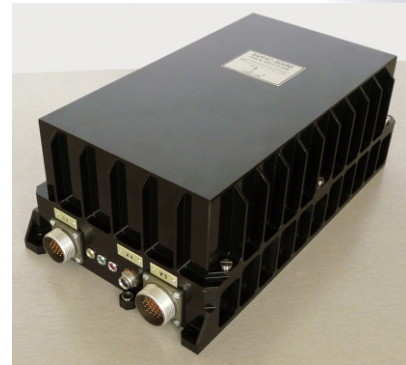


# Strapdown Inertial Navigation Systems

Strapdown inertial navigation systems (SINS) produced by RPC "Optolink" are based on fiber-optic gyros, precise accelerometers and board computer. All SINS have satellite correction due to the installed latest-generation GPS/GLONASS receiver.

Optolink's SINS have completely solid-state design with no moving parts. Due to that, high values of mean time between failures (MTBF) are achieved, and in addition the units are totally maintenance-free. Optolink's SINS do not require recalibration during service life. Connection with data receiver is maintained via serial interface. In customized SINS we have realized the capability of being interconnected with different sensors (log, ADS) in a single complex to ensure better accuracy parameters.

Designed for autonomous navigation and guidance of aviation, land, marine and subsea vehicles, Optolink's strapdown inertial navigation systems are compact, robust and maintenance-free, low-consumption units.



SINS500M



SINS500K



SINS501



SINS1000



SINS501M

Performance	SINS500K for land and air navigation (alignment in static conditions)	SINS500M for marine navigation (alignment in dynamics / tossing)	SINS501 for land and air navigation (alignment in static conditions)	SINS501M for marine navigation (alignment in dynamics / tossing)	SINS1000 for land and air navigation (alignment in static conditions)
Pure SINS performance (inertial mode), accuracy:					
- position (1-hour error), km	8	8	4	4	1.6
- velocity, m/s	2	2	1	1	0.4
- heading, °	0.3 × sec(lat)	0.3 × sec(lat)	0.1 × sec(lat)	0.1 × sec(lat)	0.03 × sec(lat)
- pitch and roll, °	0.1	0.1	0.05	0.05	0.02
GPS/GLONASS mode, accuracy:					
- position, m			20		
- velocity, m/s			0.1		
Initialization time, min	10 (available options 15, 5 min)				
Gyro bias drift (1σ), °/h	0.04	0.04	0.02	0.02	0.005
Accelerometer bias drift (1σ), mg	0.5	0.5	0.1	0.1	0.05
Interfaces	RS-422 (MIL-STD-1553B as additionally available option)				
Power supply, V DC	27±5				
Power consumption, W	15	20	22	24	24
Dimensions, mm	240×160×110	343×185×120	286×163×124	338×185×150	171×224×252
Weight, kg	3.4	6.4	4.8	8.2	8.9
Operation ranges					
- angular rate, °/s	±400	±400	±300	±300	±300
- linear acceleration, g	±10	±10	±10	±10	±10
- vibration, Hz	10-2000	10-2000	10-2000	10-2000	10-2000
- temperature range, °C	-40 ~ +60	-40 ~ +60	-40 ~ +60	-40 ~ +60	-40 ~ +60

## From optical components to navigation systems

LLC RPC «Optolink», Sosnovaya alley, d. 6A, building 5, module 3-1, Zelenograd, Moscow, 124489, Russian Federation  
 Telephone: +7(495) 663-17-60; Fax: +7(495) 663-17-61; Web-site: www.optolink.ru; E-mail: opto@optolink.ru