

A325 GNSS Smart Antenna

Affordable, Portable Solution With Professional Accuracy







Work smarter, not harder. The A325[™] Smart Antenna offers an affordable, portable solution with professional level accuracy for agricultural, marine, GIS mapping, and other applications.

Focus on the job at hand with fast start-up and reacquisition times, and an easy-to-see status indicator for power, GNSS, and Bluetooth. The durable enclosure houses both antenna and receiver. It can be powered through various sources, making the A325 Smart Antenna ideal for a variety of applications. Dual-serial, CAN, and pulse output options make this GNSS receiver compatible with almost any interface.

Eclipse™ GNSS RTK with SureTrack™

With A325, RTK performance is scalable. Utilize the centimeter-level accuracy in either L1-only mode, or employ the full performance of fast RTK performance over long distances with L1/L2 GNSS signals. Our exclusive SureTrack technology gives peace of mind knowing your RTK rover is making use of every satellite it is tracking, even satellites not tracked at the base. Benefit from fewer RTK dropouts in congested environments, faster reacquisitions and more robust solutions due to better cycle slip detection. SureTrack also removes concerns with mixing GNSS data from various manufacturers. Even if your base is only L1/L2 GPS, SureTrack with GLONASS at your rover delivers complete GNSS performance where others cannot. Rely on SureTrack technology from Hemisphere GPS.

Key A325 GNSS Smart Antenna Advantages

- Improved GNSS performance, particularly with RTK and GLONASS applications through the implementation of SureTrack technology
- Long range RTK baselines of up to 50 km
- L-band capable
- Very fast RTK fix and reacquisition times
- Strong multipath mitigation and interference rejection
- Wide operating voltage range, 7-36 V, high transient protection for any power source
- Supports NMEA 2000 over Controller Area Network (CAN) for ISO bus connections
- L-band capable receiver for HP or VBS
- Integrated 2D tilt sensor enables offset corrections



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GNSS Sensor Specifications

ReceiverType: GNSS L1 & L2 RTK with carrier phase Signals Received: GPS, GLONASS, and GALILEO

-142 dBm **GPS Sensitivity:**

SBAS Tracking: 3-channel, parallel tracking

Update Rate: 10 Hz standard, 20 Hz optional (with

subscription)

Horizontal Accuracy:

2DRMS (95%) RMS (67%) RTK: 2, 3 10 mm + 1 ppm 20 mm + 2 ppm

L-band high precision

service 2, 0.1 m 0.2 m SBAS (WAAS): 2 0.6 m $0.3 \, \text{m}$ Autonomous, no SA: 2 1.2 m 2.5 m 1° using tilt sensor

Pitch / Roll Accuracy:

Timing (1PPS) Accuracy: 20 ns Cold Start: < 60 s typical (no almanac or RTC) < 30 s typical (almanac and RTC) Warm Start:

Hot Start: < 10 s typical (almanac, RTC and position) Maximum Speed:

1,850 kph (999 kts) Maximum Altitude: 18,288 m (60,000 ft)

L-band Sensor Specifications

Sensitivity: -130 dBm Channel Spacing: 7.5 kHz

Manual and Automatic Satellite Selection: Reacquisition Time: 15 seconds (typical) Rejection: 15 kHz spacing > 30 dB, 300 kHz spacing > 60 dB

Processor: DSP for demodulation and protocol decoding

module provides processing for the

differential algorithms

Command Support: Reports L-band region, satellite information,

allows input and status of L-band subscription, bit error rate (BER) output for reception quality indication and manual

frequency tuning

Communications

2 full-duplex RS-232, Bluetooth, CAN

4800 - 115200

(DGPS), RTCM v3 (RTK), CMR, CMR+1 Data I/O Protocol: NMEA 0183, NMEA 2000, Hemisphere

Timing Output:

10 k Ω , 10 pF load

Event Marker Input: CMOS, active low, falling edge sync, 10 kΩ,

Power

Input Voltage: 7-36 VDC with reverse polarity operation < 4.6 W nominal GPS (L1/L2), GLONASS **Power Consumption:**

(L1/L2), and L-band

334 mA nominal GPS (L1/L2), GLONASS **Current Consumption:**

(L1/L2), and L-band

Yes

Power Isolation:

Reverse Polarity Protection:

Antenna Voltage: Internal antenna

Environmental

Operating Temperature: -40°C to +70°C (-40°F to +158°F) Storage Temperature: -40°C to +85°C (-40°F to +185°F)

95% non-condensing Humidity:

Shock and Vibration: Vibration: EP455 Section 5.15.1 Random Mechanical Shock: EP455 Section 5.14.1

EMC: CE (ISO 14982 Emissions and Immunity)

FCC Part 15, Subpart B

CISPR 22

Enclosure: IP67

Mechanical

104.0 H x 145.0 D mm (4.09 H x 5.71 D in) Dimensions:

Weight: < 558 g (< 19.7 oz.)

Status Indications (LED): Power, GNSS lock, Bluetooth Serial Port Extension: Bluetooth communication Power/Data Connector: 12-pin male (metal)

Antenna Mounting: 1-14 UNS-2A female, 5/8-11 UNC-2B adapter

and mag-mount available

Serial Ports:

Baud Rates:

Correction I/O Protocol: Hemisphere GPS proprietary, RTCM v2.3

GPS binary, Bluetooth 2.0 (Class 2) 1PPS, CMOS, active low, falling edge sync,

10 pF load

Authorized Distributor:

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- Receive only, does not transmit this format
- ² Depends on multipath environment, number of satellites in view, satellite geometry, and ionospheric activity
- 3 Depends also on baseline length
- Upgrade required
- ⁵ Requires a subscription from L-band service provider

Note: The Eclipse receiver technology is not designed or modified to use the GPS Y-Code





