aselsan

ANS-600

ASELSAN AIRBORNE INERTIAL NAVIGATION SYSTEM

0.8 NM/HR
PERFORMANCE

FIBEROPTIC GYROSCOPE
TECHNOLOGY

INDIGENOUS DESIGN
INERTIAL MEASUREMENT UNIT

ANS-600

ASELSAN AIRBORNE INERTIAL NAVIGATION SYSTEM

ANS-600 is a fiberoptic gyroscope based navigation grade airborne inertial navigation system with embedded SAASM GPS receiver which is intended for application to military air vehicles.

ANS-600 has an open architecture and flexible hardware/ software which can be adapted to various air platforms including rotary-wing, fixed-wing and unmanned aerial vehicles.

ANS-600 provides linear acceleration, linear and angular velocity, position, attitude and heading to the host vehicle systems continuously. ANS-600 provides hybrid (inertial + GPS) navigation solution, inertial only navigation solution and GPS only navigation solution simultaneously. ANS- 600 is also capable of using external pressure altitude data to complement hybrid and inertial only navigation solutions.

ANS-600 is designed specifically for airborne applications and it is indigenous design of ASELSAN including the fiberoptic gyroscopes used inside.

System Interfaces

- MIL-STD-704A-F and DO-160G Compliant 28VDC Power Interface
- 2 x MIL-STD-1553B Interfaces, dual redundant
- ARINC 429 Interfaces, 8 output, 4 input
- 3 x RS422 and 1 x RS232 Asynchronous Serial Interfaces
- Have Quick and 1PPS Interface
- KYK-13 Interface
- Active and Passive RF Antenna Interface
- CRPA Type Antenna Interface
- Discrete Interfaces

System Operational Modes

- Leveling
- Alignment
  - In Flight Alignment (IFA)
  - Gyro Compass (GC) Alignment
  - Stored Heading Alignment
- Directional Gyro / Attitude
- Navigation
- Initiated Built In Test (IBIT)
- Platform Adaptation (ORIENT)

System Functions

- Hybrid, Free Inertial, GPS Only Navigation Solutions
- Magnetic Variation, Wind Speed and Direction Calculation
- Motion Detection Function
- Zero Velocity Update, Position Update
- Configurable Flight Control Filters
- Alignment Progress Status
- GPS Lever Arm, Reference Point Lever Arm Correction
- Start-Up BIT, Periodic BIT, Commanded BIT

Navigation Performance

	Free Inertial	Hybrid (INS+GPS)
Position		
Horizontal	0.8 nm/hr CEP	10 m (CEP)
Altitude	< 45 m(1)	16 (PE)
Velocity		
North, East	0.8 m/s (rms)	0.03 m/s (rms)
Vertical	0.6 m/s (rms)	0.03 m/s (rms)
Altitude		
Roll, Pitch	0.05 deg (rms)	0.02 deg (rms)
Azimuth	0.07 deg(2) (rms)	0.02 deg(3) (rms)
1-With Baro Aiding. %1.5 (rms) for Altitude>3 km.		
2-With 4 minute ground alignment at 45 degree Latitude.		
3-With sufficient aircraft maneuvers.		

Alignment Durations

Ground Alignment Mode	GPS In-Flight Alignment Mode	Stored Heading Mode
15 min	10 min	30 sec

Environmental Conditions

- MIL-STD-810 / DO-160G Compliant

Electromagnetic Environmental Effects

- MIL-STD-461 / DO-160G Compliant

Size and Weight

- Dimensions: 29 cm (H) x 20 cm (D) x 17 cm (W) (including connector)
- Less than 9 kg with GPS receiver installed

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