A222 GNSS Smart Antenna
All-In-One GNSS Receiver Solution

key features

- **Atlas® L-band corrections**

- **Exclusive Atlas Basic option available when other differential signals are not practical**

- **Scalable accuracy within a single product for different use cases**

- **Rugged enclosure for demainding applications**

- **GPS, GLONASS, BeiDou, and Galileo multi-GNSS signal tracking**

atlas

The A222 GNSS Smart Antenna provides multi-GNSS, multi-frequency positioning for professional level accuracy for various agriculture applications.

The A222 offers fast start-up and reacquisition times, scalable accuracy in a rugged enclosure designed for agriculture machinery. Available dual serial, NMEA2000/CAN, and GSI pulse output interface options make the A222 compatible with a wide variety of farming applications and equipment.

Outback GUIDANCE®

outbacksales@outbackguidance.com
www.outbackguidance.com

🦎 A222 GNSS Smart Antenna

GNSS Receiver Specifications

Receiver Type:	Scalable dual-frequency, multi-GNSS RTK
Signals Received:	GPS, GLONASS, BeiDou, and Galileo
Channels:	114
GPS Sensitivity:	-142 dBm
SBAS Tracking:	3-channel, parallel tracking
Update Rate:	10 Hz standard, 20 Hz optional (with activation)
Timing (1PPS) Accuracy:	20 ns
Cold Start:	< 60 s typical (no almanac, ephemeris, position, or RTC)
Warm Start:	< 30 s typical (almanac and RTC)
Hot Start:	< 10 s typical (almanac, ephemeris, position, and RTC)
Maximum Speed:	1,850 kph (999 kts)
Maximum Altitude:	18,288 m (60,000 ft)

Satellite Tracking

GPS:	L1CA, L1P, L1C, L2P, L2C
GLONASS:	G1, G2, P1, P2
BeiDou:	B1
Galileo:	E1BC

Positioning Accuracy

Horizontal Accuracy:	RMS (67%)	2DRMS (95%)
RTK: [1,2]	8 mm + 1 ppm	15 mm + 2 ppm
L-Band: [1,3]	0.08 m	0.16 m
SBAS (WAAS): [1]	0.3 m	0.6 m
Autonomous, no SA: [1]	1.2 m	2.5 m

L-Band Receiver Specifications

Receiver Type:	Single Channel
Channels:	1530 to 1560 MHz
Sensitivity:	-130 dBm
Channel Spacing:	5.0 kHz
Satellite Selection:	Manual and Automatic
Reacquisition Time:	15 seconds (typical)

Communications

Serial Ports:	2 full-duplex RS-232, CAN [4]
Baud Rates:	4800-115200
Correction I/O Protocol:	Hemisphere GNSS proprietary, RTCM v2.3 (DGPS), RTCM v3 (RTK)
Data I/O Protocol:	NMEA 0183, NMEA 2000, Hemisphere GNSS binary
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:	7-32 VDC with reverse polarity operation
Power Consumption:	4.1 W nominal (L1/L2 GPS/GLONASS; L-band)
Current Consumption:	0.35 A nominal (L1/L2 GPS/GLONASS; 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:	Mechanical Shock: EP455 Section 5.41.1 Operational Vibration: EP455 Section 5.15.1 Random
EMC:	CE (ISO 14982 Emissions and Immunity), FCC Part 15, Subpart B, CISPR 22
Enclosure:	IP67

Mechanical

Dimensions:	15.8 L x 15.8 W x 7.9 H (cm) 6.2 L x 6.2 W x 3.2 H (in)
Weight:	< 1.05 kg (< 2.53 lbs)
Status Indications (LED):	Power, GNSS Lock
Power/Data Connector:	12-pin male (metal)
Antenna Mounting:	1-14 UNS-2A female adapter, 5/8-11 UNC 2B adapter, flat mount available

[1] Depends on multipath environment, number of satellites in view, satellite geometry, and ionospheric activity
[2] Depends also on baseline length
[3] Requires a subscription
[4] Requires software upgrade

Authorized Distributor:

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outbacksales@outbackguidance.com
www.outbackguidance.com