



DELTA

Multi-Purpose GNSS Receiver



DELTA-DI / DELTA-DIW



DELTA-3S / DELTA-3SW

Key Features

- All GNSS Constellations
- CORS Receiver
- Portable Base Station
- NTRIP Server / Caster
- Web User Interface
- Wi-Fi & Bluetooth
- CAN, Event Marker, 1PPS
- External Frequency I/O

DELTA is a mountable, rugged GNSS enclosure, available with single or dual antennas, MEMS IMU, and standard interfaces. DELTA is designed for any application that uses RTK, Heading, Roll, & Pitch.

Built on the custom ASIC engineered by JAVAD, DELTA tracks all GNSS constellations with patented anti-jamming, anti-spoofing, and multipath reduction technologies for reliability and signal quality.

Use the simple web interface to configure a Continuously Operating Reference Station (CORS) or Portable Base Station, with integrated NTRIP Caster and Server functions to transmit RTCM corrections via TCP or NTRIP.

DELTA Specifications



| | | | | | | |
|-------------------------------------|---------------------------|--|--------------------------|---------------------|--------------------------|------------------|
| Number of Channels | 874 | | | | | |
| GNSS Constellations | GPS | L1 C/A, L1C (P+D), P1, P2, L2C (L+M), L5 (I+Q) | | | | |
| | GLONASS | L1 C/A, L1 (P+D), P1, P2, L2C, L2 (P+D), L3 (I+Q) | | | | |
| | Galileo | E1 (B+C), E5A (I+Q), E5B (I+Q), AltBOC, E6 (B+C) | | | | |
| | BeiDou | B1, B1C (P+D), B2, B2A (I+Q), B2B(I+Q), AltBOC, B3 | | | | |
| | QZSS | L1 C/A, L1 C/B, L1C (P+D), L2C (L+M), L5 (I+Q), L6 (L61/L62), L1S, L1Sb, L5S | | | | |
| | SBAS | L1, L5 (P+D) | | | | |
| | NavIC | L1 (P+D), L5, S-Band | | | | |
| | L-Band | 1525-1560 Mhz | | | | |
| GNSS Accuracy (RMS) | | Horizontal (m) | | Vertical (m) | | |
| | Autonomous (Stand alone) | 1.000 | | 1.500 | | |
| | SBAS | 0.500 | | 0.850 | | |
| | DGPS | 0.250 | | 0.500 | | |
| | JStar (PPP) | 0.025 | | 0.050 | | |
| | RTK | 0.008 + 1 ppm | | 0.015 + 1 ppm | | |
| | Network RTK | 0.008 + 0.5 ppm | | 0.015 + 0.5 ppm | | |
| | Static / Fast Static | 0.003 + 0.1 ppm | | 0.004 + 0.4 ppm | | |
| Heading | < 0.09 deg (2m baseline) | | | | | |
| GNSS+INS Accuracy (RMS) | Outage (s) | Position Mode | Position Accuracy | | Attitude Accuracy | |
| | | | Horizontal (m) | Vertical (m) | Heading (deg) | Pitch/Roll (deg) |
| | 0 | Stand Alone | <1 | <1.5 | <0.09 | 0.04 |
| | | RTK | 0.008 | 0.015 | 2m baseline | |
| | 10 | Stand Alone | <1.5 | <1.8 | <0.20 | 0.07 |
| | | RTK | 0.2 | 0.3 | | |
| Time to First Fix | Cold/Warm Start | < 35 s / < 5 s | | | | |
| | Reacquisition | < 1 s | | | | |
| | RTK Initialization | 2 to 6 s | | | | |
| Output Rate | Position / Measurements | 3S/3SW: Up to 200 Hz; DI/DIW: Up to 100 Hz | | | | |
| | Attitude | DI/DIW: Up to 100 Hz | | | | |
| Memory | Non-removable | Up to 64 GB | | | | |
| Status/Interface | LEDs / Keys | 2 Buttons: Power & Function; 2LEDs: Status & Recording | | | | |
| Communication | Ethernet | Full-duplex 10BASE-T/100BASE-TX (7-pin ODU) | | | | |
| | Wi-Fi | 5GHz and 2.4GHz, 802.11 a/b/g/n/ac (R-SMA) | | | | |
| | Bluetooth | v5.1, Dual-Mode (R-SMA) | | | | |
| | USB | High-speed USB 2.0 (480 Mbps) dual-role port (5-pin ODU) | | | | |
| | Serial | 2 x RS232 up to 460.8 kbps (7-pin ODU) | | | | |
| | Serial/CAN | 1 x RS232 / RS422 / CAN 2.0 with +12 VDC, 250 mA max (M12, 8 pin) | | | | |
| | 1PPS | 2 x 1PPS (BNC) | | | | |
| | Event Marker | 2 x Event Marker (BNC) | | | | |
| | External Frequency I/O | 5/10/20 MHz (BNC) | | | | |
| | GNSS Antenna | +5 VDC, 0.2 A max (TNC); 3S/W: 1 antenna; DI/DIW: 2 antennas | | | | |
| Power | Input | 2 ports, 5-pin ODU, 4.5-40 VDC | | | | |
| | Power Consumption | 4.5 W, Typical | | | | |
| Physical & Environmental | Operating / Storage Temps | -40°C to +70° C / -40°C to +85°C | | | | |
| | Humidity | 95% | | | | |
| | Shock | MIL-STD-810H (Method 516.8) | | | | |
| | Vibration | MIL-STD-810H (Method 514.8) | | | | |
| | Dimensions | 3S: 109 x 35 x 153 mm; DI: 136 x 39 x 158; 3SW/DIW: 132 x 62 x 154 mm | | | | |
| | Weight | 3S/DI: 0.5 kg; 3SW/DIW: 0.8 kg | | | | |

DELTA Family Nomenclature

3S: single antenna; **DI:** dual antenna w/ MEMS IMU; **W:** Bluetooth, Wi-Fi, and connection options

GNSS performance is dependent on signal quality, satellite geometry, ionospheric and tropospheric conditions, baseline length, multipath effects and RF interference. Specifications may be changed without notice.