ANS 610-A

AIRBORNE INERTIAL NAVIGATION SYSTEM

#Navigation

0.8 Nm/Hr PERFORMANCE
FIBEROPTIC GYROSCOPE TECHNOLOGY
GENUINE DESIGN INERTIAL MEASUREMENT UNIT

aselsan

ANS 610-A

AIRBORNE INERTIAL NAVIGATION SYSTEM

ANS 610-A is a navigation grade, fiber optic gyroscope-based, airborne inertial navigation system with embedded GNSS receiver (EGR) intended for air vehicles.

ANS 610-A is an indigenous design of ASELSAN including the fiber optic gyroscopes inside. It is specifically designed for airborne applications.

ANS 610-A 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 610-A provides linear acceleration, linear and angular velocity, position, attitude and heading to the host vehicle systems continuously. ANS 610-A provides INS only, EGR only and hybrid (inertial + EGR) navigation solutions simultaneously.

ANS 610-A is also capable of using external pressure altitude data complement to hybrid and inertial only navigation solutions.

System Interfaces

- MIL-STD-704 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
- Active and Passive RF Antenna Interface
- Discrete Interfaces

System Operational Modes

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

System Functions

- Hybrid, Free Inertial, EGR 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
- EGR Lever Arm, Reference Point Lever Arm Correction
- Start-Up BIT, Periodic BIT, Commanded BIT

Navigation Performance

	Free Inertial	Hybrid (INS+EGR)
Position		
Horizontal	0.8 nm/hr (CEP %50)	10 m (CEP %50)
Altitude	< 45 m(1)	16 (PE)
Velocity		
North, East	0.8 m/s (rms)	0.07 m/s (rms)
Vertical	0.6 m/s (rms)	0.07 m/s (rms)
Attitude		
Roll, Pitch	0.05 deg (rms)	0.05 deg (rms)
Azimuth	0.1 deg(2) (rms)	0.07 deg(3) (rms)

Alignment Durations

Ground Alignment Mode	In-Flight Alignment Mode	Stored Heading Mode
4.0 min	10.0 min(1)	30 sec
(1) Alignment time may extend depending on the configuration of EGR		

Environmental Conditions

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

Electromagnetic Conditions

- MIL-STD-461 / DO-160G Compliant
- ~ 29cm x 20cm x 17cm (including connectors)
- Less than 8.7 kg (with EGR)

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