



# 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<sup>1</sup> ..... 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<sup>2,3</sup>)  
 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)<sup>4</sup> ..... 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 ..... 2.3x/0.5 m–infinity

### Telescope

Magnification ..... 30x  
 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<sup>5</sup> ..... Approx. 6.5 hours  
 One internal battery

### 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<sup>6</sup>  
 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<sup>9</sup>

## TRACKER SPECIFICATIONS

### Autolock<sup>3</sup>

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

Ordering Information	
Part No.	Description
S5152111	S5 Ti-M

- Standard deviation according to ISO17123-4.
- Standard clear: No haze. Overcast or moderate sunlight with very light heat shimmer.
- Range and accuracy depend on atmospheric conditions, size of prisms and background radiation.
- Kodak Gray Card, Catalog number E1527795.
- The capacity in -20 °C (-5 °F) is 75% of the capacity at +20 °C (68 °F).
- Bluetooth type approvals are country specific. Contact your local Trimble Authorized Distribution Partner for more information.
- Dependent on selected size of search window.
- Solution acquisition time is dependent upon solution geometry and GPS position quality.
- Functionality and availability dependent on region.

Specifications subject to change without notice.



Contact your local Trimble Authorized Distribution Partner for more information

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