A101™ Smart Antenna

The Affordable All-In-One DGPS Receiver Solution

key features

- **Affordable solution for unparalleled sub-meter performance – 60 cm accuracy, 95% of the time**
- **COAST™ technology maintains accurate solutions for 40 minutes or more after loss of differential signal**
- **Exclusive e-Dif® option where other differential signals are not practical**
- **Compatible with our exclusive L-Dif™ technology, for applications requiring accuracy better than 20 cm**
- **Fast output rates of up to 20 times per second provide the best visual guidance and automated steering signals for all types of applications**
- **Compact, low-profile design with fixed or magnetic mounting options is ideal for portable and dynamic applications**
- **Radar-simulated pulse output provides accurate ground speed**

Work smarter, not harder. The A101™ 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, 60 cm accuracy, and an easy-to-see status indicator for power, GPS, and DGPS. The durable enclosure houses both antenna and receiver. It can be powered through various sources, making the A101 smart antenna ideal for a variety of applications. Dual-serial, CAN, and pulse output options make this DGPS receiver compatible with almost any interface.

Hemisphere®

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A101 Smart Antenna

GPS Sensor Specifications

Receiver Type:	L1 GPS	
Channels:	12 L1CA GPS 12 L1P GPS 3 SBAS or 3 additional L1CA GPS	
GPS Sensitivity	-142 dBm	
SBAS Tracking	3-channel, parallel tracking	
Update Rate:	10 Hz standard, 20Hz optional (with subscription)	
Horizontal Accuracy:	RMS(67%)	2DRMS (95%)
RTK[1,2]	10 mm+1 ppm	20 mm+2 ppm
SBAS (WAAS)[1]	0.3 m	0.6 m
Autonomous, no SA[1]	1.2 m	2.5 m
Pitch/Roll Accuracy	1° using tilt sensor	
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 (999kts)	
Maximum Altitude	18,288 m (60,000 ft)	

Communications

Serial Ports:	2 full-duplex RS-232, CAN
Baud Rates:	4800 - 115200
Data I/O Protocol:	NMEA 0183, NMEA 2000[3], Hemisphere GNSS binary
Correction I/O Protocol:	Hemisphere GNSS proprietary, RTCM v2.3 (DGPS), RTCM v3 (RTK), CMR (RTK), CMR +(RTK)[4]
Timing Output:	1 PPS CMOS, active high, rising edge sync, 10 kΩ, 10 pF load
Event Marker Input:	CMOS, active low, falling edge sync, 10 kΩ, 10 pF load

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

Power

Input Voltage:	7 - 36 VDC with reverse polarity operation
Power Consumption:	< 3 W @ 12 VDC typical
Current Consumption:	249 mA @ 12 VDC typical
Power Isolatioin:	No
Reverse Polarity Protection:	Yes
Antenna Voltage:	Internal Antenna

Mechanical

Dimensions:	10.4 H x 14.5 D (cm) 4.1 H x 5.7 D (in)
Weight:	<558 g (<19.7 oz)
Status Indicators (LED):	Power, GPS Lock
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] Depends on multipath environment, number of satellites in view, satellite geometry, and ionospheric activity
[2] Depends on baseline length
[3] Requires NMEA certification
[4] Receive only: does not transmit this format

Authorized Distributor:

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Hemisphere®

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