Smart Antenna TS112 SE

Harxon
a BDStar company

INNOVATIVE MULTI-CONSTELLATION SMART ANTENNA FOR PRECISION AGRICULTURE

FLEXIBLE POSITIONING ACCURACY AVAILABLE

The Harxon smart antenna TS112 SE integrates a high precision GNSS module with multi-band GNSS receiver for fast convergence times and trustworthy performance, and a Harxon X-SURVEY™ Technology multifunctional GNSS Antenna in a single rugged housing. Either for standalone positioning or dual-frequency precise point positioning (PPP), the TS112 SE provides positioning accuracy from sub-meter to centimeter level while using the SAPCORDA Safe and Precise Augmentation (SAPA) service for various applications, so there is no need for costly hardware replacement.

COMPREHENSIVE GNSS SUPPORT

Harxon's TS112 SE smart antenna receives dual-frequency multiple constellation signals from GPS, GLONASS, GALILEO, BEIDOU, and SBAS as well as L-Band signals via the SAPA augmentation service. The SAPA precise augmentation service provides an alternative economical positioning option and wide service coverage in application environments that have poor LTE network coverage. Comprehensive GNSS support and the flexible L-band augmentation service ensure solid satellite tracking without signal outage, even on uneven terrain or in problematic environmental conditions.

KEY FEATURES

- **Scalable Positioning Accuracy from Sub-meter to Centimeter Available**
- **Comprehensive GNSS Support for Robust Positioning Performance**
- **Wireless Bluetooth Technology for Easy Connectivity**
- **Patented SLIDE™ Technology Delivers Smooth Linear Positioning**
- **Terrain Compensation Algorithm Maximums Positioning Accuracy**
- **Rugged Housing, Flexible Installation Options, IP67 Rating Waterproof**

SLIDE™ TECHNOLOGY

The smart antenna TS112 SE features the Harxon patented SLIDE™ technology to provide smooth positioning and exceptional linear accuracy, ensuring steady and consistent positioning output even through poor satellite availability or short periods of satellite signal reception interruption. By offering satisfied positioning accuracy, TS112 SE smart antenna creates a reliable solution for agricultural machine automation.

TERRAIN COMPENSATION FOR MAXIMUM ACCURACY

The TS112 SE also features terrain compensation algorithm that is capable of correcting deviations that caused by vehicle's roll and pitch while working on uneven grounds or slopes. It helps users increase operation efficiency and saving cost in the field.

RICH INTERFACES FOR FLEXIBLE CONNECTIVITY

The TS112 SE equips two NMEA0183 compatible RS-232 serial ports, one NMEA2000 compatible CAN port. It also equips Bluetooth wireless technology for easy configuration of the smart antenna via installing configuration app on tablets or other devices that commonly used for guidance and positioning applications.

RUGGEDIZED AND DURABLE DESIGN, FLEXIBLE INSTALLATIONS AVAILABLE

The TS112 SE smart antenna adopts a compact and flat structure design. Its IP67 rating housing ensures reliable performance in harsh environment even expose to dust, rain, splash or sunlight. The antenna also simplifies the installation by providing two options and suits for various off-road vehicles in agriculture and construction. One option uses built-in magnets at the bottom of the antenna. The other uses M4 screws fixed mounting.

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PERFORMANCE

Signal Received	
GPS	L1/L2
GLONASS	L1/L2
BDS	B1/B2
GALILEO	E1/E5b
SBAS	L1
QZSS	L1C/A/L1S/L2C
L-Band	
Horizontal Position Accuracy (CEP)	
Single point	1.5m CEP
DGPS	0.4m CEP
SBAS	0.6m CEP
SAPA(Basic)	Below 1m to10cm CEP
SAPA(Premium)	Below 10cm CEP
Data Rate	10Hz（Max.）
Time to First Fix	
Cold Start	<50s
Warm Start	<35s
Hot Start	<10s
Reacquisition	<1s

Velocity Accuracy	**0.05m/s RMS**
Roll/Pitch Accuracy	**<1° RMS**
Time Accuracy	**30ns RMS**

PHYSICAL AND ELECTRICAL

Dimensions	210x155 x80 mm
Weight	<600g
Connector	14pin Tyco Ampseal
Mounting	
M4 Screw	4
Integrated Magnetic Mount	3
Accessories	
Config. Cable	1
Data Cable	1(HJ1148,optional)

Power	
Input Voltage Range	+9VDC to +36VDC
	Minimum voltage when voltage drops: 6 VDC
Power Consumption	2.5W(Typical)
	<10W
Status LEDs	
Power	
RTK Status	
Correction Data Link	

ENVIRONMENTAL

Temperature	
Operating	-40°C to +70°C
Storage	-40°C to +85°C
Humidity	95% non-condensing
Vibration	GJB150.16-2009, MIL-STD-810
Compliance	CE, FCC, REACH, RoHS
Waterproof Rating	IP67

COMMUNICATION PORTS

RS-232 Ports	2
CAN Bus	1
1 PPS	1
Ground Speed Out	1
Event Mark Input	1
Bluetooth	1

STANDARD FEATURES

- 10Hz Data Rates
- Field Upgradable Software
- Differential Correction Support for RTCM 3.3
- Navigation Output Support NMEA0183/NMEA2000
- SLIDE™ Smoothing Algorithm
- 1 PPS Output
- Ground Speed Output

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