

EVERLINE®
EV4200 SERIES
UAV PROPULSION MOTORS



FOR MULTI-MISSION UAVs

- | VTOL Aircraft
- | Industrial Inspection
- | Payload-Carrying UAVs
- | Agricultural UAVs
- | Tactical UAV Platforms



DEFENSE
COMPLIANT



HIGH
EFFICIENCY



FULL
POWER RANGE



UAV
OPTIMIZED



Everline® EV4200 Series motors provide mission-focused propulsion solutions for VTOL aircraft, industrial inspection UAVs, mapping and survey platforms, payload-carrying aircraft, agricultural UAVs, tactical systems, and OEM development programs. The family combines four KV options on a common 4215-class platform, supporting propulsion evaluation across a broad range of UAV mission requirements.

MISSION-TUNED PROPULSION

Four KV options provide designers with flexibility to evaluate propulsion systems for endurance, payload capability, industrial operation, and higher-speed aircraft requirements. Published performance data supports comparison across multiple motor, propeller, and battery configurations.

CONSISTENT 4215 MOTOR PLATFORM

Shared mechanical characteristics simplify aircraft integration and propulsion evaluation across the EV4200 family. Common features include 49 × 65 mm dimensions, 175 g motor weight, a 12N14P configuration, 6 mm shaft diameter, and 750 mm lead-wire length.

PERFORMANCE DATA FOR MOTOR SELECTION

Published performance data includes measured thrust, electrical power, current, RPM, and efficiency across multiple tested propeller and battery configurations. These results support aircraft sizing, motor selection, and preliminary engineering evaluation.

ENGINEERED FOR OEM UAV PROGRAMS

The EV4200 Series can be reviewed for production requirements including alternate KV ratings, cable lengths, connector options, shaft and mounting requirements, labeling, documentation packages, and application support.

FEATURES & SPECIFICATIONS

- 340 KV, 380 KV, 520 KV, and 710 KV motor platforms
- Common 4215-class motor architecture
- Motor dimensions: 49 × 65 mm
- 12N14P configuration
- 6 mm shaft diameter
- 175 g motor weight
- 750 mm lead-wire length, 14 AWG (2.5 mm²) lead wires
- Published 6S and selected 8S performance configurations
- Published thrust, power, current, RPM, and efficiency data
- OEM customization options
- Defense program support

APPLICATIONS

- VTOL Lift Propulsion
- Mapping & Survey UAVs
- Utility & Infrastructure Inspection
- Pipeline Monitoring
- Telecommunications Inspection
- Agricultural UAVs
- Payload-Carrying Multirotors
- Tactical UAVs
- ISR Platforms
- Industrial UAV Systems

Everline® EV4200 Series motors provide a common propulsion architecture that supports aircraft integration, system evaluation, and scalable UAV development. Shared mechanical characteristics enable easier comparison between motor options while maintaining a consistent integration approach across multiple aircraft platforms.

For additional information or assistance with your UAV propulsion application, contact Pelonis Technologies.

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CONTENTS

PRODUCT OVERVIEW

EV4200 Series Overview.....	4
Quick Reference & Product Comparisons.....	4
Mission-Based Motor Selection Guide	5

ENGINEERING DATA

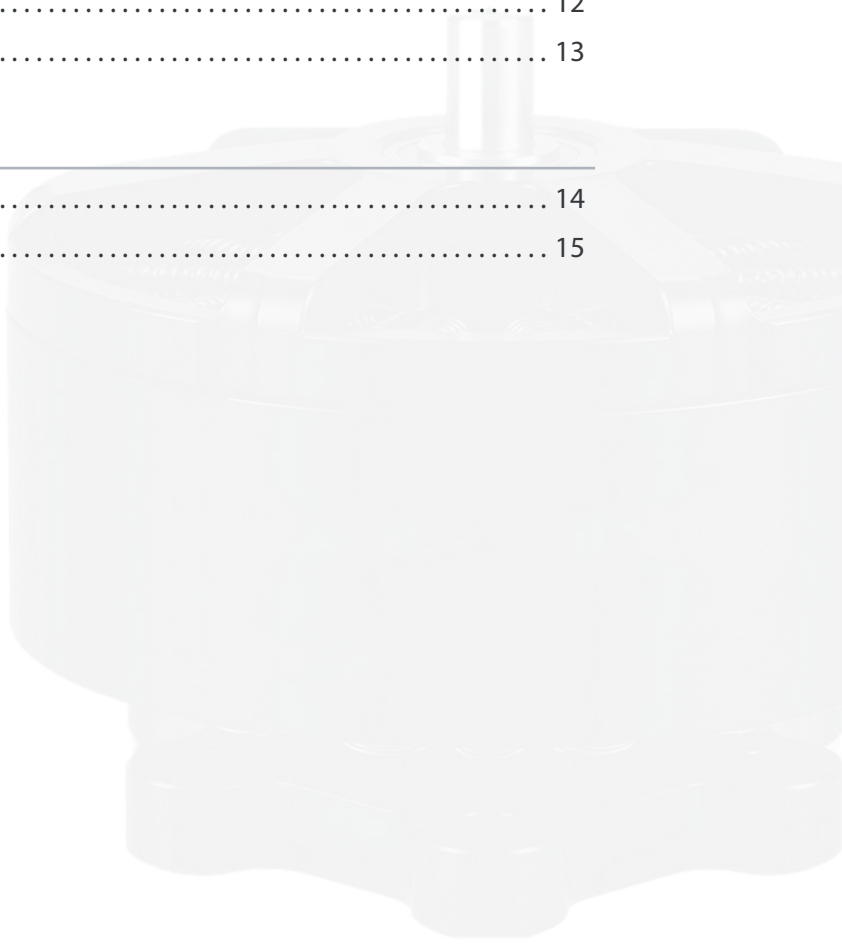
Engineering Overview	6
EV4215-340 VTOL & Long-Endurance UAV Propulsion Motor.....	7
EV4215-380 Industrial Inspection UAV Propulsion Motor	8
EV4215-520 Payload & Agricultural UAV Propulsion Motor.....	9
EV4215-710 Tactical & High-Speed UAV Propulsion Motor	10
Propeller Selection Guide	11

OEM SUPPORT

OEM Customization Options	12
Integrated UAV Thermal Management Solutions	13

REFERENCE

Glossary	14
Notes.....	15



EV4200 SERIES OVERVIEW

The Everline® EV4200 Series combines a common 4215-class motor platform with 340 KV, 380 KV, 520 KV, and 710 KV options. The family provides mission-focused propulsion solutions for VTOL and endurance aircraft, industrial inspection platforms, payload and agricultural UAVs, and tactical systems.

Model Number	KV	Application	Best-Fit Mission	Features
EV4215-340	340	VTOL & Long-Endurance	Lower-KV propulsion solution for VTOL lift systems, endurance-oriented aircraft, mapping platforms, and survey UAVs.	Optimized for larger propellers and endurance-oriented operation
EV4215-380	380	Industrial Inspection	Balanced 4215 platform for utility inspection, pipeline monitoring, telecom infrastructure, wind energy, and general industrial UAVs.	Balanced speed and thrust profile
EV4215-520	520	Payload & Agriculture	Higher-output EV4200 option for payload aircraft, agricultural UAVs, cargo concepts, and demanding industrial platforms.	Higher-output option for payload-carrying and agricultural UAV platforms
EV4215-710	710	Tactical & High-Speed	Higher-speed propulsion for tactical multirotors, ISR platforms, and rapid-response UAV systems.	High-speed, fast-response positioning

QUICK REFERENCE & PRODUCT COMPARISONS

Payload / Endurance / Speed Comparisons					
Model Number	Payload Rating	Endurance Rating	Speed Rating	Published Test Coverage	Best-Fit Application
EV4215-340	★★★★☆	★★★★★★	★★★☆☆	Multiple 6S and selected 8S configurations	VTOL & Survey
EV4215-380	★★★★☆	★★★★★	★★★☆☆	Multiple 6S and selected 8S configurations	Industrial Inspection
EV4215-520	★★★★★	★★★★★	★★★☆☆	Multiple 6S and selected 8S configurations	Payload & Agriculture
EV4215-710	★★★★☆	★★★★★	★★★★★	Multiple 6S configurations	Tactical & High-Speed

NOTE: Ratings provide relative application guidance based on the overall motor platform and are not determined solely by maximum tested thrust, speed, or efficiency.

Weight / Power / Current / Thrust Comparisons					
Model Number	Weight	Maximum Power	Peak Current	Maximum Tested Thrust	Best-Fit Application
EV4215-340	175 g	800 W	32 A	5,131 g	VTOL & Endurance
EV4215-380	175 g	1,220 W	51 A	5,888 g	Industrial Inspection
EV4215-520	175 g	1,900 W	82 A	5,868 g	Payload & Agriculture
EV4215-710	175 g	1,900 W	90 A	4,308 g	Tactical & High-Speed

NOTE: Maximum thrust values are based on tested operating conditions and should not be directly compared without considering aircraft design, battery selection, propeller selection, airflow conditions, voltage configuration, and ESC setup.

MISSION-BASED MOTOR SELECTION GUIDE

Primary and alternate EV4200 motor recommendations by UAV mission profile.

UAV Mission	Primary Motor	Alternate Motor	Why This Fit	Propeller & Data Notes
Long-Endurance VTOL	EV4215-340	EV4215-380	Lower-KV propulsion option for VTOL lift systems and endurance-oriented aircraft.	Published 6S and selected 8S Propeller Performance Datasheets are available for preliminary evaluation.
Mapping & Survey UAV	EV4215-340	EV4215-380	Lower-KV propulsion with multiple tested propeller configurations for mapping and survey platform evaluation.	Compare thrust, current, RPM, power, and efficiency across the available Datasheets.
Utility & Infrastructure Inspection	EV4215-380	EV4215-340	Balanced propulsion profile for utility inspection, infrastructure monitoring, and industrial UAV applications.	EV4215-380 produces up to 5,888 g maximum tested thrust with 15 × 7 × 3 at 8S.
Agricultural UAV	EV4215-520	EV4215-380	Higher-output propulsion for agricultural UAVs, payload aircraft, and demanding industrial applications.	EV4215-520 produces up to 5,868 g maximum tested thrust with 15 × 7 × 3 at 6S.
Payload & Cargo Aircraft	EV4215-520	EV4215-710	EV4215-520 provides a higher-KV payload-focused option, while EV4215-710 offers an alternate for applications requiring increased rotational speed.	Evaluate aircraft weight, battery configuration, propeller envelope, current limits, and required thrust.
Tactical & ISR Platforms	EV4215-710	EV4215-520	Higher-KV propulsion option for aircraft requiring increased rotational speed and rapid response.	EV4215-710 produces up to 4,308 g maximum tested thrust and 14,314 RPM maximum tested speed across the published 6S configurations.

RECOMMENDATION:

Start with mission requirements, aircraft size, total aircraft weight, payload, battery configuration, propeller envelope, current limits, and operating environment. Then identify one primary EV4200 motor and one alternate motor for engineering evaluation and performance comparison.

NOTE:

Mission recommendations are intended as a starting point for propulsion evaluation. Final motor selection should be based on aircraft weight, battery configuration, propeller selection, operating limits, performance requirements, and application-specific testing.

ENGINEERING OVERVIEW

The Everline® EV4200 Series combines a common 4215-class motor platform with four mission-specific KV options. Published performance data supports evaluation of propulsion solutions spanning VTOL aircraft, industrial inspection platforms, payload and agricultural UAVs, and tactical systems while maintaining a consistent integration approach.

NOTE: EV4200 motors share a common 4215-class architecture and 12N14P configuration. Motor selection should be based on aircraft size, payload requirements, battery configuration, propeller envelope, operating voltage, thermal considerations, current limits, and desired flight performance. Selected 8S results represent published test configurations and should be evaluated using the applicable Propeller Performance Datasheets.

Common Platform Attributes	EV4215-340	EV4215-380	EV4215-520	EV4215-710
Stator Class	4215	4215	4215	4215
KV	340 KV	380 KV	520 KV	710 KV
Dimensions	49 × 65 mm	49 × 65 mm	49 × 65 mm	49 × 65 mm
Configuration	12N14P	12N14P	12N14P	12N14P
Shaft Diameter	6 mm	6 mm	6 mm	6 mm
Weight	175 g	175 g	175 g	175 g
Cable Length	750 mm	750 mm	750 mm	750 mm
Cells	6S–8S	6S–8S	6S–8S	6S
Maximum Rated Speed	10,900 RPM	12,340 RPM	17,700 RPM	17,740 RPM
Idle Current (20 V)	1.1 A	1.4 A	2.2 A	3.5 A
Maximum Power	800 W	1,220 W	1,900 W	1,900 W
Peak Current	32 A	51 A	82 A	90 A
Resistance	79 mΩ	66 mΩ	43 mΩ	30 mΩ
Lead Wires	14 AWG (2.5 mm ²)	14 AWG (2.5 mm ²)	14 AWG (2.5 mm ²)	14 AWG (2.5 mm ²)

Model Number	KV	Relative Role	Technical Comments
EV4215-340	340	VTOL & Long-Endurance	Optimized for larger propellers, VTOL lift systems, and endurance-oriented UAV platforms.
EV4215-380	380	Industrial Inspection	Balanced propulsion profile for utility inspection, infrastructure monitoring, and industrial UAV applications.
EV4215-520	520	Payload & Agricultural	Higher-output propulsion solution for payload-carrying, agricultural, and industrial UAV platforms.
EV4215-710	710	Tactical & High-Speed	High-KV propulsion option optimized for speed, maneuverability, and rapid mission response.



EV4215-340

VTOL & Long-Endurance UAV Propulsion Motor

The EV4215-340 is a 340 KV, 4215-class propulsion motor designed for VTOL lift systems, endurance-oriented aircraft, mapping platforms, and survey UAVs requiring efficient operation with larger propellers.

Applications

- VTOL lift propulsion
- Mapping aircraft
- Survey UAVs
- Endurance-oriented industrial multirotors
- Longer-duration autonomous platforms

SPECIFICATIONS

Part Number	: EV4215-340
Stator Size	: 4215
KV	: 340 KV
Dimensions	: 49 × 65 mm (1.93 × 2.56 in)
Configuration	: 12N14P
Shaft Diameter	: 6 mm
Weight	: 175 g
Cable Length	: 750 mm
Cells	: 6S–8S
Maximum Rated Speed	: 10,900 RPM
Idle Current (20 V)	: 1.1 A
Maximum Power	: 800 W
Peak Current	: 32 A
Resistance	: 79 mΩ
Lead Wires (AWG)	: 14 AWG (2.5 mm ²)

* For detailed specifications and motor performance curves, please refer to the complete product specification sheet.



EV4215-380

Industrial Inspection UAV Propulsion Motor

The EV4215-380 is a 380 KV, 4215-class propulsion motor designed for utility inspection, pipeline monitoring, telecommunications infrastructure, wind energy, and general industrial UAV applications requiring a balanced combination of thrust, efficiency, and flight performance.

Applications

- Utility inspection
- Pipeline monitoring
- Telecommunications inspection
- Industrial multirotors
- Infrastructure monitoring platforms

SPECIFICATIONS	
Part Number	: EV4215-380
Stator Size	: 4215
KV	: 380 KV
Dimensions	: 49 × 65 mm (1.93 × 2.56 in)
Configuration	: 12N14P
Shaft Diameter	: 6 mm
Weight	: 175 g
Cable Length	: 750 mm
Cells	: 6S–8S
Maximum Rated Speed	: 12,340 RPM
Idle Current (20 V)	: 1.4 A
Maximum Power	: 1,220 W
Peak Current	: 51 A
Resistance	: 66 mΩ
Lead Wires (AWG)	: 14 AWG (2.5 mm ²)

* For detailed specifications and motor performance curves, please refer to the complete product specification sheet.



EV4215-520

Payload & Agricultural UAV Propulsion Motor

The EV4215-520 is a 520 KV, 4215-class propulsion motor designed for payload-carrying aircraft, agricultural UAVs, cargo development platforms, and demanding industrial applications requiring increased thrust and higher power capability.

Applications

- Agricultural UAVs
- Payload-carrying multirotors
- Cargo development platforms
- Heavy-duty industrial aircraft
- Payload research systems

SPECIFICATIONS

Part Number	: EV4215-520
Stator Size	: 4215
KV	: 520 KV
Dimensions	: 49 × 65 mm (1.93 × 2.56 in)
Configuration	: 12N14P
Shaft Diameter	: 6 mm
Weight	: 175 g
Cable Length	: 750 mm
Cells	: 6S–8S
Maximum Rated Speed	: 17,700 RPM
Idle Current (20 V)	: 2.2 A
Maximum Power	: 1,900 W
Peak Current	: 82 A
Resistance	: 43 mΩ
Lead Wires (AWG)	: 14 AWG (2.5 mm ²)

* For detailed specifications and motor performance curves, please refer to the complete product specification sheet.



EV4215-710

Tactical & High-Speed UAV Propulsion Motor

The EV4215-710 is a 710 KV, 4215-class propulsion motor designed for tactical UAVs, ISR platforms, high-speed aircraft, and rapid-response systems requiring maximum aircraft responsiveness and high rotational speed capability.

Applications

- Tactical UAVs
- High-speed multirotors
- ISR platforms
- Fast-response aircraft
- Special-purpose defense and security systems

SPECIFICATIONS	
Part Number	: EV4215-710
Stator Size	: 4215
KV	: 710 KV
Dimensions	: 49 × 65 mm (1.93 × 2.56 in)
Configuration	: 12N14P
Shaft Diameter	: 6 mm
Weight	: 175 g
Cable Length	: 750 mm
Cells	: 6S
Maximum Rated Speed	: 17,740 RPM
Idle Current (20 V)	: 3.5 A
Maximum Power	: 1,900 W
Peak Current	: 90 A
Resistance	: 30 mΩ
Lead Wires (AWG)	: 14 AWG (2.5 mm²)

* For detailed specifications and motor performance curves, please refer to the complete product specification sheet.

PROPELLER SELECTION GUIDE

The EV4200 Series has been tested across multiple motor, propeller, and battery configurations to support UAV propulsion evaluation, aircraft optimization, and propulsion-system development. This guide provides a quick-reference overview of recommended configurations based on application objectives. Detailed thrust, RPM, current, power, efficiency, and performance curve data are available in the individual Propeller Performance Datasheets. Recommendations are intended for preliminary configuration screening and should be validated through application-specific aircraft testing.

RECOMMENDED CONFIGURATIONS		
Mission Profile	Recommended Configuration	Maximum Tested Thrust
VTOL & Long-Endurance UAV	EV4215-340 + 15 × 7 × 3 @ 8S	5,131 g
Mapping & Survey UAV	EV4215-340 + 13 × 8 × 3 @ 8S	3,000 g
Industrial Inspection UAV	EV4215-380 + 15 × 7 × 3 @ 8S	5,888 g
Payload & Agricultural UAV	EV4215-520 + 15 × 7 × 3 @ 6S	5,868 g
Tactical & High-Speed UAV	EV4215-710 + 10 × 4.5 × 2 @ 6S	3,200 g
Maximum EV4215-710 Thrust	EV4215-710 + 11 × 7.5 × 3 @ 6S	4,308 g

* Maximum thrust values shown are based on published bench-test performance data.

PROPELLER CLASS GUIDELINES

Propeller	Typical Use Case
10-Inch Class	Higher-speed propulsion evaluation, compact installations, and tactical UAV configurations
11-Inch Class	Balanced thrust, payload, industrial inspection, and general UAV propulsion evaluation
13-Inch Class	Mapping, survey, VTOL, and higher-thrust commercial UAV evaluation
15-Inch Class	VTOL lift, payload, agricultural, and maximum-thrust propulsion evaluation

NOTE: The EV4200 Series propulsion platform includes performance data across multiple tested motor, propeller, and battery configurations covering VTOL and endurance propulsion, industrial inspection, payload and agricultural applications, and tactical and higher-speed UAV operation. Detailed Propeller Performance Datasheets include measured thrust, RPM, electrical power, current, efficiency, and normalized performance curves for engineering evaluation and propulsion-system optimization.

Detailed Propeller Performance Datasheets Available Upon Request

Motor, Propeller & Battery Test Configurations • 6S & Selected 8S Testing • Thrust, RPM, Current, Power & Efficiency Data

OEM CUSTOMIZATION OPTIONS

The Everline® EV4200 UAV Propulsion Motor Series can be evaluated as a standard propulsion platform and then reviewed for production-program requirements, including customization, documentation, integration support, and support for Pelonis Technologies' thermal-management solutions, including Air-G Micro Fans, Air-G Micro Blowers, and Ultra-Thin Flexible Heaters. Built around a common 4215-class motor architecture with 340 KV, 380 KV, 520 KV, and 710 KV options, the EV4200 platform supports VTOL aircraft, industrial inspection UAVs, mapping and survey platforms, payload-carrying aircraft, agricultural UAVs, tactical systems, and OEM development programs.

Customization	Description
KV / winding review	Custom winding requirements or alternate KV targets for production programs.
Cable length	Customer-specific lead length requirements.
Connector options	Connector termination preferences for OEM assemblies.
Shaft / mounting review	Evaluate application-specific shaft and mounting requirements subject to feasibility assessment.
Documentation package	Provide Datasheets, performance tables, drawings, and application notes for design review.
Prototype-to-production support	Support prototype evaluation, design reviews, quotation development, and production planning.
Thermal system review	Battery heating, ESC cooling, avionics cooling, payload cooling, and electronics thermal management.
Defense program support	Supply-chain, documentation, and application review support for government and defense UAV programs.

INTEGRATED UAV THERMAL MANAGEMENT SOLUTIONS

An integrated UAV subsystem approach combines propulsion, battery thermal management, avionics cooling, and payload cooling to support improved performance, reliability, and mission endurance. Everline® EV4200 Series motors provide mission-tuned propulsion, while Ultra-Thin Flexible Heaters, Air-G Micro Fans, and Air-G Micro Blowers help manage critical thermal requirements across UAV platforms. Together, these technologies support reliable operation in VTOL, inspection, payload, agricultural, tactical, and OEM aircraft applications.

Product Area	UAV Use Cases	Customer Benefits
Everline® EV4200 Motors	VTOL aircraft, industrial inspection UAVs, mapping and survey platforms, payload-carrying aircraft, agricultural UAVs, tactical systems, and OEM development programs.	Mission-specific propulsion solutions for VTOL, inspection, payload, agricultural, and tactical UAV platforms.
Ultra-Thin Flexible Heaters	Battery warming, avionics heating, camera/payload heating, cold-weather operation.	Supports cold-weather operation, battery performance, and environmental reliability.
Air-G Micro Fans	Flight computer cooling, electronics bay airflow, payload electronics cooling.	Improves thermal management of flight-control and onboard electronic systems.
Air-G Micro Blowers	Directed ESC cooling, sensor cooling, avionics and communications equipment cooling.	Provides focused airflow for payloads, sensors, and avionics in compact areas.



GLOSSARY

Terms and Definitions.

TERM	DEFINITION
KV	Motor speed constant expressed in RPM per volt under no-load conditions. Higher KV generally supports increased rotational speed, while lower KV can support different propeller and operating-voltage requirements.
Thrust	Measured force generated by a motor and propeller combination under specified test conditions.
Efficiency	Propulsion efficiency expressed as grams of thrust per watt of electrical power input.
ESC	Electronic speed controller used to drive the BLDC motor.
RPM	Revolutions per minute; a measure of motor rotational speed.
BLDC	Brushless DC motor technology commonly used in UAV propulsion systems.
12N14P	Motor configuration consisting of 12 stator slots and 14 rotor poles.
6S–8S	Primary published battery range for EV4200 propulsion evaluation. Selected motor and propeller combinations have been tested using 8S battery operation.
S (Cell Count)	Number of lithium battery cells connected in series. Example: 6S indicates a six-cell series battery configuration.
Diameter × Pitch × Blade Count	Standard propeller format. Example: 15 × 7 × 3 indicates a 15-inch diameter, 7-inch pitch, three-blade propeller.
UAV	Unmanned aerial vehicle (UAV), including VTOL, inspection, agricultural, payload-carrying, tactical, and industrial aircraft.
LiPo	Lithium polymer battery technology commonly used in UAV power systems.
VTOL	Vertical takeoff and landing aircraft.
ISR	Intelligence, Surveillance, and Reconnaissance (ISR) missions involving information gathering, observation, and situational awareness activities.
Payload	Mission-specific equipment carried by the UAV, including sensors, cameras, communications equipment, agricultural systems, and specialized payloads.
Propeller Reference	Specific propeller configuration used during published performance testing.
High-Output	Propulsion configuration designed to provide increased thrust, power capability, or operating speed for demanding UAV applications.
Torque	Rotational force generated by the motor. Higher torque improves the ability to drive larger propellers and support heavier payloads.
High-Speed	Motor configuration optimized for increased RPM, aircraft speed, and rapid mission response.
OEM	Original equipment manufacturer integrating Everline® motors into its own UAV platform.



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