

# TRIMBLE M3 TOTAL STATION

## KEY FEATURES

**Compact, lightweight & rugged** system design

**Trusted and reliable** mechanical technology

**Trimble Access field software** and optional streamlined workflow modules on board

Bright and colorful **touchscreen QVGA display**

Available with **choice of optical or laser plummet**



## ONE OF YOUR MOST RELIABLE CREW MEMBERS

Lightweight, compact and streamlined, the Trimble® M3 Total Station provides everything you need to get the job done right in demanding situations.

## TRIMBLE ACCESS FIELD SOFTWARE ONBOARD

Featuring Trimble Access™ field software, the Trimble M3 combines trusted mechanical total station reliability with the powerful, functional and modular software that modern users need today. Designed to support your everyday work, including topographic surveys, staking, control, and more; Trimble Access offers a familiar, easy-to-use interface that will ensure your instant productivity with powerful data collection and calculation tools for fast results in the field.

## STREAMLINED WORKFLOWS FOR SPECIALIZED APPLICATIONS

With Trimble Access onboard, users can now take advantage of optional specialized modules that help streamline common application workflows. The Trimble Access Roads module adds powerful tools to simplify road stakeout projects. The step-by-step approach guides users with minimal training, providing all the tools at your fingertips to complete a road stakeout job.

The Trimble Access Tunnels module provides an easy to follow workflow that guides users through tasks such as marking areas of under- and overbreak with the laser pointer of the Trimble M3. The graphical interface provides a clear view of as-designed versus as-built conditions.

The Trimble Access Land Seismic module is designed to simplify seismic stakeout work to increase speed and reduce errors. The easy-to-follow workflow uses common naming conventions for stakeout points and the unique bin-based navigation functionality ensures that operators get to the next stake location quickly.

Each M3 instrument comes standard with integrated wireless Bluetooth® connection. Through this connection, users can control the instrument using Trimble Access field software running on an external controller. This allows the M3 to be used seamlessly right along with other Trimble equipment on the job site.

## MECHANICAL EXPERTISE FROM THE INNOVATION LEADER

With long range Trimble DR technology, you can save time by reducing instrument setups to reach your desired measurement points. The high-accuracy EDM provides fast, reliable measurements to get your job done quickly and efficiently. Renowned Nikon optics provide proven clarity, quality and precision for improved aiming and operation.

Ergonomic controls plus an integrated screen and keyboard streamline and simplify your inputs.

With its bright, colorful QVGA touchscreen running Microsoft® Windows® Embedded CE 6.0 operating system, the Trimble M3 display optimizes the graphical-rich features of Trimble Access with improved readability and menu navigation. Graphical staking of points, lines, arcs and alignments is available with the Active Maps feature.

## DESIGNED TO KEEP YOU MOVING

Due to its small and lightweight design, the Trimble M3 is quick and easy to move around the job site. Each instrument comes with the choice of internal optical or laser plummet making for convenient known point setups. The system ships in a rugged and compact hard-shell transport case so it is easy to transport to and from the job site.

With two hot-swappable, long life batteries included, the Trimble M3 is capable of up to 26 hours of continuous operation. This offers users the ability to quickly replace a battery while continuously working when power is getting low, without shutting down.

## TRIMBLE M3 DR 5" W

For users working in cold temperatures, the Trimble M3 DR 5" Winterized version is specially designed for use in low temperature conditions. When in use during extreme low temperatures, the rear display heater will switch on automatically at temperature around -15°C.

# TRIMBLE M3 TOTAL STATION

## DISTANCE MEASUREMENT

Range with specified prisms

Good conditions<sup>1</sup>

With reflector sheet 5 cm x 5 cm (2 in x 2 in)

1", 2", 3", 5" ..... 1.5 m to 270 m (4.9 ft to 886 ft)  
5" Winterized ..... 1.5 m to 300 m (4.9 ft to 984 ft)

With single prism 6.25 cm (2.5 in)

1", 2", 3", 5" ..... 1.5 m to 3,000 m (4.9 ft to 9,843 ft)  
5" Winterized ..... 1.5 m to 5,000 m (4.9 ft to 16,404 ft)

Reflectorless mode

1", 2", 3", 5"	Good <sup>1</sup>	Normal <sup>2</sup>	Difficult <sup>3</sup>
KGC (18%)	350 m (1,148 ft)	250 m (820 ft)	200 m (656 ft)
KGC (90%)	500 m (1,640 ft)	400 m (1,312 ft)	250 m (820 ft)

5" Winterized	Good <sup>1</sup>	Normal <sup>2</sup>	Difficult <sup>3</sup>
KGC (18%)	280 m (919 ft)	250 m (820 ft)	200 m (656 ft)
KGC (90%)	500 m (1,640 ft)	400 m (1312 ft)	300 m (984 ft)

Accuracy<sup>4</sup>

(Standard Deviation based on ISO 17123-4)

Prism ..... ±(2+2 ppm × D) mm

Reflectorless ..... ±(3+2 ppm × D) mm

Winterized version

Prism ..... ±(3 + 2 ppm × D) mm (–10 °C to +40 °C)

±(3 + 3 ppm × D) mm (–20 °C to –10 °C, +40 °C to +50 °C)

Reflectorless ..... ±(3 + 2ppm × D) mm (–10 °C to +40 °C)

± (3 + 3ppm × D) mm (–20 °C to –10 °C, +40 °C to +50 °C)

Measuring interval<sup>5</sup>

Prism mode	Standard mode	Fast standard mode
1", 2", 3", 5"	1.6 s	0.8 s
5" Winterized	1.5 s	0.8 s

Reflectorless mode	Standard mode	Fast standard mode
1", 2", 3", 5"	2.1 s	1.2 s
5" Winterized	1.8 s	1.0 s

Least count	1 mm (0.002 ft)	10 mm (0.02 ft)
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## ANGLE MEASUREMENT

DIN 18723 accuracy (horizontal and vertical) ..... 1", 2"/0.5 mgon  
3"/1.0 mgon, 5"/1.5 mgon

Reading system ..... Absolute encoder

Circle diameter ..... 62 mm (2.4 in)

Horizontal/Vertical angle ..... Diametrical

Minimum increment (Degree, Gon, MIL6400) ..... Degree: 1/5/10"

Gon: 0.2/1/2 mgon

MIL6400: 0.005/0.02/0.05 mil

## TELESCOPE

Tube length ..... 125 mm (4.9 in)

Image ..... Erect

Magnification ..... 30× (18x/36x with optional eyepieces)

1", 2", 3", 5" Effective diameter of objective ..... 40 mm (1.6 in)

1", 2", 3", 5" EDM diameter ..... 45 mm (1.8 in)

5" Winterized Effective diameter of objective ..... 45 mm (1.8 in)

5" Winterized EDM diameter ..... 50 mm (2.0 in)

Field of view ..... 1°20'

Resolving power ..... 3"

Minimum focusing distance ..... 1.5 m (4.9 ft)

Laser Pointer ..... Coaxial Red Light

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## TILT SENSOR

Type ..... Dual-axis

Method ..... Liquid-electric detection

Compensation range ..... ±3.5°

## COMMUNICATIONS

Communication ports ..... 1 x serial (RS-232C), 2 x USB (host and client)

Wireless communications ..... Integrated Bluetooth

## POWER

Internal Li-ion battery (x2)

Output voltage ..... 3.8 V DC

Operating time<sup>6</sup>

1", 2", 3", 5" ..... approx. 26 hours (distance/ angle measurement every 30 seconds)

approx. 28 hours (continuous angle measurement)

5" Winterized ..... approx. 16 hours (distance/angle measurement every 30 seconds)

approx. 20 hours (continuous angle measurement)

Charging time, full charge ..... 4 hours

## GENERAL SPECIFICATIONS

Level vials

Sensitivity of Circular level vial ..... 10/2 mm

Tangent/Clamps ..... Endless (1", 2", 3", 5"); Clamping (1")

Display face 1 ..... QVGA, 16 bit color, TFT LCD, backlit (320x240 pixel)

Display face 2 ..... Backlit, graphic LCD (128x64 pixel)

Point memory ..... 128 MB RAM, 1 GB Flash Memory

Internal Plummet ..... Optical or Class 2 Laser

Dimensions (W x D x H) ..... 149 mm x 145 mm x 306 mm

(5.8 in x 5.7 in x 12.0 in)

Weight (approx.)

1", 2", 3", 5" Main unit ..... 4.2 kg (9.3 lb)

5" Winterized ..... 4.1 kg (9.0 lb)

Battery ..... 0.1 kg (0.2 lb)

Carrying case ..... 2.3 kg (5.1 lb)

## ENVIRONMENTAL

Operating temperature range ..... –20 °C to +50 °C (–4 °F to +122 °F)

Winterized ..... –30 °C to +50 °C (–22 °F to +122 °F)

Storage temperature range ..... –25 °C to +60 °C (–13 °F to +140 °F)

Winterized ..... –30 °C to +60 °C (–22 °F to +140 °F)

Atmospheric correction

Temperature range ..... –40 °C to +60 °C (–40 °F to +140 °F)

Barometric pressure ..... 400 mmHg to 999 mmHg/533 hPa to

1,332 hPa/15.8 inHg to 39.3 inHg

Dust and water protection ..... IP66

## CERTIFICATION

Class B Part 15 FCC certification, CE Mark approval. C-Tick.

Laser safety IEC 60825-1 am2:2007

1", 2", 3", 5" Prism mode: Class 1 laser

1", 2", 3", 5" Reflectorless/Laser Pointer: Class 3R laser

5" Winterized reflectorless / Prism mode: Class 1 laser

5" Winterized laser Pointer: Class 2 laser

Laser Plummet: Class 2 laser

1 Good conditions (good visibility, overcast, twilight, low ambient light).

2 Normal conditions (normal visibility, object in the shadow, moderate ambient light).

3 Difficult conditions (haze, object in direct sunlight, high ambient light).

4 ±(3+3 ppm × D) mm –20 °C to –10 °C, +40 °C to +50 °C (–4 °F to +14 °F, +104 °F to +122 °F)

5 Measuring time may vary depending on measuring distance and conditions. Specification based on average of repeated measurements.

6 Battery life specification at 25 °C (77 °F). Operation times may vary depending on the condition and deterioration of the battery.

Bluetooth type approvals are country specific.

Specifications subject to change without notice.



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