

UAV EFI SYSTEMS

ENGINE CONTROL UNIT > eFI

The **eFI** control unit has been designed and manufactured for drones under military specifications.

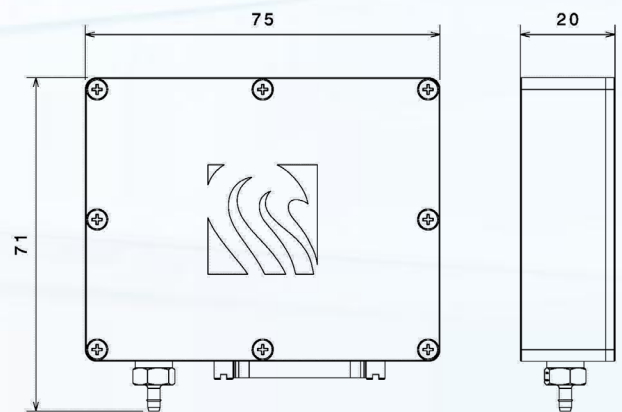
Features

- Specific control algorithms for two-strokes engines (also available for 4T and Wankel)
- Fuel injection and ignition advance with adaptive close-loop control depending on the operating conditions of the UAV and the engine (altitude, engine status)
- Protection against conditions outside its operational limits and monitoring of the health status of the powerplant (**Engine Health Monitoring**)
- Engine speed control under Flight Control System demand (**Fly-By-Wire**)
- Propeller pitch control
- Returnless dynamic control of fuel pressure
- Redundant control of fuel supply
- Diagnosis of the fuel supply systems (pump ageing, leakage in fuel hoses)
- Diagnosis of sensors and actuators with **fail-safe** control modes
- Up to 10 hours of parameters recorded in internal memory
- Automatic test cycles (running-in, endurance test,...)
- Hardware and software adaptable to customer specific needs



Specifications

- **Analog inputs:** BARO, MAP, IAT, 2x CHT, 2x EGT, TPS, Fuel Pressure, 2x Hall/VR sensors, BATT, ECU temp
- **Digital inputs:** 2x Engine Speed (hall or VR), Engine Desired Speed (*fly-by-wire*)
- **Digital Outputs:** 2x Fuel Pump (PWM or switch), Throttle Servo, 2x GPIO (oil pump, pitch actuator, temperature control vanes, heaters,...)
- **Injection:** 2x Low or high impedance injectors (sequential, batch, stage)
- **Ignition:** 2x Transistorized or CDI modules
- **Communications:** RS-232 and CAN Bus
- **Power supply:** 10÷30 VDC
- **Current consumption:** < 0,1 A @ 12 VDC
- **Weight:** <80 g (with aluminium EMI shielded enclosure)



Dimensions in mm