HT|8

Datasheet

Version 1.1
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Hargrave
Technologies

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Contents

01 Safety

This is not the sort of safety page you skip!

We take the utmost care in development and assurance of our products, but electric motors have inherent risk. Used improperly, there is risk of fire, serious injury and damage to property.

Please read this datasheet carefully prior to integration.

The maximum temperature of the external components can reach 150°C during continuous operations, posing a significant burn risk.

Ingress protection for the Semi-Enclosed version is IP23. Exposure to significant moisture or water ingress may reduce the operational life of the motor. The motor is not designed for submersion and should not be exposed to direct high-pressure water spray

Do not attempt to disassemble or modify the HT8. Doing so will void your warranty and more importantly, can cause damage that results in a failure.

Running the motor above 10000 RPM for extended periods of time may result in a reduced lifetime.

Never exceed the rated voltage of the motor, doing so can result in premature failure.

HT8 is a high-performance motor engineered for demanding UAS applications, optimized for efficiency, thermal stability and reliable output under load.

Built on a decade of experience in ESC and power system development, HT8 is ready to propel the next generation of UAS to new heights.

The following datasheet is based on the semi-enclosed version of the HT8 motor.

02 At a Glance

12 - 14 S
INPUT VOLTAGE

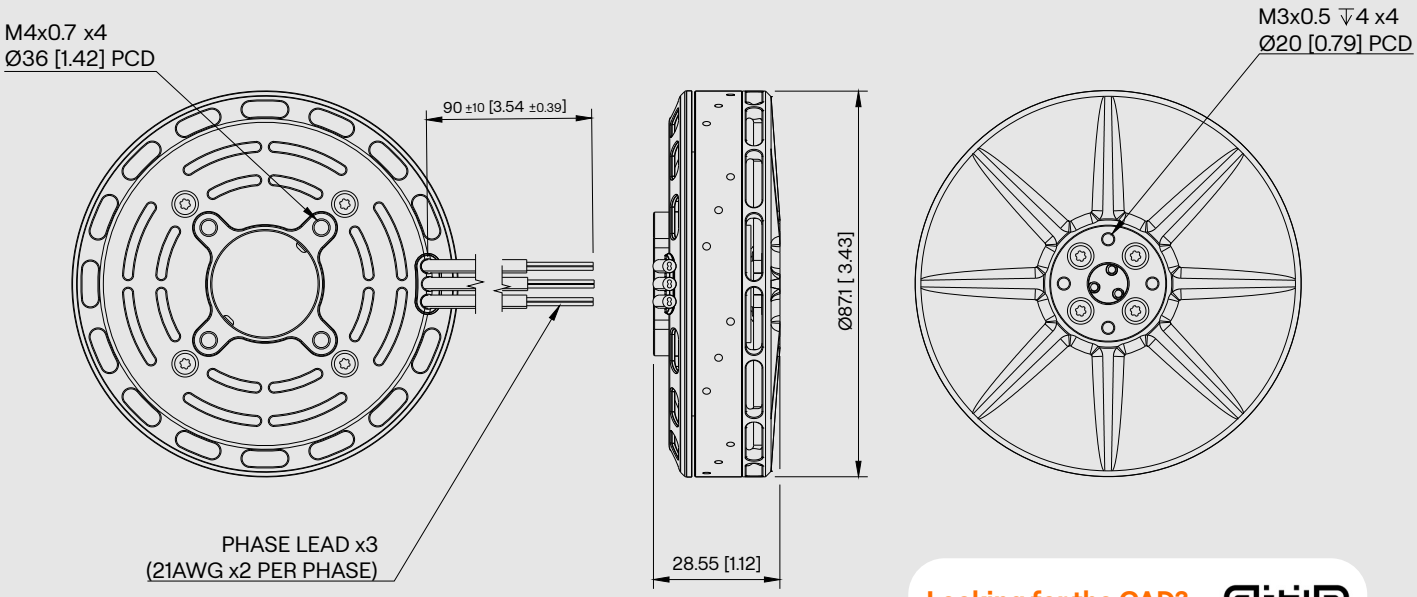
23 A
CONTINUOUS CURRENT

HRE Free
MAGNETS

280 g
TOTAL WEIGHT

2000+
HOUR LIFETIME

10.6 kg
PEAK THRUST



All dimensions in mm [inches].

Looking for the CAD?

Click below to find the new HT8 CAD:
hrgve.tech/HT8_CAD

03 Specifications

PARAMETER (UNIT)		VALUE	NOTES
Dimensions	(mm)	Ø 87.1 x 28.55 [Ø 3.43 x 1.12 in]	—
Overall Weight	(g)	280 [9.88 oz]	Including cables.
Nominal Voltage	(V)	48 - 60 [12 - 14 S]	—
Resistance	(mΩ)	135	± 5%.
No Load Speed	(RPM)	6000	14 S.
No Load Current	(A)	1.2	—
KV		100	No Load.
Nominal Speed	(RPM)	3250	—
Nominal Current	(A)	23	180 seconds.
Nominal Torque	(Nm)	2.3	180 seconds.
Max Continuous Temperature	(°C)	180	—
Stator Slots		36	—
Rotor Poles		42	—
Bearings		61901 SKF	—
Magnets		High Temperature HRE Free	—
Lead Cable	(mm)	90	± 10 mm.
IP Rating		IP23	—
Copper Wire		Grade 2 200°C	—
Stator HiPot Test		1200 VAC 5 Sec	max 5 mA.
# of Phases		3	—
Recommended Propeller Size	(in)	28 x 9.4	—

04 Performance

PROPELLER

PARAMETER (UNIT)		VALUE
Diameter	(in)	28 [711.2 mm]
Pitch	(in)	9.4 [238.8 mm]
Weight	(g)	76

TESTING CONDITIONS

PARAMETER (UNIT)		VALUE
ESC		microDRIVE LP
Control Algorithm		Trapezoidal
DC Bus Voltage	(V)	52
Ambient Temperature	(°C)	20 [68°F]
Starting Motor Temperature	(°C)	80 [176°F]

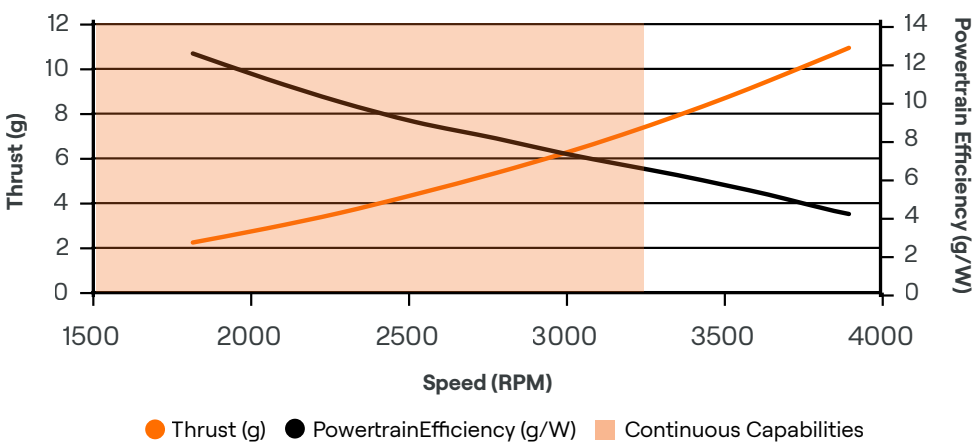
CONTINUOUS PERFORMANCE

PARAMETER (UNIT)		VALUE
Thrust	(kg)	7
Speed	(RPM)	3250
Current	(A)	23
Torque	(Nm)	2.3
Min Duration	(sec)	180

PEAK PERFORMANCE

PARAMETER (UNIT)		VALUE
Thrust	(kg)	10.6
Speed	(RPM)	3850
Current	(A)	49
Torque	(Nm)	3.5
Max Duration	(sec)	10

Throttle (%)	Speed (RPM)	Thrust (Kg)	Torque (Nm)	DC Current (A)	Electrical Power (W)	Mechanical Power (W)	Powertrain Efficiency (g/W)
40%	1822	2.24	0.76	3.46	179.44	145.41	12.47
45%	2056	2.87	0.98	4.97	257.79	211.61	11.14
50%	2287	3.56	1.22	6.92	358.25	291.77	9.95
55%	2526	4.39	1.49	9.56	494.15	394.28	8.90
60%	2783	5.35	1.80	12.89	665.83	523.38	8.04
65%	2991	6.20	2.09	16.52	851.68	655.88	7.28
70%	3182	7.06	2.37	20.54	1057.28	790.55	6.67
75%	3356	7.91	2.67	25.13	1290.34	936.96	6.13
80%	3512	8.72	2.95	30.44	1558.75	1085.84	5.59
85%	3645	9.46	3.19	36.27	1851.78	1216.24	5.11
90%	3756	10.10	3.41	42.64	2169.84	1342.83	4.65
95%	3853	10.66	3.59	49.42	2506.09	1447.72	4.26
100%	3900	10.94	3.68	52.69	2667.33	1502.73	4.10



PERFORMANCE MEASURED WITH **28" x 9.4"** PROPELLER

PROPELLER

PARAMETER (UNIT)		VALUE
Diameter	(in)	30 [762 mm]
Pitch	(in)	10 [254 mm]
Weight	(g)	97

TESTING CONDITIONS

PARAMETER (UNIT)		VALUE
ESC		micro**DRIVE** LP
Control Algorithm		Trapezoidal
DC Bus Voltage	(V)	52
Ambient Temperature	(°C)	20 [68°F]
Starting Motor Temperature	(°C)	80 [176°F]

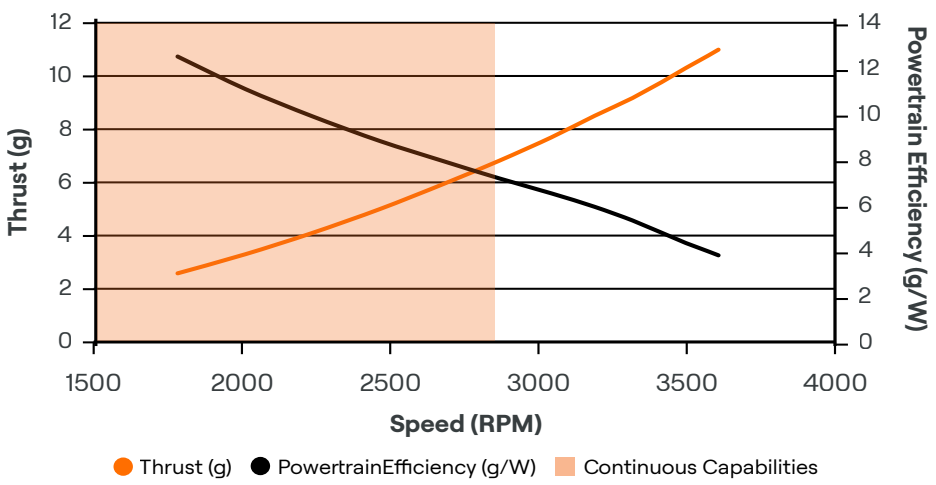
CONTINUOUS PERFORMANCE

PARAMETER (UNIT)		VALUE
Thrust	(kg)	6.8
Speed	(RPM)	2850
Current	(A)	19.8
Torque	(Nm)	2.3
Min Duration	(sec)	180

PEAK PERFORMANCE

PARAMETER (UNIT)		VALUE
Thrust	(kg)	10.8
Speed	(RPM)	3570
Current	(A)	53.6
Torque	(Nm)	3.8
Max Duration	(sec)	10

Throttle (%)	Speed (RPM)	Thrust (Kg)	Torque (Nm)	DC Current (A)	Electrical Power (W)	Mechanical Power (W)	Powertrain Efficiency (g/W)
40%	1783	2.58	0.88	3.97	206.11	164.10	12.52
45%	2012	3.30	1.16	5.74	297.44	243.83	11.09
50%	2235	4.09	1.40	7.97	412.72	326.63	9.91
55%	2466	5.00	1.74	10.98	567.29	448.33	8.81
60%	2682	5.95	2.12	14.56	751.08	595.61	7.92
65%	2869	6.82	2.37	18.48	951.08	710.68	7.17
70%	3043	7.69	2.63	22.95	1178.97	839.54	6.52
75%	3189	8.50	2.94	27.97	1432.79	980.44	5.93
80%	3317	9.17	3.21	33.69	1720.85	1113.37	5.33
85%	3414	9.76	3.30	39.93	2032.22	1179.86	4.80
90%	3497	10.30	3.59	46.83	2374.27	1315.75	4.34
95%	3573	10.77	3.78	53.61	2711.20	1414.15	3.97
100%	3607	10.99	3.83	57.22	2897.46	1448.07	3.80



PERFORMANCE MEASURED WITH **30" x 10"** PROPELLER

05 Ordering Options

SKU	Enclosure
106307	KV100 - Semi-Enclosed
106314	KV100 - Open Frame
Looking for alternative KVs? Inquire for more details.	

The secret is in the source

All Hargrave Technologies products are engineered, manufactured and tested in Australia from first class components. Australia is classed as a domestic source under Title III of the United States Defense Production Act.

Hargrave Technologies products are backed by complete vertical integration across engineering, manufacturing and testing. Hardware design, production and validation are all controlled in-house by the Hargrave team, enabling rapid iteration, strict quality control and dependable production continuity. The result is a propulsion system engineered for repeatable performance, manufacturing certainty and long-term reliability in demanding UAS applications.

06 Built by Hargrave

Over a decade of powering the most advanced uncrewed systems in the world exposed the same flaws everywhere; high weight, high losses, poor cooling, and reliability numbers that seem imaginary. Motors that just aren't cut out for the real world.

HT8 is designed to be everything we think a motor should be.

Designed, manufactured and tested in-house, HT8 benefits from tight vertical integration across the entire development pipeline. This control enables rapid iteration, consistent build quality and a level of validation that others cannot match.

HT8 is built to deliver predictable, reliable performance under sustained load, not just peak conditions.

Response Ready.

Contact us.

Sales

If you'd like to find out more about how you can take off with HT8, get in touch with our sales engineers at:

sales@hargravetechnologies.com

Documentation

For a detailed technical overview and operations manual, visit:

docs.hargravetechnologies.com

Technical

For any technical questions, please reach out to your technical contact at Hargrave or email us at:

contact@hargravetechnologies.com

07 Revisions

Revision	Date	Description
1.0	12/05/2026	Initial Release
1.1	13/05/2026	Minor changes to performance units.

08 Disclaimer

This electric motor datasheet is provided for informational purposes only. This motor is designed and intended solely for use in uncrewed aerial vehicles (UAVs) and drones. It is not intended for any other applications in which a malfunction or failure may cause loss of life, injury or property damage, including but not limited to crewed aviation.

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2. Hargrave Technologies reserve the right to change the data provided in this datasheet at any time without prior notice. It is the responsibility of the user to ensure that they have the most up-to-date information.
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