K705 GNSS Module

Size(L × W × H)**:** 50 mm × 40 mm × 9 mm
Weight: 22g

K705
GNSS Module

FULL-CONSTELLATION GNSS AND SUPERIOR PERFORMANCE

The K705 is a full-constellation triple-frequency GNSS OEM board featuring superior performance and compact design. With the QUANTUM™ technology and second generation SinoGNSS ASIC chip inside, the K705 is capable of tracking signals of GPS, BeiDou, BeiDou Global, GLONASS and Galileo satellite system, which improves the reliability of positioning worldwide. It will never be outdated for any high-precision positioning demanding.

Features

GPS L1/L2/L5, BeiDou B1/B2/B3, GLONASS L1/L2, Galileo E1/E5a/E5b, SBAS, QZSS, IRNSS[1]

BeiDou Global Signal B1C, B2a

Fully EMI Shielded Module

Signal Acquisition Acceleration Module[2]

Compact Design for Mobile Applications

Support PPP and L-Band[3]

DP-Filter Smooth Function[4]

Serial, USB, CAN and Ethernet Interfacing

EASY TO INTEGRATE

Ensuring the K705 is easy to integrate for diverse applications, the K705 GNSS OEM board provides an excellent level of accuracy, strong compatibility and compact design. The K705 has been designed to use a shielded module with 50mm×40mm×9mm form factor, this design guarantees the high quality GNSS signals are protected from the source of EMI on the host platform. It only features 1.3 W power consumption that ensures longer operation time and less heat. The K705 is an ideal choice for integrating portable GNSS sensors.

DESIGNED FOR FLEXIBILITIES

Designed with multiple interfacing for flexible Serial Ports, USB Port, CAN Port, PPS and Event Markers, the K705 is a multi-purpose GNSS product used for high-precision GNSS applications, especially in mobile applications including UAV, robotic system and more.

SinoGNSS®
By ComNav Technology Ltd.

K705 GNSS Module

Signal Tracking	Channels	574
	GPS	L1 C/A, L2C, L2P, L5
	BeiDou	B1, B2, B3
	BeiDou Global Signal	B1C, B2a
	GLONASS	L1 C/A, L1P, L2 C/A, L2P
	Galileo	E1, E5a, E5b
	QZSS, IRNSS[1]	
	SBAS	WAAS, EGNOS, MSAS, GAGAN
	L-Band[4]	
Performance Specifications	Cold start	<60 s[5]
	Hot start	<15 s
	RTK Initialization time	<10 s
	Signal reacquisition	<1.5 s
	Initialization reliability	>99.9%
	Velocity accuracy	0.03 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	<0.4m RMS
	SBAS	1m 3D RMS
	Standalone	1.5m 3D RMS
	PPP	10cm Horizontal and 20cm Vertical
Communications	6 LVCMOS ports baud rates up to 921,600 bps	
	1 USB port	
	1 LAN Ethernet port, HTTP, TCP and Ntrip protocol	
	1 CAN Bus (Reserved)	
	1 Pulse Per Second (PPS) output	
	2 Event Markers input	
	3 LED indicators show the working status	
	External Oscillator input	
Data Format	Correction data I/O	RTCM 2.X, 3.X, CMR (GPS only), CMR + (GPS only)
	Position data output	ASCII: NMEA-0183 GSV, RMC, HDT, VHD, GGA, GSA, ZDA, VTG, GST; PTNL; PJK; PTNL, AVR; PTNL, GGK ComNav Binary BINEX Data: 0x00, 0x01-01, 0x01-02, 0x01-05, 0x7d-00, 0x7e-00, 0x7f-05 Position data output rate:1 Hz,2Hz,5Hz10Hz,20Hz
Physical	Size(L × W × H)	50 mm × 40 mm × 9 mm
	I/O interface	2 × 22 pin male connector, pin pitch 1.27mm
	Weight	22 g
	Antenna connector	1 × MMCX female, 50 Ω
Electrical	Input voltage	+3.3 V ~ +5.5 VDC
	Power consumption	1.3 W (typical)
Environmental	Working temperature	-40 °C to + 80 °C
	Storage temperature	-55° C to + 95 °C
	Humidity	95% no condensation
Software	ComNav Compass Receiver Utility software	
	Compass Solution software	
Optional Accessories	AT-series GNSS antenna	
	5 m/10 m RF Cables	
	OEM Board Evaluation Kit	

1.QZSS and IRNSS are reserved for future upgrade.
2.Signal acquisition acceleration module optimizes TTFF, but increases power consumption meanwhile, this function is optional.
3.L-Band is optional.
4.DP-Filter smooth function largely improves the pass to pass accuracy. Please refer to white paper for more information.
5.Cold start < 40s with the signal acquisition acceleration module.

Specifications subject to change without notice.