



KEY FEATURES

Scalable and Flexible, Ready for anything

Unmatched fast and smooth performance with MagDrive™ servo technology

New Trimble DR Plus™ technology for long range and superior accuracy

SurePoint™ accuracy assurance automatically corrects instrument pointing

Integrated GNSS technology with GPS Search and the Trimble I.S. Rover

SCALABLE AND FLEXIBLE

The Trimble® S6 Total Station provides surveyors with the scalability and flexibility to be ready for anything. The Trimble S6 will lock and track a wide variety of targets and conventional prisms to exceptional range. With its exclusive MultiTrack™ technology and Target ID capabilities, surveyors can choose the type of target, passive or active, that best suits the jobsite conditions and be confident that they will find and lock to the correct target.

The new Trimble DR Plus™ technology enables exceptional longer range and high accuracy measurements to most surfaces. Longer range means fewer instrument set-ups and easier access to more locations saving you time and money.

With the Trimble S6, you can scale your solution to meet the changing needs of your business, making your investment go further. By starting with Servo capability, at Trimble, we offer the option to upgrade to Autolock®, or Robotic capability, adding on functionality as your business needs change.

MAGDRIVE SERVO TECHNOLOGY

The new Trimble S6 Total Station redefines surveying instrument performance with unsurpassed integration of servos, angle sensors and measurement technology. The instrument's advanced error compensation provides fast, accurate measurement every time. With smooth, silent MagDrive servo motors, the Trimble S6 offers exceptional speed.

THE NEW TRIMBLE DR PLUS TECHNOLOGY

Trimble DR Plus range measurement technology provides extended range of Direct Reflex measurement without a prism to exceptionally long range distances. Hard-to-reach or unsafe targets are no obstacle to the Trimble S6. Trimble DR Plus, combined with MagDrive, creates unmatched speed for quickly and safely measuring, without compromising on accuracy.

SUREPOINT ACCURACY ASSURANCE

The Trimble S6 Total Station aims and stays on target through windy weather, vibrations, handling, and sinkage. Trimble SurePoint technology enables the Trimble S6 to actively correct for unwanted movement ensuring accurate pointing and measurement every time. Reduce aiming error, avoid costly re-measurement and be confident in your results with SurePoint.

ELIMINATE SEARCH TIME WITH GPS SEARCH

With GPS Search the Trimble S6 locks onto a prism in just seconds. Using a consumer grade GPS card with Bluetooth receiver or your survey grade GNSS in a Trimble I.S. rover configuration, GPS Search uses GPS positioning at the robotic rod to locate or reacquire targets rapidly. With GPS Search, waiting for target search becomes a thing of the past.

HIGH CAPACITY INTERNAL BATTERY WITH INTELLIGENT SYSTEM CHARGER

The Trimble S6 runs for six hours in Robotic mode on one internal lithium-ion battery, with no cables needed. The battery is intelligent, so you can quickly check how much power each battery contains.

Extend your working time further with three batteries in the multi-battery holder. Enjoy another convenience of Trimble Integrated Surveying by recharging your Trimble S6 and GPS system batteries in the same charger.

INTEGRATED SURVEYING

Put the equipment in your truck or van to the best possible use by combining your GNSS with your robotic rod into a Trimble I.S. Rover™. In clear sky, enjoy the high productivity of GNSS measurements. In obstructed areas, Trimble Access seamlessly switches to optical measurements. Or collect both GNSS and optical data simultaneously for redundant results. With the Trimble I.S. Rover, you have the freedom to use the best tool for the jobsite conditions, optimizing your productivity.



PERFORMANCE

Angle measurement
 Sensor type Absolute encoder with diametrical reading
 Accuracy (Standard deviation based on DIN 18723) 2" (0.6 mgon)
 3" (1.0 mgon), or 5" (1.5 mgon)

Angle reading (least count)
 Standard 1" (0.3 mgon)
 Tracking 2" (0.6 mgon)
 Averaged observations 0.1" (0.03 mgon)

Automatic level compensator
 Type Centered dual-axis
 Accuracy 0.5" (0.15 mgon)
 Range ± 5.4' (±100 mgon)

Distance measurement
 Accuracy (RMSE)
 Prism mode
 Standard 2 mm + 2 ppm (0.0065 ft + 2 ppm)
 Standard deviation according to ISO17123-4 1 mm + 2 ppm (0.003 ft + 2 ppm)
 Tracking 4 mm + 2 ppm (0.013 ft + 2 ppm)

DR mode
 Standard 2 mm + 2 ppm (0.0065 ft + 2 ppm)
 Tracking 4 mm + 2 ppm (0.013 ft + 2 ppm)

Measuring time
 Prism mode
 Standard 1.2 sec
 Tracking 0.4 sec
 DR mode
 Standard 1–5 sec
 Tracking 0.4 sec

Range
 Prism mode (under standard clear conditions^{1,2})
 1 prism 2500 m (8202 ft)
 1 prism Long Range mode 5500 m (18,044 ft) (max. range)
 Shortest possible range 0.2 m (0.65 ft)
 DR mode

	Good (Good visibility, low ambient light)	Normal (Normal visibility, moderate sunlight, some heat shimmer)	Difficult (Haze, object in direct sunlight, turbulence)
White card (90% reflective)³	1,300 m (4,265 ft)	1,300 m (4,265 ft)	1,200 m (3,937 ft)
Gray card (18% reflective)³	600 m (1,969 ft)	600 m (1,969 ft)	550 m (1,804 ft)

Shortest possible range 1 m (3.28 ft)

DR Ranges (typically)
 Concrete 600–800 m (1968–2624 ft)
 Wood construction 400–800 m (1312–2624 ft)
 Metal construction 400–500 m (1312–1640 ft)
 Light rock 400–600 m (1312–1968 ft)
 Dark rock 300–400 m (984–1312 ft)
 Reflective foil 20 mm 1000 m (3280 ft)

DR Extended Range Mode
 White Card (90% reflective)³ 2000–2200 m
 Gray Card (18% reflective)³ 900–1000 m
 Accuracy 10 mm + 2 ppm (0.033 ft + 2 ppm)

EDM SPECIFICATIONS

Light source	Pulsed laser diode 905 nm, Laser class 1
Laser pointer coaxial (standard)	Laser class 2
Beam divergence	
Horizontal	4 cm/100 m (0.13 ft/328 ft)
Vertical	8 cm/100 m (0.26 ft/328 ft)
Atmospheric correction	-130 ppm to 160 ppm continuously

GENERAL 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	2.6 sec
Positioning time 180 degrees (200 gon)	2.6 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)
Tracklight built in	Standard
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 ⁴	
One internal battery	Approx. 6 hours
Three internal batteries in multi-battery adapter	Approx. 18 hours
Robotic holder with one internal battery	12 hours
Weight	
Instrument (servo/Autolock)	5.15 kg (11.35 lb)
Instrument (Robotic)	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 ^{®5}

ROBOTIC SURVEYING

Autolock and Robotic Range ²	
Passive prisms	500–700 m (1,640–2,297 ft)
Trimble MultiTrack Target	800 m (2,625 ft)
Autolock pointing precision at 200 m (656 ft) (Standard deviation) ²	
Passive prisms	<2 mm (0.007 ft)
Trimble MultiTrack Target	<2 mm (0.007 ft)
Shortest search distance	0.2 m (0.65 ft)
Angle reading (least count)	
Standard	1" (0.3 mgon)
Tracking	2" (0.6 mgon)
Averaged observations	0.1" (0.03 mgon)
Type of radio internal/external	2.4 GHz frequency-hopping, spread-spectrum radios
Search time (typical) ⁶	2-10 sec

GENERAL SPECIFICATIONS

GPS SEARCH/GEOLOCK WITH THE TRIMBLE MULTITRACK TARGET

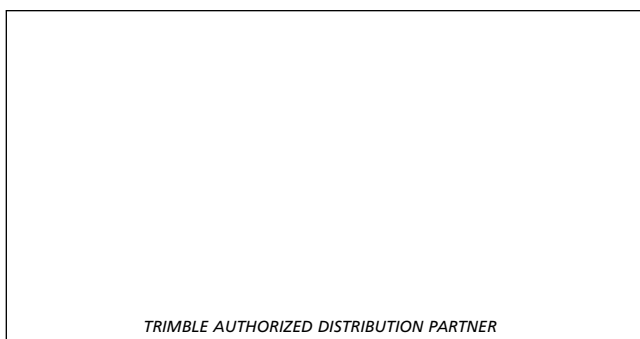
GPS Search/GeoLock	360 degrees (400 gon) or defined horizontal and vertical search window
Solution acquisition time ⁷	15–30 sec
Target re-acquisition time	<3 sec
Range	Autolock & Robotic range limits

- 1 Standard clear: No haze. Overcast or moderate sunlight with very light heat shimmer.
- 2 Range and accuracy depend on atmospheric conditions, size of prisms and background radiation.
- 3 Kodak Gray Card, Catalog number E1527795.
- 4 The capacity in -20 °C (-5 °F) is 75% of the capacity at +20 °C (68 °F).
- 5 Bluetooth type approvals are country specific. Contact your local Trimble Authorized Distribution Partner for more information.
- 6 Dependent on selected size of search window.
- 7 Solution acquisition time is dependent upon solution geometry and GPS position quality.

Specifications subject to change without notice.



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