

# Nikon DTM-322+ Total Stations

## Specifications Sheet

### Distance Measurement

- Range with Nikon specified prisms
  - Good conditions (No haze, visibility over 40 km (25 miles))
    - With reflector sheet (5 × 5 cm): 5 m to 100 m (16.4 ft to 328 ft)
    - With mini prism 2.5 cm (1 in): 1,200 m (3,930 ft)
    - With single prism 6.25 cm (2.5 in): 2,300 m (7,540 ft)
    - With triple prism: 3,000 m (9,840 ft)
  - Normal conditions (Ordinary haze, visibility approx 20 km (12.4 miles))
    - With reflector sheet (5 × 5 cm): 5 m to 100 m (16.4 ft to 328 ft)
    - With mini prism 2.5 cm (1 in): 1,000 m (3,280 ft)
    - With single prism 6.25 cm (2.5 in): 2,000 m (6,560 ft)
    - With triple prism: 2,600 m (8,530 ft)
- Accuracy (Prism/Precise mode)<sup>1, 2</sup>: ±(3+2 ppm × D) mm
  - Measuring interval<sup>3</sup>
    - Precise mode: 1.6 sec. (initial 1.6 sec.)
    - Normal mode: 1.0 sec. (initial 1.4 sec.)
- Least count
  - Precise mode: 1 mm (0.002 ft)
  - Normal mode: 10 mm (0.02 ft)

### Angle Measurement

- ISO 17123-3 accuracy (horizontal and vertical)
  - 2"/0.6 mgon; 5"/1.5 mgon
- Reading system: Photoelectric detection by incremental encoder
- Circle diameter: 88 mm (3.46 in)
- Horizontal angle
  - 2" Diametrical
  - 5" Single
- Vertical angle: Single
- Minimum increment
  - Degree: 1/5/10"
  - Gon: 0.2/1/2 mgon
  - MIL6400: 0.005/0.02/0.05 mil

### Telescope

- Tube length: 158 mm (6.2 in)
- Image: Erect
- Magnification: 33× (21×/41× with optional eyepieces)
- Effective diameter of objective: 45 mm (1.77 in)
- EDM diameter: 50 mm (1.97 in)
- Field of view: 1°20'
- Resolving power: 2.5"
- Minimum focusing distance: 1.5 m (4.92 ft)

### Tilt Sensor

- Type: Dual axis
- Method: Liquid-electric detection
- Compensation range: ±3'

### Communications

- Communication ports: 1 × serial (RS-232C)
- Wireless communications: Integrated Bluetooth

### Power

- Clip-on Li-ion battery (x2 incl.): Output voltage: 3.8 V DC
- Operating time<sup>4</sup>:
  - approx. 12 hours (continuous distance/angle measurement)
  - approx. 24 hours (distance/angle measurement every 30 seconds)
- Charging time: Full charge: 4 hours
  - External power supply: N/A

### General Specifications

- Level vials
  - Sensitivity of Plate level vial: 30"/2 mm
  - 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 face 1: Backlit, graphic LCD (128 × 64 pixel)
- Display face 2 (DTM-322 2" only): Backlit, graphic LCD (128 × 64 pixel)
- Point memory: 25,000 records
- Dimensions (W × D × H): 168 mm × 173 mm × 335 mm (6.6 in × 6.8 in × 13.2 in)
- Weight (approx.)
  - Main unit (without battery): 4.8 kg (10.6 lb)
  - Battery: 0.1 kg (0.2 lb)
  - Carrying case: 2.4 kg (5.3 lb)

### Environmental

- Ambient temperature range: -20 °C to +50 °C (-4 °F to +122 °F)
- Atmospheric correction
  - Temperature range: -40 °C to +55 °C (-40 °F to +131 °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: IP55

### Certification

- Class B Part 15 FCC certification, CE Mark approval, C-Tick.
- Bluetooth type approvals are country specific.

<sup>1</sup> ±(3+3 ppm × D) mm -20 °C to -10 °C, +40 °C to +50 °C (-4 °F to +14 °F, +104 °F to +122 °F)  
<sup>2</sup> Standard deviation based on ISO 17123-4.  
<sup>3</sup> Measuring time may vary depending on measuring distance and conditions.  
<sup>4</sup> Battery life specification is per battery at 25 °C (77 °F).

Specifications are subject to change without prior notice.



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