

# Trimble

# Trimble 3600 Total Station Series

*Highly productive, innovative 3D measuring system*

## Key Features and Benefits

- Extensive software choice
- Choice of user interface
- 1 mm + 1 ppm High-precision DR EDM system with reflectorless measurement capability
- QuickDrive—clamp free operation and endless slow motions
- Trigger Key measurement
- 3600 DR Arctic model for work in temperatures down to -32°C

Whether you work as a topographic, cadastral, building or construction surveyor, the innovative Trimble 3600 Total Station series is designed to optimize your workflow and field productivity.

### Increased Productivity

For operation in high productivity environments, the QuickDrive with its clamp free operation and endless slow motions deliver huge productivity gains over conventional clamps. The ergonomically placed Trigger Key close to the QuickDrive activates the measurement quickly and conveniently.

### DR Measurement Mode

The innovative DR EDM system option is ideal for surveying where the target is difficult, impossible or dangerous to reach. It opens up a world of new applications—building elevation surveys, tunnel profiling, measuring to objects on private land, and safe positioning of points in active traffic. This system enables you to measure to any object within 80 m (262 ft) (Kodak Grey Card 18% reflective) and up to 120 m (394 ft) (Kodak Grey Card 90% reflective), with no need for a prism. The coaxial visible laser spot facilitates aiming in interior or low light applications.

### Data Capture

The 3600 series of instruments has four choices of user interface. The first option is the ACU controller, a highly-graphical color unit that attaches to the 3600. The ACU runs your choice of Trimble Survey Controller™ software or Trimble Survey Pro\* software. The second option is the detachable Geodimeter® Control Unit with color-coded keys, containing a wide variety of software applications, and up to 8,000 point memory capacity. Existing Geodimeter users can move to the new platform with no change to routine operation.

Another choice is the built-in Zeiss Elta Panel with programmable DOS open system architecture



*The productive Trimble 3600 Total Station series is ideal for all types of survey work.*

providing 4Mb memory, custom applications, and the ability to run both third-party software, e.g. TDS, and the Zeiss Elta® Software.

The final option is the TSCe™ data collector—a rugged handheld unit that runs Trimble Survey Controller software or Trimble Survey Pro\* software.

### Wireless Communications with the Office

The 3600 series with the Zeiss Elta Panel utilizes industry standard infrared (IR) communications in addition to conventional RS-232 communications. Using the IR communication port you can transfer files to and from PDA's and certain cellular phones without the need for a cable. The cellular phone can transfer your data to or from the office without the need for you to ever leave site—ideal when you arrive at the job site without all your data!

### Truly Integrated Surveying™

The 3600 series is the ideal complement to Trimble's GPS systems—you can use the 3600 to collect data that cannot be measured

by GPS: indoor measurements or building facade measurements for example. The two are seamlessly linked using the ACU or the TSCe controller, enabling you to easily switch between RTK and total station measurement. All the combined data can be processed and analyzed in Trimble survey office solutions.

### Arctic Surveying

The 3600 DR Arctic Total Station has been created to handle extremely low temperatures—down to -32°C (-25°F). The combination of the DR measurement system and the Arctic instrument specifications is ideal for use in colder regions where temperatures regularly drop below -10°C. The 3600 is provided with an Arctic Geodimeter Control Unit that is also designed for low temperature work.

Providing all the benefits of a conventional total station, with optional DR capability, the Trimble 3600 Total Station series can make you more productive than ever before.

*\*Only available in North America*

# Trimble 3600 Total Station Series

## PERFORMANCE SPECIFICATIONS

### ANGLE MEASUREMENT

Accuracy (Standard deviation based on DIN 18723)

3601	1.5" (0.46 mgon)
3602	2" (0.6 mgon)
3603 and 3603 Arctic	3" (0.9 mgon)
3605 and 3605 Arctic	5" (1.5 mgon)

Angle reading (least count) 0.1" (0.01 mgon)

Automatic level compensator Dual-axis compensator ±5' (±90 mgon)

### DISTANCE MEASUREMENT

#### EDM types

3601	High-precision DR Standard EDM
3602	High-precision DR Standard EDM or DR Standard EDM
3603 and 3603 Arctic	DR Standard EDM
3605 and 3605 Arctic	DR Standard EDM

#### Accuracy

##### Prism, high-precision DR Standard EDM<sup>1</sup>

Standard measurement	±(1 mm + 1 ppm) (0.0033 ft + 1 ppm)
Fast Standard	±(3 mm + 2 ppm) (0.01 ft + 2 ppm)
Tracking	±(5 mm + 2 ppm) (0.016 ft + 2 ppm)

##### Prism, DR Standard EDM

Standard measurement	±(2 mm + 2 ppm) (0.007 ft + 2 ppm)
Fast Standard	±(3 mm + 2 ppm) (0.01 ft + 2 ppm)
Tracking	±(5 mm + 2 ppm) (0.016 ft + 2 ppm)

##### Reflective foil, high-precision DR Standard EDM and DR Standard EDM

Standard measurement	±(3 mm + 2 ppm) (0.01 ft + 2 ppm)
Fast Standard	±(3 mm + 2 ppm) (0.01 ft + 2 ppm)
Tracking	±(5 mm + 2 ppm) (0.016 ft + 2 ppm)

##### Direct Reflex mode, high-precision DR Standard EDM and DR Standard EDM

Standard measurement	±(3 mm + 2 ppm) (0.01 ft + 2 ppm)
Fast Standard	±(5 mm + 2 ppm) (0.016 ft + 2 ppm)
Tracking	±(10 mm + 2 ppm) (0.032 ft + 2 ppm)

Shortest possible range, high-precision DR Standard EDM and DR Standard EDM  
(to prism and direct reflex) 1.5 m (4.9 ft) [in Normal Mode]  
(to reflective foil) 2.5 m (8.2 ft)

### Measuring time

Prism mode, high-precision DR Standard EDM and DR Standard EDM

Standard measurement	< 2 s
Fast Standard	< 1.8 s
Tracking	< 0.4 s

Direct Reflex mode, high-precision DR Standard EDM and DR Standard EDM

Standard measurement	3 s up to 30 m + 1 s/10 m
Fast Standard	2 s up to 30 m + 1 s/10 m
Tracking	0.8 s up to 30 m + 1 s/10 m

Range (at standard clear<sup>2</sup>), high-precision DR Standard EDM<sup>1</sup>

1 prism	3000 m (9,840 ft)
1 prism Long Range Mode	1000 m–5000 m (3,280 ft–16,400 ft)
3 prisms	5000 m (16,400 ft)
3 prisms Long Range Mode	1000 m–7000 m (3,280 ft–22,960 ft)

Range (at standard clear<sup>2</sup>), DR Standard EDM

1 prism	3000 m (9,840 ft)
1 prism Long Range Mode	1000 m–5000 m (3,280 ft–16,400 ft)
3 prisms	5000 m (16,400 ft)
3 prisms Long Range Mode	1000 m–7500 m (3,280 ft–24,600 ft)

Range (at standard clear<sup>2</sup>), high-precision DR Standard EDM and DR Standard EDM

Reflective foil 20 mm Normal Mode	100 m (328 ft)
Reflective foil 20 mm Long Range Mode	200 m (656 ft)
Reflective foil 60 mm Normal Mode	250 m (820 ft)
Reflective foil 60 mm Long Range Mode	800 m (2,620 ft)

Range (at standard clear<sup>2</sup>) Direct Reflex measurement on Kodak Gray Card: Cat.No.

E1527795, high-precision	
DR Standard EDM and DR Standard EDM	
Kodak Gray (18% reflective)	80 m (230 ft)
Kodak Gray (90% reflective)	120 m (328 ft)

<sup>1</sup> Temperature range of +5°C to +45°C (41°F to 113°F)

<sup>2</sup> Standard clear: No haze, overcast or moderate sunlight with very light heat shimmer. Range and accuracy are dependent on atmospheric conditions and background radiation.

## GENERAL SPECIFICATIONS

### Light source

Laser diode 660 nm	Laser class 1 on prism Laser class 2 in Direct Reflex Mode
--------------------	---

### Beam divergence

0.4 mrad

### Atmospheric correction

Temperature sensor in instrument

### Leveling

Circular level in tribrach 8' / 2 mm

### Clamps and slow motion drives

Co-axial, friction clamp with endless slow motion

### Centering

Centering system	Trimble 3-pin
Optical plummet	Optional
Laser plummet	Optional
Magnification	2.4 x
Shortest focussing range	0.5 m – infinity

### Telescope

Magnification	30 x
Aperture	40 mm (1.57 in)
Shortest focussing range	1.5 m (4.92 ft)
Field of view at 100 m	1.2°, 2.2 m / 100 m (7.21 ft / 328 ft)
Illuminated crosshair	Yes

### Tracklight®

Standard

### Operating temperature

3600DR	-20°C to +50°C (-5°F to +122°F)
3600DR Arctic	-32°C to +50°C (-26°F to +122°F)

### Environmental

IPX 4

### Power supply

#### Internal buffer battery<sup>3</sup>

Optional, 2 minute operation  
NiMH battery pack, 6 V, 3.5 Ah, rechargeable

Charging time on empty: 1.5 hours

Operating time: approx. 8.5 hours

#### External battery

NiCd battery pack, 6 V, 7.0 Ah, rechargeable

Charging time on empty: 3.5 hours

Operating time: approx. 12 hours

<6.7 kg (14.8 lbs)

### Dimensions

Instrument 222 x 370 x 185 mm (8.7" x 14.6" x 7.3")

#### Trunnion axis height -

3-pin or DIN 196 mm / 205 mm / 175 mm (7.7" / 8.1" / 6.9")

<sup>3</sup> Only available with Zeiss Elta Panel

Certified quality in accordance with DIN ISO 9001/EN 29001.

CLASS I and II LASER PRODUCT, Complies with 21 CFR 1040.10



## CONTROL UNIT FEATURES

### Keyboard

Trimble ACU	Attachable Trimble ACU controller
Geodimeter CU	Attachable Geodimeter Control Unit: numeric, alphanumeric, or alphanumeric Arctic
Zeiss Elta Panel	Attached Zeiss Elta Panel or attached dual face Zeiss Elta Panel

### Display screen

Trimble ACU	Color, illuminated TFT, daylight readable touch screen displayed at 320 x 240 pixels (QVGA) CCFL
Geodimeter CU	33 keys, 4 line LCD, 20 characters/ line, illuminated
Zeiss Elta Panel	8 lines by 40 columns, CGA graphic display (320 x 80 pixels), illuminated, 28 keys

### Data recording

Trimble ACU	128 MB non-volatile flash memory
Geodimeter CU	Internal memory up to 8,000 pints
Zeiss Elta Panel	Internal memory > 4MB

### Data transfer

Trimble ACU	
Multiport	COM2; Ethernet 10-BaseT; USB client, power in/out, audio in/out. 26-pin RS-232.
Hirose	COM1; power in. 4-pin RS-232.
Geodimeter CU	Two-way RS-232
Zeiss Elta Panel	RS-232- Slipring, IR communication

### Software

Trimble ACU	Trimble Survey Controller™ or Trimble Survey Pro*
Geodimeter CU	Extensive library of powerful programs for data collection and field calculations
Zeiss Elta Panel	Extensive library of powerful programs for data collection and field calculations or use third-party software of your choice, e.g. TDS Survey Pro

\* Only available in North America

## ORDERING INFORMATION

For further information please contact your nearest Trimble Authorized Distributor or Trimble Office. You may also visit our website at <http://www.trimble.com>



NORTH AMERICA  
Trimble Geomatics and  
Engineering Division  
5475 Kellenburger Road  
Dayton, Ohio 45424-1099,  
U.S.A.  
800-538-7800 (Toll Free)  
+1-937-233-8921 Phone  
+1-937-233-9441 Fax  
[www.trimble.com](http://www.trimble.com)

EUROPE  
Trimble GmbH  
Am Prime Parc 11,  
D-65479 Raunheim,  
GERMANY  
+49-6142-21000 Phone  
+49-6142-2100-550 Fax

ASIA-PACIFIC  
Trimble Navigation Australia  
PTY Limited  
Level 1/123 Gotha Street,  
Fortitude Valley, QLD 4006,  
AUSTRALIA  
+61-7-3216-0044 Phone  
+61-7-3216-0088 Fax

YOUR LOCAL TRIMBLE OFFICE OR REPRESENTATIVE