

K801 GNSS Module

K Series GNSS Module

Ver.2023.08.7

12 mm



16 mm

Size(L × W × H): 12mm x 16mm x 2.4mm

Weight: 1.6g

Features

Support BDS-3, BDS-2, GPS, GLONASS, Galileo, QZSS

Support L1/L5 bands

Small size, 12mm x 16mm

Surface-mounted design to integrate

Internal adaptive anti-interference algorithm

0.15W low power consumption

Applicaitons



IoT



UAV



Robotics

K801

GNSS Module

The K801 GNSS module is a high-performance, low-cost GNSS positioning module launched by ComNav Technology latest. It can meet the demand of centimeter and decimeter level high-precision positioning and ideal for consuming market and solutions such as Internet of Things, Intelligent Driving, UAV and Robotics.

Dual-band&Multi-constellation

K801 adopts high-precision Soc chip and supports BDS-3, GPS, BDS-2, GLONASS, Galileo, QZSS and L1/L5 dual-frequency signals, which can significantly reduce signal acquisition time under interrupted situations and improve positioning accuracy.

Adaptive Anti-interference Technology

The power consumption is lower to 0.15W. Built-in anti-multipath and anti-interference technologies can improve anti-interference capability so that effectively mitigates the multipath effect in urban canyons, and improve positioning reliability and stability in complex environments.

INS+GNSS Navigation

K801 is designed with an onboard high-precision IMU module, which can provide continuous and high-quality positioning data with inertial navigation fusion algorithm.

Easy to Integrate

Featuring surface mounted design, smaller size of 12mm × 16mm and low power consumption, K801 is compatible with mainstream GNSS modules, allowing users to integrate more easily.

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Signal Tracking

Channels	372
GPS	L1 C/A, L5
BeiDou	B1I, B2a
GALILEO	E1, E5a
GLONASS	G1
SBAS	WAAS, EGNOS, MSAS, GAGAN,SDCM
QZSS	L1 C/A, L5

Performance Specifications

Cold start	<24 s ¹
Hot start	<1 s
RTK Initialization time	<5 s
Signal reacquisition	<1 s
Initialization reliability	>99.9%
Velocity accuracy	≤ 0.02 m/s
Acceleration	4 g
Overload	15 g
Time accuracy	20 ns

Positioning Specifications

Post Processing	2.5 mm + 1 ppm Horizontal
	5 mm + 1 ppm Vertical
Single Baseline RTK	8 mm + 1 ppm Horizontal
	15 mm + 1 ppm Vertical
DGPS	<0.4 m RMS
SBAS	1 m 3D RMS
Standalone	1.5m 3D RMS

Communications

2 LVTTTL ports
1 SPI ²
1 Event Marker input ³
1 Pulse Per Second (PPS) output ⁴
1 indicator pins show the working status

1. Cold start < 40s with the signal acquisition acceleration module.
2. SPI is reserved, support customization.
3. EVENT is reserved for future upgrade.
4. PPS is reserved for future upgrade.
5. CMR,CMR+ is reserved for future upgrade.
6. ComNav binary is reserved for future upgrade.

Data Format

Correction data I/O	RTCM 2.X, 3.X, CMR (GPS only), CMR+ (GPS only) ⁵
Position data output	-ASCII: NMEA-0183 GGA, GSA, GSV, RMC, HDT, VHD, ZDA, VTG, GST, GLL; -ComNav Binary ⁶

Antenna Interface

Impedance Matching	Wiring 50 Ω impedance matching
LNA Power: External	+3.3V ~ +5V ± 5%VDC @ 0-100mA
LNA Gain	15 ~ 35dB (suggested)

Physical

Size (L × W × H)	12mm x 16mm x 2.4mm
Weight	1.6g

Environmental

Working temperature	-40 °C to + 85 °C
Storage temperature	-40 °C to + 95 °C

Electrical

Input voltage	+3.3V±5% DC
Power consumption	0.15W (Anti-interference on)

Software

ComNav Compass Receiver Utility software
Compass Solution software

ComNav Technology Ltd.

Building 2, No. 618 Chengliu Middle Road,
201801 Shanghai, China

Web: www.comnavtech.com
Email: sales@comnavtech.com
Tel : +86 21 64056796 Fax: +86 21 54309582