

EVERLINE®
EV3100 SERIES
UAV PROPULSION MOTORS



FOR HIGH-OUTPUT UAVS

- | Inspection
- | Mapping & Survey
- | Payload
- | OEM Development



DEFENSE
COMPLIANT



HIGH
EFFICIENCY



FULL
POWER RANGE



UAV
OPTIMIZED



The Everline® EV3100 Series motors provide a high-output propulsion platform for commercial multirotors, inspection UAVs, mapping and survey platforms, payload-carrying aircraft, flight-test applications, and OEM development programs. The family combines 3110- and 3115-class motor architectures with 640 KV, 700 KV, and 900 KV options, supporting propulsion evaluation across a broad range of UAV requirements.

HIGH-OUTPUT COMMERCIAL UAV PROPULSION

The EV3100 Series provides balanced commercial, lower-KV, high-thrust, and higher-speed propulsion options for demanding UAV applications. Multiple motor configurations support aircraft ranging from inspection and mapping platforms to payload-carrying and flight-test systems.

CONSISTENT 31XX MOTOR PLATFORM

Shared mechanical characteristics simplify propulsion evaluation, system integration, and platform comparison. Common platform features include a 37 mm frame diameter, 12N14P configuration, 5 mm shaft diameter, and 300 mm cable length, enabling easier comparison between motor options during development.

PERFORMANCE DATA FOR MOTOR SELECTION

Published performance tables provide thrust, power, current, RPM, voltage, and efficiency measurements across multiple tested propeller and battery configurations. This data supports aircraft sizing, propulsion trade-off studies, and preliminary motor selection.

ENGINEERED FOR OEM UAV PROGRAMS

The EV3100 Series can be reviewed for production requirements including alternate KV ratings, cable lengths, connector options, labeling, documentation packages, and application support.

FEATURES & SPECIFICATIONS

- 640 KV, 700 KV, and 900 KV motor platforms
- 3110- and 3115-class motor architectures
- 37 mm frame-diameter platform
- 12N14P configuration
- 5 mm shaft diameter
- Published 4S, 6S, and selected 8S performance configurations
- Published thrust, power, current, RPM, and efficiency data
- OEM customization options
- Defense program support available

APPLICATIONS

- Commercial Multirotors
- Inspection UAVs
- Mapping & Survey Platforms
- Payload-Carrying UAVs
- Research & Development Platforms
- OEM Production Programs
- Flight-Test Aircraft
- Industrial & Commercial UAV Systems

The Everline® EV3100 Series motors provide a common propulsion architecture that supports efficient platform integration, system evaluation, and scalable UAV development. Shared mechanical and electrical 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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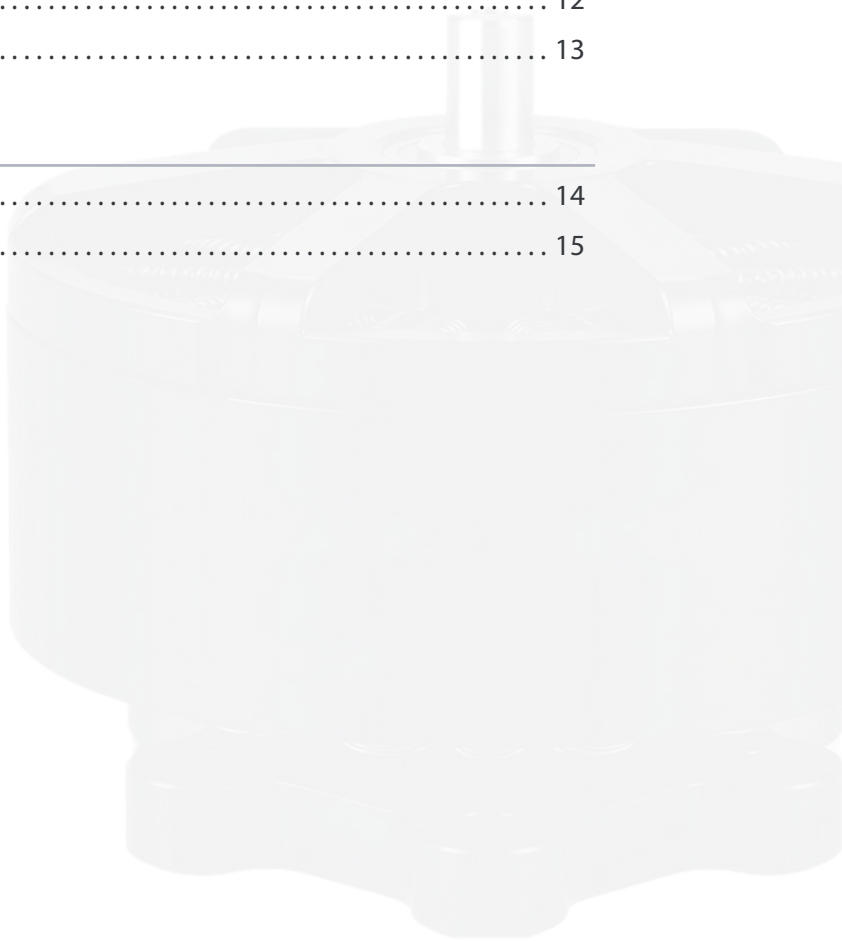
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EV3100 SERIES OVERVIEW

The Everline® EV3100 Series combines 3110- and 3115-class motor platforms with 640 KV, 700 KV, and 900 KV options to support commercial multirotor, inspection, mapping, payload, and OEM development programs. The family provides balanced commercial, high-thrust, and higher-speed propulsion solutions across a broad range of UAV applications.

Model Number	KV	Application	Best-Fit Mission	Features
EV3110-900	900	Balanced Commercial UAV Propulsion	Balanced propulsion for commercial multirotors, inspection UAVs, mapping platforms, and OEM development programs.	Lightweight 3110-class platform with published performance data across multiple 4S and 6S propeller configurations.
EV3115-640	640	Balanced High-Thrust UAV Propulsion	Lower-KV propulsion for payload-carrying UAVs, commercial multirotors, and platforms requiring broader propeller options.	Lower-KV 3115-class platform with published performance data across 4S, 6S, and selected 8S configurations.
EV3115-700	700	High-Thrust UAV Propulsion	Higher-thrust propulsion for payload-carrying UAVs, commercial multirotors, and advanced OEM development programs.	High-thrust 3115-class platform with published performance data across 4S, 6S, and selected 8S configurations.
EV3115-900	900	High-Speed High-Output UAV Propulsion	Higher-speed propulsion for inspection, mapping, payload, and flight-test platforms.	Higher-speed 3115-class platform with published performance data across 4S, 6S, and selected 8S configurations.

QUICK REFERENCE & PRODUCT COMPARISONS

Payload / Endurance / Speed Comparisons					
Model Number	Payload Rating	Endurance Rating	Speed Rating	Published Test Coverage	Best-Fit Application
EV3110-900	★★★★☆	★★★★☆	★★★★☆	Multiple 4S and 6S configurations	Commercial Multirotor / Mapping UAV
EV3115-640	★★★★★	★★★★★	★★★★☆	Multiple 4S, 6S, and selected 8S configurations	Lower-KV / Payload UAV
EV3115-700	★★★★★	★★★★★	★★★★☆	Multiple 4S, 6S, and selected 8S configurations	High-Thrust / Payload UAV
EV3115-900	★★★★☆	★★★★☆	★★★★★	Multiple 4S, 6S, and selected 8S configurations	High-Speed / High-Output UAV

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
EV3110-900	87 g	950 W	40 A	2,822 g	Commercial Multirotor / Mapping UAV
EV3115-640	120 g	810 W	40 A	3,793 g	Lower-KV / Payload UAV
EV3115-700	120 g	1,300 W	55 A	3,853 g	High-Thrust / Payload UAV
EV3115-900	120 g	1,050 W	45 A	3,423 g	High-Speed / High-Output UAV

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 EV3100 motor recommendations by UAV mission profile.

UAV Mission	Primary Motor	Alternate Motor	Why This Fit	Propeller & Data Notes
Commercial Multirotor	EV3110-900	EV3115-640	Balanced propulsion for commercial UAV platforms requiring thrust, efficiency, and operational flexibility.	Multiple 4S and 6S Propeller Performance Datasheets are available for preliminary evaluation.
Mapping & Survey Platforms	EV3110-900	EV3115-640	Balanced commercial propulsion with lower-KV options for aircraft sizing and mission evaluation.	Compare thrust, current, RPM, power, and efficiency across the available test configurations.
Inspection UAV	EV3110-900	EV3115-900	Balanced propulsion with an alternate higher-speed option for sensor-equipped aircraft.	Multiple propeller configurations support inspection-platform propulsion evaluation.
Payload-Carrying UAVs	EV3115-700	EV3115-640	EV3115-700 provides the highest published thrust, while EV3115-640 offers a lower-KV alternative.	EV3115-700 produces up to 3,853 g maximum tested thrust; EV3115-640 produces up to 3,793 g.
Endurance / Utility UAVs	EV3115-640	EV3115-700	Lower-KV propulsion option for platforms requiring broader propeller compatibility and payload capability.	Published 4S, 6S, and selected 8S configurations support preliminary propulsion comparisons.
High-Speed Commercial UAVs	EV3115-900	EV3110-900	Higher-speed 3115-class option for UAV platforms requiring increased RPM capability.	Multiple 4S, 6S, and selected 8S Propeller Performance Datasheets are available for evaluation.
OEM Development Programs	EV3115-640	EV3115-700	Multiple motor architectures and published performance data support propulsion evaluation, aircraft sizing, and platform development.	Compare all four EV3100 motors using the available motor, propeller, and battery test configurations.

RECOMMENDATION: Start with mission requirements, aircraft size, payload, battery configuration, propeller envelope, and operating environment. Then identify one primary EV3100 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, performance requirements, and application-specific testing.

ENGINEERING OVERVIEW

The Everline® EV3100 Series combines 3110- and 3115-class motor platforms with 640 KV, 700 KV, and 900 KV architectures. Published performance data supports evaluation of propulsion solutions ranging from balanced commercial operation and lower-KV payload capability to maximum-thrust and higher-speed UAV applications.

Common Platform Attributes	EV3110-900	EV3115-640	EV3115-700	EV3115-900
Stator Class	3110	3115	3115	3115
KV	900 KV	640 KV	700 KV	900 KV
Dimensions	37 × 41 mm	37 × 47 mm	37 × 47 mm	37 × 47 mm
Configuration	12N14P	12N14P	12N14P	12N14P
Shaft Diameter	5 mm	5 mm	5 mm	5 mm
Weight	87 g	120 g	120 g	120 g
Cable Length	300 mm	300 mm	300 mm	300 mm
Cells	4S–6S	4S–6S (selected 8S testing)	4S–6S (selected 8S testing)	4S–6S (selected 8S testing)
Maximum Rated Speed	17,100 RPM	20,700 RPM	22,000 RPM	18,000 RPM
Idle Current (20 V)	1.1 A	1.0 A	1.1 A	2.0 A
Maximum Power	950 W	810 W	1,300 W	1,050 W
Peak Current	40 A	40 A	55 A	45 A
Resistance	73 mΩ	72 mΩ	56 mΩ	38 mΩ
Lead Wires	18 AWG (1 mm ²)	16 AWG (1.5 mm ²)	16 AWG (1.5 mm ²)	16 AWG (1.5 mm ²)

Model Number	KV	Relative Role	Technical Comments
EV3110-900	900	Balanced Commercial	Lightweight 3110 platform optimized for commercial multirotor, mapping, and inspection applications.
EV3115-640	640	Balanced High-Thrust	Lower-KV 3115 platform supporting payload capability, broader propeller evaluation, and selected 8S configurations.
EV3115-700	700	High-Thrust	High-thrust 3115 platform optimized for payload-carrying UAVs and maximum thrust capability.
EV3115-900	900	High-Speed High-Output	Higher-speed 3115 platform with broad propeller coverage and expanded commercial UAV flexibility.

NOTE: EV3100 motors share a common 37 mm platform architecture and 12N14P configuration. Motor selection should be based on aircraft size, payload requirements, battery configuration, propeller envelope, operating voltage, thermal considerations, and desired flight performance. Selected 8S results represent published test configurations and should be evaluated using the applicable Propeller Performance Datasheets.



EV3110-900

Balanced Commercial UAV Propulsion Motor

The EV3110-900 is a 900 KV, 3110-class propulsion motor designed for commercial multirotors, inspection UAVs, mapping platforms, and OEM development programs requiring strong thrust performance in a lightweight package.

Applications

- Commercial multirotors
- Inspection UAVs
- Mapping & survey platforms
- Research & development platforms
- OEM development programs

SPECIFICATIONS	
Part Number	: EV3110-900
Stator Size	: 3110
KV	: 900 KV
Dimensions	: 37 × 41 mm (1.46 × 1.61 in)
Configuration	: 12N14P
Shaft Diameter	: 5 mm
Weight	: 87 g
Cable Length	: 300 mm
Cells	: 4S–6S
Maximum Rated Speed	: 17,100 RPM
Idle Current (20 V)	: 1.1 A
Maximum Power	: 950 W
Peak Current	: 40 A
Resistance	: 73 mΩ
Lead Wires (AWG)	: 18 AWG (1 mm ²)

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



EV3115-640

Balanced High-Thrust UAV Propulsion Motor

The EV3115-640 is a lower-KV, 3115-class propulsion motor designed for payload-carrying UAVs, commercial multirotors, mapping and inspection platforms, endurance-oriented aircraft, and OEM development programs requiring strong thrust capability.

Applications

- Payload-carrying UAVs
- Commercial multirotors
- Endurance & utility UAVs
- Mapping & inspection aircraft
- OEM development programs

SPECIFICATIONS	
Part Number	: EV3115-640
Stator Size	: 3115
KV	: 640 KV
Dimensions	: 37 × 47 mm (1.46 × 1.85 in)
Configuration	: 12N14P
Shaft Diameter	: 5 mm
Weight	: 120 g
Cable Length	: 300 mm
Cells	: 4S–6S, selected 8S testing
Maximum Rated Speed	: 20,700 RPM
Idle Current (20 V)	: 1.0 A
Maximum Power	: 810 W
Peak Current	: 40 A
Resistance	: 72 mΩ
Lead Wires (AWG)	: 16 AWG (1.5 mm ²)

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



EV3115-700

High-Thrust UAV Propulsion Motor

The EV3115-700 is a 700 KV, 3115-class propulsion motor designed for payload-carrying UAVs, commercial multirotors, and OEM development programs requiring maximum thrust capability and expanded payload margin.

Applications

- Payload-carrying UAVs
- Commercial multirotors
- High-thrust development platforms
- Mapping and inspection aircraft
- OEM development programs

SPECIFICATIONS	
Part Number	: EV3115-700
Stator Size	: 3115
KV	: 700 KV
Dimensions	: 37 × 47 mm (1.46 × 1.85 in)
Configuration	: 12N14P
Shaft Diameter	: 5 mm
Weight	: 120 g
Cable Length	: 300 mm
Cells	: 4S–6S, selected 8S testing
Maximum Rated Speed	: 22,000 RPM
Idle Current (20 V)	: 1.1 A
Maximum Power	: 1,300 W
Peak Current	: 55 A
Resistance	: 56 mΩ
Lead Wires (AWG)	: 16 AWG (1.5 mm ²)

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



EV3115-900

High-Speed High-Output UAV Propulsion Motor

The EV3115-900 is a 900 KV, 3115-class propulsion motor designed for payload-capable aircraft, flight-test platforms, mapping systems, inspection UAVs, and OEM development programs requiring broad propeller compatibility and increased RPM capability.

Applications

- High-speed commercial UAVs
- Payload-capable multirotors
- Flight-test aircraft
- Inspection and industrial UAV systems
- OEM development programs

SPECIFICATIONS	
Part Number	: EV3115-900
Stator Size	: 3115
KV	: 900 KV
Dimensions	: 37 × 47 mm (1.46 × 1.85 in)
Configuration	: 12N14P
Shaft Diameter	: 5 mm
Weight	: 120 g
Cable Length	: 300 mm
Cells	: 4S–6S, selected 8S testing
Maximum Rated Speed	: 18,000 RPM
Idle Current (20 V)	: 2.0 A
Maximum Power	: 1,050 W
Peak Current	: 45 A
Resistance	: 38 mΩ
Lead Wires (AWG)	: 16 AWG (1.5 mm ²)

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

PROPELLER SELECTION GUIDE

The EV3100 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
Balanced Commercial UAV	EV3110-900 + 9 × 4 × 3 @ 6S	2,822 g
Lower-KV Payload UAV	EV3115-640 + 10 × 5 × 3 @ 6S	3,793 g
Maximum-Thrust Payload UAV	EV3115-700 + 9 × 4 × 3 @ 8S	3,853 g
High-Speed Commercial UAV	EV3115-900 + 7.1 × 4 × 3 @ 6S	2,244 g
High-Output Commercial UAV	EV3115-900 + 9 × 4 × 3 @ 6S	3,423 g

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

PROPELLER CLASS GUIDELINES	
Propeller	Typical Use Case
6-Inch Class	Compact, higher-speed, and selected 8S propulsion evaluation
7-Inch Class	Higher-speed commercial UAVs and flight-test platforms
8-Inch Class	Balanced commercial multirotors, inspection UAVs, and mapping aircraft
9-Inch Class	High-output commercial UAVs and payload-carrying platforms
10-Inch Class	Lower-KV, higher-thrust, and payload-focused UAV applications
11-Inch Class	Larger-propeller commercial and payload propulsion evaluation

NOTE: The EV3100 Series propulsion platform includes performance data across multiple tested motor, propeller, and battery configurations covering balanced commercial propulsion, lower-KV payload capability, maximum-thrust operation, and higher-speed UAV applications. 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 • 4S, 6S, & Selected 8S Testing • Thrust, RPM, Current, Power & Efficiency Data

OEM CUSTOMIZATION OPTIONS

The Everline® EV3100 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 3110- and 3115-class motor architectures with 640 KV, 700 KV, and 900 KV options, the EV3100 platform supports commercial multirotors, inspection UAVs, mapping and survey platforms, payload-carrying aircraft, flight-test applications, and OEM development programs.

Customization	Description
KV / winding review	Alternate KV configurations and winding options for production programs.
Cable length	Customer-specific lead length requirements.
Connector options	Connector termination preferences for OEM assemblies.
Mounting review	Evaluate mounting requirements subject to feasibility review.
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 solution combines compact propulsion, battery thermal management, avionics cooling, and payload cooling into a unified platform designed to enhance performance, reliability, and mission endurance. Everline® EV3100 Series motors provide scalable propulsion solutions, 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 commercial, inspection, mapping, payload, industrial, and OEM aircraft applications.

Product Area	UAV Use Cases	Customer Benefits
Everline® EV3100 Propulsion Motors	Commercial multirotors, inspection UAVs, mapping & survey platforms, payload-carrying UAVs, flight-test aircraft, and OEM development programs.	Scalable propulsion solutions for commercial multirotor, inspection, mapping, payload, and OEM aircraft programs.
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. Higher KV generally supports increased rotational speed, while lower KV typically supports larger propellers and improved endurance characteristics.
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.
High-Output	Propulsion configuration designed to provide increased thrust, power capability, or operating speed for demanding UAV applications.
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.
4S–6S	Primary published battery range for EV3100 propulsion evaluation. Selected EV3115 motor and propeller configurations have also been tested using 8S battery operation.
S (Cell Count)	Number of lithium battery cells connected in series. Example: 4S indicates a four-cell series battery configuration.
Selected 8S Testing	Published 8S performance configurations available for selected EV3115-640, EV3115-700, and EV3115-900 motor and propeller combinations.
Diameter × Pitch × Blade Count	Standard propeller reference format. Example: 9 × 4 × 3 indicates a 9-inch diameter, 4-inch pitch, three-blade propeller.
UAV	Unmanned aerial vehicle (UAV), including multirotor, inspection, mapping, payload-carrying, and research aircraft.
LiPo	Lithium Polymer battery technology commonly used in UAV power systems.
Payload	Mission-specific equipment carried by the UAV, including sensors, cameras, communications equipment, and specialized systems.
Propeller Reference	Specific propeller configuration used during published performance testing.
OEM	Original equipment manufacturer integrating Everline motors into its own UAV platform.



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