

Nikon DTM-502 Total Station

GENERAL SPECIFICATIONS

Telescope
 Tube length 158 mm (6.22 in)
 Image Erect
 Effective diameter of objective 45 mm (1.77 in) EDM: 50 mm/1.97 in
 Magnification 33× (21×/41× with optional eyepieces)
 Field of view 1°20' (2.3 m at 100 m) (2.3 ft at 100 ft)
 Resolving power 2.5"
 Minimum focusing distance 1.3 m (4.26 ft)
 Reticle illumination Provided (3 steps)

Distance measurement
 Under good conditions
 (no haze with visibility over 40 km/25 miles)
 With reflector sheet 5 m to 100 m (16.4 ft to 328.1 ft)
 With mini prism 1,100 m (3,600 ft)
 With single prism 2,700 m (8,900 ft)
 With triple prisms 3,600 m (11,800 ft)
 With nine prisms 4,400 m (14,400 ft)

Under normal conditions
 (ordinary haze with visibility about 20 km (12.5 miles))
 With reflector sheet 5 m to 100 m (16.4 ft to 328.1 ft)
 With mini prism 950 m (3,100 ft)
 With single prism 2,400 m (7,900 ft)
 With triple prisms 3,100 m (10,200 ft)
 With nine prisms 3,700 m (12,100 ft)

Readout display 9999.9999 m (29999.999 ft)

Accuracy
 Precise mode ±(2 + 2 ppm × D) mm
 Normal mode ±(4 + 2 ppm × D) mm

Least count
 Precise mode 0.1 mm/1 mm (0.0005 ft/0.002 ft) selectable
 Normal mode 1 mm/10 mm (0.002 ft/0.02 ft) selectable

Measuring intervals
 Precise mode 1.0 sec (initial 1.0 sec)
 Normal mode 0.5 sec (initial 1.0 sec)

Ambient temperature range -20 °C to 50 °C (-4 °F to 122 °F)

Atmospheric correction
 Temperature range -40 °C to 60 °C (-40 °F to 140 °F)
 Barometric pressure 400 to 999 mmhg/533 to 1332 hpa/
 15.8 to 39.3 in.hg
 Prism offset correction -999 to 999

Angle measurement
 Reading system Photoelectric detection by incremental
 encoder (diametrical detection for H/V circles)

Circle diameter 79 mm

Minimum increment
 (Degree) 0.5"/1"/5" (DTM-552)
 1"/5"/10" (DTM-532 and 522)
 (Gon) 0.1 mgon/0.2 mgon/1 mgon (DTM-552)
 0.2 mgon/1 mgon/2 mgon¹ (DTM-532 and 522)
 (MIL6400) 0.002 mil/0.005 mil/0.02 mil (DTM-552)
 0.005 mil/0.02 mil/0.05 mil (DTM-532 and 522)

Accuracy (horizontal and vertical standard deviation
 on DIN18723) 1"/0.3 mgon (DTM-552)
 2"/0.5 mgon (DTM-532)
 3"/1mgon (Standard deviation on DIN 18723) (DTM-522)

Dual-axis compensator
 Method Liquid-electric detection
 Compensation range ±3'
 Setting accuracy ±1"

Lumi-Guide
 Working range 100 m (330 ft)
 Positioning accuracy Within approx. 6 cm at 100 m (2.4 in at 330 ft)

Level vials
 Sensitivity of plate level vial 20"/2 mm (DTM-552)
 30"/2 mm (DTM-532 and 522)
 Sensitivity of circular level vial 10'/2 mm

Optical plummet
 Image Erect
 Magnification 3×
 Field of view 5°
 Focusing range 0.5 m (1.6 ft) to ∞

Display type Graphic dot-matrix LCD (128 × 64 dot) on both sides

Point memory
 Raw and coordinates 10,000 records

Dimensions (W × D × H) (approx.) 166 × 156 × 365 mm (6.5 × 6.1 × 14.4 in)
 Weight (approx.)
 Main unit (without battery) 4.9 kg (10.8 lb)
 BC-80 clip-on battery 0.6 kg (1.3 lb)
 Plastic carrying case 3.1 kg (6.8 lb)

Clip-on Ni-MH battery BC-80
 Output voltage 7.2 V DC
 Operating time Approx. 10.5 hours
 (continuous distance/angle measurement)
 Approx. 24 hours (distance/angle measurement every 30 seconds)
 Approx. 30 hours (angle measurement only)

Charging time Approx. 2.0 hours for full charge
 Recharging time Approx. 2.0 hours
 (fully discharged BC-80 requires more than one charge)

1. 0.1 mgon/0.2 mgon/1 mgon available as a manufacturer's option.

Specifications and equipment are subject to change without any notice.

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