



Trimble S5 Ti-M

MONITORING TOTAL STATION

TRUSTED PERFORMANCE

The Trimble S5 Ti-M Monitoring Total Station is specifically designed to meet the monitoring needs of the construction industry. All you need to perform efficient, cost effective monitoring campaigns is available in the Trimble S5 Ti-M Total Station solution: an accurate and reliable instrument, DR Plus EDM, MagDrive™ technology, Finelock, and the ability to rapidly detect critical structural movements with Trimble 4D Control software.

Trimble® has been manufacturing the industry's leading total stations for over a decade. You can depend on the Trimble S5 Ti-M Total Station to keep you productive in the field no matter what you encounter.

Trimble Technology

The Trimble S5 Total Station is built upon proven Trimble technologies like SurePoint™, MagDrive and our DR Plus EDM, helping you work more efficiently while maintaining the highest accuracy possible. Smooth and silent, Trimble MagDrive electro-magnetic technology means fewer moving parts, which reduces servicing requirements.

Trimble SurePoint ensures accurate pointing and measurements by actively correcting for unwanted movements like wind, handling, and sinkage. The Trimble DR Plus EDM allows you to measure with fewer instrument set-ups and enhance your direct reflex performance.

Manage Your Assets 24/7

Know where your total stations are 24 hours a day with Trimble Locate2Protect technology.

See where your equipment is at any given time and get alerts if your instrument leaves a jobsite or experiences unexpected equipment shock or abuse.

Trimble InSphere™ Equipment Manager system lets you view usage and keep up-to-date on firmware, software and maintenance

requirements. With Trimble Locate2Protect and InSphere Equipment Manager, you can rest assured knowing your equipment is up-to-date and where it should be.

FineLock

The Trimble S5 Ti-M Total Stations utilize Trimble FineLock technology. Trimble FineLock detects targets without interference from surrounding prisms, ensuring target lock over long distances, and eliminating errors caused by interference.

Advanced Monitoring System

Using the S5 Ti-M Total Station along with the Trimble Settop M1 monitoring controller and Trimble 4D control software creates a powerful, yet easy to use monitoring system. The Trimble Settop M1 is an "all-in-one" device that simplifies field setup and allows the user remote access to the S5 Ti-M. Having both on-site and remote access enhances the robustness and functionality of the S5 Ti-M.

Powerful Field and Office Software

Choose from a variety of Trimble controllers operating the feature rich, intuitive Trimble Access field software. The streamlined workflows of the Trimble Access Monitoring Application guide crews through common project types, helping to get the job done faster with less distractions.

No matter whether data collection is being done manually or fully automated, Trimble 4D Control software will check, process and analyze your total station, leveling, GNSS or other sensor data. No matter what Trimble instruments you use, you can trust that Trimble 4D Control software will help you generate industry-leading deliverables.

Trimble S5 Ti-M Standard Configuration

EDM	Angle Accuracy	Servo Control	FineLock
DR Plus	1"	Autolock	Yes

Key Features

- ▶ The Trimble Monitoring Total Station designed for construction related monitoring applications
- ▶ Measure further and faster with the Trimble DR Plus EDM
- ▶ Locate2Protect real-time equipment management
- ▶ Trimble FineLock for high accuracy target detection
- ▶ Trimble 4D Control Software for rapidly detecting structural movements



Trimble S5 Ti-M TOTAL STATION

PERFORMANCE

Angle measurement

Sensor type	Absolute encoder with diametrical reading
Accuracy (Standard deviation based on DIN 18723)	1" (0.3 mgon)
Angle Display (least count)	0.1" (0.01 mgon)
Automatic level compensator	
Type	Centered dual-axis
Accuracy	0.5" (0.15 mgon)
Range	± 5.4' (±100 mgon)

Distance measurement

Accuracy (ISO)	
Prism mode	
Standard ¹	1 mm + 2 ppm
Accuracy (RMSE)	
Prism mode	
Standard	2 mm + 2 ppm
Tracking	4 mm + 2 ppm
DR mode	
Standard	2 mm + 2 ppm
Tracking	4 mm + 2 ppm
Extended Range	10 mm + 2 ppm

Measuring time

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

Measurement Range

Prism mode (under standard clear conditions ^{2,3})	
1 prism	2500 m
1 prism Long Range mode	5500 m (max. range)
Shortest range	0.2 m

	Good (Good visibility, low ambient light)	Normal (Normal visibility, moderate sunlight, some heat shimmer)	Difficult (Haze, object in direct sunlight, turbulence)
Gray card (18% reflective)	600 m	600 m	550 m

Reflective foil 20 mm	1000 m
Shortest range	1 m
DR Extended Range Mode	
White Card (90% reflective) ⁴	2200 m

EDM SPECIFICATIONS

Light source	Pulsed laserdiode 905 nm, Laser class 1
Beam divergence	
Horizontal	4 cm/100 m
Vertical	8 cm/100 m

SYSTEM SPECIFICATIONS

Leveling

Circular level in tribrach	8/2 mm
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	2.3×/0.5 m–infinity

Telescope

Magnification	30×
Aperture	40 mm
Field of view at 100 m	2.6 m at 100 m
Shortest focusing distance	1.5 m–infinity
Illuminated crosshair	Variable (10 steps)

Power supply

Internal battery	Rechargeable Li-Ion battery 11.1 V, 5.0 Ah
Operating time ⁵	
One internal battery	Approx. 6.5 hours

Weight

Instrument (Autolock)	5.4 kg
Trimble CU controller	0.4 kg
Tribrach	0.7 kg
Internal battery	0.35 kg
Trunnion axis height	196 mm

Other

Communication	USB, Serial, Bluetooth ^{®6}
Operating temperature	–20° C to +50° C
Tracklight built in	Not available in all models
Dust and water proofing	IP65
Humidity	100% condensing
Laser pointer coaxial (standard)	Laser class 2
Security	Dual-layer password protection, Locate2Protect ^{®9}

TRACKER SPECIFICATIONS

Autolock ³	
Passive prisms	500 m–700 m
Autolock pointing precision at 200 m (Standard deviation) ³	
Passive prisms	<2 mm
Shortest search distance	0.2 m
Search time (typical) ⁷	2–10 sec
FineLock	
Pointing Precision at 300m (standard deviation) ³	<1 mm
Range to passive prisms (min-max) ³	20 m–700m
Minimum spacing between prisms at 200 m	0.8 m

Ordering Information

Part No.	Description
S5152111	S5 Ti-M

1 Standard deviation according to ISO17123-4.

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

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

4 Kodak Gray Card, Catalog number E1527795.

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

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

7 Dependent on selected size of search window.

8 Solution acquisition time is dependent upon solution geometry and GPS position quality.

9 Functionality and availability dependent on region.

Specifications subject to change without notice.



Contact your local Trimble Authorized Distribution Partner for more information

NORTH AMERICA

Trimble Inc.
10368 Westmoor Dr
Westminster CO 80021
USA
MonSol_Sales@Trimble.com