NORTH
Surveying and Positioning Systems

IT'S TIME TO GO NORTH
Designed and Made in Europe by North Group, Barcelona

J10 Laser RTK

J10 Laser RTK is a high-end GNSS receiver that integrates cutting-edge GNSS, IMU, Laser and dual-camera technologies. Building on the advanced laser technology of the Universe Series, J10 also incorporates latest visual stake-out technology. This combination brings out immersive surveying and stakeout experiences, even in previously hard-to-reach, signal-blocked, or dangerous field.

Equipped with the latest K8 platform, J10 tracks 1668 channels for all running and existing constellations. The built-in IMU sensor supports up to 120°tilt compensation, in conventional, laser and visual mode.

C50
Data Collector

Laser RTK

MILLIMETRIC ACCURACY

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EUROPE DESIGN

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Signal Tracking

Channel: 1668
GPS: L1C/A, L1C, L2P, L2C, L5
BDS: B1I, B2I, B3I, B1C, B2a, B2b
GLONASS: L1, L2, L3
Galileo: E1, E5a, E5b, E6c, E5 AltBOC
QZSS: L1C/A, L2C, L5, L1C
IRNSS: L5
SBAS: L1C/A
PPP: B2b & HAS
L-Band[1]

Performance Specification

Signal Re-acquisition: ≤1s
Cold Start: ≤30s
Hot Start: ≤10s
RTK Initialization Time: ‹5s(Baseline≤10km)
Initialization Reliability: ≥99.99%
Data Update Rate: 1Hz, 2Hz, 5Hz, 10Hz, 20Hz

Mode	Accuracy
Static and Fast Static	Horizontal 2.5 mm + 0.5 ppm RMS Vertical 5 mm + 0.5 ppm RMS
Long Observations Static	3 mm + 0.1 ppm Horizontal 3.5 mm + 0.4 ppm Vertical
Signal Baseline RTK	Horizontal 8mm + 1ppm RMS Vertical 15mm + 1ppm RMS
DGPS	＜0.4m RMS
SBAS	Horizontal 0.5 RMS Vertical 0.8 RMS
Standalone	1.5m 3D RMS
Laser Tilt Measurement	≤3.5cm (5m range, ≤60°Tilt in laser mode)

Data Format

Correction Data I/O: RTCM2.X, 3.X,CMR(GPSonly),CMR+(GPSonly)
Position Data Output: - ASCII: NMEA-0183 GSV, RMC, HDT, GGA, GSA, ZDA, VTG, GST; PTNL, PJK; PTNL, AVR; PTNL, GGK
-CNB update to 20 Hz

Electrical and Battery

Voltage: 7.2V
Li-ion Battery Capacity: 5000mAh
Power Consumption: 1.8W[4]
Working Time: 16h
Interface: Type-C
Memory: 4 GB[5]

Communication

1 Serial port: Baud rates up to 921,600 bps
Datalink[2]:
- Tx/Rx with full frequency range from 410-470MHz
- Transmit power: 0.5W, 1W, 2W adjustable
- Air Baud Rate: 9600/19200/11000 adjustable
- Range[3]: 3-15 km
- Protocol type: support Transparent/TT450S/South/Mac/SNLonglink, compatible with all the North GNSS Receivers
WIFI: 802.11 a/b/g/n, 5GHz
Position data output rates: 1 Hz, 2 Hz, 5 Hz, 10 Hz, 20 Hz
2 LEDs (indicating Satellites Tracking and RTK Corrections data)
Bluetooth ® : V 4.0 protocol, compatible with Windows OS and Android OS
Auto-IMU integrated for tilt survey, up to 120°tilt with 2.5 cm accuracy

Environmental Specification

Working Temperature: -40℃ to +65℃ (-72°F to 117°F)
Storage Temperature:-40℃ to +85℃ (-72°F to 153°F)
Humidity: 100% non-condensing
Water- & Dustproof: IP67
Shock: Survive a 2m drop onto the concrete

Physical Specification

Housing Material: Aluminium magnesium alloy
Dimension: Φ 13.35 cm x 6.6 cm
Weight: 810g,with internal battery
Display: 1.1 inch OLED color display

Laser Specification

Range: 50m
Laser Safety: Class 3R
Accuracy(room temperature): (3-5)mm + 1ppm
Measuring Frequency: Classic Value: 3Hz
Maximum Value: 5Hz
Laser Injection Power: 0.9mW~1.5mW
Working Temperature: -20℃~+50℃
Storage Temperature: -30℃~+60℃

Camera Specification

Sensor pixels: 2 cameras with 2 MP global shutter
Field of view: 75°
Video frame rate: 30 fps
Image group capture:
- Method: video photogrammetry. Rate: typically 2 Hz, up to 25Hz
- Max. capture time: 60s with an image group size of appr. 60MB

1. PPP Service is optional.
2. UHF modem is default configuration and it can be removed according to your specific needs.
3. Working distance of internal UHF varies in different environments and also depends on the protocols. With SNLonglink, 15km working range is achievable under ideal conditions.
4. Power consumption will increase when transmitting corrections via internal UHF.
5. Memory is expandable.