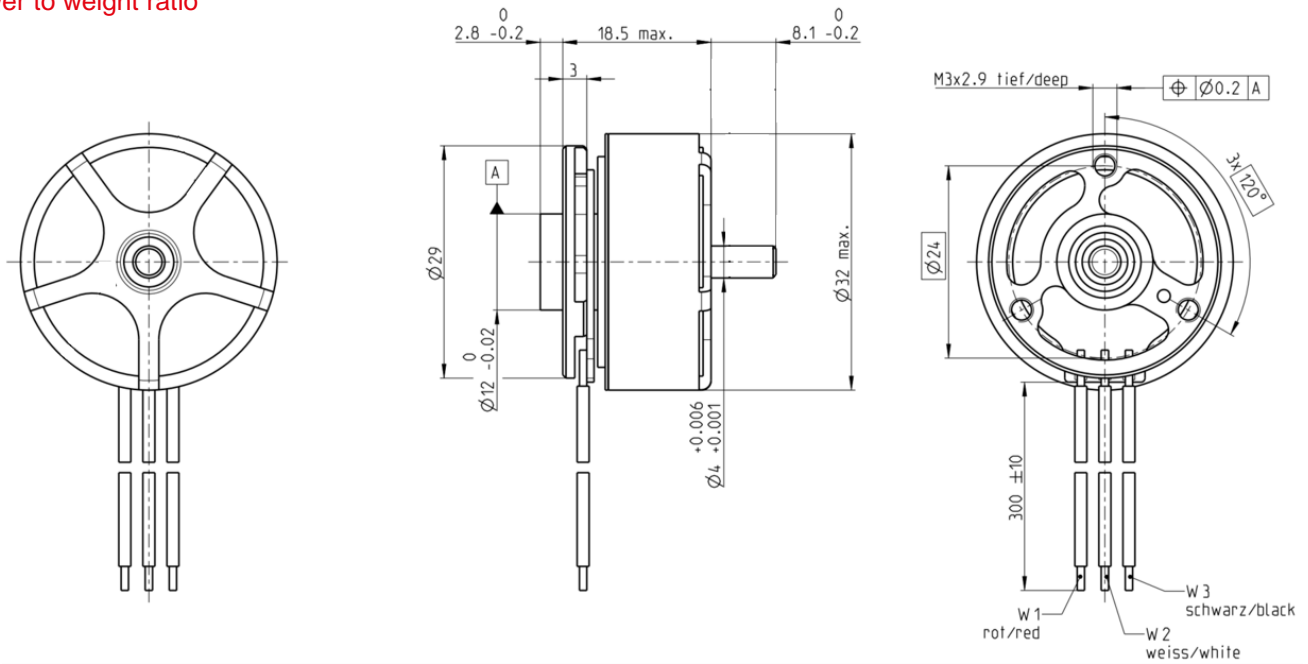


ECX 32 flat UAV

high power to weight ratio

Ø32 mm, brushless, up to 1kg thrust

NEW



Part Number

Sensorless CW: 753441
CCW: 755637

Motor Data

Values at nominal voltage		
1 Nominal voltage	V	10
2 No load speed	rpm	7880
3 No load current	mA	372
4 Nominal speed	rpm	6330
5 Nominal torque (max. continuous torque)	mNm	91
6 Nominal current (max. continuous current)	A	7.42
7 Stall torque ¹	mNm	670
8 Stall current	A	55.9
9 Max. efficiency	%	84.6
10 Max. continuous power output	W	105
11 Max. peak power output	W	for t<15s
Characteristics		
12 Terminal resistance phase to phase	Ω	0.179
13 Terminal inductance phase to phase	mH	0.0455
14 Torque constant	mNm/A	12
15 Speed constant	rpm/V	797
16 Speed/torque gradient	rpm/mNm	11.9
17 Mechanical time constant	ms	4.37
18 Rotor inertia	gcm ²	35.1

Specifications

Thermal data	
19 Thermal resistance housing-ambient ²	3.77 K/W
20 Thermal resistance winding-housing ²	3.46 K/W
21 Thermal time constant winding	9.31s
22 Thermal time constant motor	101s
23 Ambient temperature	-40...+100°C
24 Max. winding temperature	+125°C
Mechanical data (preloaded ball bearings)	
25 Max. speed	12000 rpm
Other specifications	
26 Number of pole pairs	6
27 Number of phases	3
28 Weight of motor (excl. cable)	47.9g
29 Recommended propeller sizes	8"...10"

Values listed in the tables are nominal.

Connection

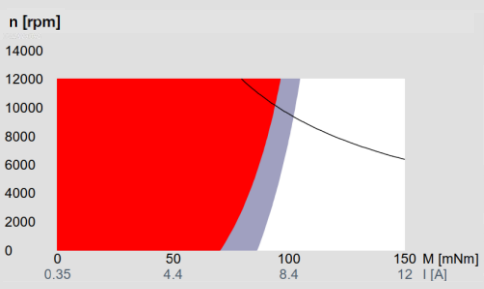
- Pin 1 Motor winding 1
- Pin 2 Motor winding 2
- Pin 3 Motor winding 3

Cable

Connection cable PTFE, L = 300 mm
AWG 20,

¹Calculation does not include saturation effect
²At nominal working point

Operating Range



Comments

- Continuous operation**
In observation of listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient. = Thermal limit.
- Continuous operation**
Thermal resistance Rth2 reduced by 50%.
- Short term operation**
The motor may be briefly overloaded (recurring).

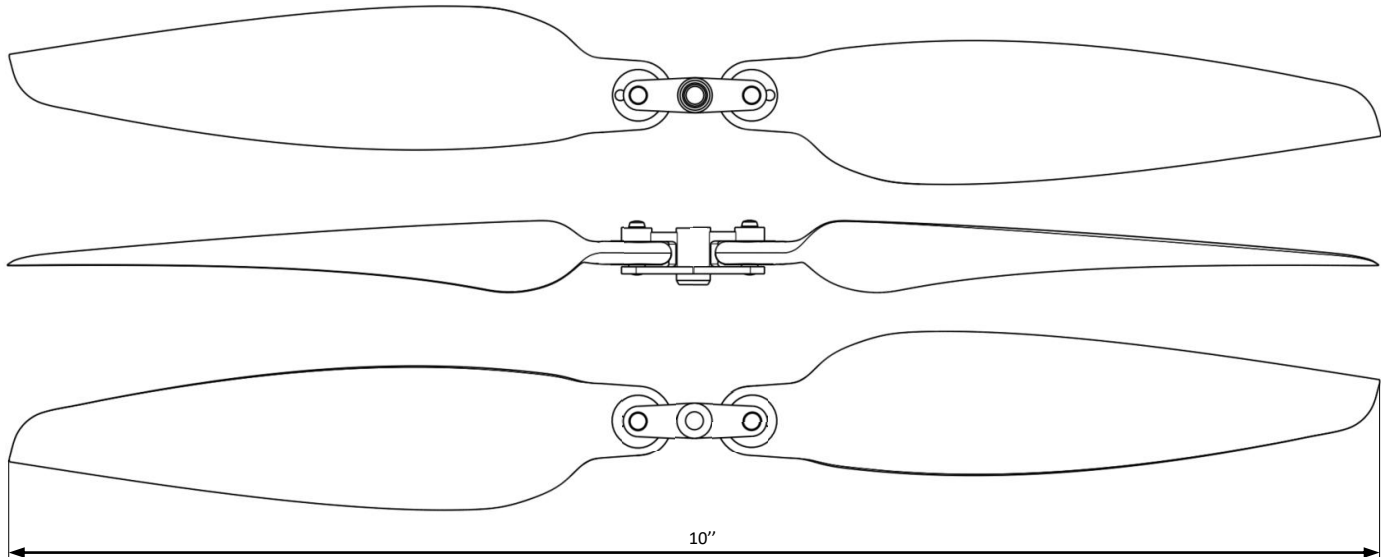
Notes

Please contact aerospace@maxongroup.com

maxon Propeller 10x4.5

propeller recommendation

maxon recommended foldable propeller

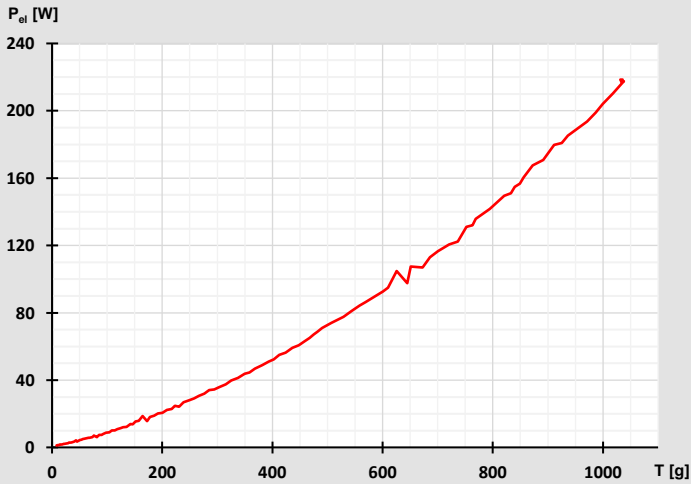


Propeller Specifications

- | | |
|-----------------------|---|
| 1 Diameter | 10" (254.0 mm) |
| 2 Pitch | 4.5" (114.3 mm) |
| 3 Weight of Propeller | 14 g |
| 4 Max. speed | 10'500 rpm |
| 5 Material | reinforced plastic compound blades and aluminum hub |

Efficiency Propulsion System

Propulsion system efficiency is indicated by depiction of required amount of electrical power (required by motor) to achieve a certain amount of thrust.



Motor Propeller Combination

Propulsion System Performance Table

Based on measured data @ 16.8V ESC supply voltage.

Speed [rpm]	Current [A]	Torque [mNm]	Thrust [g]	el. Power [W]	Efficiency [g/W]
continuous operation					
1200	0.1	6.9	9	2.1	4.2
1600	0.2	4.3	28	2.9	9.5
1800	0.2	5.6	27	3.0	8.9
2000	0.2	6.9	35	3.8	9.2
2400	0.3	10.6	53	5.2	10.3
2800	0.4	13.5	77	7.2	10.7
3000	0.5	15.3	90	8.5	10.6
3400	0.7	19.6	118	11.5	10.2
3800	0.9	25.2	150	15.5	9.6
4000	1.0	26.8	168	17.6	9.6
4400	1.4	34.3	211	23.2	9.1
4800	1.8	40.8	257	30.1	8.5
5000	2.0	45.0	283	34.2	8.3
5400	2.5	53.4	340	42.8	7.9
5800	3.2	62.9	400	54.0	7.4
6000	3.5	67.6	431	59.4	7.3
6400	4.3	76.9	490	71.7	6.8
6800	5.2	88.9	570	88.0	6.5
7000	5.7	93.7	605	96.1	6.3
7400	6.9	106.4	690	116.4	5.9
7800	8.2	117.6	768	137.3	5.6
short term operation					
8000	9.0	125.2	823	150.0	5.5
8400	10.6	138.9	904	177.0	5.1
8800	12.3	153.4	993	204.7	4.8
9000	13.0	157.7	1019	217.5	4.7

Notes

Please contact aerospace@maxongroup.com