arazim

Excellence. No Boundaries

HPLS®-2G

North Finding System

GNSS-Based Heading Positioning and Leveling System

The HPLS®-2G products family is an innovative upgrade of the popular, well-accepted HPLS® product which provides low-cost yet highly professional, miniature and rugged solution for static & low dynamic orientation needs.
The HPLS®-2G products family provides improved, remarkable Heading accuracy of down to 0.04° and below (Multi-Frequency system @ 2m antenna separation), along with improved rugged Mil-Spec compliance rugged package. With update rate of up to 20 Hz, the HPLS®-2G can meet wide area of applications ranging from Antenna Positioning Systems and up to Accurate Target Acquisition Systems.

The HPLS®-2G Multi-Frequency versions implement advanced new proprietary algorithms that provide improved smooth results at real-time conditions.

The HPLS®-2G family systems is based on GNSS & Antenna technology, were by analyzing raw data from GNSS satellites arriving to 2 antennas, separated by short distance (typically 0.5 - 2 m) accurate Heading information can be obtained. Thus, the system is not affected by magnetic environment, unlike traditional magnetic based heading systems.

Main Features

- Extremely affordable solution for Heading, Attitude and Position
- Heading Accuracy down to 0.04°
- Roll / Pitch accuracy of < 0.15º
- 10Hz Update Rate , Heading & Position (optional 20Hz)
- High-Precision, DGPS accuracy of down to < 30 cm
- Small Form Factor System
- Support various types of antennas
- Mil-Spec Compatibility (Design-To-Spec)
- ITAR-free

Typical Applications

Antenna Positioning Systems
Marine accurate Compass & Positioning system
Optical Observation Systems
Target Acquisition systems
Radar North Finding system

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Specifications

HPLS®-2G North Finding System

Parameter	Multi Frequency
GNSS sensor	
Receiver Type	L1/L2/L5 Multi-Frequency Multi-Constellation. GPS, GLONASS, BeiDou, Galileo, QZSS, IRNSS, SBAS, L-band corrections GPS L1CA/L1P/L1C/L2P/L2C/L5 GLONASS G1/G2/G3, P1/P2 BeiDou B1i/B2i/B3i/B10C/B2A/B2B/ACEBOC GALILEO E1BC/E5a/E5b/E6BC/ALTBOC QZSS L1CA/L2C/L5/L1C/LEX NavIC (IRNSS) L5
Update Rate	10Hz Position & Heading (optional 20Hz)
Horizontal Accuracy	< 30 cm (1-sigma) (DGPS)** < 1.2 m (1-sigma) (autonomous no SA) ***
Heading Accuracy	< 0.08º (1-sigma) @ 1.0m antennas separation (using HPLS-ANT-200) < 0.04º (1-sigma) @ 2.0m antennas separation (using HPLS-ANT-200)
Rate of Turn	100º/sec maximum
Start Up Time (Position fix)	< 60 sec typical
Heading Fix	< 20 sec (after startup / position fix)
Satellite Reacquisition	< 1 sec
Inclinometer Sensor	
Pitch & Roll Range	+/- 30° (optional +/- 60°)
Pitch & Roll Accuracy	< 0.15° (1-sigma) over Full-Working-Temp-Range
Update Rate	10Hz
Communications	
Serial Ports	RS232 port A , PC levels (optional RS422) - Heading/ Position / Roll/ Pitch RS232 port B , PC levels - Setup / NMEA msg. out
Baud Rates	115,200 bps - 921,600 bps
Data I/O Protocol	Port A – Binary (Arazim Propriety) , main Port Port B - NMEA 0183
Timing Output	1 PPS, Accuracy 30 nS, CMOS level output / Differential output.
Power	
Input Voltage	14 – 32 VDC
Current Consomption	< 890 mA @ 14 VDC (typical)
Mechanical	
Dimensions	150 x 110 x 55 mm (without antennas)
Weight	< 1 Kg (without antennas)
Status Indication	Power, 1PPS, Primary GNSS, Secondary GNSS, Differential, DGPS, Heading.
Power/Data Connectors	D38999/24WD35PN
Antenna Connectors	2 x TNC (female)
Environmental	
Temperature Operating	-40º C to +71º C
Storage	-40º C to +85º C
Humidity	95% non-condensing
Compliance (Design-to-Spec)	
Temperature (Op)	-40º C to +71º C — Mil-Spec 810-G Method 501.5 Procedure II
Humidity	95% non-condensing — Mil-Spec 810-G Method 507.5 Procedure II
Shock	20g, 11 mSec ½ Sine — Mil-Spec 810-G Method 516.6 Procedure V
Vibration	6.5 gRMS, 5-800 Hz — Mil-Spec 810-G Method 514.6 Procedure I, Category 4, Table 514.C6-IV
Enclosure	IP67 — EN 529
Rain	Mil-Spec 810-G Method 506.5 Procedure I
Dust	Mil-Spec 810-G Method 510.5 Procedure I
Salt/Fog	Mil-Spec 810-G Method 509.5
Altitude	RTCA/DO-160D, section 4, Par 4.6.1
Power Supply	MIL-STD-1275B
EMI/RFI	MIL-STD-461C/D
MTBF	> 50,000 hours according to Mil-HDBK 217

** Depends on multipath environment, number of satellites in view, satellite geometry, baseline length(for local services) and ionospheric activity

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