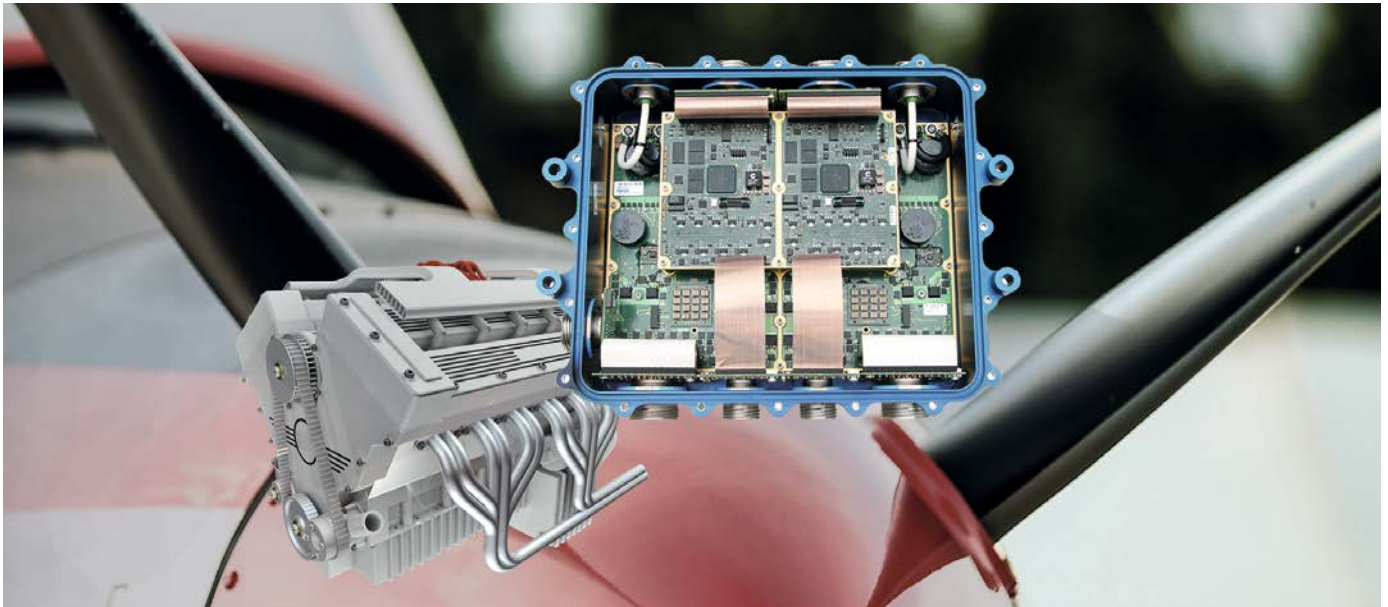


## V12 DIESEL FADEC



### DESCRIPTION

Silver Atena's Full Authority Digital Engine Control (FADEC) operates a V12 common-rail Diesel engine. The redundant electronics monitor and control 115 inputs and outputs (I/Os). The FADEC offers comprehensive engine monitoring and recognizes electrical and mechanical faults in the engine control system. The diagnostic capabilities which include lifetime monitoring and an intelligent fault management enable operation of the engine at the highest safety level. Pilots will appreciate comfortable engine handling by use of single lever power control.

### CHARACTERISTICS

- Redundant control and monitoring of a V12 common-rail Diesel engine with single lever power control
- Dual channel ECU architecture (full operation of aero engine also with only one ECU lane)
- Developed according to civil aviation standards RTCA DO-178B (software) and DO-254 (hardware) with safety level DAL B (Design Assurance Level)
- Certified for environmental conditions according to civil aviation standard RTCA DO-160G
- Engine Monitoring: detection of electrical and mechanical failures of the engine control system
- Intelligent Life-Usage-Monitoring

### RANGE OF APPLICATION

- General aviation
  - Aircraft engines certified according to EASA CS-E
  - Aircraft certified according to EASA CS-23 and rotorcraft certified according to EASA CS-27 and EASA CS-29

## TECHNICAL DATA

PARAMETERS		SPECIFICATION
Mechanical data	Size	(W x L x H): 37 x 30 x 10 cm
	Weight	6 kg
	Connectors	MIL-DTL-38999 circular connectors
Electrical data	Supply voltage	22 V ... 31 V (nominal 28 V)
	Input power	100 W (FADEC and actuators)
	I/O interfaces	115 discrete and analog I/Os
Environmental conditions	Temperature range	-40 ... +70 °C

SYSTEM DESCRIPTION	SPECIFICATION
Power control	single-lever power control for engine and propeller
Fuel supply	2x control and monitoring of high pressure / low pressure pumps
Fuel injection	12x control and monitoring of magnetic valves (direct injection w/o boost)
Engine speed	Redundant angle and speed measurement cam shaft Redundant angle and speed measurement crank shaft
Turbo charger	2x control and redundant monitoring of turbo charger incl. waste gate (VTG charge opt.)
Governor	Control of electrical propeller governor

DIAGNOSTICS AND COMMUNICATION	SPECIFICATION
Diagnostics functionality	IBIT (Initial Built-in Test)
	CBIT (Continuous Built-in Test)
	Life-Usage-Monitoring
	Failure Monitoring
	Data logging (Ethernet, CCP)
Communication	Maintenance Interface (CAN-Bus, CCP)
	High Speed Debug Interface (Ethernet)
	Display Interface (RS 485 / RS 422)
Cockpit display	10x discrete indicator and diagnostics outputs



## CONTACT

Tel.: +49 89 18 96 00 – 0  
 Fax.: +49 89 18 96 00 – 599  
 info@silver-atenade