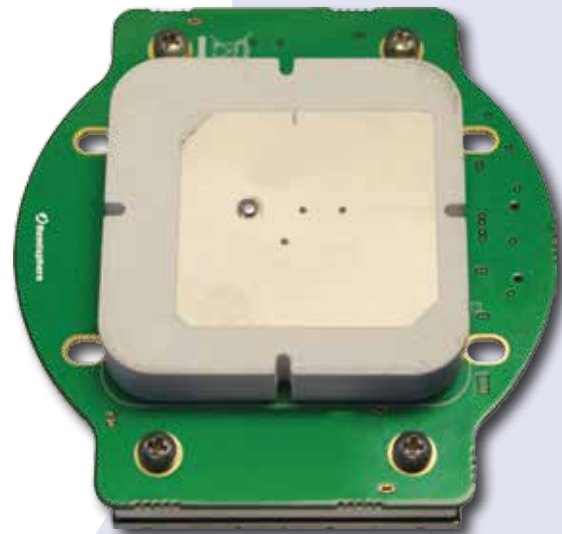


PA300™ GNSS Smart Antenna Board

GNSS compact antenna integrated with Eclipse™ technology

key features

- Improved GPS performance, particularly with long-range RTK applications up to 50 km
- Extremely affordable dual-frequency, dual-GNSS solution with update rates of up to 20 Hz
- Compatible with other RTK sources including Hemisphere GNSS' ROX, RTCM v3 (RTK), CMR, CMR+
- Reliable DGPS accuracy for up to 40 minutes using Hemisphere GNSS' COAST technology
- RTK fix times provide fast solutions
- Utilize the built-in multi-frequency, multi-GNSS antenna or connect to an optional external antenna



The PA300™ is a complete GNSS receiver and antenna OEM package offered to integrators for high precision applications where integration space is limited. Integrated with Hemisphere GNSS' multi-frequency GNSS Eclipse™ receiver and dual-frequency patch antenna, the PA300 is ideal for portable systems that require RTK or differential accuracy. The PA300 also features excellent noise and multi-path rejection.

DGPS and SBAS with COAST™

Patented COAST™ software enables select Hemisphere GNSS receivers to utilize previous differential correction data during times of interference, signal blockage and weak signal. The receiver will coast and continue to maintain sub-meter positioning for up to 40 minutes without any differential signal.

Eclipse GNSS RTK with SureTrack™

The PA300 is scalable. Utilize the same centimeter-level accuracy in either L1-only mode, or employ the full performance of fast RTK performance over long distances with L1 and 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 re-acquisitions and more robust solutions. SureTrack also removes concerns with mixing GNSS data from various manufacturers. Even if your base is only L1 and L2 GPS capable, the PA300 with SureTrack delivers complete GNSS performance where others cannot. Rely on SureTrack technology from Hemisphere GNSS.



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PA300 GNSS Smart Antenna Board

GNSS Sensor Specifications

Receiver Type:	L1/L2 GPS and L1/L2 GLONASS, RTK with carrier phase	
Signals Received:	GPS, GLONASS and GALILEO ¹	
Channels:	270	
GPS Sensitivity:	-142 dBm	
SBAS Tracking:	3-channel, parallel tracking	
Update Rate:	1 Hz standard, 10 Hz and 20 Hz optional	
Horizontal Accuracy:	RMS (67%)	2DRMS (95%)
RTK: ^{2,3}	10 mm + 1 ppm	20 mm + 2 ppm
SBAS (WAAS): ²	0.3 m	0.6 m
Autonomous, no SA: ²	1.2 m	2.5 m
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)	

Communications

Serial Ports:	2 RS232 3.3V CMOS
Baud Rates:	4800 - 115200
Correction I/O Protocol:	Hemisphere GNSS' ROX, RTCM v2 (DGPS), RTCM v3 (RTK), CMR, CMR+
Data I/O Protocol:	NMEA 0183, Hemisphere GNSS binary ³

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 ⁴
Shock and Vibration:	Mechanical Shock: EP455 Section 5.14.1 Operational ⁵ Vibration: EP455 Section 5.15.1 Random
EMC:	CE (IEC 60945 Emissions and Immunity) FCC Part 15, Subpart B CISPR22

- ⁴ Upgrade required
² Depends on multipath environment, number of satellites in view, and satellite geometry
³ Hemisphere GNSS proprietary
⁴ When installed in an enclosure
⁵ When mounted in an enclosure with screw mounting holes utilized

Authorized Distributor:



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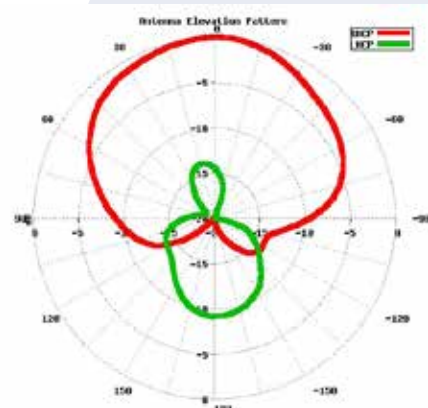
Rev. 04/14

Power

Input Voltage:	3.3 VDC +/- 5%
Power Consumption:	< 1.9 W nominal GPS (L1/L2) and GLONASS (L1/L2)
Current Consumption:	550 mA nominal GPS (L1/L2) and GLONASS (L1/L2)
Antenna Voltage:	3.3 V
External Antenna Voltage:	3.3 V 50 mA
Antenna Short Circuit Protection:	Yes
Antenna Gain Input Range:	24 dB gain at L1, 29 dB for L2
Antenna Input Impedance:	50 Ω

Mechanical

Dimensions:	8.0 L X 5.2 - 7.7 W X 2.35 H (cm) 3.14 L X 2.04-3.03 W X 0.92 H (in)
Weight:	< 133 g (< 4.7 oz)
Status Indications (LED):	Power, GPS lock, differential lock, DGPS position
Power/Data Connector:	20-pin LVDS connector (Honda LVC-D20SFYG3)
Antenna Connectors:	MCX, female, straight



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