

Total Station

Civil Engineering

What it measures, and what it cancels.

A total station measures a horizontal angle, a vertical angle and a slope distance, then computes coordinates.

TYPICAL ANGLE ACCURACY

1 to 5 seconds

TYPICAL DISTANCE

About 2 mm + 2 ppm

- Set up over a known point and orient it
- Backsight a second known point for bearing
- Check a third point before you trust the setup
- A wrong prism constant shifts every distance
- Face left and face right cancels axis errors
- Record raw observations, not just the results

LOOK FOR IT

An unchecked prism constant puts every measured distance out by the same amount.

Educational reference. Quoted accuracies are manufacturer figures under test conditions, not field guarantees.