

Mastering the Total Station

Unlock the power of this essential surveying tool and take your skills to new heights.

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Principles of Total Station Technology

Precision Optics

Total stations use advanced optics to accurately measure angles and distances with high precision.

Electronic Distance Measurement

EDM technology allows for fast, reliable distance measurements without the need for a physical tape.

Digital Data Capture

Total stations seamlessly record survey data, eliminating manual transcription errors.

Total Station Components and Functions



Telescope

Magnifies the target for precise aiming and measurement.



Laser Rangefinder

Measures distances with millimeter-level accuracy.



Data Collector

Stores survey data and allows for on-site processing.



Tribrach

Provides a stable, leveled base for precise measurements.

Preparing the Total Station for Use

Level the Instrument

Carefully level the total station using the built-in bubble levels.

1

Calibrate and Check

Perform regular calibration checks to ensure the highest accuracy.

3

Align to North

Orient the total station to magnetic north or a known reference point.

2

Performing Basic Surveying Tasks

1 Distance Measurement

Accurately measure distances between points using the total station's EDM.

3 Coordinate Mapping

Capture the 3D coordinates of points to build detailed site maps.

2 Angle Calculation

Determine precise horizontal and vertical angles using the station's optics.

4 Topographic Surveys

Efficiently measure terrain features and generate digital elevation models.

Collecting and Storing Data

▼ Capturing Survey Data

The total station's data collector allows you to seamlessly record measurements, point IDs, and other critical survey information.

▼ Onboard Data Storage

Robust internal storage ensures your valuable survey data is securely preserved, even in remote field conditions.

▼ Data Backup and Transfer

Easily transfer your data to a computer or cloud storage for further processing and analysis.

Downloading and Processing Data

1

Download Data

Transfer survey data from the total station to your computer.

2

Process in Software

Use specialized CAD or GIS software to analyze and visualize the data.

3

Generate Outputs

Create detailed reports, maps, and 3D models from the processed data.

Tips and Best Practices

Maintain Calibration

Regular calibration checks ensure the total station remains accurate.

Protect from Elements

Use proper cases and covers to shield the instrument from weather and dust.

Charge Batteries

Always keep spare, fully charged batteries on hand for uninterrupted use.

Record Metadata

Document project details, point descriptions, and other contextual information.

