



### TRIMBLE TS600 SERIES KEY FEATURES

- A rugged, high-performance total station designed for building construction layout
- Survey-grade measurements from the industry leader... that you can achieve yourself
- Long-range reflectorless DR (Direct Reflex) capability for efficient one-person measurements
- Proven, powerful, easy-to-use Trimble TS total station software in TS635
- Extended onboard software of TS662 provides additional data collection and layout features including RAW data storage.
- TS600 Series offers either 5 second or 2 second angular accuracy.



The Trimble® TS600 Series Total Stations are rugged, feature-packed mechanical total stations designed to meet the needs of concrete and general contractors performing layout and alignment for building construction. Use the Trimble TS635/662 alone or partner it with the Trimble LM80 Layout Manager.

#### UNSURPASSED RELIABILITY FROM A BEST-IN-CLASS TOTAL STATION

The Trimble TS600 Series delivers practical hardware and software in a rugged (IP66)—but sleek and compact—housing.

#### The Advanced Features You Need for Every Job

Whether setting out points to align concrete forms, setting anchor bolts, staking building corners, or creating offset points for column lines, the Trimble TS635/662 makes your job more efficient and profitable, safer and easier:

- Long-range reflectorless DR (Direct Reflex) enables one person to measure even hard-to-reach points quickly and safely—up to 300 m without a prism.
- Superior optics provide clear sighting and precise aiming, so you can finish a job when it is done—not because you are losing light in the late afternoon or under cloud.
- Eliminate data cable with Bluetooth wireless connection to the Trimble LM80 Layout Manager.
- A laser plummet offers four levels of spot brightness, making the red dot easier to see on a bright day and to position over your hub.
- Dual onboard lithium-ion batteries provide up to 19 hours of continuous service or 57 hours of intermittent service for less downtime due to loss of battery power.
- An illuminated graphic display provides easy operation in any field environment; the screen display is customizable to accommodate varying field requirements.

#### Proven Trimble Total Station Software That Is Familiar and Easy to Use

The Trimble TS600 employs onboard software that has been proven in the field. It is powerful but easy to use, and its familiarity means new TS600 users will be productive ... and meeting tight project deadlines ... in no time.

The software delivers powerful construction-specific layout programs, data collection and feature coding, stakeout programs, COGO calculation programs, and measurement functions. A full alpha-numeric keyboard provides dedicated keys for accessing software menus and modes. The TS662 on-board software offers additional functionality for the most demanding contractors.

#### BEST PERFORMANCE AND ACCURACY

You can always rely on the Trimble TS600 series to deliver the accuracy you need. Its industry-leading distance and measurement capabilities and simple interface let you take control of your layout needs without third parties.

By partnering the TS600 series with the LM80, you can achieve even greater performance via the LM80's powerful link to CAD or *BIM* software: Generate point position and description information directly from a file and effortlessly transfer this data between office and field.

#### A CONSTRUCTION LAYOUT SOLUTION FROM THE POSITIONING LEADER

Trimble is the industry leader in high-accuracy and precision positioning, delivering the latest in technology for construction layout solutions. So with the Trimble TS600 series Total Station you can be assured of the quality of your work, and confidently stake your reputation on your results. In addition, Trimble 24/7 worldwide support means you are never alone; the surveying and construction professionals at Trimble are ready to lend a hand whenever you need it.

# TRIMBLE TS600 SERIES TOTAL STATIONS

## DISTANCE MEASUREMENT

Range with specified prisms (Good conditions)<sup>i</sup>

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

TS662 ..... 1.5 m to 270 m (4.9 ft to 886 ft)

TS635 ..... 1.5 m to 300 m (4.9 ft to 984 ft)

With single prism 6.25 cm (2.5 in)

TS662 ..... 1.5 m to 3,000 m (4.9 ft to 9,843 ft)

TS635 ..... 1.5 m to 5,000 m (4.9 ft to 16,404 ft)

Range reflectorless mode<sup>ii</sup>

| TS662                    | Good <sup>i</sup> | Normal <sup>iv</sup> | Difficult <sup>v</sup> |
|--------------------------|-------------------|----------------------|------------------------|
| KGC <sup>iii</sup> (18%) | 350 m (1,148 ft)  | 250 m (820 ft)       | 200 m (656 ft)         |
| KGC <sup>iii</sup> (90%) | 500 m (1,640 ft)  | 400 m (1,312 ft)     | 250 m (820 ft)         |

| TS635                    | Good <sup>i</sup> | Normal <sup>iv</sup> | Difficult <sup>v</sup> |
|--------------------------|-------------------|----------------------|------------------------|
| KGC <sup>iii</sup> (18%) | 250 m (820 ft)    | 200 m (656 ft)       | 150 m (492 ft)         |
| KGC <sup>iii</sup> (90%) | 400 m (1,312 ft)  | 300 m (984 ft)       | 250 m (820 ft)         |

Shortest possible range ..... 1.5m (4.9 ft)

Accuracy<sup>vi</sup> (Precise mode)

(Standard deviation based on ISO 17123-4)

Prism ..... ±(2+2 ppm x D) mm

Reflectorless ..... ±(3+2 ppm x D) mm

Measuring interval<sup>vii</sup>

| Prism mode | Precise mode | Normal mode |
|------------|--------------|-------------|
| TS662      | 1.6 s        | 0.8 s       |
| TS635      | 1.5 s        | 0.8 s       |

Reflectorless mode<sup>viii</sup>

|             |                 |                 |
|-------------|-----------------|-----------------|
| TS662       | 2.1 s           | 1.2 s           |
| TS635       | 1.8 s           | 1.0 s           |
| Least count | 1 mm (0.002 ft) | 10 mm (0.02 ft) |

## ANGLE MEASUREMENT

ISO 17123-3 accuracy (horizontal and vertical) ..... 2"/0.6 mgon TS662

5"/1.5 mgon TS635

Reading system ..... Absolute encoder

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

Horizontal/Vertical angle ..... Diametrical TS662

Single TS635

Minimum increment ..... 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 ..... 30x (18x/36x with optional eyepieces)

TS662 Effective diameter of objective ..... 40 mm (1.6 in)

TS662 EDM diameter ..... 45 mm (1.8 in)

TS635 Effective diameter of objective ..... 45 mm (1.8 in)

TS635 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

<sup>i</sup> Good conditions (good visibility, overcast, twilight, underground, low ambient light).

<sup>ii</sup> Measuring distance may vary depending on targets and measuring conditions.

<sup>iii</sup> Kodak Gray Card, Catalog number E1527795

<sup>iv</sup> Normal conditions (normal visibility, object in the shadow, moderate ambient light).

<sup>v</sup> Difficult conditions (haze, object in direct sunlight, high ambient light).

<sup>vi</sup> ±(3+3 ppm x D) mm -20 °C to -10 °C, +40 °C to +50 °C (-4 °F to +14 °F, +104 °F to +122 °F)

<sup>vii</sup> Measuring time may vary depending on measuring distance and conditions. For the initial measurement, it may take a few more seconds.

<sup>viii</sup> Measured to KGC 90% at 20 m (65 ft).

<sup>ix</sup> Battery life specification at 25 °C (77 °F). Operation time may be shorter in low temperatures or if the battery is not new.

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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)

Wireless communications ..... integrated Bluetooth

## POWER

Internal Li-ion battery (x2)

Output voltage ..... 3.8 V DC

Operating time<sup>ix</sup>

TS662

approx. 19 hours (continuous distance/angle measurement)

approx. 57 hours (distance/angle measurement every 30 seconds)

approx. 62 hours (continuous angle measurement)

TS635

approx. 10 hours (continuous distance/angle measurement)

approx. 26 hours (distance/angle measurement every 30 seconds)

approx. 31 hours (continuous angle measurement)

Charging time

Full charge ..... 4 hours

## GENERAL SPECIFICATIONS

Level vials

Sensitivity of circular level vial ..... 10'/2 mm

Optical plummet

Image ..... Erect

Magnification ..... 3x

Field of view ..... 5°

Focusing range ..... 0.5 m (1.6 ft) to ∞

Display face 1 ..... backlit, graphic LCD (128x64 pixel)

Laser plummet (optional) ..... 4 levels

Point memory ..... 10,000 records

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.)

TS662 Main unit (without batteries) ..... 3.8 kg (8.4 lb)

TS635 Main unit (without batteries) ..... 3.6 kg (8.0 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)

Storage temperature range ..... -25 °C to +60 °C (-13 °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

TS662 Prism mode: Class 1 laser

TS662 Reflectorless / Laser Pointer: Class 3R laser

TS635 Reflectorless / Prism mode: Class 1 laser

TS635 Laser Pointer: Class 2 laser

Laser Plummet (optional): Class 2 laser

Bluetooth type approvals are country specific.

Specifications subject to change without notice.



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