SWEGEO

SWEGEO SS100D-INS

DUAL ANTENNA GNSS RECEIVER SENSOR

KEY FEATURES

SweGeo SS100D-INS sensor supports GPS, GLONASS, Galileo, and BeiDou for reliable multi-constellation satellite reception. With a rugged, IP67-rated design, it withstands demanding environments. The high update rate, low latency, and integrated communication interfaces ensure smooth integration with your systems. The INS version adds inertial navigation, providing uninterrupted positioning in GNSS-compromised areas like tunnels or dense urban zones. It combines GNSS with accelerometers and gyroscopes for precise, real-time navigation.

- **MULTI-CONSTELLATION GNSS SUPPORT**
  Provides reliable and robust signal reception from GPS, GLONASS, Galileo, and BeiDou systems, ensuring comprehensive coverage and improved accuracy.
- **INS INTEGRATION FOR UNINTERRUPTED POSITIONING**
  Combines GNSS and inertial navigation to provide continuous, accurate positioning even in GNSS-denied areas, using accelerometers and gyroscopes for enhanced performance.
- **DUAL ANTENNA CONFIGURATION**
  Enhances positioning accuracy and performance, particularly in challenging environments, by using two antennas to better mitigate signal obstructions and multipath effects.
- **RUGGED DESIGN WITH IP67 RATING**
  Features a durable and weather-resistant enclosure, suitable for various demanding applications and harsh conditions.
- **HIGH UPDATE RATE AND LOW LATENCY**
  Offers real-time data with minimal delay, providing timely and accurate positioning information for critical operations.
- **INTEGRATED COMMUNICATION INTERFACES**
  Facilitates seamless integration into existing systems with various communication options, enhancing connectivity and ease of use.

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DUAL ANTENNA GNSS RECEIVER SENSOR

GENERAL	
Primary RF	GPS L1 C/A, L1C, L2C, L2P, L5
	GLONASS3 L1 C/A, L2 C/A, L2P, L3, L5
	Galileo4 E1, E5 AltBOC, E5a, E5b
	BeiDou B1I, B1C, B2I, B2a, B2b
	QZSS L1 C/A, L1C, L1S, L2C, L5
	NavIC (IRNSS) L5
	SBAS L1, L5
	L-Band up to 5 channels
Secondary RF	GPS L1 C/A, L1C, L2C, L2P, L5
	GLONASS3 L1 C/A, L2 C/A, L2P, L3, L5
	Galileo4 E1, E5 AltBOC, E5a, E5b
	BeiDou B1I, B1C, B2I, B2a, B2b
	QZSS L1 C/A, L1C, L1S, L2C, L5
	NavIC (IRNSS) L5
Accuracy	Horizontal position accuracy (RMS)
	Single point L1 1.5 m
	Single point L1/L2 1.2 m
	SBAS5 60 cm
	DGPS 40 cm
	TerraStar-L6 40 cm
	TerraStar-C PRO6 2.5 cm
	RTK1 cm+1 ppm ALIGN heading accuracy
	Baseline Accuracy (RMS)
	2 m 0.08°
	4 m 0.0
Data Update Rate	Maximum data rate
	Measurements up to 100 Hz
	Position up to 100 Hz
Initialization / Time to first fix	Time to first fix7
	Cold start < 34 s (typ)
	Hot start < 20 s (typ
Signal Reacquisition	L1 < 0.5 s (typ)
	L2 < 1.0 s (typ)
Velocity Limit	600 m/s
Velocity Accuracy	< 0.03 m/s RMS
Time Accuracy	< 5 ns RMS

PHYSICAL AND ELECTRICAL	
Dimensions	147 x 125 x 55 mm
Weight	500 g
Power Consumption	3.95 W
Input voltage	+9 to +36 VDC
2 Antenna LNA power output	Output voltage 5 VDC ±5%
	Maximum current 200 Ma
Connectors	RF 2*TNC
	USB M12-USB TYPE A Cable
	Serial M12-2*DB9Y Cable
	Power M12- 3 Wire Cable
Status Led	Position Valid
	Power
	Serial Rx/Tx Stream
NMEA	5 Hz
Bluetooth	Long Range SPP

ENVIROMENTAL	
Operating Temperature	-40°C to +75°C
Storage Temperature	-40°C to +85°C
Humidity	95% Non-condensing
Ingress Rating	IP67
Vibration	Random MIL-STD-810H,
	Method 514.8 (Cat 24, 20 g RMS)
	Sinusoidal IEC 60068-2-6
Acceleration	MIL-STD-810H,
	Method 513.8, Procedure II (16 g)
Bump	MIL-STD-810H,
	Method 516.8, Procedure 1,
	40 g 11 ms terminal sawtooth)
Shock	Random MIL-STD-810H,
	Method 514.8 (Cat 24, 20 g RMS)
	Sinusoidal IEC 60068-2-6

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