Dual-channel Engine Control Unit (ECU)

The improvements in fuel economy from this Green technology can be used on any class of aircraft.

Rockwell Collins extends aviation-grade design assurance and reliability to commercial aviation engine management and propulsion control systems.

Rockwell Collins brings reliable, low-cost, dual-channel, DO-178B and DO-160 compliant engine control systems to the general aviation market.

Our patented feedback control systems automatically set the correct air/fuel mixture at all operating conditions to achieve optimum fuel efficiency, and provide a higher level of reliability and protection against wear and tear of the engine as well as sophisticated failure detection and mitigation for added safety and reduced pilot workload.

The ECU automatically detects failures in real time and seamlessly switches to the secondary lane.

Rockwell Collins is an expert in combining low-cost, reliable automotive engine control technology with the rigors and safety of redundancy in flight critical aerospace control systems.

KEY BENEFITS

- Low cost, dual-channel FADEC technology for general aviation
- Optimizes engine and propulsion system performance and fuel efficiency in all operating conditions
- DO-178B, DO-160 compliant, proven design processes and aerospace quality performance
- Increases engine reliability and life
- Maintains peak engine performance in all operating conditions
- Wide array of customized or standard functionality, including end-to-end power, torque and fuel use optimization
- Patented, mature technology: proven in the field and demonstrated more than 20% in fuel economy improvements

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SPECIFICATIONS

Size	Approx. 230 mm x 150 mm x 46 mm (9" x 6" x 1.8")
Weight	1.2 kg (2.6 lb)
Enclosure	Aluminum

Environmental

DO-160 qualification	
Operating temperature	-40°C to 85°C

System diagnostics/failure detection

- Built-in diagnostics
- Power-up Built-In Tests (PBIT)
- Continuous Built-In Tests (CBIT)
- Real-Time Health and Usage Monitoring System (RT-HUMS)
- Condition-Based Maintenance (CBM) interface
- Data logging

Electrical

- Operating voltage, nominal: 9 to 26 VDC

Connector options

- Automotive
- Circular MIL/aerospace
- Circular motorsports

Input/output

- Analog interfaces for engine mounted sensors
- Built-in injection and ignition drivers
- Additional I/O available for accessories
- Dual crankshaft/camshaft position sensors
- Sequential or bankfired fuel injection

Functionality (sample)

- Ignition, injection with feedback, closed-loop controllers
- Turbo boost control (waste gate, Variable Turbine Geometry (VTG))
- Knock control
- Dual-channel redundancy with fault/failure detection and accommodation
- Full envelope power and torque/fuel optimization strategies
- Electronic throttle control
- Single-Lever Power Control (SLPC)
- Data logging and maintenance interfaces

Communication

- 4 CAN interfaces

Automotive standard calibration interfaces

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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Rockwell Collins delivers smart communication and aviation electronic solutions to customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

For more information, contact:

Rockwell Collins
3721 Macintosh Drive
Vint Hill Tech Park
Warrenton, VA 20187
+1.540.428.3300
fax: +1.540.428.3301
email: learnmore@rockwellcollins.com
www.rockwellcollins.com

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