

Nikon NPL-322 Series Total Stations



Datasheet



Nikon Quality You Can Trust

Key Features

- 2" and 5" angle accuracies
- Prism and reflectorless measurements
- Fast, accurate EDM
- Convenient and long-lasting
- Long life Li-ion Battery
- Easy-to-use keypad
- Rugged and lightweight

NPL-322 Series

The Nikon NPL-322 Total Station, an economic, versatile, and easy-to-use platform that ensures you get the job done right.

The NPL-322 is available in a 2" dual face model and a 5" single face model to meet your specific accuracy needs. Both NPL-322 total station models feature a reflectorless EDM with up to 400 meter (1300 foot) range. Using the same rechargeable long life Li-ion battery as the Nivo series, combined with low power consumption design, the NPL-322 provides over 11 hours of operating time per battery. For convenience, the Nikon NPL-322 total stations include two batteries and a dual charger, to support even the longest of working days.

Nikon's legendary optics effectively allow in more light to give you brighter, clearer images. You'll see the difference when you look through a Nikon Total Station even in the low-visibility conditions typical in the field. You'll see much more detail and much less distortion, especially over longer distances. Better optics help you aim more precisely, and they're much easier on your eyes—something you'll really appreciate on long workdays.

The Nikon NPL-322 is built tough for all occasions.

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Distance measurement

- Range with Nikon specified prisms
 - Good conditions (No haze, visibility over 40 km (25 miles))
 - With reflector sheet (5 × 5 cm): 1.5 m to 200 m (4.9 ft to 787 ft)
 - With single prism 6.25 cm (2.5 in): 3,000 m (9,840 ft)
- Range reflectorless mode
 - KGC (18%)¹
 - Good: 250 m (820 ft)
 - Normal: 200 m (656 ft)
 - Difficult: 150 m (492 ft)
 - KGC (90%)¹
 - Good: 400 m (1312 ft)
 - Normal: 350 m (1148 ft)
 - Difficult: 250 m (820 ft)
- Accuracy ISO 17123-4 (Precise mode)
 - Prism²: $\pm(2+2 \text{ ppm} \times D)$ mm
 - Reflectorless/Reflector sheet³: $\pm(3+3 \text{ ppm} \times D)$ mm
- Measuring interval⁴
 - Prism mode
 - Precise mode: 1.8 sec.
 - Normal mode: 0.8 sec.
 - Reflectorless mode
 - Precise mode: 1.8 sec.
 - Normal mode: 1.0 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, Gon, MIL6400): Degree: 1/5/10", Gon: 0.2/1/2 mgon, MIL6400: 0.005/0.02/0.05 mil

Telescope

- Tube length: 125 mm (4.9 in)
- Image: Erect
- Magnification: 30x (18x/36x with optional eyepieces)
- Effective diameter of objective: 45 mm (1.77in)
 - EDM: 50 mm (1.97 in)
- Field of view: 1°20'
- Resolving power: 3"
- Minimum focusing distance: 1.5 m (4.9 ft)
- Laser Pointer: Coaxial Red Light

Tilt Sensor

- Type: Single-axis
- Method: Liquid-electric detection
- Compensation range: $\pm 3'$
- Setting accuracy: 1"

Communications

- Communication ports: 1 x serial (RS-232C)

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: 3x
 - Field of view: 5°
 - Focusing range: 0.5 m (1.6 ft) to ∞
- Display:
 - 2":Both sides, backlit, graphic LCD (128 × 64 pixel),
 - 5":Single side, backlit, graphic LCD (128x64 pixel)
- Point memory: 10,000 records
- Dimensions (W x D x H): 168 mm x 173 mm x 355 mm (6.6 in x 6.8 in x 13.1 in)
- Weight (approx.)
 - Main unit (without battery): 4.9 kg (10.8 lb)
 - BC-65 battery: 0.1 kg (0.2 lb)
 - Carrying case: 2.5 kg (5.5 lb)
 - Dual charger and AC adaptor: 0.6 kg (1.3 lb)

Power

- Clip-on Li-on battery
 - Output voltage: 3.8 V DC
- Operating time⁵
 - approx. 4.5 hours (continuous distance/angle measurement)
 - approx. 11 hours (distance/angle measurement every 30 seconds)
 - approx. 22 hours (continuous angle measurement)
- Charging time
 - Full charge: 4 hours
 - External power supply: N/A

Environmental

- 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 mmHg to 999 mmHg/533 hPa to 1,332 hPa/15.8 inHg to 39.3 inHg
- Dust and water protection: IP54

Certification

- Class B Part 15 FCC certification, CE Mark approval.
- Laser safety IEC60825-1:2007
- Reflectorless mode: Class 1
- Laser Pointer: Class 2
- Prism mode: Class 1

(1) Kodak Gray Card, Catalog number E1527795

(2) $\pm(2+3 \text{ ppm} \times D)$ mm -20 °C to -10 °C, +40 °C to +50 °C (-4 °F to +14 °F, +104 °F to +122 °F) 1.5m to 5m $\pm(5 + 3 \text{ ppm} \times D)$ mm

(3) 1.5m to 5m $\pm(10 + 3 \text{ ppm} \times D)$ mm

(4) Measuring time may vary depending on measuring distance and conditions. For the initial measurement, it may take a few seconds.

(5) Battery life specification at 25 °C (77 °F). Operation time may be shorter if battery is not new. Operation time may be shorter in low temperatures.

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Specifications subject to change without notice.

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