

Multi Constellation Rugged GNSS Receiver

PoLo-S100

(IRNSS/GPS/GLONASS/GALILEO/BEIDOU/GAGAN)



Advantages

- ❖ Easy installation
- ❖ Customizable as per user requirements
- ❖ Flexible communication ports
- ❖ Rugged design
- ❖ Extended online technical support
- ❖ Easy interface to ECDIS
- ❖ Rugged multiband GNSS antenna
- ❖ 1024 x 600 px large LCD display for easy view



Technology

Accord's PoLo-S100 is an indigenously designed and developed multi Constellation Global Navigation Satellite System (GNSS) receiver capable of receiving signals including IRNSS, GPS, GLONASS, GALILEO, BEIDOU and GAGAN . PoLo-S100 accompanies with a rugged antenna capable of receiving signals in L1, L5 and S bands.

Environmental

PoLo-S100 is designed for rugged/medium dynamic applications without compromising on its ergonomics. PoLo-S100 carries proven hardware/software architecture to withstand rigorous environmental requirements.

Communication Connectivity

PoLo-S100 offers communication connectivity to the outside world through dedicated Ethernet and RS422 interfaces. USB host interface for accessing the on board saved data and for software upgrade.

Customization and Support

Specifications listed in this data sheet correspond to the receiver's standard configuration only. For any customization of the sensor please contact Accord Software and Systems Pvt. Ltd.



Sky plot

Signal strength

Satellite information

Position Information

Technical Specifications

Features

- Supports Dual frequency (L5+S) IRNSS
- Supports Single frequency GPS L1, GLONASS L1, BEIDOU B1, GALILEO E1 and GAGAN
- Receiver Autonomous Integrity Monitoring (RAIM)
- Anti Jam & Anti spoof capability⁵
- Supports DGNSS input version 2.3
- Flexible and rugged communication ports
- TCP/IP, UDP connectivity
- Accord's proprietary compact binary data output
- NMEA 0183 format (Version 4.10)
- Firmware upgradable for feature enhancements
- On Board Data Logging : 16 GB
- Optional Dual antenna for Hot redundancy
- IP67
- Storage and playback of track logs
- Supports different coordinate systems
- Supports Map, Manage waypoints, Routes and Tracks
- 1024 x 600 px display with capacitive touch and keypad interface

Performance

Signals Tracked

Constellation	Signals
• IRNSS (SPS)	L5 & S
• GPS	L1
• GLONASS	L1
• SBAS/GAGAN	L1
• BEIDOU	B1
• GALILEO	E1

Position Performance¹

• Stand alone	<3 m (RMS)
• Velocity accuracy	0.02 m/s ⁶

Signal Dynamics^{2, 2a}

• Velocity	515 m/s
• Acceleration	4 g
• Jerk	1 g/s

Time to First Fix (TTFF)

• Cold start ³	50 s
• Hot start ³	15-20 s
• Reacquisition	< 1 s

Maximum Data Rate

• Measurement data	1 Hz
• Positioning data	1 Hz

Time Accuracy

• 1-PPS output ⁴	50 ns (RMS)
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Waypoints and Routes

• Storage of waypoints	10,000
• Storage of Route	100

Physical and Electrical

Enclosure

- Rugged aluminum case

Power

• Input voltage	9-36 VDC
• Power consumption	20 W typical

Antenna LNA Power

• Output voltage	+5 VDC
• Maximum current	200 mA

Dimension (approximate)

• Rx only	262 x 139 x 65 mm ³
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Weight

• Rx only	< 4 kg
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Communication Ports

• Ethernet port	10BaseT/100BaseT TCP/IP, UDP
• RS422	1 port up to 115200 bps
• 1-PPS	Reference output
• USB	Host
• HDMI	Screen mirror

Antenna

• Frequency	1176 ± 12 MHz 1590 ± 25 MHz 2492 ± 8.5 MHz
• Passive Gain	Peak: > +5 dBic
• Polarization	RHCP
• Axial Ratio	< 3 dB
• VSWR	< 1.5:1
• LNA Gain	35 ± 3 dB @ L Band 30 ± 3 dB @ S Band
• LNA Noise Figure	< 2.0 dB
• Impedance	50 Ω
• DC Supply	+5 to +18 V
• Interface Connector	TNC Female
• Ingress Protection	Ip67

Environmental

Receiver - Class N1 of JSS55555

• High Temperature	Procedure 6, Condition K
• Low Temperature	Procedure 4, Condition H
• Vibration	As per 4.28.2, Mast Head Region
• Shock	Procedure 1, Test Method A

Antenna - Class N2 of JSS55555

• High Temperature	Procedure 6, Condition M
• Low Temperature	Procedure 4, Condition H
• Vibration	As per 4.28.2, Mast Head Region
• Shock	Procedure 1, Test Method A
• Driving Rain	Test Condition C

Note: Single power module with AC, DC, battery input and DC output available as optional accessory to accommodate for wide range of power source. Adopter is compliant with the receiver environmental specifications.

¹Depends on satellite geometry and dynamics

²Under nominal signal strength of 40 dB-Hz and above

^{2a}Can be modified to cater any signal dynamics

³Under nominal signal strength of 40 dB-Hz with no information available

⁴Does not include RF and antenna delay

⁵Only detection logic

⁶Under static scenario, nominal signal strength of 42 dB-Hz