KURCHS

COMMERCIAL UAV PROPULSION

2812 1100KV

Long-endurance propulsion for 7-10" FPV, mapping and multirotor platforms.

Measured thrust, electrical load and efficiency are presented from the supplied dynamometer files, with the installation data needed for engineering review.

12N14P | 77 g | 6S



MAXIMUM THRUST	PEAK EFFICIENCY	BATTERY CONFIGURATION	MOTOR MASS
2,083 g	**4.13 g/W**	**6S**	**77 g**
100% throttle / 7040	40% throttle	3.00A	Ø33.5×39.8mm

Values are based on supplied dynamometer files. Aircraft results vary with propeller, battery, ESC and airframe configuration.

PRODUCT SPECIFICATIONS

The essential numbers, in one place.



SELECTED CONFIGURATION

12N14P / 1100KV

selected KV available in the supplied data set.

MAXIMUM TEST POWER

786 W

Measured test value for this configuration.

MAXIMUM CURRENT

32.54 A

Recorded in the supplied test data.

MOTOR MODEL	Kurchs 2812	CONFIGURATION	12N14P
KV	1100KV	BATTERY CONFIGURATION	6S
MAX POWER	786 W	MAX CURRENT	32.54A
MOTOR DIMENSIONS	Ø33.5×39.8mm	WEIGHT	77 g
RECOMMENDED PROPELLER	7040	NO-LOAD CURRENT	3.00A
PHASE RESISTANCE	60 mOhm	SHAFT	5mm

Basic values use the supplied product specification. Performance data is kept separate and reflects the listed test propeller and throttle range.

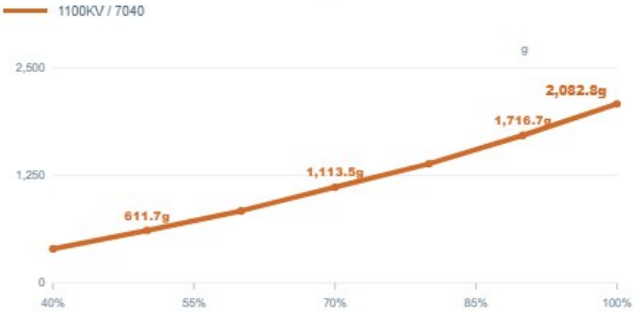
MEASURED PERFORMANCE

Measured performance across the tested range.

COMPARED PROFILES	DATA MODE	THROTTLE RANGE
1	Selected KV	40-100%

Thrust comparison

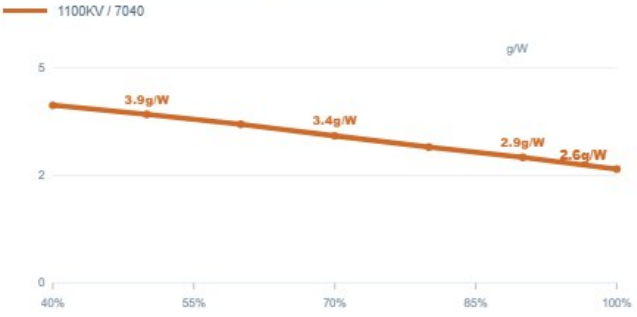
Each curve uses the test propeller listed in the legend.



1100KV max: 2,082.78 g

Efficiency comparison

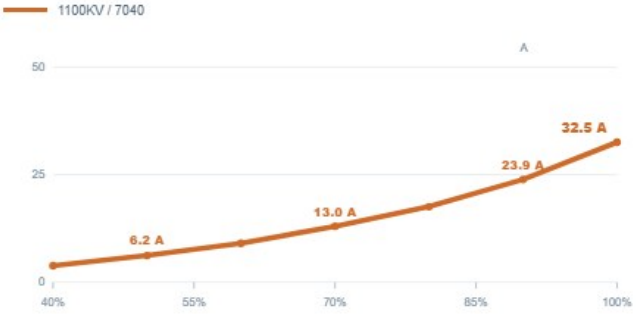
Peak values are taken directly from the supplied test rows.



1100KV peak: 4.13 g/W

Current comparison

Measured current draw through the supplied throttle range.



1100KV max: 32.54 A

Power comparison

Measured input power stays aligned with each plotted test point.



1100KV max: 786.14 W

SELECTED OPERATING PROFILE

One KV. Every supplied test point.

1100KV

SELECTED

7040

MAX THRUST	PEAK EFFICIENCY	MAX CURRENT	TEST PROPELLER
2,083 g	**4.13 g/W**	**32.5 A**	**7040**

MEASURED RANGE

40%-100%

Selected KV	Throttle	Voltage	Current	Thrust	RPM	Power	Efficiency
1100KV 7040	40%	25.36 V	3.80 A	398 g	10,078	96.47 W	4.13 g/W
	50%	25.29 V	6.17 A	612 g	12,348	156.14 W	3.92 g/W
	60%	25.20 V	9.01 A	839 g	14,193	227.13 W	3.69 g/W
	70%	25.08 V	12.98 A	1,113 g	16,213	325.59 W	3.42 g/W
	80%	24.94 V	17.57 A	1,386 g	17,937	438.27 W	3.16 g/W
	90%	24.64 V	23.87 A	1,717 g	19,696	588.21 W	2.92 g/W
	100% - PEAK	24.16 V	32.54 A	2,083 g	21,453	786.14 W	2.65 g/W

Complete test set: All 7 supplied measured points are shown for this KV.

Missing values: blank entries remain blank; no data is interpolated.

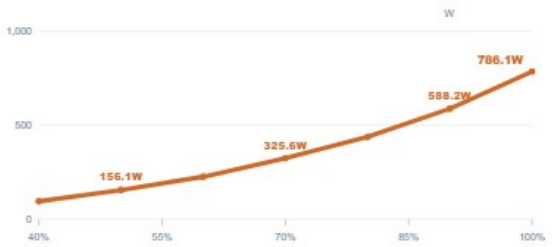
ENGINEERING ANSWERS

Designed around real operating conditions.

POWER DEVELOPMENT

32.5 A measured peak

Power draw increases through the measured throttle range. The curve below keeps electrical load visible instead of reducing the product to one maximum figure.



PEAK EFFICIENCY

4.13 g/W

PEAK POWER

786 W

01

THERMAL DESIGN

Class H winding supports sustained output.

High slot-fill copper and controlled winding resistance reduce avoidable heat build-up during longer missions.

Peak efficiency: 4.13 g/W at 40%.

02

ROTATING STABILITY

Balanced construction supports smooth RPM.

The rotor assembly and matched bearings are designed to keep rotation stable through changing throttle demand.

Measured range: 40%-100%.

03

CURRENT DELIVERY

Electrical data is shown with the thrust data.

Voltage, current and power remain visible alongside thrust so buyers can check the complete power path.

Maximum recorded current: 32.54 A.

04

EFFICIENCY AT THE PEAK

Maximum output comes with a different efficiency point.

The page separates the highest efficiency point from the highest throttle point instead of presenting only the peak thrust value.

Highest throttle point: 100% · 2.65 g/W.

STRUCTURE AND FIT

Every layer has a functional role.



01 / ROTOR

CNC Rotor Bell and Top Plate

Machined aluminum rotor construction with controlled balance.

02 / STATOR

Stator and Magnets

Class H copper winding paired with high-flux curved magnets.

03 / BASE

Machined Base Flange

Mounting interface for repeatable alignment and installation.

04 / BEARING

Precision Bearing Stack

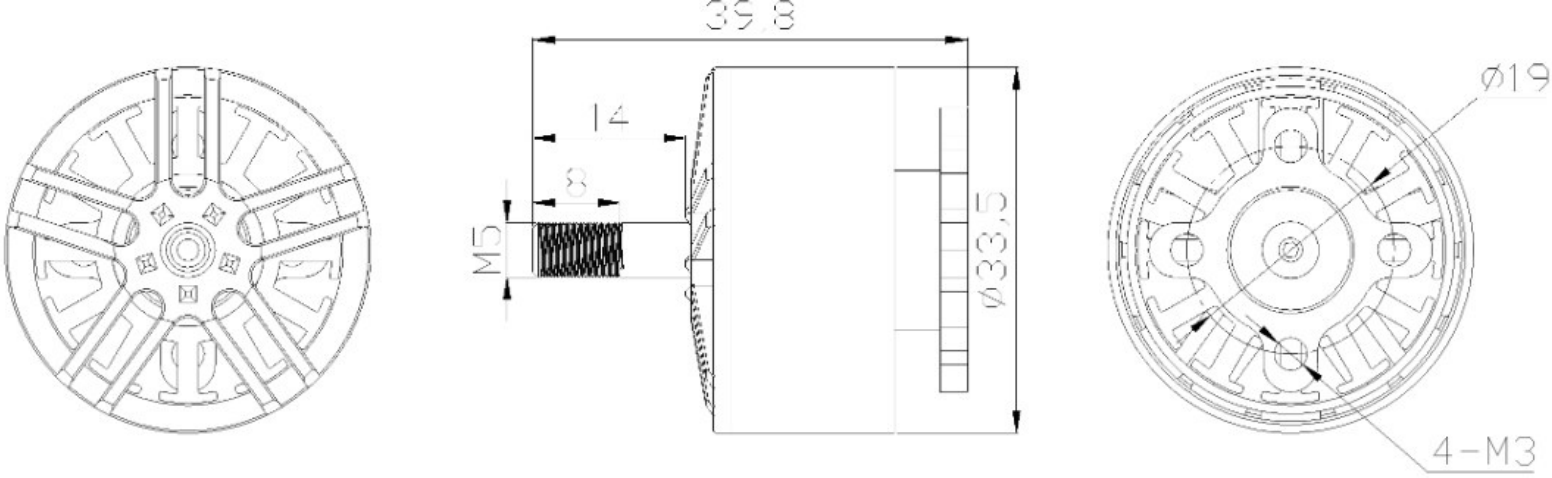
Low-friction bearing support for stable shaft rotation.

05 / FASTENER

High-Strength Fastener

Reliable clamping for the rotating assembly.

MOTOR OUTLINE DRAWING(外形图)：



BODY SIZE	WEIGHT	MOUNT
Ø33.5×39.8mm	**77 g**	**See dimensional drawing**

COMPONENT CLOSE-UPS

The motor is the sum of its interfaces.



01 / WINDING

Class H Copper Stator

High slot-fill winding for stable electrical and thermal behavior.



02 / STRUCTURE

CNC Rotor Bell

Machined aluminum structure with balance control.



03 / MAGNETISM

Curved Rotor Magnets

High-flux magnets support torque and magnetic efficiency.



04 / ROTATION

Precision Bearings

Low-friction support for smooth high-speed rotation.



05 / INSTALLATION

CNC Base Flange

Stable mounting geometry for repeatable airframe installation.



06 / FASTENING

High-Strength Fastener

Reliable clamping for rotor-stack alignment.



COMPANY PROFILE

Who We Are

Kurchs is a professional manufacturer of drone brushless motors, integrating R&D, precision machining, assembly and testing. Focused on the power motor industry, we continuously improve product quality with a full in-house production chain from component machining to finished motor delivery.

Our factory covers brushless motor production, CNC machining, wire harness and injection molding, supporting stable supply for global commercial and industrial UAV customers.

R&D & Design | Precision Machining | Assembly & Testing | OEM / ODM

OEM / ODM CUSTOMIZATION

Adapt the platform to your airframe.

Available engineering scope

Motor configuration	12N14P / 1100KV selected configuration.
Propeller pairing	7040
Mounting	Review the supplied dimensional drawing for interface details.
Electrical system	6S · 3.00A
Engineering files	Dyno report and STEP / IGES files available on request.

5-stage engineering workflow

01 Requirements confirmation
Airframe, propeller, voltage and target thrust are defined.

02 Drawing and materials
Mechanical interface and material requirements are reviewed.

03 Sample making
Evaluation samples are prepared for fit and performance testing.

04 Dyno verification
Thrust, current, RPM, power and efficiency are checked.

05 Batch production
Approved specifications move into scheduled production.

QUALIFICATION AND DELIVERY

Compliance and shipping without guesswork.



CE / EMC



CE / LVD



RoHS

Certificate documents are available for destination-specific compliance review.



Air Freight and Express

Prototype and urgent-order delivery via international express or air freight.



Ocean Freight

FCL or LCL planning for volume production orders.



Land and Railway

Cross-border multimodal delivery where the route is available.

SOURCING QUESTIONS

The final checks before sampling.

Which propeller and battery should I pair with 1100KV?

The tested setup uses 7040 with 6S. Final choice depends on airframe weight, target thrust and flight time.

Are other KV versions shown?

No additional KV is listed for this configuration.

What data is shown for this model?

The table lists measured voltage, current, thrust, RPM, power, efficiency and temperature where the supplied data records those fields.

What is the test range?

The selected configuration is plotted from 40% to 100% throttle. No missing points are interpolated or invented.

What sample and engineering files are available?

Evaluation samples are planned at 5-7 business days. Dyno data and STEP / IGES files are available within 24 hours after confirmation.

What is the OEM / ODM MOQ?

Evaluation samples are available from 1-4 units. Custom OEM / ODM production starts at 50 units.