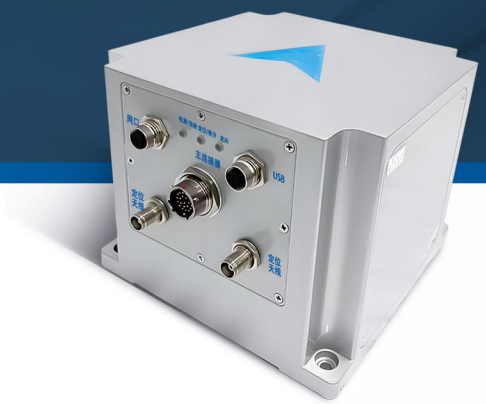
INS1700

Fiber Optic Inertial Navigation System



- The product supports two working modes: inertial navigation and compass, which can be configured by the user.
- Rich interfaces: can be combined with DVL, odometer, USBL
- It ensures seamless navigation in diverse environments.

System Specifications

North-seeking Accuracy	≤ 0.03 **sect (RMS)	
Heading Accuracy	≤ 0.03°	
Attitude Accuracy	≤ 0.003° (RMS)	
Position Accuracy	Inertial navigation	≤ 0.5nm/h (CEP)
	Satellite combination	≤ 1.2m(single point positioning, RMS)
	DVL combination	0.2%xD (D is the mileage)
	Odometer combination	0.05%xD (D is the mileage)
Heave Accuracy	5cm & 5%	
Velocity Accuracy	≤0.02m/s (satellite combination RMS)	
Startup Time	≤5s	
Align Time	≤1-2min (dual antenna satellite assist)	
	≤5min (pure inertia)	
Data Update Rate	0.1Hz-100Hz	

Device Specifications

Gyro Input Range ±1000°/s	Bias Stability ≤ 0.003°/h (1σ,100s@room temperature)
Accelerometer Input Range ±30 g	Bias Stability ≤ 20ug (1 σ,10s@room temperature)

Physical Properties

Power Supply	18-36V（DC）	Power Consumption	≤ 20W
Operating Temperature	-40℃ ~ 65℃	Material	Aluminium
Storage Temperature	-50℃ ~ 80℃	Weight	≤ 7kg
Dimensions	179.6×179.6×145 （mm）		
Shock、Vibration	Meet the requirements of GJB150.16A-2009、GJB150.18A-2009		

Interface Characteristics

Form	3×RS232，1×RS422，1×PPS，1×CAN

- INS1700 is a high-precision fiber optic inertial navigation system. The product uses the company's independently developed high-precision closed-loop fiber optic gyroscope and quartz accelerometer, which can achieve initial alignment under stationary base/moving base.
- The product has high-precision pure inertial navigation capabilities, and can customize various navigation requirements according to user needs, realizing functional substitution of similar foreign products
- This product can be connected to sensors such as odometer, DVL, USBL, etc. It has excellent scalability and is compatible with various product statement protocols at home and abroad. It can adjust the adaptation mode according to the use environment and is suitable for sea, land, air and other fields.