XRDS™ is the most advanced health and usage monitoring system available. It provides a fully integrated, lightweight, powerful solution that enables comprehensive aircraft health management and flight data monitoring.

Features include:
- Vibration Health Monitoring (VHM)
- Usage Monitoring and Structural Health Monitoring
- Flight Data Monitoring (FDM)
- Dynamic Propeller Balancing
- Supports Flight Operations Quality Assurance (FOQA)
- Supports Safety Management Systems (SMS)

Embedded functionality includes Attitude and Heading Reference System (AHRS), a variety of communication interfaces, and a wide range of additional sensor inputs for enhanced aircraft diagnostics, prognostics, and on-board processing capabilities.

XRDS provides
- Reduced Operations and Maintenance Costs
- Increased Aircraft Availability
- Improved safety

### General Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power requirements</td>
<td>350 mA at 28 VDC</td>
</tr>
<tr>
<td>Input voltage range</td>
<td>9 to 36 VDC</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40 to 85 °C</td>
</tr>
<tr>
<td>Dimensions</td>
<td>170 x 180 x 54 mm</td>
</tr>
<tr>
<td>Installed weight</td>
<td>~2 kg (varies by platform)</td>
</tr>
<tr>
<td>Data storage capacity</td>
<td>32GB (1092 fh at 30MB/fh)</td>
</tr>
</tbody>
</table>

### I/O Characteristics

#### Universal Analog Interface
- Supported sensors: IEPE accelerometers and both AC or DC coupled single ended or fully differential signals (uses 2 channels)
- Number of channels: 32 or 16 channel option
- Simultaneous capture: 8 channels
- IEPE conditioning: 4mA bias with 24VDC compliance voltage
- Converter: 24-bit ΔΣ ADC, 70kHz bandwidth

#### Tachometer Interface
- Number of channels: 4 channels (active or passive devices)
- Simultaneous capture: 4 channels

#### Communication Interfaces
- Ethernet: 1x Transceiver (full duplex 10/100Mbps)
- ARINC 429: 2x Receivers (12.5kbps and 100kbps), 1x Transmitter
- RS-485: 1x Transceiver (baud rates up to 20Mbps)
- CAN: 1x Transceiver (baud rates up to 1Mbps)
- 1-Wire: 1x Transceiver (15.4kbps and 125 kbps)

#### Legacy Aircraft FDM Support
- GPS
  - Receiver type: L1 frequency, C/A code, 50 Channels
  - Position accuracy: 2.5 m CEP
  - SBAS support for: WAAS, EGNOS, MSAS
  - Max altitude: 50,000 m
  - Max velocity: 500 m/s
  - Vehicle dynamics: ≤ 4 g
  - Antenna type: 3.3 VDC active antenna

#### Triaxial MEMS Accelerometer
- Range/resolution: ±8 g : 0.2 mg (16-bit ADC)
- FDM acquisition rate: 10 Hz

#### Triaxial MEMS Gyroscope
- Range/resolution: ±500 °/s : 0.15 m°/s (16-bit ADC)
- FDM acquisition rate: 10 Hz

#### Triaxial MEMS Magnetometer
- Range/resolution: ±4800 µT : 0.15 µT (16-bit ADC)
- FDM acquisition rate: 10 Hz

#### Data Retrieval Interfaces
- Wireless: 2.4GHz IEEE 802.11 b/g/n, in flight RF inhibit
- USB host: USB Mass Storage Class devices (thumb drives)
- Ethernet: Direct to logbook PC or tablet
- Direct to MMS/MCD/MFD: According to customer needs