UM761A

Automotive-Grade Multi-GNSS Single-Frequency Integrated Positioning Module

12.2 x 16.0 x 2.4 mm

Automotive Grade

Features

- Supports BDS B1I, B1C; GPS L1 C/A; GLONASS G1; Galileo E1B/C; QZSS and SBAS
- Built-in 6-axis IMU, with 50Hz/100Hz IMU raw data output
- Supports odometer pulse input/vehicle speed input
- 100% continuous navigation even in tunnels or underground parking lots
- Supports the output of GNSS+IMU integrated positioning results and GNSS-only positioning results through one serial port
- GNSS chip qualified according to AEC-Q100 and production process conforms to IATF16949

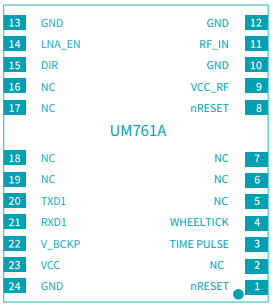
Applications

- Vehicle Navigation
- T-BOX
- Vehicle Monitoring
- Streaming Rearview Mirror

Ordering Information

Supply at multiples of 500 pieces

UM761A series modules are GNSS + IMU integrated positioning and navigation modules independently developed by Unicore Communications. Based on the multi-constellation, single-frequency and high-performance GNSS SoC – UFirebird IV (UC7510A), and with the built-in six-axis inertial measurement unit, the modules support multi-constellation single-frequency joint positioning, and can directly output GNSS + IMU integrated positioning results, which ensures continuous positioning even in tunnels and underground garages.This module can be used with terminal devices to achieve Android Auto and CarPlay certification.



Physical Specifications

Dimensions	12.2 x 16.0 x 2.4 mm
Package	24 pin, LCC
Operating Temperature	-40 °C ~ +85 °C
Storage Temperature	-45 °C ~ +90 °C

Electrical Specifications

Voltage	2.7 V ~ 3.6 V DC
LNA	2.7 V ~ 3.3 V, < 100 mA

Interfaces

1 × UART (LVTTL)
1 × FWD
1 × SPEED
1 × 1PPS (LVTTL)

Functional Characteristics

Passive Antenna, Active Antenna, AGNSS

Note: * Supported by specific firmware.
1 95% at 30 m/s for dynamic operation,open sky

Performance Specifications

Channel	64 channels, based on UFirebird IV	
Frequency	GPS L1C/A	
	BDS B1I, B1C*	
	GLONASS G1	
	Galileo E1B/C	
	QZSS L1C/A, L1C/B*, L1S	
	SBAS L1C/A*	
Modes	Single-system standalone positioning	
	Multi-system joint positioning	
Time to First Fix (TTFF)	Cold Start: < 26 s	
	Hot Start: < 1 s	
	Reacquisition: < 1 s	
	A-GNSS: < 3 s	
Positioning Accuracy(CEP95)	Horizontal: 1.5 m* (with SBAS)	
	Horizontal: 2.0 m (without SBAS)	
INS Positioning Error without GNSS	ADR < 2% of distance traveled (without GNSS for 120 s)	
	UDR < 5% of distance traveled (without GNSS for 120 s)	
Data Update Rate	GNSS only or GNSS + INS	1 Hz / 5 Hz / 10 Hz
	IMU raw data output	50 Hz /100 Hz
Velocity Accuracy[1]	0.05 m/s (open sky)	
1PPS	20 ns	
Sensitivity	GNSS	
	Tracking	-165 dBm
	Cold Start	-148 dBm
	Hot Start	-156 dBm
	Reacquisition	-160 dBm
Data Format	NMEA 0183, Unicore	