

16700: HIGH PRECISION MEMS INS SENSOR

■ PRODUCT DESCRIPTION



16700 SERIES is MEMS integrated navigation system uses high-precision gyroscopes, accelerometers, magnetic sensors, temperature sensors, barometers, satellite receivers, and other sensors, which can replace advanced products with similar performance in Europe and America, as well as fiber optic integrated navigation products with equivalent accuracy. Customized services can be provided according to user needs. At the same time, it can receive satellite differential system reference station information and use high-performance navigation algorithms to fuse multi-sensor information. It can output high-precision navigation information such as pitch, roll, heading, speed, position, etc. of the carrier, suitable for vehicles, aircraft, robots, surface vehicles and other carriers. In the most challenging environment, it can provide very superior attitude and navigation data.

■ PRODUCT MAIN SPECIFICATION

Parameters		Unit	16700-A	16700-B	16700-C
Measurement accuracy	Pitch, Roll	°	≤0.05		
	Heading	°	< 0.1 (>2m baseline)		
	Single point positioning accuracy	m	Horizontal: 2 Elevation: 3		
	Differential positioning accuracy	—	Horizontal: 0.01m + 1ppm (RTK differential) Elevation: 0.015m + 1ppm (RTK differential)		
	Heave	—	Real time heave: 5cm Heave cycle: 0 ~ 15s		
Gyroscope	Range	° / s	500 (can be customized)		
	Zero bias stability (Allan Curve, 1σ)	° / h	≤0.5	≤0.5	≤0.05
	Zero bias stability (10s smoothing)	° / h	≤3	≤2	≤0.3
Accelerometer	Range	g	10/20/40 (can be customized)		
	Zero bias stability (10s smoothing)	ug	100	30	30
Interface	Auxiliary sensors	—	GNSS, RT CM, Odometer		
	Output frequency	Hz	1 ~ 200		
	Communication interface	—	RS232 / RS422 / CAN		
Mechanical properties	Size	mm	87 × 64 × 34	87 × 64 × 34	87 × 64 × 44
	Weight	g	<190	<190	<230
	IP level	—	IP67		
Electrical environment	Working temperature	°C	-40 ~ +85		
	Working voltage	V	5 ~ 3.6		
	Power consumption	W	< 5		
	Impact limit	g	2000		
	Vibration	—	8g, RMS (20Hz - 2000Hz)		
	MTBF	h	50,000 hrs		

■ PRODUCT FEATURES

- Excellent performance indicator
- Under the condition of satellite loss of lock, navigation accuracy can be maintained for a long time

■ Wide application range: Adopting GPS/BD2/GLONASS/GALILEO four mode satellite navigation system with high tracking sensitivity, it is not only suitable for positioning and navigation in open areas, but also for complex

■ PRODUCT APPLICATION

- Drones and airships
- Underground mining, construction equipment and other carriers
- Ships, unmanned surface vehicles, buoys, oil platforms and other water-based carriers
- Autonomous vehicles, special vehicles, robots and other carriers