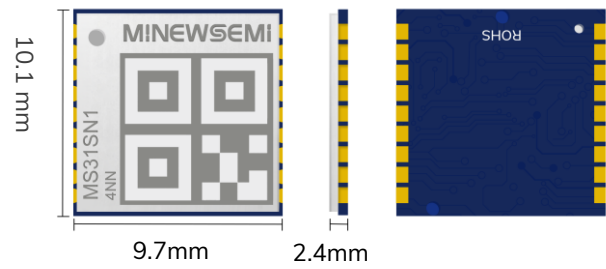


MS31SN1

Small Multi-Mode GNSS Module



MS31SN1 is a concurrent receiver module with multiple built-in positioning systems, supporting simultaneous reception of GPS, BDS, GLONASS and QZSS L1 bands. Compared with the single GPS system, MS31SN1's GPS, BDS, GLONASS and QZSS multi-positioning system greatly increases the number of visible and available satellites, while reducing the time to first location and achieving greater accuracy and precision even in urban environments.

MS31SN1 supports AGPS online fast positioning, which can quickly achieve cold start positioning within seconds by downloading ephemeris through the network. MS31SN1 GNSS module provides an ideal solution for vehicle-mounted, industrial-grade PDAs, car recorders and related applications. The low power consumption meets the high power requirements of portable devices, facilitating the integration of such applications and fully meeting industry standards.



Advantages

- Support multi-satellite systems: GPS, BDS, GLONASS and QZSS
- Support AGPS online Rapid Position
- Inside built-in low noise amplifier and Improved reception sensitivity
- Low power consumption: 25mA @tracking mode
- Support the reception of the BDS-3 satellite
- Support DGPS and SBAS (WAAS/EGNOS/MSAS/GAGAN)
- Strong anti-interference



Multi-galaxy



Low-power



Anti-interference



Rapid location



Industrial-grade
Temperature



RoHS

Parameter	Specification				
1	Constellation	GPS: L1 C/A BDS: B1I GLONASS: L1 QZSS: L1 C/A SBAS: WAAS, EGNOS, MSAS, GAGAN, SDCM			
		Factory default GPS+BDS+QZSS+SBAS			
	2	Operating frequency	GPS L1: 1575.42MHz QZSS L1: 1575.42MHz SBAS L1: 1575.42MHz BDS:B1I: 1561.098MHz GLONASS G1: 1601.71875MHz±3.91175MHz		
		3	Sensitivity	Cold Start: -148dBm Re-capturing: -160dBm Hot Start: -158dBm Tracking: -162dBm	
			4	Acquisition Time	Cold Start: ≤35s Warm Start: ≤30s Hot Start: 1s;
5				Position Precision	Single point location 2.5m CEP (Typical Open Sky)
6				Speed Precision	0.1m/s CEP
7	Time Precision	20 ns			
8	Input Voltage	Main Power: 3.0-3.3V Back-up Power 1.8-3.6V			
	9	Power Consumption	Capturing: 35mA @3.3v avg Tracking: 25mA @3.3v avg Sleeping: 15uA@3.3v avg		
10		Storage Temp	-40℃ - +85℃		
11		Work Temp	-40℃ - +85℃		
12	Refresh Frequency	GNSS:1-5Hz;			

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