GUARDIAN | 7-FDM™

All-In-One Flight Data Monitoring

The Guardian Mobility G7-FDM™ brings a new level of safety, automation, reliability and affordability to Flight Data Monitoring and SMS. The G7-FDM provides the following:

- **Continuous monitoring and recording of flight and engine parameters, both "round-dial" and "glass" cockpits, for complete systems coverage**
- **In-flight data analysis to detect parameter exceedances and out-of-limit operations for Flight and Maintenance Operational Quality Assurance (FOQA/MOQA)**
- **Real-time satellite communications to provide tracking and exceedance alerts**
- **Post-flight data analysis to spot trends in support of a proactive Safety Management System (SMS)**
- **Engine trend data to support performance and maintenance analysis**

Safer Cockpit...Better Bottom Line

- **Be alerted immediately to abnormal operations and procedural shortcuts to improve safety and reduce maintenance costs.**
- **Create automatic, real-time alerts (via email, too) when aircraft cross pre-defined boundaries ("geofences"). This provides in-range notification for ground crews or an alert about an unplanned diversion.**
- **Get accurate Out, Off, On and In (OOOI) times to reduce operational expenses.**

43 Auriga Drive, Ottawa, Ontario, K2E 7Y8
Telephone: +1 613 225-8885 Fax: +1 613 225-7762
inquiries@guardianmobility.com
www.guardianmobility.com

GUARDIAN MOBILITY

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The G7-FDM unit is housed in an aluminum chassis qualified to DO-160-F environmental requirements and it can be mounted in any orientation. The G7-FDM has connectors on the rear face for electrical interfaces, on the front face for connection to Ethernet and USB Flash devices, and on the side for analog and ARINC channels. The unit can accept power with an input range from 15 to 36V, protected for transient/surge/lightning per DO-160F.

System Features

- Self-contained AHRS, with 3-axis accelerometer, 3-axis gyro, and 3-axis magnetometer
- SBAS-enabled GPS
- Iridium satcom communicator
- Air Data Computer (optional)
- High-performance low-power microprocessor
- Automated Flight Following
- Real-Time Exceedance/FOQA reporting
- WiFi or 3G/4G broadband for network interface
- 2-way Text Messaging (optional)

Interfaces

- Discrete inputs [16]
- Discrete outputs [8]
- Analog inputs [9]
- Differential analog inputs [8]
- Tachometer [5]
- RS-232 [5]
- RS-422 [1]
- RS-423 [1]
- ARINC-429 [3]
- ARINC-717 [1]
- MIL-1553B Bus Monitor [1]
- 10/100 Ethernet [2]
- USB 2.0 [2]

Typical Parameters

- GPS Position, Altitude, Speed, Time
- Air Data Speeds, Temperatures, Altitudes
- Flight Attitudes, Attitude Rates, Accelerations
- Engine/Rotor Speeds, Torques, Temperatures, Fuel Flows, Pressures, Chip Detectors
- Electrical Voltages, Currents
- Flaps, Autopilot, Ice Protection, WoW, Stall, CAS Alerts, TCAS Alerts

Environmental Specifications

(DO-160F)

- Temperature/Altitude: 4B1 and 5B
- Humidity: 6A
- Shock: 7A
- Vibration: 8S, Curve M, and 8R, Curve G, Zones 1 or 2
- Power input: 16B with 10 Sec power interrupt, voltage spike per 17B
- Electromagnetic Interference (EMI)
  - o Susceptibility: 18B
  - o Induced effects: 19ZC
  - o RF susceptibility: 20RA
  - o Emissions: 21L and 21M

Physical Characteristics

- 6" W x 7" L x 3.35" H
- 152.4mm W x 177.8mm L x 85.1mm H
- Weight: 2.9 pounds

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