

# Nikon DTM-322 Total Station

## Specifications Sheet

SIMPLE • ACCURATE • VALUE

### 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)

1 ±(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)

2 Standard deviation based on ISO 17123-4.

3 Measuring time may vary depending on measuring distance and conditions.

4 Battery life specification at 25 °C (77 °F).

Specifications are subject to change without prior notice.

### TILT SENSOR

Type . . . . . Single-axis

Method . . . . . Liquid-electric detection

Compensation range . . . . . ±3'

Setting accuracy . . . . . ±1"

### COMMUNICATIONS

Communication ports . . . . . 1 × serial (RS-232C)

### POWER

Clip-on rechargeable

battery system . . . . . 4 × AA Ni-MH Battery

Operating time<sup>4</sup>

approx. 6 hours (continuous distance/angle measurement)

approx. 15 hours (distance/angle measurement every 30 seconds)

Charging time

Full charge . . . . . approx. 4 hours

### 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 . . . . . 10,000 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 . . . . . 0.2 kg (0.4 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.



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