Nikon XS Total Station

Datasheet



Nikon Quality You Can Trust

Key Features

- **Autofocus**
- **Dual-face displays**
- **Fast, powerful EDM**
- **PIN security**
- **1", 2", 3", and 5" accuracies**
- **Nikon onboard software**
- **Hot swappable batteries**

Nikon XS

With its lightweight, compact design and easy setup, the Nikon XS mechanical total station makes survey work fast, efficient and easy. Its onboard software ensures smooth, efficient workflows from the field to the office. When you work with the Nikon XS, you get the work done right the first time. There's no need to return to the job site, thanks to features that include:

- Hot swappable batteries that have the power to last all day, and then some.
- Superior Nikon optics and autofocus for crisp, bright sightings even in low light conditions.
- A full range of accuracies to ensure you have exactly the equipment you need for the work you do.
- PIN security to prevent unauthorized use.
- 800m non-prism EDM

The Nikon XS is user-friendly and durable. It's light weight and portability reduces user fatigue, allowing for long work days, even as it handles tough worksite conditions. Most important: it's highly accurate and backed by Nikon quality assurance. You can rely on it to make precise measurements, project after project, year after year.

The Nikon XS is built tough for all occasions.

Nikon XS Series Total Stations

Distance measurement

- Range with specified prisms
  - Good conditions[1]
    - With reflector sheet 5 cm x 5 cm (2 in x 2 in): 1.5 m to 300 m (4.9 ft to 984 ft)
    - With single prism 6.25 cm (2.5 in): 1.5 m to 5000 m (4.9 ft to 16404 ft)
- Non-Prism mode
  - KGC (18%)
    - Good[1]: 400m (1312ft)
    - Normal[2]: 300m (984ft)
    - Difficult[3]: 235m (770ft)
  - KGC (90%)
    - Good[1]: 800 m (2625 ft)
    - Normal[2]: 500 m (1640 ft)
    - Difficult[3]: 250 m (820 ft)
- Accuracy in precise mode[7]
  - Prism[6]: ±(2+2 ppm × D) mm
  - Non-Prism:: ±(3+2 ppm x D) mm
- Measuring interval[4]
  - Prism mode
    - Precise mode: 1.0 sec.
    - Normal mode: 0.5 sec.
    - Fast mode: 0.3 sec.
  - Non-Prism mode
    - Precise mode: 1.0 sec.
    - Normal mode: 0.5 sec.
    - Fast mode: 0.3 sec.
  - Least count
    - Precise mode: 1 mm (0.002 ft)
    - Normal mode: 10mm (0.02ft)
    - Fast mode: 10mm (0.02ft)

Angle Measurement

- Accuracy
  - (Standard Deviation based on ISO 17123-3): 1", 2", 3", 5"
- Reading system: Absolute encoder
- Circle diameter: 62 mm (2.4 in)
- Horizontal/Vertical angle: Diametrical / Single
- Minimum increment (Degree, Gon):
  - Degree: 1" (XS 1": 0.5"); Gon: 0.1 mgon

Telescope

- Tube length: 125 mm (4.9 in)
- Image: Erect
- Magnification: 30×
  (19x/38x with optional eyepieces)
- Effective diameter of objective: 45 mm (1.77in)
  - EDM Diameter: 50 mm (1.97 in)
- Field of view: 1°25'
- Resolving power: 3"
- Minimum focusing distance: 1.5 m (4.9 ft)

Tilt Sensor

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

Communications

- Communication ports:
  1 x serial (RS-232C), 1 x USB (host)
- Wireless Communications:
  Integrated Bluetooth

Power

- Internal Li–ion battery (x2)
  - Output voltage: 3.6V
- Operating time
  - Continuous angle-only measurement: 22 h
  - Distance/ angle measurement/ AF every 30 s: 18 h
  - Continuous distance/ angle measurement: 10 h
- Charging time
  - Full charge: 6 h

General Specifications

- Autofocus: Yes
- Tangent Clamps: Yes
- Level vials
  - Sensitivity of Circular level vial on tribrach: 10'/2 mm
- Display face 1:
  back-lit, graphic LCD (128 x 64 pixels)
- Display face 2:
  back-lit, graphic LCD (128 x 64 pixels)
- Point memory: 50,000 points
- Internal Plummet: Optical or Class 2 Laser
- Dimensions (W x D x H):
  206 mm x 169 mm x 318 mm
  (8.1 in x 6.7 in x 12.5 in)
- Weight (approx.)
  - Main unit: 4.3 kg (9.5 lb)
  - Battery: 0.1 kg (0.2 lb)
  - Carrying case: 3.3 kg (7.3 lb)

Environmental

- Operating temperature range:
  –20 °C to +50 °C (–4 °F to +122 °F)
- Storage temperature range:
  –25 °C to +60 °C (–22 °F to +140 °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: IP66

Certification

- Class B Part 15 FCC certification, CE Mark approval. RCM Mark.
- IEC60825-1 am 2007, IEC60825-1 am 2014, FDA notice 50
- Prism/Non-Prism mode: Class 1 laser
- Laser Plummet/Laser Pointer: Class 2 laser

(1) Good conditions (good visibility, overcast, twilight, low ambient light).

(2) Normal conditions (normal visibility, object in the shadow, moderate ambient light).

(3) Difficult conditions (haze, object in direct sunlight, high ambient light).

(4) Measuring time may vary depending on measuring distance and conditions. Specification based on average of repeated measurements.

(5) Battery life specification at 25 °C (77 °F). Operation times may vary depending on the condition and deterioration of the battery.

(6) Standard Deviation based on ISO 17123-4

(7) For both prism and non-prism modes, EDM accuracy in normal mode is ±(10+5 ppm × D) mm and fast mode is ±(20+5 ppm × D) mm.

Bluetooth type approvals are country specific.
Specifications subject to change without notice.



Bluetooth®

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