



# UM220-INS NF

## BDS/GPS+MEMS Dual System Inertial Navigation Module

### Brief Introduction

UM220-INS NF is a BDS/GPS+MEMS dual-system module designed for In-dash automotive navigation and high-end navigation, based on Unicore Low power GNSS SoC UC6226. With its built in 6 axis MEMS, and the support of BDS+GPS, UM220-INS NF can output GNSS+MEMS inertial positioning result, most suitable for applications requiring high accuracy , high reliability, and high continuity positioning.

### Application Fields

- In-dash Automotive Navigation
- High-end Navigation
- .....

### Product Characteristics

- Directly output inertial navigation data (support NMEA0183)
- ISO/TS-16949 certified product line
- SMD surface-mount technology makes it easy for users production
- -40°C~ +85°C operating temperature
- In-dash multiple automotive navigation algorithm
- Support D-GNSS, A-GNSS system
- Support UM220-INS N
- Minimum "All-in-One" design
- Built-in MEMS device, one system module output positioning result
- 100% positioning accuracy, even in tunnel and underground parking lot



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### Technical Specifications

#### Performance Specifications

Channel	Based on 64-Channel	Accuracy (RMS)	2.5m CEP (Dual-System)	
	SoC -Firebird		<5% x driving distance(inertial navigation, without GNSS signal)	
Frequency	BDS B1	Velocity	GPS/GNSS: 0.1 m/s	
	GPS L1		Accuracy <sup>2</sup> (RMS) BDS : 0.2 m/s	
Modes	Single System Positioning	1PPS	Support	
	Multi-System Positioning	Sensitivity		BDS      GPS
Time to First Fix (TTFF)	Cold Start: 30 s		Tracking	-158 dBm   -157 dBm
	Hot Start: 1 s		Acquisition	-145 dBm   -146 dBm
	Reacquisition: <1 s		Hot start	-147 dBm   -150 dBm
Update Rate	1 Hz			

#### Physical Specifications

Dimensions	10.0 x 12.2 x 2.4 mm
Package	24 pin SMD
Temperature	Operating: -40°C~+85°C
	Storage: -45°C~+90°C

#### Electrical Specifications

Voltage	2.7 V ~ 3.6 VDC
LNA	2.7 V ~ 3.3 V
Power	75 mW
Consumption <sup>3</sup>	

#### Functional Ports

	2 x UART / 1 x SPEED / 1 x FWD / 1 x Event
	1 x 1PPS/ 1 SPI
Data Output	NMEA 0183 Unicore

#### Functional Specification

	Passive Antenna、Active Antenna
	DGNSS *、AGNSS *

Note: Part marked with\* is customizable  
2 Typical conditions, <30m/s  
3 Open sky, continuous tracking

## CONTACT US

Address: F3, BDStar Navigation Building, No.7,  
Fengxian East Road, Haidian, Beijing, P.R.China, 100094  
Tel: +86-10-69939828 Fax: +86-10-69939888  
E-mail: info@unicorecomm.com