

KEY FEATURES

Brings Trimble terrestrial accuracy to geospatial information

Offers Trimble VISION™ technology for digital image streaming and capture

Produces rich data for enhanced 2D and 3D deliverables

Provides broader business opportunities to your industry



The Trimble® VX™ Spatial Station is an advanced positioning system that uses leading optical and scanning technologies to measure in 3D for the production of 2D and 3D deliverables.

MEASURE TERRESTRIAL POINTS WITH ACCURACY AND EASE

The Trimble VX Spatial Station ensures measurement taking of ground-level points is efficient and accurate.

Trimble VISION Technology

Trimble VISION technology, specifically designed for Spatial Imaging, streams real-time digital images of your job site through the Trimble controller. This capability saves time for remote and coarse aiming. Users can select target points for measuring simply by tapping the Trimble controller touch screen at the appropriate points in the video stream.

Trimble VISION also enables users to view 3D data over the live video display of a job site. The ability to see in real time what objects have been measured gives Trimble VX users complete confidence that all required points have been taken, and reduces rework and duplication. A still digital image of the site can be captured from the video stream, so that the same benefits can be achieved back in the office—quality control and assurance.

3D Scanning

For applications such as 3D modeling and volume calculation, the Trimble VX includes a 3D scanning function—users can collect many points very quickly. The Trimble VX scanning function is excellent for measuring large surfaces; and scanned data can be easily combined with single point data.

An Advanced Hardware Platform

Built on the most advanced hardware platform of its kind, the Trimble VX includes Trimble MagDrive™ servos, which rotate the instrument with unequalled speed and agility. The instrument's efficient movement ensures minimal waiting time between measurements. MagDrive also provides the platform for Trimble VX scanning capabilities.

DELIVER DATA IN THE LANGUAGE OF PICTURES

By combining rich 3D scanning data and VISION technology, the Trimble VX Spatial Station produces data that can be used to generate high-quality visual deliverables in the RealWorks Survey™ office software. Because a picture is worth a thousand words, data recipients—whether colleague or client—can easily see what a job's measurement data represents. Review and approval of projects, and decision making, are more streamlined.

Colleagues receiving this “communicative data” can immediately see what points have been measured, and interact with the data without losing time trying to orient themselves in the results. At the same time, a business' ability to communicate project data to clients impacts its bottom line—a client who can “catch the VISION” is much more likely to approve a bid.

BROADEN BUSINESS OPPORTUNITIES IN NEW APPLICATIONS

The Trimble VX Spatial Station creates opportunities in Transport and Civil Engineering; Utilities & Communications; Natural Resources Management; and Government and Military. Many of these applications use airborne geospatial information, but while airborne provides compelling and useful rooftop or one-sided views, the only way to present detailed eye-level views is from the ground. A complete Spatial Imaging deliverable is possible through the fusion of airborne geospatial data and precise terrestrial measurements.

The Trimble VX is poised to rewrite the scope of services offered by “geospatial” businesses everywhere. It enables those businesses to produce the complete deliverables that their industry now demands.

PERFORMANCE

Scanning

Range ^{1, 2}	>150 m (492 ft)
Speed ³	up to 15 points/sec, typical 5 points/sec
Minimum point spacing	10 mm (0.032 ft)
Standard deviation3 mm @ ≤150 m (0.011 ft @ ≤492 ft)
Single 3D point accuracy	10 mm @ ≤150 m (0.032 ft @ ≤492 ft)
Angle accuracy	1" (0.3 mgon)
Automatic level compensator	Dual-axis compensator ±6' (±100 mgon)

Other distance measurement

Accuracy (S. Dev.)

Prism mode

Standard	±(3 mm + 2 ppm) ±(0.01 ft + 2 ppm)
Tracking	±(10 mm + 2 ppm) ±(0.032 ft + 2 ppm)

DR mode

Standard	±(3 mm + 2 ppm) ±(0.01 ft + 2 ppm)
Tracking	±(10 mm + 2 ppm) ±(0.032 ft + 2 ppm)
Standard measurement >300 m (656 ft)	±(5 mm + 2 ppm) ±(0.016 ft + 2 ppm)

Measuring time

Prism mode

Standard	1.2 s
Tracking	0.4 s
Averaged observations ⁴	1.2 s per measurement

DR mode

Standard	1–5 s
Tracking	0.4 s
Averaged observations ⁴	1–5 s per measurement

Range (under standard clear conditions^{5, 6})

Prism mode

1 prism	2500 m (8202 ft)
1 prism Long Range mode	5500 m (18,044 ft) (max. range)
3 prism	3500 m (11,482 ft)
3 prism Long Range mode	5500 m (18,044 ft) (max. range)
Shortest possible range	0.2 m (0.65 ft)

DR mode (typically)

Kodak Gray Card (18% reflective) ²	>300 m (984 ft)
Kodak Gray Card (90% reflective) ²	>800 m (2625 ft)
Reflective foil 20 mm	800 m (2,625 ft)
Reflective foil 60 mm	1600 m (5,249 ft)
Shortest possible range	2 m (6.56 ft)

ROBOTIC OPERATION

Range ⁶	500–700 m (1,640–2,297 ft)
Shortest search distance	0.2 m (0.65 ft)
Autolock pointing precision at 200 m (656 ft) (Standard deviation)	<2 mm (0.007 ft)
Type of radio internal/external	2.4 GHz frequency-hopping, spread-spectrum radios
Search time (typical) ⁷	2–10 s

¹ Target color, atmospheric conditions, and scanning angles will impact range.

² Kodak Gray Card, Catalog number E1527795.

³ Target shape, texture, and color; grid size; and distance and angle to target; will impact speed.

⁴ Repeats for defined number of measurements up to 99.

⁵ Standard clear: No haze. Overcast or moderate sunlight with very light heat shimmer.

⁶ Range and accuracy depend on atmospheric conditions, size of prisms and background radiation.

⁷ Dependent on selected size of search window.

⁸ 0.5 frames per second with remote operation.

⁹ The capacity in -20 °C (-5 °F) is 75% of the capacity at +20 °C (68 °F).

¹⁰ Bluetooth type approvals are country specific. Contact your local Trimble Authorized Distribution Partner for more information.

SYSTEM SPECIFICATIONS

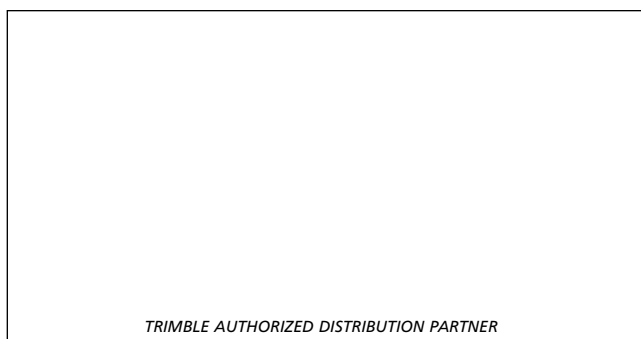
Leveling	
Circular level in tribrach	8/2 mm (8/0.007 ft)
Electronic 2-axis level in the LC-display with a resolution of	0.3" (0.1 mgon)
Servo system MagDrive servo technology, integrated servo/angle sensor electromagnetic direct drive	
Rotation speed	115 degrees/sec (128 gon/sec)
Rotation time Face 1 to Face 2	3.2 sec
Positioning speed 180 degrees (200 gon)	3.2 sec
Clamps and slow motions	Servo-driven, endless fine adjustment
Centering	
Centering system	Trimble 3-pin
Optical plummet	Built-in optical plummet
Magnification/shortest focusing distance	2.3x/0.5 m–infinity (1.6 ft–infinity)
Telescope	
Magnification	30x
Aperture	40 mm (1.57 in)
Field of view at 100 m (328 ft)	2.6 m at 100 m (8.5 ft at 328 ft)
Shortest focusing distance	1.5 m (4.92 ft)–infinity
Illuminated crosshair	Variable (10 steps)
Camera	
Chip	Color Digital Image Sensor
Resolution	2048 x 1536 pixels
Focal length	23 mm (0.07 ft)
Depth of field	3 m to infinity (9.84 ft to infinity)
Field of view	16.5° x 12.3° (18.3 gon x 13.7 gon)
Digital zoom	4-step (1x, 2x, 4x, 8x)
Exposure	Automatic
Brightness	User-definable
Contrast	User-definable
Image storage	Up to 2048 x 1536 pixels
File format	JPEG
Compression ratio	User-definable
Video streaming ⁸	5 frames per second
Operating temperature	–20 °C to +50 °C (–4 °F to +122 °F)
Dust and water proofing	IP55
Power supply	
Internal battery	Rechargeable Li-Ion battery 11.1 V, 4.4 Ah
Operating time ⁹	
One internal battery	Approx. 5 hours
Three internal batteries in multi-battery adapter	Approx. 15 hours
Robotic holder with one internal battery	Approx. 12 hours
Weight	
Instrument	5.25 kg (11.57 lb)
Trimble CU controller	0.4 kg (0.88 lb)
Tribrach	0.7 kg (1.54 lb)
Internal battery	0.35 kg (0.77 lb)
Trunnion axis height	196 mm (7.71 in)
Communication	USB, Serial, Bluetooth ^{®10}

EDM SPECIFICATIONS

Light source	Pulsed Laser diode 870 nm; Laser class 1
Laser pointer coaxial	Laser class 2
Beam divergence Prism mode	
Horizontal	4 cm/100 m (0.13 ft/328 ft)
Vertical	8 cm/100 m (0.13 ft/328 ft)
Beam divergence DR mode	
Horizontal	4 cm/100 m (0.13 ft/328 ft)
Vertical	8 cm/100 m (0.13 ft/328 ft)
Atmospheric correction	–130 ppm to 160 ppm continuously



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