



# SingularXYZ TS1000 Total Station Owner's Manual

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***SingularXYZ***®

**SingularXYZ TS1000 Total Station**



## Product Information

- **TS1000 TOTAL STATION**

- The TS1000 Total Station is a surveying device that provides a brand-new experience with its advanced surveying software. It offers precise measurement capabilities, ease of use, and compatibility with Android devices for convenient data storage and measurement.

- **Distance Measurement**

- The TS1000 supports a non-prism measurement range of up to 1000m with an accuracy of 2mm. By using a single prism, the range can be extended to 7500m in less than 1 second of measure time.

- **Angle Measurement**

- The TS1000 can achieve an angle measurement accuracy of 2 units. The minimum reading for angle measurement is 5/1 (1 mg / 0.2 mg), and the measurement time is 0.1 seconds.

- **Tilt Compensation**

- The TS1000 features tilt compensation for accurate measurements. The compensator range and correction unit type are not specified in the manual.

- **Level Sensitivity**

- The circular level sensitivity is 8'/2mm, and the plate level sensitivity is 30'/2mm.

- **Telescope**

- The TS1000 has a telescope with a specified magnification, aperture, field of view, minimum focus, and image reticle illumination are not mentioned in the manual.

- **Display and Keyboard**

- The TS1000 is equipped with a dual-sided display and keyboard for convenient operation and viewing.

- **Plummet**

- The instrument features a red laser plummet to facilitate fast instrument setup in any environment. The accuracy of the plummet is specified as 1.5mm at an instrument height of 1.5m.

- **Data Management**

- The TS1000 has an internal memory with a capacity of up to 40,000 points. It also supports external USB storage for additional capacity. Data transmission can be done via RS232 serial port, Bluetooth, or USB.
  - **Electrical**
  - The TS1000 is powered by a Ni-MH battery with a capacity of 25000mAh. The operating time varies depending on the type of measurements: 6 hours for distance and angle measurement, and 20 hours for angle measurement only. The manual mentions an optional Lithium battery with increased capacity and longer operating times.
  - **Physical**
  - The size and weight of the TS1000 are not mentioned in the manual.
  - **Environmental**
  - The TS1000 is designed to operate within a specified working temperature range. The storage temperature and waterproof & dustproof capabilities are not provided in the manual.
- All specifications are subject to change without notice.

## Product Usage Instructions

**To use the TS1000 Total Station, follow these steps:**

1. Ensure the device is charged or has sufficient battery power.
2. Power on the TS1000 by pressing the designated power button.
3. For distance measurement, ensure that the TS1000 is within the non-prism measurement range of 1000m or within the extended range of 7500m using a single prism.
4. To measure distance, select the appropriate measurement mode: fine measurement mode for precise measurements (1mm minimum reading), coarse measurement mode for faster measurements (10mm minimum reading), or tracking measurement mode for continuous tracking (10mm minimum reading).
5. For angle measurement, ensure that the TS1000 is properly leveled and aligned with the target.
6. Select the desired angle measurement mode (5/1 or 1 mgon / 0.2 mgon) and initiate the measurement.
7. The TS1000 will display the measured distance and angle readings on its dual-side display.
8. To store data, use the internal memory with a capacity of up to 40,000 points or connect an external USB storage device.
9. To transfer data, choose from the available options: RS232 serial port, Bluetooth, or USB.
10. After usage, power off the TS1000 to conserve battery life.

Refer to the user manual for detailed instructions and additional features of the TS1000 Total Station.

## PRECISE MEASUREMENT

For distance measurement, the TS1000 total station supports up to 1000m non-prism measurement range with an accuracy of 2mm. With a single prism, the range can be extended to 7500m in less than 1s measure time. For angle measurement, the TS1000 can reach 2" accuracy.

## SURVEYING SOFTWARE

Connected via Bluetooth, the TS1000 can realize easy measurement and data storage in field surveying software SingularPad by Android devices such as data collector, tablet and phone. The point survey, stakeout, CAD and other functions of SingularPad are all compatible with TS1000 total station, providing brand new experience for total station users.

## EASE TO USE

The dual-side display and keyboard of TS1000 shows high convenience for your operation and viewing. Internal 40,000 points memory, external USB and software storage provide enough capacity for your various tasks. The built-in red laser plummet allows fast instrument setup in any environment.

## DISTANCE MEASUREMENT

|                  |  |
|------------------|--|
| Range            | Non-prism: 1000 m<br>Single prism: 7500 m  |
| Accuracy         | Non-prism: 2 mm+2 ppm<br>Single prism: 5 mm+3 ppm  |
| Minimum reading  | Fine measurement mode:<br>1 mm (0.005 ft.)<br>Coarse measurement mode:<br>10 mm (0.02 ft.) / 1 mm (0.005 ft.)<br>Tracking measurement mode:<br>10 mm (0.02 ft.)  |
| Measurement time | Fine measurement mode:<br>1.0 s (first time 2 s)<br>Coarse measurement mode:<br>0.7 s (first time 2 s)<br>Tracking measurement mode:<br>0.3 s (first time 1.5 s) |

## ANGLE MEASUREMENT

|                  |                           |
|------------------|---------------------------|
| Minimum reading  | 5"/1" (1 mgon / 0.2 mgon) |
| Accuracy         | 2" (0.6 mgon)             |
| Measurement time | 0.1 s                     |

## TILT COMPENSATION

|                   |           |
|-------------------|-----------|
| Type              | Dual axis |
| Compensator range | ±3'       |
| Correction unit   | 1"        |

## LEVEL SENSITIVITY

|                            |          |
|----------------------------|----------|
| Circular level sensitivity | 8'/2 mm  |
| Plate level sensitivity    | 30"/2 mm |

## TELESCOPE

|                      |         |
|----------------------|---------|
| Magnification        | 30x     |
| Aperture             | 45 mm   |
| Field of view        | 1° 30'  |
| Minimum focus        | 1.5 m   |
| Image                | Erect   |
| Reticle illumination | Support |

## DISPLAY

|          |                                |
|----------|--------------------------------|
| Display  | Dual side, 192 × 128 pixel     |
| Keyboard | Alphanumeric keyboard, 24 keys |

## PLUMMET

|              |                                   |
|--------------|-----------------------------------|
| Plummet type | Red laser                         |
| Accuracy     | 1.5 mm (Instrument height: 1.5 m) |

## DATA MANAGEMENT

|                   |   |
|-------------------|---|
| Memory            | Up to 40000 points storage, support external USB expansion. |
| Data transmission | - RS232 serial port<br>- Bluetooth<br>- USB                 |

## ELECTRICAL

|                               |   |
|-------------------------------|---|
| Battery voltage               | DC 7.2 – 7.4V   |
| Battery capacity <sup>1</sup> | 25000 mAh Ni-MH battery   |
| Operating time                | - Distance + angle measurement: 6 hours<br>- Angle measure only: 20 hours |

## PHYSICAL

|        |                    |
|--------|--------------------|
| Size   | 190 × 210 × 350 mm |
| Weight | 6.5 kg             |


## ENVIRONMENTAL

|                        |                   |
|------------------------|-------------------|
| Working temperature    | -20 °C to + 55 °C |
| Storage temperature    | -40 °C to + 60 °C |
| Waterproof & dustproof | IP54              |

1. The default Ni-MH battery can be replaced with optional Lithium battery:

- **Capacity:** 32000 mAh
- **Distance + angle measurement:** 8 hours
- **Angle measure only:** 25 hours
- All specifications are subject to change without notice.
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## Documents / Resources

|   |   |
|---|---|
|  | <a href="#">SingularXYZ TS1000 Total Station</a> [pdf] Owner's Manual<br>TS1000, TS1000 Total Station, Total Station, Station |
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## References

- [S SingularXYZ](#)

Manuals+.