A325™ GNSS Smart Antenna

Affordable, Portable Solution With Professional Accuracy

key features

- **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 DGNSS/HP/XP 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**
- **Integrated 2D tilt sensor enables offset corrections**

Work smarter, not harder. The A325™ GNSS 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 GNSS.

Hemisphere

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A325 GNSS Smart Antenna

GNSS Sensor Specifications

Receiver Type:	GNSS L1 & L2 RTK with carrier phase	
Signals Received:	GPS and GLONASS	
Channels:	270	
GPS Sensitivity:	-142 dBm	
SBAS Tracking:	3-channel, parallel tracking	
Update Rate:	10 Hz standard, 20 Hz optional (with subscription)	
Horizontal Accuracy:		
	RMS (67%)	2DRMS (95%)
RTK: [2, 3]	10 mm + 1 ppm	20 mm + 2 ppm
L-band high precision service [2,5]	0.1 m	0.2 m
SBAS (WAAS): [2]	0.3 m	0.6 m
Autonomous, no SA: [2]	1.2 m	2.5 m
Pitch / Roll Accuracy:	1° used to calculate slant height	
Timing (1PPS) Accuracy:	20 ns	
Cold Start:	< 60 s typical (no almanac or RTC)	
Warm Start:	< 30 s typical (almanac and RTC)	
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 DGNSS/HP/XP Sensor Specifications

Sensitivity:	-130 dBm
Channel Spacing:	7.5 kHz
Satellite Selection:	Manual and Automatic
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 DGNSS/HP/XP region, satellite information, allows input and status of L-band DGNSS/HP/XP subscription, bit error rate (BER) output for reception quality indication and manual frequency tuning

Communications

Serial Ports:	2 full-duplex RS-232, Bluetooth, CAN
Baud Rates:	4800 - 115200
Correction I/O Protocol:	Hemisphere GPS proprietary, RTCM v2.3 (DGPS), RTCM v3 (RTK), CMR, CMR+[1]
Data I/O Protocol:	NMEA 0183, NMEA 2000, Hemisphere GPS binary, Bluetooth 2.0 (Class 2)
Timing Output:	1PPS, CMOS, active low, falling edge
sync,	10 kΩ, 10 pF load
Event Marker Input:	CMOS, active low, falling edge sync, 10 kΩ, 10 pF load

Power

Input Voltage:	7-36 VDC with reverse polarity operation
Power Consumption:	< 4.6 W nominal GPS (L1/L2), GLONASS (L1/L2), and L-band
Current Consumption:	334 mA nominal GPS (L1/L2), GLONASS (L1/L2), and L-band
Power Isolation:	No
Reverse Polarity Protection:	Yes
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)
Humidity:	95% non-condensing
Shock and Vibration:	Vibration: EP455 Section 5.15.1 Random Mechanical Shock: EP455 Section 5.14.1 Operational
EMC:	CE (ISO 14982 Emissions and Immunity) FCC Part 15, Subpart B CISPR 22
Enclosure:	IP67

Mechanical

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

[1] 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

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

Authorized Distributor:

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Hemisphere

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