

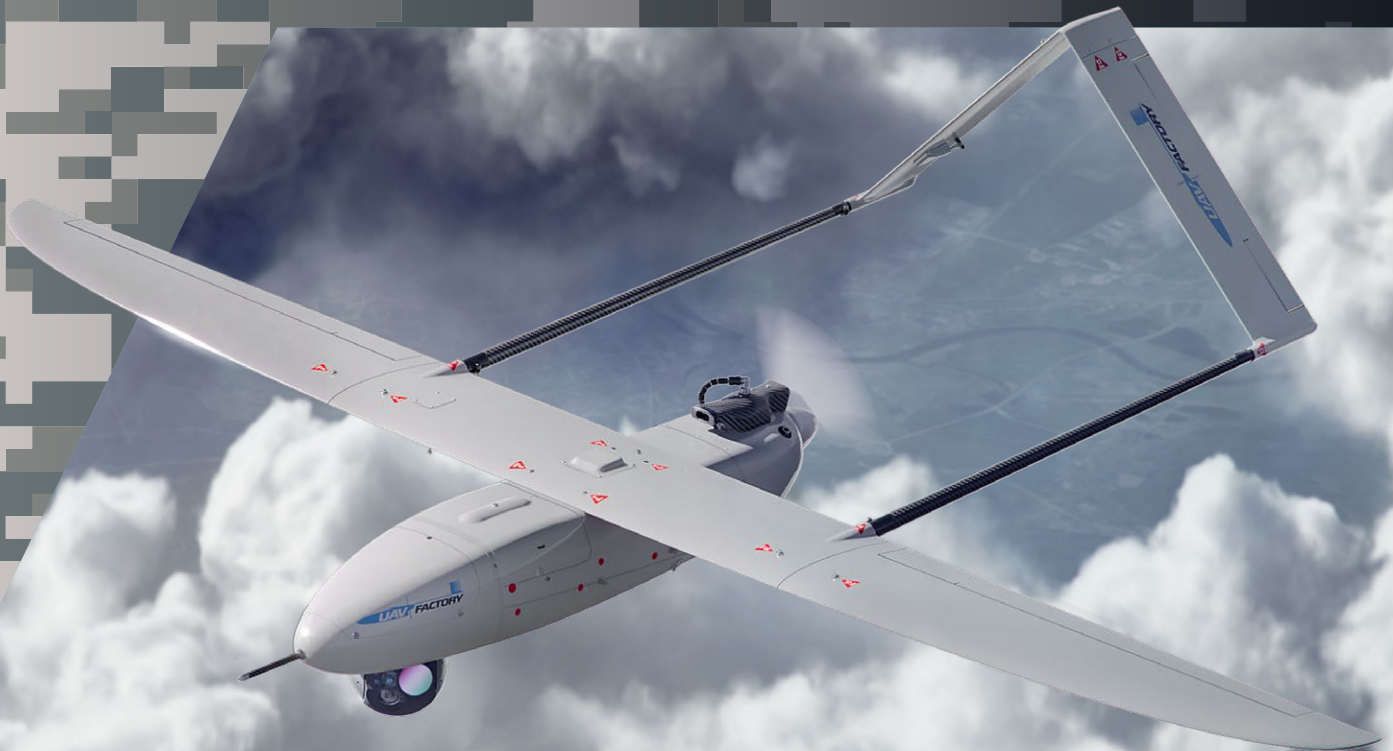
PENGUIN C-MIL Mk 2 UAS

LONG ENDURANCE UNMANNED AIRCRAFT SYSTEM



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**Group 2 UAS unmatched in: Endurance, Mobility,
Modularity, and Operating parameters with
the lowest logistics and manpower requirements**

Key Features

- ▶ **20 hours Flight Endurance with Payload**
- ▶ **100 km / 62 mi Range**
- ▶ **Crew of Two**
- ▶ **Operational & Maintenance Training**
- ▶ **Integrated Software for Artillery Fire Adjustment**
- ▶ **Remote Video Terminal with Mesh**
- ▶ **Voice & Data relay for Silvus Tactical Radios**
- ▶ **Anti-Jam Interference Avoidance**
- ▶ **Operational in GPS-denied Environment**
- ▶ **MISB Compliant Video Stream**



UAVFACTORY – your reliable partner

Founded in 2009
ISO9001:2015 certified
US Department of State Registration M38082
US TAA and DSP-06 Licensed
DLA/TLS Approved
AIRBUS Defence & Space Supplier

PENGUIN C-MIL Mk 2 UAS



Technical specification

AIRCRAFT SPECIFICATIONS

Wingspan	3.3 m / 10.8 ft
MTOW	Group 2: 25 kg / 55 lbs, Group 3: 28 kg / 62 lbs
Endurance	Group 2: 25.5 hours w/Epsilon 140LC and 11 hours estimated w/Epsilon 180 Group 3: 25.5 hours w/Epsilon 140LC and 16 hours estimated w/Epsilon 180
Range	100 km / 62 mi
Cruise speed	47-49 knots
Max level speed	62.2 knots
Ceiling	5,000 m / 16,400 ft MSL
Max takeoff altitude	3,048 m / 10,000 ft AMSL
Operational t°	-40°C to 50°C / -40°F to +122°F
Navigation	GPS and magnetometer (for GPS-denied environments)
Anti-icing measures	Heated Pitot tube
Weather limitations	Rain < 5 mm/ hour / 0.2 inches/hour; 20 knot sustained winds
Detectability	Not detectable at 1 km / 0.62 mi
Transponder	Mode 5 Mark XIIIB or ADS-B

PROPULSION SYSTEM

Engine type	28cc EFI module; proprietary low noise muffler
Temperature control	Automatically controlled via mechanical flap
Fuel type	Unleaded gasoline or C10
Generator system	150W onboard generator system

DATA LINK SPECIFICATIONS

Datalink manufacturer	Silvus MIMO SC4200E with Mesh
Frequency	UHF, L, C, or S band; customizable
Link Rate	Up to 12 Mbps
Output power	4W
Encryption	AES 256

GIMBAL COMPARISON

	E140LC	E140Z	E175	E180
EO HD sensor with 45x optical zoom ratio, 4x digital zoom	✓	✓	✓	
EO Full HD sensor with 67x optical zoom ratio, in addition 4x digital zoom				✓
LWIR sensor with fixed FOV	✓			
LWIR sensor with 3.3x optical zoom ratio		✓		
MWIR sensor with 15x optical zoom ratio			✓	✓
> 10 km / 6.2 mi Laser Range Finder			✓	✓
Gimbal weight	1.3 kg / 2.9 lbs	1.8 kg / 3.9 lbs	2.6 kg / 5.7 lbs	3.9 kg / 8.6 lbs

SYSTEM SPECIFICATIONS

Autopilot	Piccolo, Cloud Cap Technology
Ground Control Station	Portable, Dual touchscreen displays
Tracking antenna	Tracking high gain directional and omnidirectional antenna
Take off	Fully autonomus Pneumatic Catapult with 6,000J launch energy
Landing	Computer assisted parachute recovery; airbag
Crew size	2
Preparation time	1 hour from pallet to launch ready
Mobility	System fits in 6 or fewer cases; weight < 450 kg / 1,000 lbs

"The movement tracking ability of the Penguin C far surpasses the current payload abilities of the Shadow. The picture quality is clear and the stability option is very helpful in keeping a steady picture. It's very easy to identify individuals and equipment using the Penguin C payload."

AEWE 2019 Evaluator (Shadow Operator)

"Persistent Brigade quality ISR feeds at the Battalion and Company level enables integrated reconnaissance and security increasing the units ability to shape the AO using precision fires and maneuver to positions of advantage"

Army Expeditionary Warrior Experiment 2020 Insights Day briefing by Maneuver Battle Lab



OCTOPUS
I S R S Y S T E M S

EPSILON Series Sensors



E140LC

E140Z

E175

E180

GIMBAL OPTIONS

- Onboard Processing and Recording
- Moving Map Software
- Automatic Target Tracking
- Moving Target Indicator (up to 100 targets)
- High Precision Geo-Location
- FMV out; digital H.264 encoded
- Electronic stabilization
- Laser range finder: <1.5 m / 5 ft accuracy
- Laser Illuminator: 830 nm class IIIB, 50 mW

System Footprint

- 3 Aircraft
- 1 Launcher
- 1 Tracking Antenna
- 1 GCS

