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 its 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

**sps730 universal total station**

- angle Measurement
  - horizontal accuracy
    - standard deviation based on dln 18723: ±3° (1.0 mgon)
  - vertical accuracy
    - standard deviation based on dln 18723: ±2° (0.6 mgon)
  - angle Reading (least count)
  - standard mode
  - Tracking mode
  - automatic level compensator
    - dual-axis compensator
    - ±6° (±100 mgon)

**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)
  - standard mode
  - Tracking mode
  - automatic level compensator
    - dual-axis compensator
    - ±6° (±100 mgon)

common performance specifications

**sps730 and sps930 universal total stations**

- Distance Measurement accuracy
  - Prism Mode
    - standard mode: ±(3 mm + 2 ppm) ±(0.01 ft + 2 ppm)
    - Tracking mode: ±(10 mm + 2 ppm) ±(0.032 ft + 2 ppm)
  - Dynamic Measurement Capability
  - Synchronized angle and distance measurements
  - Position update rate
  - 3D positioning accuracy

Note: 3D positioning accuracy is based on the following parameters:
- Horizontal and Vertical angle accuracy
- Distance from instrument
- Tracker lock on accuracy
- Static or moving target
- Instrument state of adjustment

The following 3D positioning accuracies provide an indication of total system accuracy at commonly encountered ranges from the instrument on a horizontal sighting. On steeper sightings, horizontal accuracy increases and vertical accuracy decreases.

**sps930**

- Distance (m / ft)
  - 50 / 164: 0.003 / 0.010
  - 100 / 328: 0.003 / 0.010
  - 200 / 656: 0.004 / 0.013
  - 300 / 984: 0.004 / 0.013

- Position accuracy (m / ft)
  - 0.003 / 0.010

- Height accuracy (m / ft)
  - 0.003 / 0.010

**sps730**

- Distance (m / ft)
  - 50 / 164: 0.003 / 0.010
  - 100 / 328: 0.004 / 0.013
  - 200 / 656: 0.004 / 0.013
  - 300 / 984: 0.006 / 0.020

- Position accuracy (m / ft)
  - 0.003 / 0.010

- Height accuracy (m / ft)
  - 0.003 / 0.010

- Tracking Time - prism mode
  - Standard mode: 1.2 s
  - Tracking mode: 0.4 s

- Measurement Range - prism mode (under clear conditions)
  - 1 prism: 2,500 m (8,202 ft)
  - 1 prism (long range mode): 5,500 m (18,044 ft)
  - 3 prism: 3,500 m (11,483 ft)
  - 3 prism (long range mode): 5,500 m (18,044 ft)

- Measurement Range - dR Mode
  - Kodak Gray Card (18% reflective): >300 m (984 ft)
  - Kodak Gray Card (90% reflective): >800 m (2,625 ft)
  - Concrete: 300–400 m (984–1312 ft)
  - Wood construction: 200–400 m (656–1312 ft)
  - Metal construction: 200–250 m (656–820 ft)
  - Light rock: 200–300 m (656–984 ft)
  - Dark rock: 150–200 m (492–656 ft)
  - Reflective foil: 20 mm: 800 m (2,625 ft)
  - Reflective foil: 60 mm: 1,600 m (5,249 ft)
  - Reflective foil: 60 mm (dR): 1,000 m (3,281 ft)
  - Kodak Gray Card (18% reflective): >300 m (984 ft)
  - Kodak Gray Card (90% reflective): >800 m (2,625 ft)
  - Reflective foil: 20 mm: 800 m (2,625 ft)
  - Reflective foil: 60 mm: 1,600 m (5,249 ft)
  - Reflective foil: 60 mm (dR): 1,000 m (3,281 ft)

- Stabilized Magnification
  - Reflectorless mode: 1.5 x
  - Prism mode: 30 x

- Objective aperture: 40 mm (1.57 in)

- Field of view at 100 m (328 ft): 2.6° at 100 m (8.5° at 328 ft)

- Shortest focusing distance: 1.5 m (4.92 ft)

- Illuminated crosshair: Variable (10 steps)

- Magnifier
  - 30 x
  - 1 x

- Telescope
  - 30 x

- Track light built in: Yes

- Focus type: servo assisted on side cover

- Operating temperature: -20°C to +50°C (-4°F to +122°F)

- Dust and water proofing: IP55
trimble sps730 and sps930 universal total stations

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 ...................... 0.4 kg (0.88 lb)
Tribrach ............................................. 0.7 kg (1.54 lb)
Internal battery ......................................... 0 kg

Trunion axis height ........................................ 196 mm (7.71 in)
handle ................................................... detachable and eccentric for unrestricted sighting

autolock pointing precision at 200 m (656 ft) ....<2 mm (0.007 ft)
angle reading (least count) ......................... +1-937-245-5154 Phone
standard mode ........................................ 800-538-7800 (Toll Free)
Tracking mode ......................................... 80 Marine Parade Road, #22-06
averaged observations .......................... ±(0.01 mgon)
Type of radio ........................................... Internal / External 2.4Ghz spread spectrum
search time (typical) .......................... 2–10 s
search area ........................................... 360 degrees (400 gon)
or defined horizontal and vertical search window

ats mode For Grade control
Range to target (MT900) .......................... 700 m (2,297 ft)
search time (typical) ................................ 5
search area ........................................... 360.0 degrees (400 gon)
or defined horizontal and vertical search window
Maximum radial acceleration of target
at short distance (2 m / 6.56 ft) .................. 148 degrees/sec (165 gon/sec)
Maximum velocity of target
Robotic ............................................ 6 m/s
Standard ............................................. 6 m/s

Rate .................................................. 0.7 kg (1.54 lb)

Latency over radio ..................................... 23 ms
Latency over USB connection ......................... <1 ms
synchronized measurement data ........................ 0.35 kg (0.77 lb)

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)
slope distance ......................................... ± (2 mm + 14 ppm) ± (0.007 ft + 14 ppm)

tracker performance characteristics
Autolock and Robotic Total Stations Only

Coaxial with telescope
passive tracking capability .......................... 16
active target capability .............................. 16
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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