UM220-INS NF

Automotive-grade Multi-GNSS Integrated Navigation and Positioning Module

Automotive Grade

12.2 × 16.0 x 2.6 mm

Product Characteristics

- Miniature All-in-One design
- Built-in MEMS to output integrated navigation and positioning results with a single module
- 100% continuous navigation even in tunnels and underground parking lots
- GNSS + INS integrated navigation algorithm, supporting odometer pulse input
- Supports A-GNSS

Applications

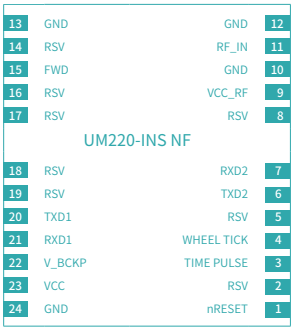
- Vehicle Navigation
- T-Box

Ordering Information

Supply at multiples of 500 pieces

Brief Introduction

UM220-INS NF is an automotive-grade GNSS+MEMS module designed for vehicle navigation. Based on Unicore's proprietary low power consumption GNSS SoC-UC6226, and with the built-in 6-axis MEMS, UM220-INS NF can directly output GNSS + MEMS integrated positioning results. It is most suitable for applications requiring high accuracy, high reliability, and high continuity.



Physical Specifications

Dimensions	12.2 × 16.0 x 2.6 mm
Package	24 pin SMD
Temperature	Operating -40 °C ~ +85 °C
	Storage -45 °C ~ +90 °C

Electrical Specifications

Voltage	3.0 V ~ 3.6 VDC
LNA Feed	3.0 V ~ 3.3 V
Power Consumption[3]	90 mW

Interfaces

2 x UART(LVTTL)
1 x SPEED
1 x FWD
1 x 1PPS(LVTTL)

Note: 1 Simultaneously running three systems at most. Using command to switch between BDS and GLONASS.
2 Typical Value, < 3 0m/s open sky
3 Open sky, continuous tracking

Performance Specifications

Channel	64 channels, based on UFirebird		
Frequency[1]	GPS L1		
	BDS B1		
	Galileo E1		
	GLONASS G1		
	QZSS		
	SBAS		
Modes	Single-System Standalone Positioning	Positioning Accuracy(CEP)	Horizontal: 2.0 m (Dual-System)
	Multi -System Joint Positioning		< 3% of distance traveled without GNSS signals
Time to First Fix (TTFF)	Cold Start: < 28 s	Velocity Accuracy[2](RMS)	0.1 m/s
	Hot Start: < 1 s		
	Reacquisition: < 1 s	1PPS	Support
Data Update Rate	1 Hz / 5 Hz / 10 Hz		
Sensitivity	GNSS		
	Tracking	-161 dBm	
	Cold Start	-147 dBm	
	Hot Start	-154 dBm	
	Reacquisition	-157 dBm	
Data Format	NMEA 0183, Unicore		