



Cruiser UAS
Tactical system

magline 

Power Plant

Lightweight 4 stroke-155cc block, the engine has been developed to feature complete power plant with Starter/Generator (380W) , Safety Start Up System, CDI, ECU, and Computerized EFI

Engine packages can be swapped in less than 2 minutes to allow for constant operations and maximum throughput of the payload/platform system on stage.

MTBOs are 300+ hours. Magline delivers complete engine packages for substitution to avoid any downtime due to maintenance or overhaul processes during operations.

Avionics

Full automatic flights. FCU allows for 1000+ WP and 100 flight plans stored on board. Quattro autopilots feature 3x redundant IMUs for safest operation, along with Ethernet, CAN Bus and RS485 Networks built in the system.

Ground Station does provide an internal communications suite, an external link as backup and also Iridium Satellite and 3G/4G alternative system for long range flights.

Magline training for Pilots in Command is a 15 day process, where operators qualify for BLOS missions as AVO (vehicle operator) and assisted ESP (emergency safety pilot)



Structure

Full Aerospace Certified Composite Material Structure. Made out of pre-preg CFRP and GFRP, aerospace grade, cured in Autoclave under certified processes.

Lightweight structure allows for extra payload capability or extra fuel to improve endurance

Rolling chassis includes high energy absorption landing gear and disc brakes to allow for landings in extreme situations without damaging the body or the payloads, or parachute recovery for emergencies

Payloads

Interchangeable payloads, Gimbals with quick disconnect systems. 2 minutes to change a gimbal allows for immediate uptime after aircraft re-configuration is set for a different mission.

Sat Comms and BLOS comms available through on-board high gain antennae.

Third party payloads also available for immediate integration by means of ethernet pass through.

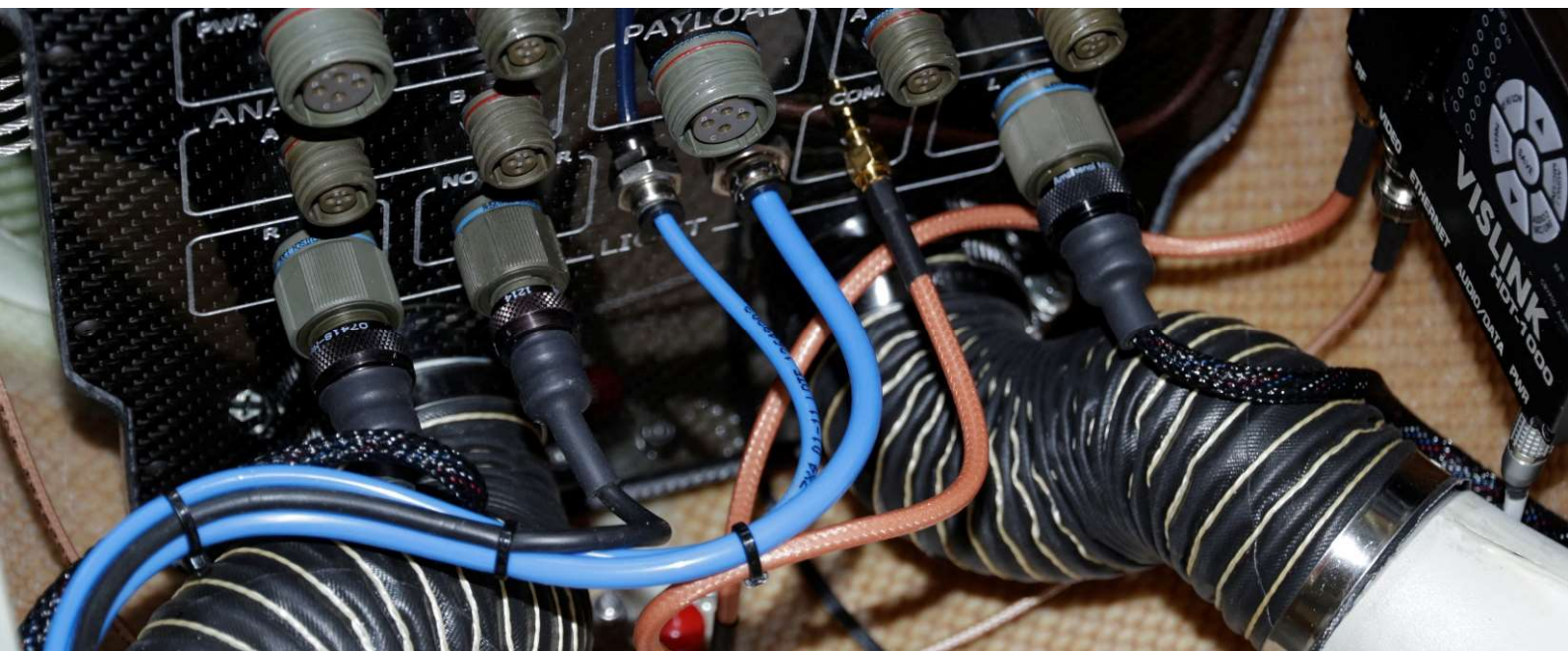


Avionics equipment

Quattro Autopilots are integrated at any level of advanced features (DGPS, Iridium Sat Link) always allowing full automatic autoland.

Avionics box is isolated, and damped from external vibrations allowing for catapult launch. Box can be quickly interchanged in a 3 minute quick process.

Additional payloads can be quickly integrated as box provides power and serial communication military connectors to external equipment.



Safety Parachute

Safety parachute can be operated during emergency phases or else can be operated as normal operating procedure in areas where landing strip touchdown safety would be compromised.

Parachute is spring operated and can be re-armed after every ejection.



Systems & Payload Modularity

Modularity has been a goal achieved in the design of this UAS to conform a round product that can be easily operated in remote locations without the need for technical support.

Modularity allows for the least investment in major high cost Payloads, maximizing their operational time due to the almost zero downtime for platforms at the maintenance or service levels

All systems are quickly interchangeable in a matter of few minutes, as Line Replacement Units (LRU's)... from Engine, to Avionics, Payload, Gimbal, and also every other piece of equipment in the Ground Station.



Maintenance and Service

Maintenance is achieved by means of advanced training. The level of in the field maintenance required is always replacement of components.

Servicing the aircraft can be done on stage, leaving lower level maintenance issues at depo level, or enrolling into Magline Service Program by which replacement systems, such as entire Powerplants just serviced or overhauled, are shipped anywhere in the world depending as scheduled with operations.



CRUISER UAS

Technical Spec.



Product Benefits

Low Maintenance, High Flight Time
Highly operable with low training hours
Low Cost Tactical ISR Capabilities
Modern FCS / Avionics GS / Detection Systems

Characteristics

Structure

Autoclave cured Carbon-Kevlar Composite Structure
Aerospace grade materials & manufacturing processes
High tensile strength fibers, matrix & bonding adhesives

Power Plant

1x 155cc 4 Stroke Piston engine with extended MTBO and service.

INS/GPS

200MHz Triple Redundant IMU @different dynamic ranges

Autopilot

Quattro FMS with Flexible Node architecture

Launch Options

Catapult ready
Wheeled launch in unpaved runway

Recovery Options

Servo operated Parachute 5m/s descent rate
Reusable recovery system

Payload

Trillium Gimbal H80
Trillium Gimbal H95
I2Tech ULS
I2Tech 4 axis AX Gimbals
LIDAR/Large Format Camera

General dimensions

Length: 3,5m
Wingspan: 5.2m

Payload area dimensions

Length/Height/Width: 600mm x 350mm x 275 mm

Spec Sheet

Range

250 km in direct LOS (@ 2000m)
500 km with Sat link BLOS (@ any altitude) -backup-
up to 250 km for video in LOS (with 10 W amplifier)

Max Operational Height

3000m

Max Speed

150kmh

Operational Speed

110kmh

Payload Capacity

15 Kg

Overall Weight

65 Kg

Endurance with standard fuel

8Hrs (@ max payload)-10 hrs (min payload)

Endurance with extended fuel

12Hrs (@ max payload)-16 hrs (min payload)

Cruiser II Product Portfolio

Low Maintenance Tactical UAS

Modern Structure, Avionics, Engine and Payload plant for modular ISR Tactical operations

For additional information

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