

# Unmanned Systems

## *flightTEK*<sup>®</sup> SMC FLIGHT CONTROL

### WHEN THE MISSION MATTERS

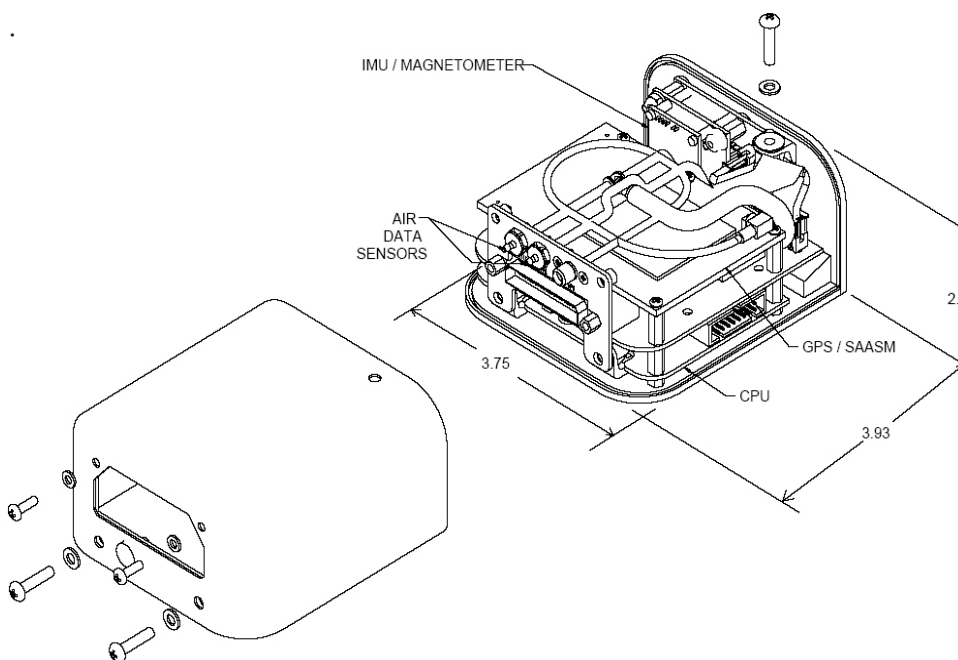


*flightTEK*<sup>®</sup> SMC (SAASM GPS, Miniaturized, Certified) is L-3 Unmanned Systems' smaller more integrated flight control solution using *flightTEK*'s<sup>®</sup> flight proven high performance UAS guidance, navigation and control software. SMC is a miniaturized tightly integrated hardware package that includes a SAASM GPS receiver (non-SAASM options also available), an integrated inertial measurement unit (IMU), an integrated 3-axis magnetometer, and an integrated air data sensor.

*flightTEK*<sup>®</sup> SMC offers one of the most sophisticated and reliable autonomous flight control solutions available off-the-shelf today. *flightTEK*<sup>®</sup> SMC is more than just an autopilot, it serves as a complete mission management system by employing our patented Variable Autonomy Control System (VACS).

### KEY FEATURES

- Automatic takeoff and landing
- C/A or SAASM GPS
- Integrated IMU and Magnetometer
- Integrated Air Data Sensor
- Support for external data recorder
- 3-axis autopilot
- Precision inertial navigation system
- Robust, fault tolerant control
- Sensor agnostic payload API
- Vehicle agnostic



# Unmanned Systems

## *flightTEK*<sup>®</sup> SMC FLIGHT CONTROL

### *flightTEK*<sup>®</sup> SMC FEATURES

#### HARDWARE SPECIFICATIONS:

CPU .....	Freescale MPC5200B 760 MIPS @ 400 MHz	Digital .....	12 inputs, 12 outputs
PWM .....	8 Outputs, 0.1uS Res.	GPS .....	12 channel, Tx1, Rx1 and Rx2 RS-232. C/A and SAASM Support 3.3v Active Antenna
Analog .....	8 Channel, 12bit Res. 5 Channel, 0 to 5v 3 Channel, 9 to 34v	LAN .....	One 10 mbps Ethernet Channel
Serial .....	6 serial ports Ports A & B RS-232 (full modem) RS-422/RS-485	W-D .....	Integrated Watchdog, Reset, SMI, or IRQ selectable on time-out
		Datalog .....	85 mb

#### Internal Sensors:

- IMU:
  - 3 gyros ± 300°/second
  - 3 accelerometers ± 5g (± 10g option)
- Magnetometer :
  - ± 1,2 Gauss (3 axis)
- Air Data Sensor:
  - Airspeed 0-200 Knots/Hr.
  - Altitude Up to 40,000 feet

#### Auto Landing:

- *O-PALS* and *U-PALS*<sup>1</sup>

**GPS:** SAASM or C/A code

### *flightTEK*<sup>®</sup> SMC SPECIFICATIONS

#### Overview<sup>2</sup>

Size .....	3.8" L x 3.75" W x 2.1" H
Weight .....	16 oz
Power .....	2.5 W at 5 V
Enclosure .....	Aluminum

#### Environmental

Temperature (Operating) .....	-40°C to +75°C
Temperature (Non-Operating) .....	-40°C to +85°C
Humidity (Expected) .....	0-100% non-condensing
Vibration (Tested) .....	5g/15-2000 Hz
Altitude (Tested) .....	0 to 60,000

### *flightTEK*<sup>®</sup> SMC FEATURES

- Control modes
  - 3-D and 2-D waypoint navigation
  - Auto takeoff and landing<sup>1</sup>
  - Payload driven control
  - Loiter patterns
  - Remote directional steering
  - Preprogram maneuvers
  - Go point
  - Return to base on lost link
- Robust stabilization and control
- Extremely precise path control
- Real-time path reprogramming
- Sensor control of flight path
- UDP/IP based communications
- Integrated GPS/INS
- Configuration Manager
- Supports serial and Ethernet datalink radios

<sup>1</sup> See L-3 Unmanned Systems *O-PALS* and *U-PALS* for specific data sheets  
<sup>2</sup> Please note – all information is defined for *flightTEK*<sup>®</sup>, not for supporting equipment.

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## Unmanned Systems

**L-3** Headquartered in New York City, L-3 Communications is a prime contractor in aircraft modernization and maintenance, C3ISR (Command, Control, Communications, Intelligence, Surveillance and Reconnaissance) systems and government services. L-3 is also a leading provider of high technology products, subsystems and systems.