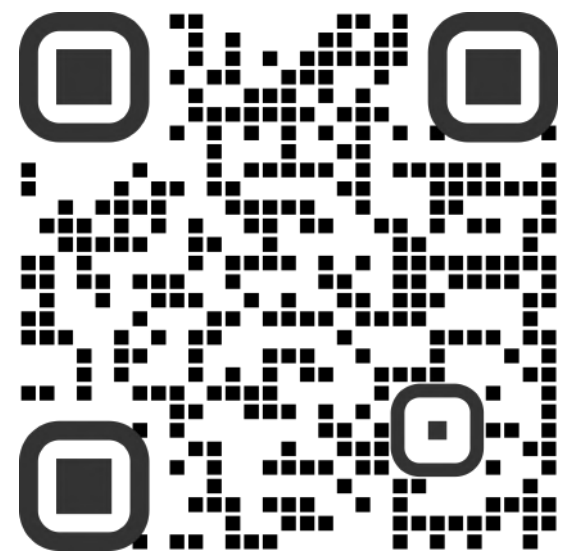




BLDC MOTORS  
ELECTRONIC SPEED CONTROLLERS  
PROPELLERS  
INTEGRATED PROPULSION UNITS  
CAPACITOR BANKS  
POWER DISTRIBUTION BOARDS



**STARTUP  
INCUBATION AND  
INNOVATION  
CENTRE  
IIT KANPUR**

## DOCUMENT REVISION: 16/08/2024

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# UAV ELECTRONIC SPEED CONTROLLERS

# RD D-SERIES ESC 6S-40A



## Product Description:

Reflex Drive's **D Series** trapezoidal electronic speed controllers (ESC) offer a state-of-the-art solution to drive BLDC motors - and are proudly **Made in India**.

The trapezoidal ESCs are designed to deliver superior performance and reliability, with customizable firmware and advanced safety features that make it the ideal choice for drone enthusiasts and commercial drone operators alike.

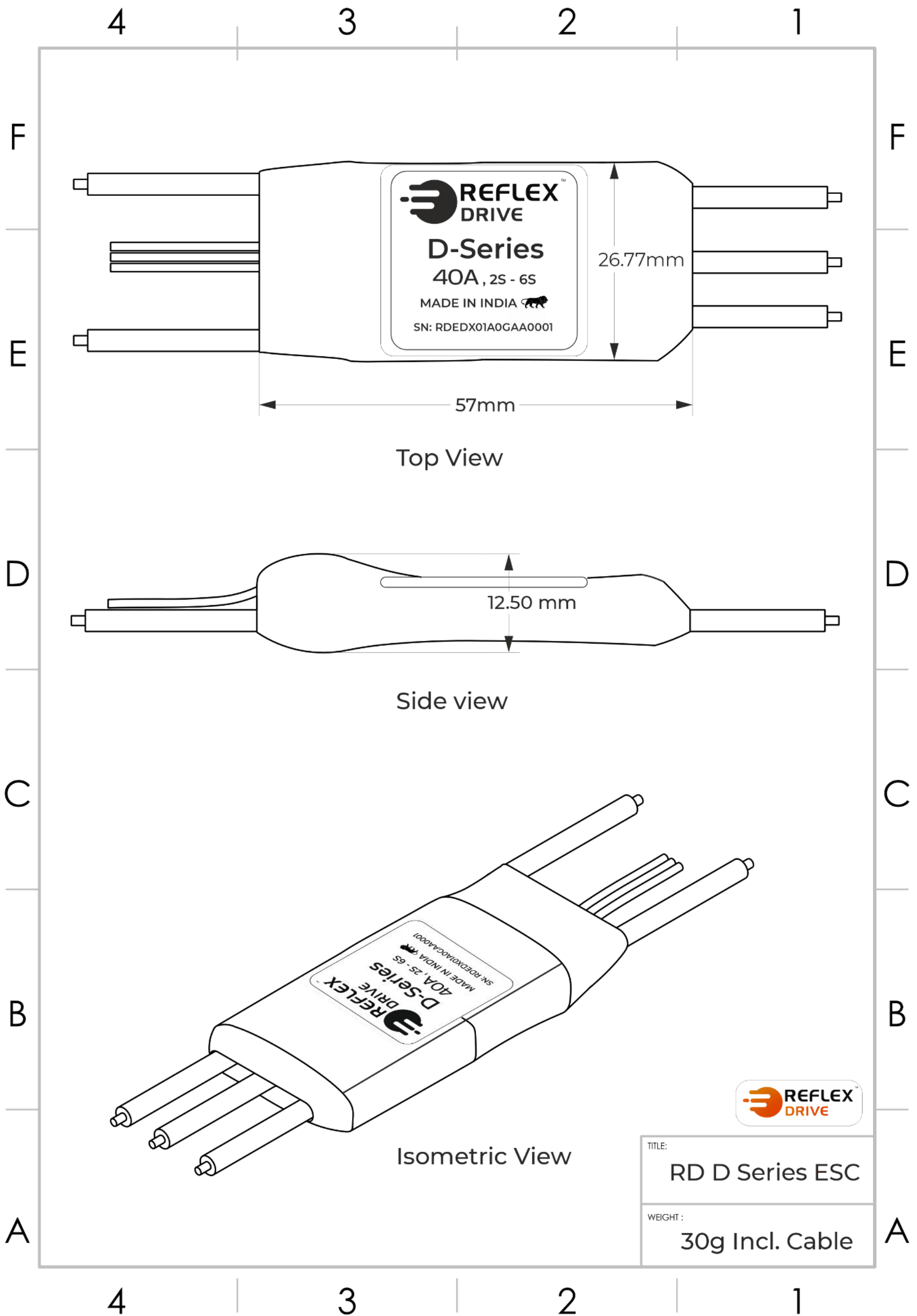
## Specifications

Continuous Current Range	40A
Burst Current (20 Sec)	50A
Voltage	2S-6S
Heatsink Plate	Yes
BEC	No
Max Operating Temperature	70°C
Dimensions	24mmx50mm
Weight	32gm with wire
Telemetry	Yes
Current Sense	No
Communication Protocol	PWM, DShot300
Recommended Motors	RD4006, RD5008, 7005 230KV Motor
Status	Production

## Performance Data:

Motor	ESC	Propeller	Power Source	Servo (1000-2000)	Throttle %	Voltage	Current (A)	RPM	Power (W)	(Wh)	Thrust (g)	Efficiency (g/W)
RD 5008 380KV Motor	D-Series 40A 6S	RD 1760 Folding	25 V	1213	21.30	25.05	1	1885	25.3	0.1	320	12.65
				1303	30.30	25.02	2	2502	51.3	0.3	566	11.03
				1364	36.40	25.01	3	2958	75.9	0.8	789	10.40
				1411	41.10	24.98	4	3258	101.1	1.5	963	9.53
				1452	45.20	24.95	5	3521	124.1	2.5	1130	9.11
				1492	49.20	24.92	6	3890	152.1	3.7	1323	8.70
				1550	55.00	24.85	8	4191	200.2	4.5	1603	8.01
				1608	60.80	24.79	10	4536	253.1	6.3	1903	7.52
				1652	65.20	24.75	12	4782	299.9	8.6	2106	7.02
				1696	69.60	24.69	14	5010	349.1	11.4	2312	6.62
				1736	73.60	24.62	16	5215	390	14.6	2520	6.46
				1779	77.90	24.56	18	5406	431	16.1	2721	6.31
				1826	82.60	24.47	20	5618	493.8	18.3	2952	5.98
				1860	86.00	24.41	22	5747	533.1	22.6	3098	5.81
				1897	89.70	24.36	24	5912	584	27.5	3223	5.52
				1937	93.70	24.32	26	6061	639.7	34.7	3423	5.35
				1972	97.20	24.26	28	6178	691	37.5	3580	5.18
1998	99.80	24.21	30	6272	734	43.5	3672	5.00				
2000	100.00	24.09	33	6433	806.1	50.1	3903	4.84				

Motor	ESC	Propeller	Power Source	Servo (1190-1750)	Throttle %	Voltage	Current (A)	RPM	Power (W)	(Wh)	Thrust (g)	Efficiency (g/W)	Temperature
RD <b>4006</b> 380KV Motor	D-Series 40A 6S	RD <b>1552</b> Folding	SMPS 24Vdc	1343	27.32	24	1	2466	24.3	0.2	451	18.56	Motor = 54 Motor coil =62
				1414	40.00	24	2	3173	49.3	0.8	659	13.37	
				1469	49.82	24	3	3664	75.3	1.3	823	10.93	
				1493	54.11	23.99	4	4065	95	2	998	10.51	
				1524	59.64	23.94	5	4433	120	2.8	1153	9.61	
				1562	66.43	23.91	6	4719	146.2	5	1278	8.74	
				1582	70.00	23.88	7	4998	172.4	7	1415	8.21	ESC = 43
				1615	75.89	23.83	8	5168	191.8	8.6	1503	7.84	
				1642	80.71	23.81	9	5423	222.5	9.4	1617	7.27	
				1666	85.00	23.77	10	5556	238.6	13.1	1724	7.23	
				1687	88.75	23.76	11	5734	265.7	15.1	1806	6.80	
				1702	91.43	23.67	12	5909	288.3	18.9	1878	6.51	
				1728	96.07	23.6	13	5945	292.8	19.8	1961	6.70	
				1742	98.57	23.57	14	6126	338.7	20.7	2051	6.06	
				1750	100.00	23.54	15.5	6325	360.7	22.5	2138	5.93	



# RD D-Pro ESC 6S-40A



## Product Description:

Reflex Drive's **D Pro** trapezoidal electronic speed controllers (ESC) with Current Sensing drive for BLDC motors - and are proudly Designed and Manufactured in **India**.

The trapezoidal ESCs are designed to deliver superior performance and reliability, with customizable firmware and advanced safety features that make it the ideal choice for drone enthusiasts and commercial drone operators alike.

## Specifications

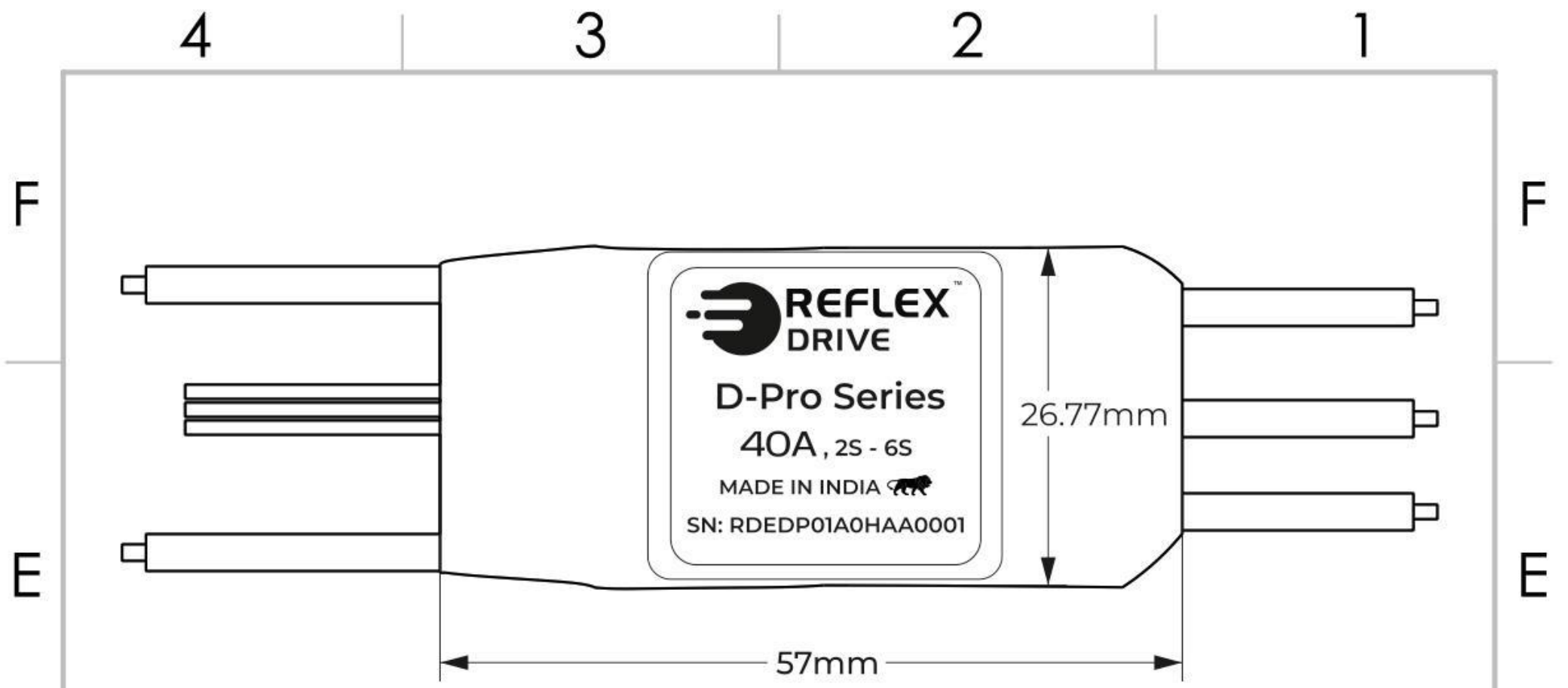
Continuous Current Range	40A
Burst Current (20 Sec)	50A
Voltage	2S-6S
Heatsink Plate	Yes
BEC	No
Max Operating Temperature	70°C
Dimensions	26.77mmx57mm
Weight	30gm Incl. Wire
Telemetry	Yes
Current Sense	Yes
Communication Protocol	PWM, DShot300
Recommended Motors	RD4006, RD5008
Status	Production
Enclosure	Available



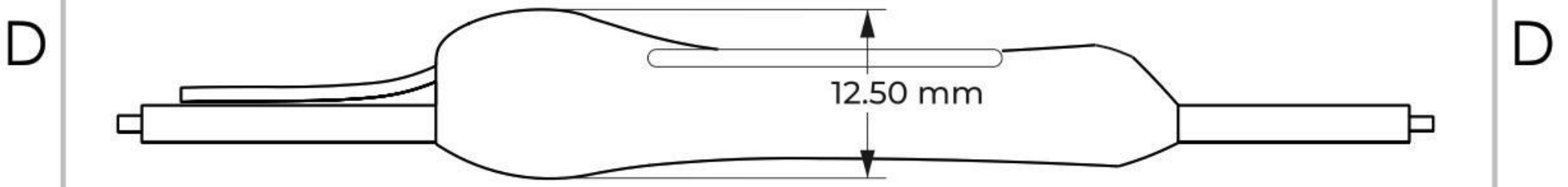
## Performance Data:

Motor	ESC	Propeller	Power Source	Current (A)	RPM	Power (W)	Thrust (g)	Efficiency (Gm/W)	Temperature
RD-5008 370KV	D-Pro ESC	1760	6S lipo	1	1809	25	316	12.64	<b>Motor = 71</b>
				2	2451	50	569	11.38	
				3	2917	76	807	10.62	
				4	3229	100	984	9.84	
				5	3540	126	1187	9.42	
				10	4438	251	1864	7.43	<b>ESC = 42</b>
				15	5129	365	2486	6.81	
				20	5589	495	2977	6.01	
				25	6013	607	3399	5.60	
				30	6295	729	3768	5.17	
				33	6487	780	4009	5.14	

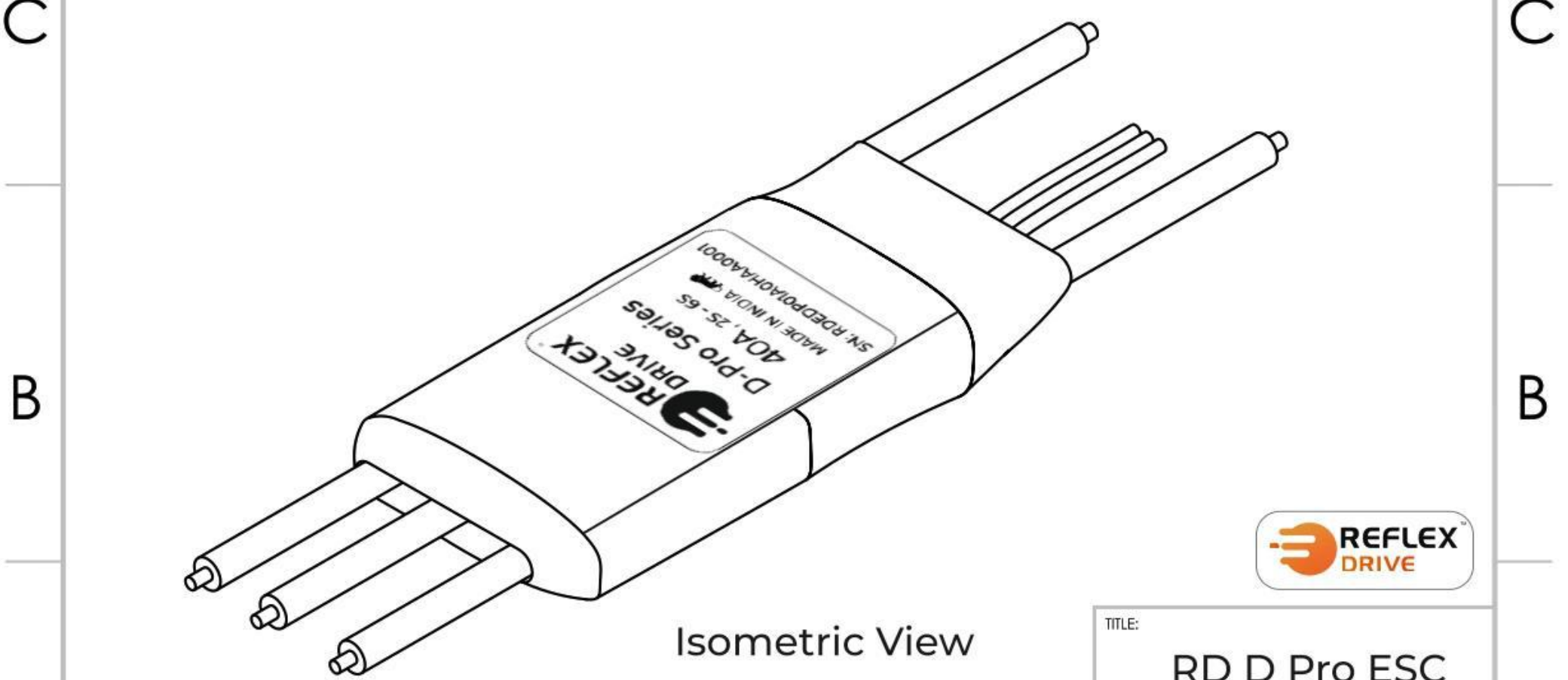
Motor	ESC	Propeller	Power Source	Current (A)	Power (W)	Thrust (gm)	RPM	Efficiency (Gm/W)	Telemetry RPM	Telemetry Temp
7005 230KV	RD D-Pro ESC	24 inch prop (24*7.2)	DC Power Supply 25Vdc	1	25	441	1002	17.64	980	30.°C
				3	76	1191	1638	15.67	1603	30.°C
				5	123	1728	1934	14.05	1910	30.°C
				7	173	2151	2163	12.43	2156	30.°C
				9	223	2529	2308	11.34	2261	30.°C
				11	268	2699	2392	10.07	2326	30.°C
				13	309	3251	2609	10.52	2525	30.°C
				15	362	3635	2717	10.04	2688	30.°C
				17	407	3894	2835	9.57	2765	30.°C
				19	456	4171	2937	9.15	2842	30.°C
				9	496	4314	2980	8.70	2916	30.°C
				23	541	4553	3033	8.42	2996	30.°C
				25	585	4688	3094	8.01	3010	30.°C
				27	640	4871	3142	7.61	3107	30.°C
				29	701	5077	3211	7.24	3172	30.°C
31	739	5490	3339	7.43	3265	30.°C				



Top View



Side view

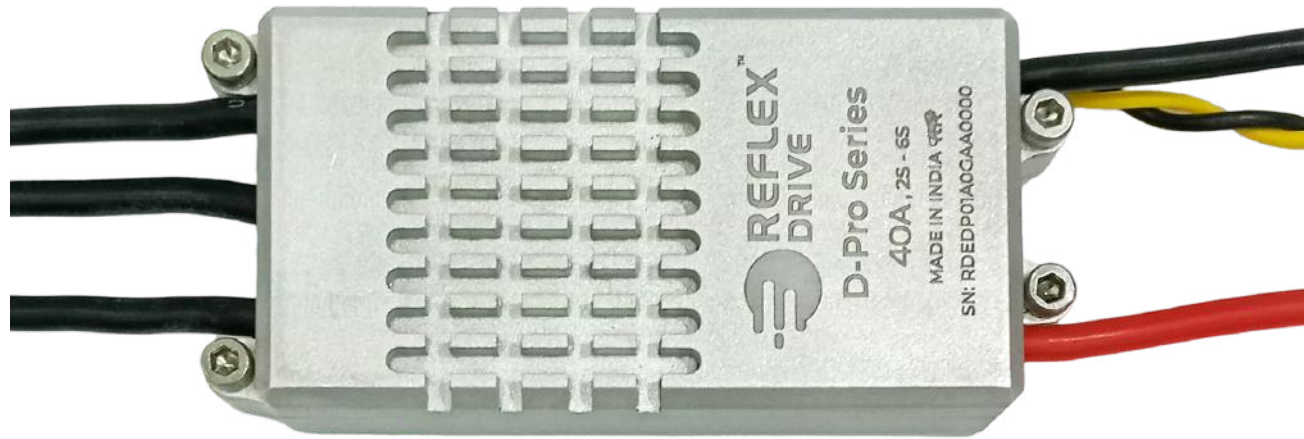


Isometric View



TITLE:	RD D Pro ESC
WEIGHT:	30g Incl. Cable
SCALE:2:1	

# RD D-Pro with Enclosure 6S-40A



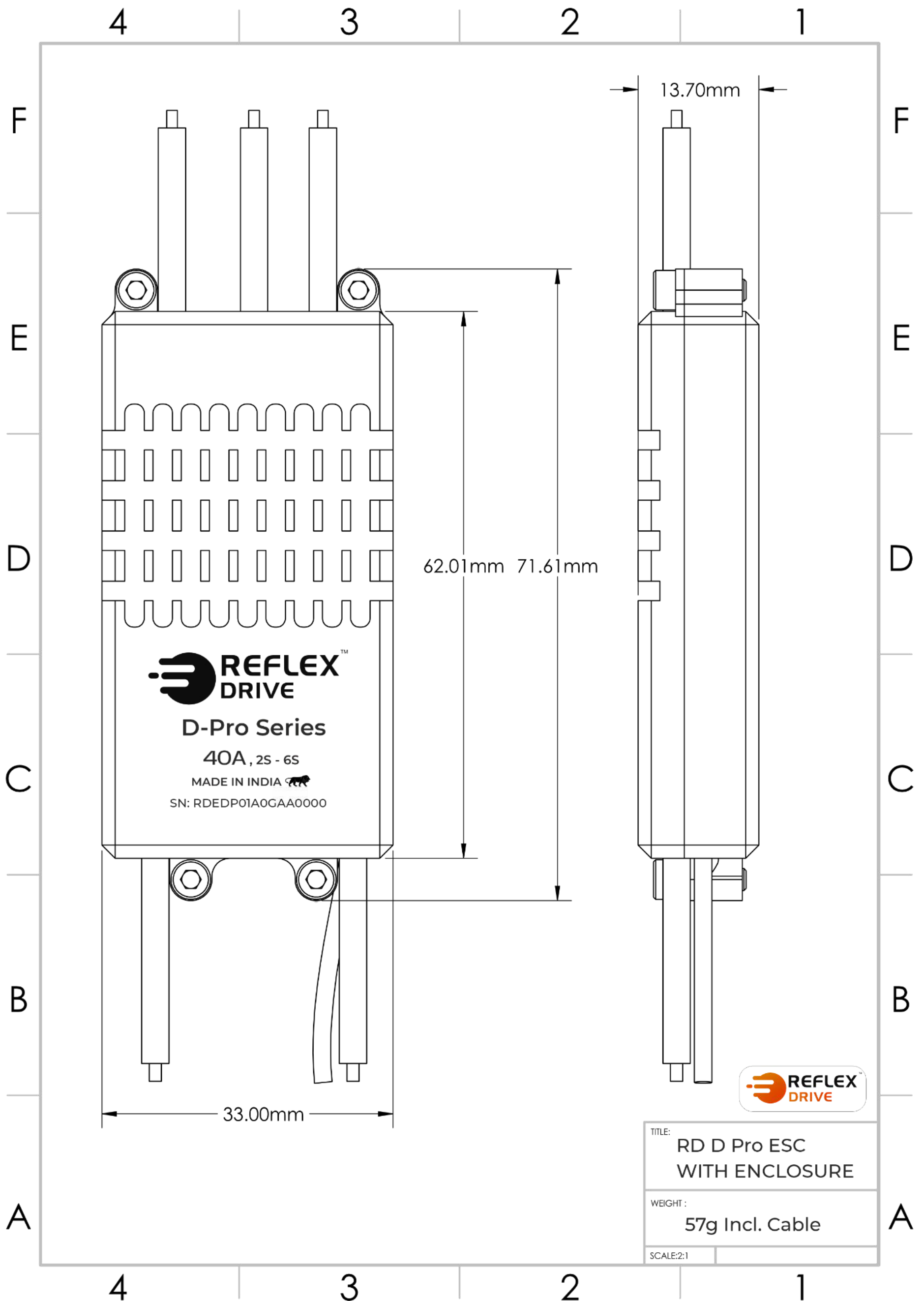
## Product Description:

Reflex Drive's **D Pro** trapezoidal electronic speed controllers (ESC) with Current Sensing drive for BLDC motors - and are proudly Designed and Manufactured in **India**.

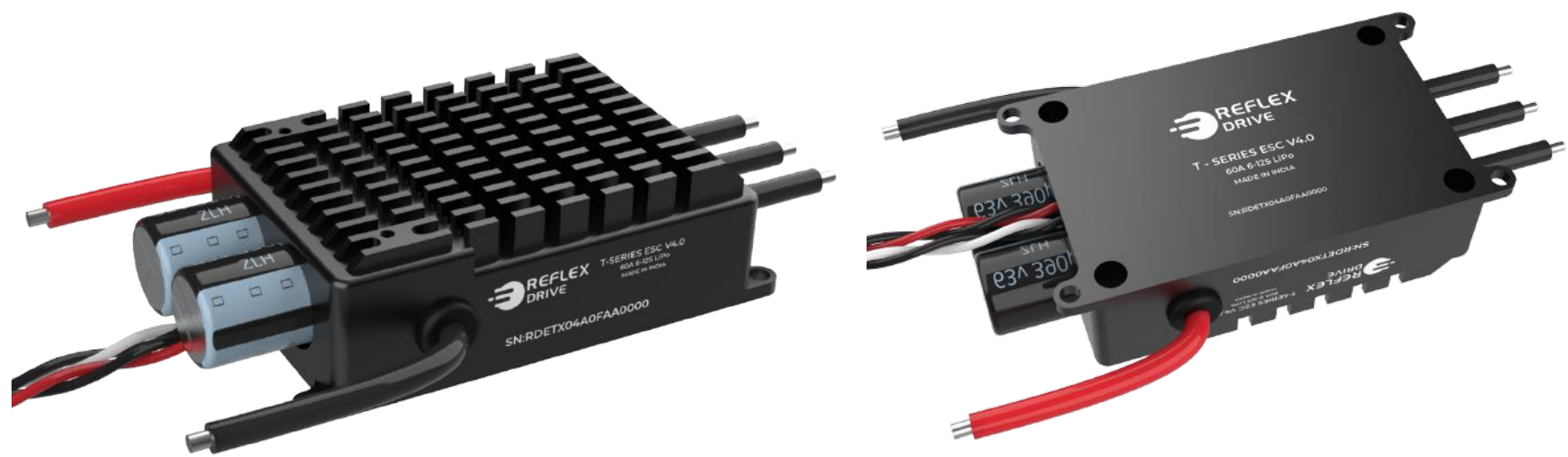
The trapezoidal ESCs are designed to deliver superior performance and reliability, with customizable firmware and advanced safety features that make it the ideal choice for drone enthusiasts and commercial drone operators alike.

## Specifications

Continuous Current Range	40A
Burst Current (20 Sec)	50A
Voltage	2S-6S
Heatsink Plate	Yes
BEC	No
Max Operating Temperature	70°C
Dimensions	26.77mmx57mm
Weight	32gm with wire
Telemetry	Yes
Current Sense	Yes
Communication Protocol	PWM, DShot300
Recommended Motors	RD4006, RD5008
Status	Production
Enclosure	Available



# RD T-SERIES ESC 12S-60A



## Product Description:

Reflex Drive's **T Series** trapezoidal electronic speed controllers (ESC) offer a state-of-the-art solution to drive BLDC motors - and are proudly made in India.

The trapezoidal ESCs are designed to deliver superior performance and reliability, with customizable firmware and advanced safety features that make it the ideal choice for drone enthusiasts and commercial drone operators alike.

With its sleek and durable aluminium enclosure, the trapezoidal ESC provides excellent heat dissipation and protection against harsh environmental conditions.

**TEST VIDEO:** [Click here to View](#)

## Specifications

Continuous Current Range	60A
Burst Current (20 Sec)	80A
Voltage	6S-12S
BEC	No
Max Operating Temperature	90 °C
Enclosure	Yes
Dimensions	56mm x 35mm x 19mm
Weight	70 Grams
Base	Yes
Telemetry	Yes
Current Sense	Yes
Communication Protocol	PWM, DShot300
Waterproof Rating	IP57
Status	Production

## PERFORMANCE DATA

Motor	ESC	Propeller	Power Source	throttle %	Servo	Voltage	Current (A)	RPM	Power (W)	Thrust (g)	Efficiency (g/W)
RD MI X6 6215 Motor 12S 180KV	RD T-SERIES ESC 12S-60A	2480	48V	17.4%	1180	47.9	1	1374	52	643	12.37
				28.4%	1290	47.84	3	2144	152	1721	11.32
				35.0%	1356	47.78	5	2513	240	2428	10.12
				47.4%	1480	47.6	10	3172	480	3936	8.20
				56.4%	1570	47.52	15	3653	716	5158	7.20
				63.4%	1640	47.35	20	3988	935	6225	6.66
				69.9%	1705	47.15	25	4244	1174	7160	6.10
				75.9%	1765	46.93	30	4489	1430	7845	5.49
				81.6%	1822	46.75	35	4658	1662	8487	5.11
				86.6%	1872	46.63	40	4774	1880	8961	4.77
				91.1%	1917	46.51	45	4872	2116	9347	4.42
				95.4%	1960	46.32	50	4956	2306	9613	4.17
100.0%	2006	44.62	54	5015	2450	10103	4.12				

Motor	ESC	Propeller	Power Source	throttle %	Servo	Voltage	Current (A)	HW RPM	Power (W)	Thrust (g)	Efficiency (g/W)
HWX6 Plus Motor 150KV	RD T-SERIES ESC 12S-60A	2480	48V	19.0%	1196	47.89	1	1337	55	604	10.98
				32.0%	1326	47.83	3	2097	148	1628	11.00
				40.3%	1409	47.75	5	2536	248	2418	9.75
				53.6%	1542	47.57	10	3225	486	4032	8.30
				63.4%	1640	47.43	15	3709	736	5418	7.36
				71.2%	1718	47.26	20	4075	960	6557	6.83
				77.4%	1780	47.12	25	4330	1180	7411	6.28
				84.0%	1846	46.88	30	4607	1338	8355	6.24
				90.4%	1910	46.74	35	4834	1662	9243	5.56
				94.8%	1954	46.62	40	5067	1900	10115	5.32
				99.2%	1998	46.51	45	5202	2064	10671	5.17
				100.0%	2006	46.43	47	5294	2200	11151	5.07

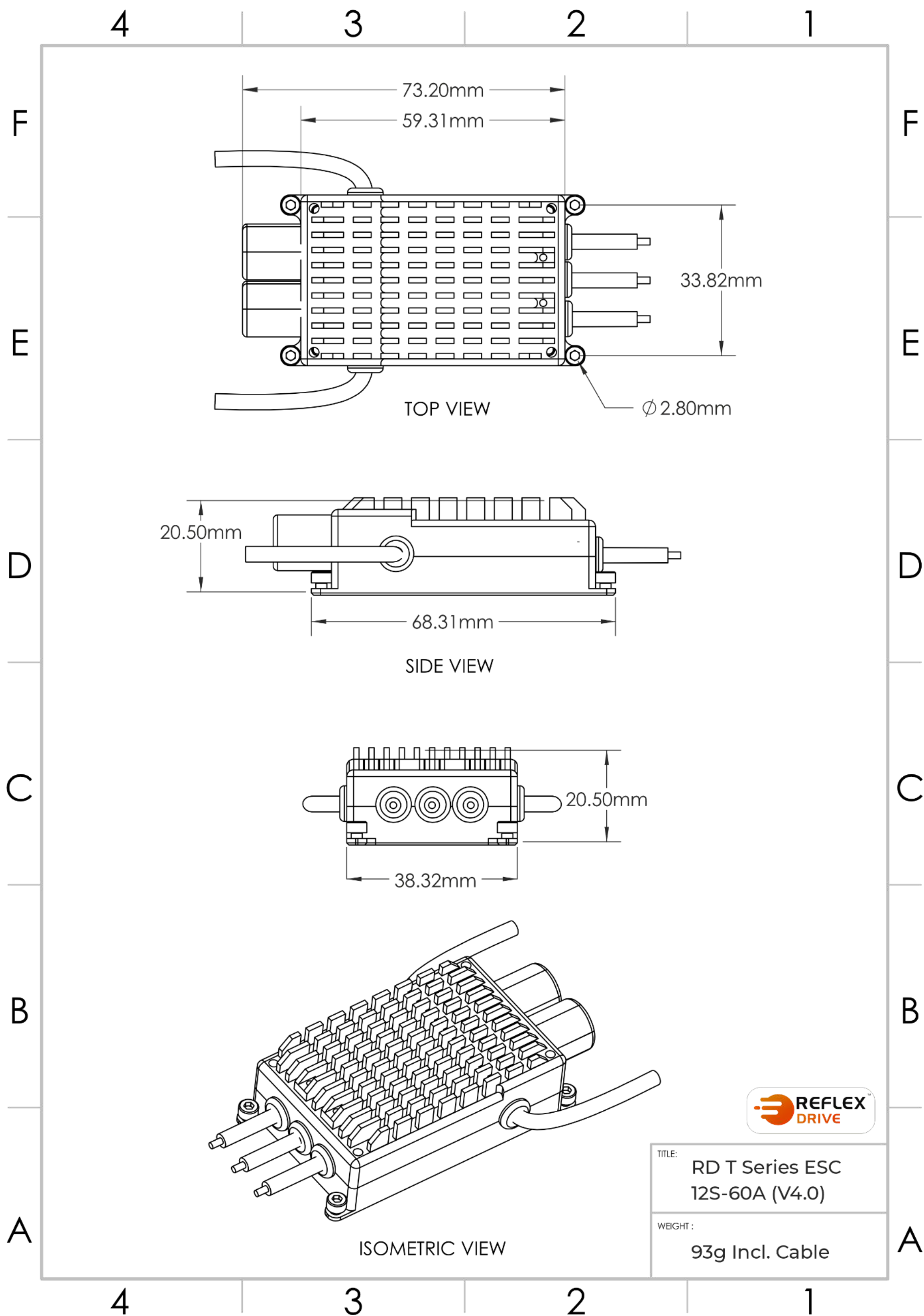
Motor	ESC	Propeller	Power Source	throttle %	Servo	Voltage	Current (A)	HW RPM	Power (W)	Thrust (g)	Efficiency (g/W)
Vector Technics 6020 Pro 180KV	RD T-SERIES ESC 12S-60A	2480	48V	15.2%	1158	48	1	1326	50	601	12.02
				26.4%	1270	47.9	3	2136	158	1680	10.63
				32.0%	1326	47.83	5	2555	248	2437	9.83
				42.7%	1433	47.66	10	3215	490	4011	8.19
				50.6%	1512	47.49	15	3699	732	5326	7.28
				56.2%	1568	47.35	20	4026	943	6457	6.85
				62.2%	1628	47.06	25	4355	1196	7470	6.25
				67.0%	1676	46.95	30	4592	1460	8340	5.71
				71.1%	1717	46.78	35	4781	1620	9013	5.56
				75.2%	1758	46.68	40	4952	1900	9658	5.08
				79.4%	1800	46.51	45	5125	2089	10322	4.94
				84.1%	1847	46.34	50	5287	2306	10923	4.74
87.7%	1883	46.16	54	5390	2500	11379	4.55				



Motor	ESC	Propeller	Power Source	throttle %	Servo	Voltage	Current (A)	HW RPM	Power (W)	Thrust (g)	Efficiency (g/W)
RD MI X6 6215 Motor 12S 180KV	RD T-SERIES ESC 12S-60A	2388	48V	19.8%	1204	48.24	1	1605	51	679	13.31
				31.8%	1324	48.16	3	2417	147	1510	10.27
				39.7%	1403	48.04	5	2909	249	2245	9.02
				52.6%	1532	47.87	10	3646	476	3599	7.56
				62.4%	1630	47.69	15	4228	749	4895	6.54
				68.9%	1695	47.54	20	4533	945	5723	6.06
				75.7%	1763	47.35	25	4838	1201	6645	5.53
				82.3%	1829	47.1	30	5079	1430	7395	5.17
				87.7%	1883	47	35	5280	1648	7983	4.84
				92.9%	1935	46.89	40	5436	1859	8428	4.53
				98.4%	1990	46.7	45	5577	2100	8884	4.23
100.3%	2009	46.52	48	5670	2261	9246	4.09				

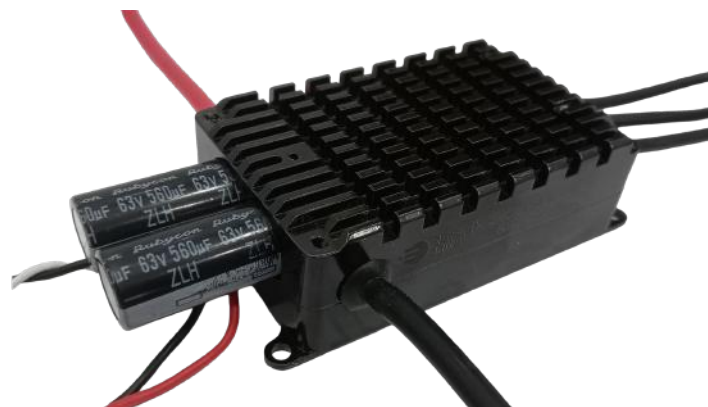
Motor	ESC	Propeller	Power Source	throttle %	Servo	Voltage	Current (A)	HW RPM	Power (W)	Thrust (g)	Efficiency (g/W)
HWX6 Plus Motor 150KV	RD T-SERIES ESC 12S-60A	2388	48V	19.7%	1203	48.2	1	1487	51	557	10.92
				35.7%	1363	48.1	3	2391	149	1489	9.99
				44.4%	1450	47.93	5	2914	250	2251	9.00
				59.7%	1603	47.81	10	3723	497	3749	7.54
				69.0%	1696	47.66	15	4214	729	4890	6.71
				77.2%	1778	47.49	20	4609	953	5944	6.24
				84.7%	1853	47.29	25	4931	1192	6844	5.74
				91.9%	1925	47.08	30	5202	1429	7681	5.38
				98.3%	1989	46.89	35	5441	1660	8448	5.09
				100.3%	2009	46.78	40	5580	1824	8896	4.88

Motor	ESC	Propeller	Power Source	throttle %	Servo	Voltage	Current (A)	HW RPM	Power (W)	Thrust (g)	Efficiency (g/W)
Vector Technics 6020 Pro 180KV	RD T-SERIES ESC 12S-60A	2388	48V	14.7%	1153	49.62	1	1458	50	533	10.66
				28.2%	1288	49.45	3	2392	154	1499	9.73
				34.9%	1355	49.28	5	2881	247	2180	8.83
				47.7%	1483	48.87	10	3719	503	3732	7.42
				55.9%	1565	48.4	15	4250	767	5009	6.53
				62.2%	1628	48	20	4626	990	5935	5.99
				67.9%	1685	47.72	25	4923	1206	6732	5.58
				73.0%	1736	47.28	30	5162	1418	7505	5.29
				78.2%	1788	46.85	35	5394	1661	8238	4.96
				83.4%	1840	46.43	40	5594	1870	8843	4.73
				87.4%	1880	46.02	45	5756	2070	9401	4.54
				92.1%	1927	45.62	50	5851	2289	9925	4.34
				97.0%	1976	45.1	55	6051	2569	10502	4.09
				99.1%	1997	44.67	60	5097	2617	10612	4.06
100.3%	2009	44.37	62	6182	2797	11008	3.94				





# RD Q-SERIES ESC 12S-80A



## Product Description:

Reflex Drive's **Q Series** trapezoidal electronic speed controllers (ESC) offer a state-of-the-art solution to drive BLDC motors - and are proudly made in India.

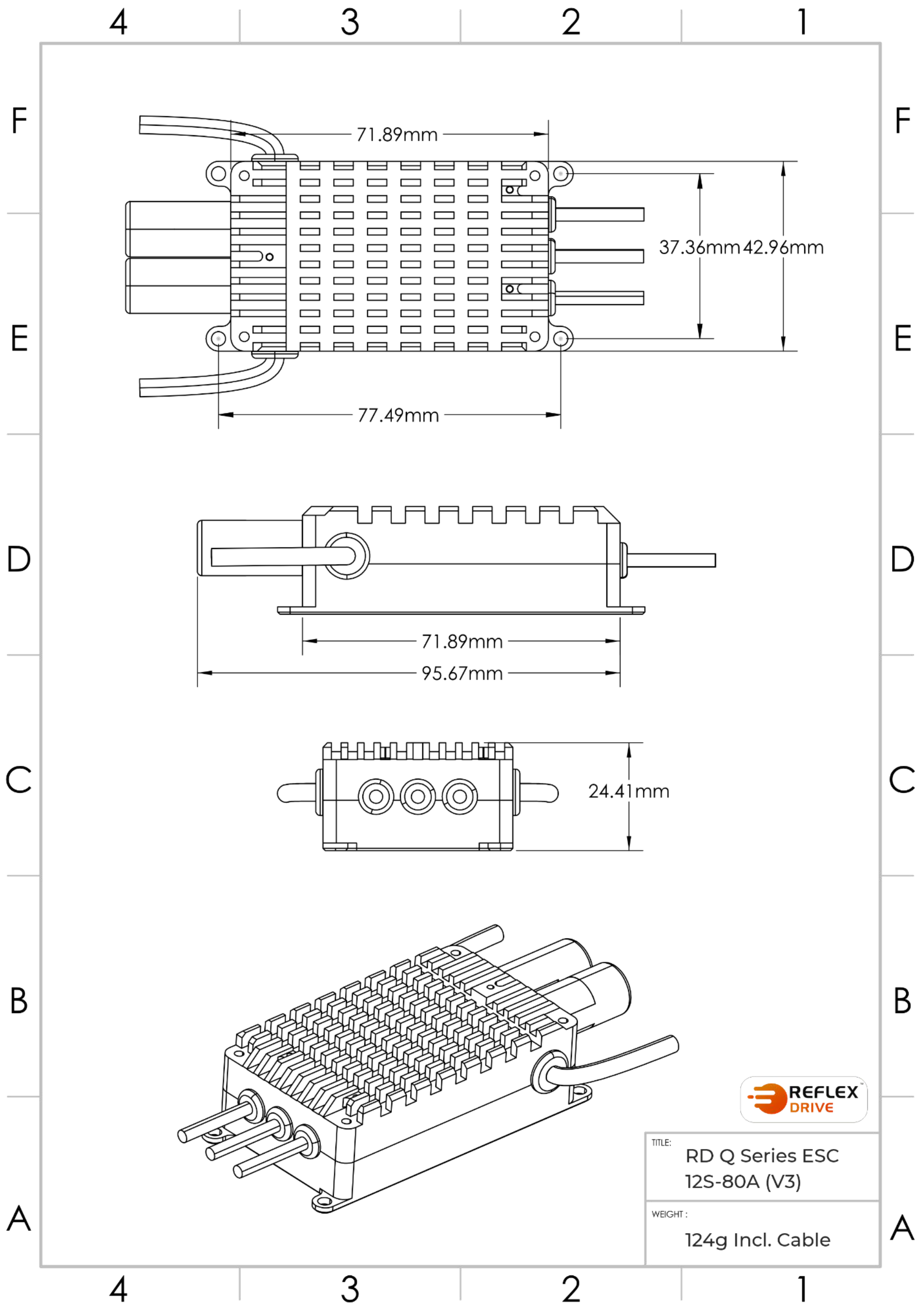
The trapezoidal ESCs are designed to deliver superior performance and reliability, with customizable firmware and advanced safety features that make it the ideal choice for drone enthusiasts and commercial drone operators alike.

With its sleek and durable aluminium enclosure (optional), the trapezoidal ESC provides excellent heat dissipation and protection against harsh environmental conditions.

## Specifications

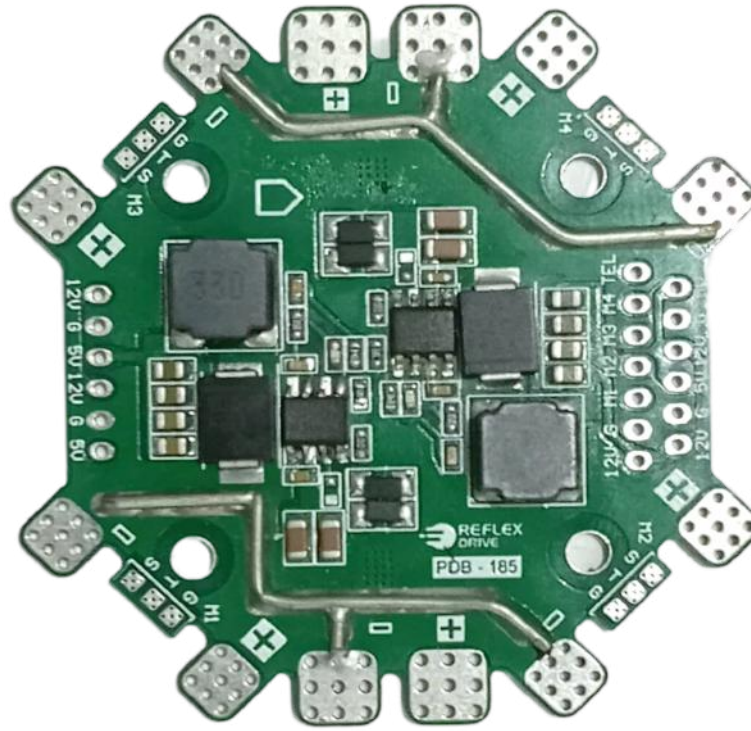
Continuous Current Range	80A
Burst Current (20 Sec)	100A
Voltage	6S-12S
BEC	No
Max Operating Temperature	90 °C
Enclosure	Yes
Dimensions	87mm x 42.96mm x 23.71mm
Weight	90 Grams
Telemetry	Yes
Current Sense	Yes
Communication Protocol	PWM, DShot300
Waterproof Rating	IP57
Status	Production

## PERFORMANCE DATA



# UAV POWER DISTRIBUTION BOARDS

# RD PDB 250A



## Product description:

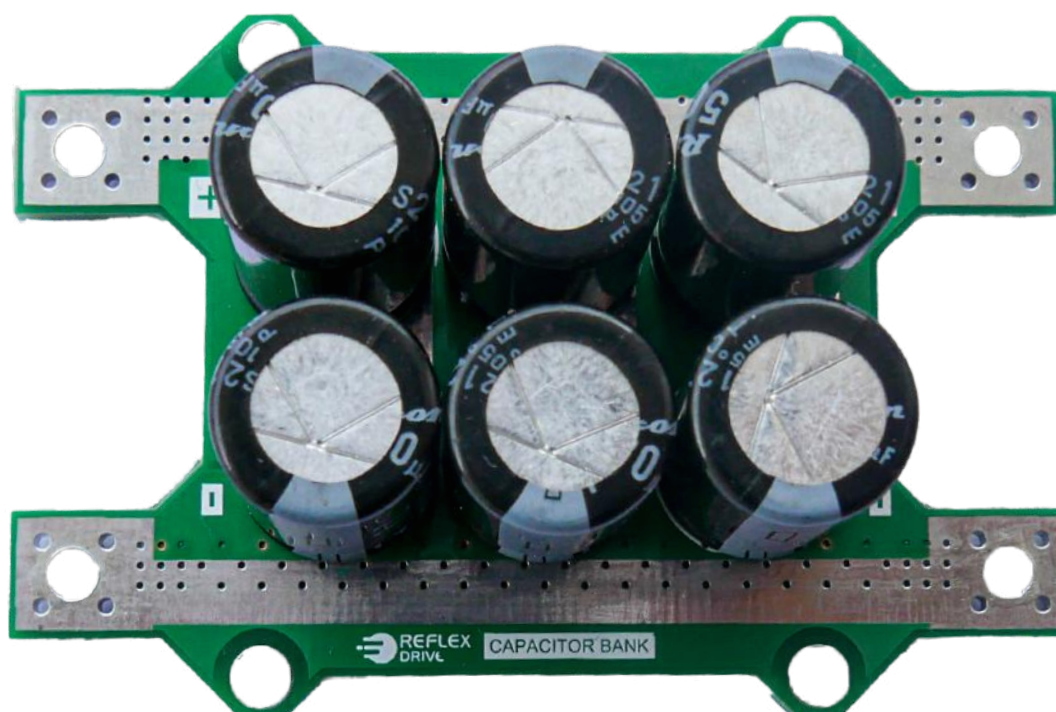
RD's Power distribution board, The PDB 185 is designed for high voltage and high current applications. It consists of 4 layers of heavy copper to sustain maximum current demand whilst dissipating minimal heat hence protecting sensitive circuitry. This PDB can sustain up to 62A continuous current to each ESC leg. Also features 12V-3 Amp and 5V-3 Amp regulators with a maximum of 12S input.

## Specifications

<b>Continuous current distribution</b>	250A
<b>Input voltage range</b>	4S - 12S
<b>12 Volt supply points</b>	5 points, 3A
<b>5 Volt supply points</b>	4 Points, 3A
<b>Weight</b>	15 grams
<b>Over current and Short circuit protection</b>	Yes
<b>Layers of copper</b>	4
<b>Temperature</b>	180 degree celcius
<b>Number of power and signal connections</b>	4 ESCs
<b>Status</b>	Production

# UAV CAPACITOR BANKS

# RD CAP BANK



## Product description:

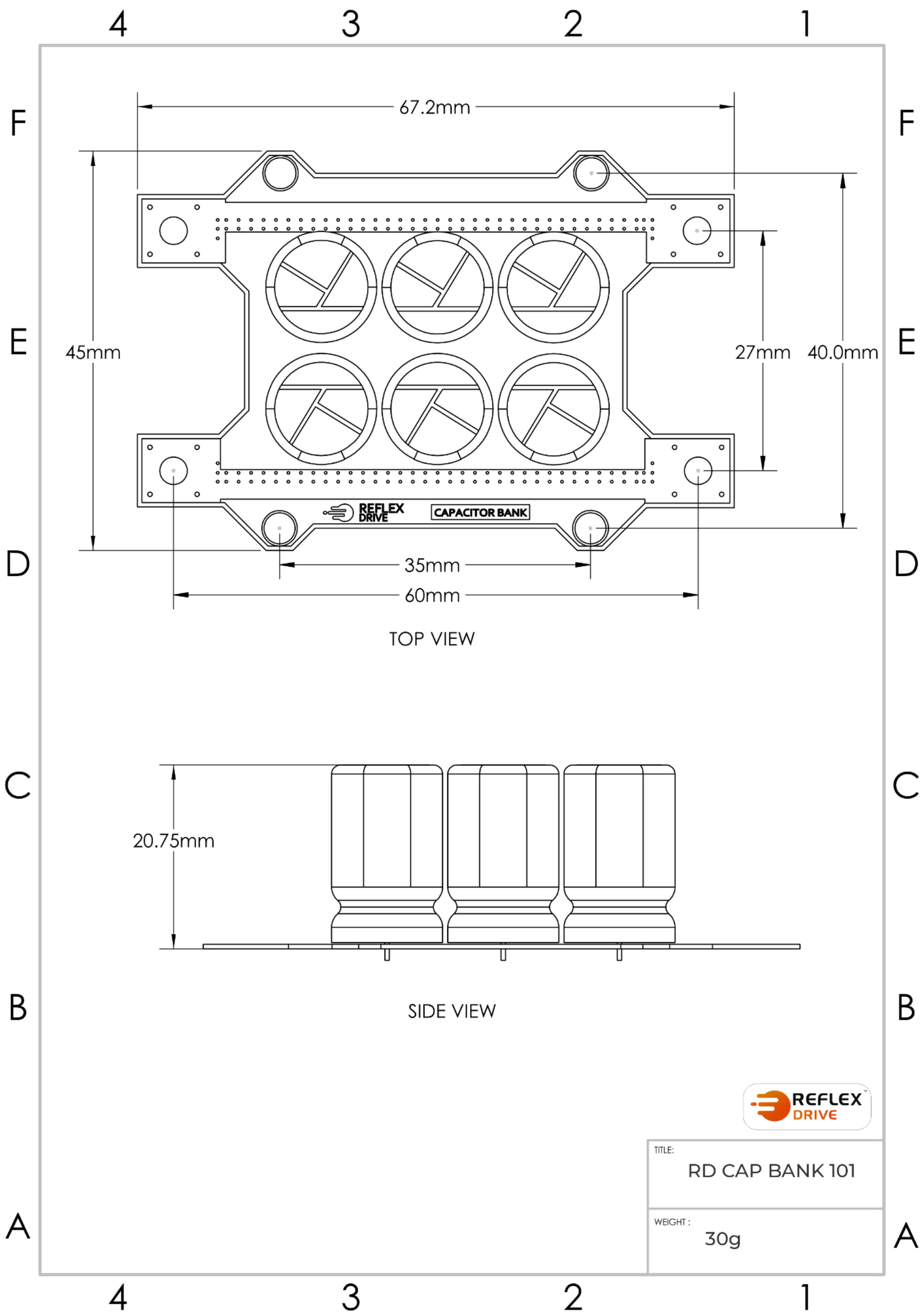
Reflex Drive's designed and manufactured capacitor bank ensures your ESC's perform to their maximum by reducing input noise and voltage ripple.

The 50V low impedance capacitor bank intended for setups where the input leads to the ESC from the power supply exceed 1 metre, or excessive input ripple scenarios.

## Specifications

Max Voltage	12S
Capacitance	2800uF
Type	Electrolytic
Current Rating (PCB)	250A
Voltage ripple reduction	Yes
Operational temperature	Up to 150 °C
Layers of copper	2
Weight	30 grams
Status	Production





TITLE:	RD CAP BANK 101
WEIGHT:	30g



# UAV BLDC MOTORS

# RD MI X6 6215 12S 180KV

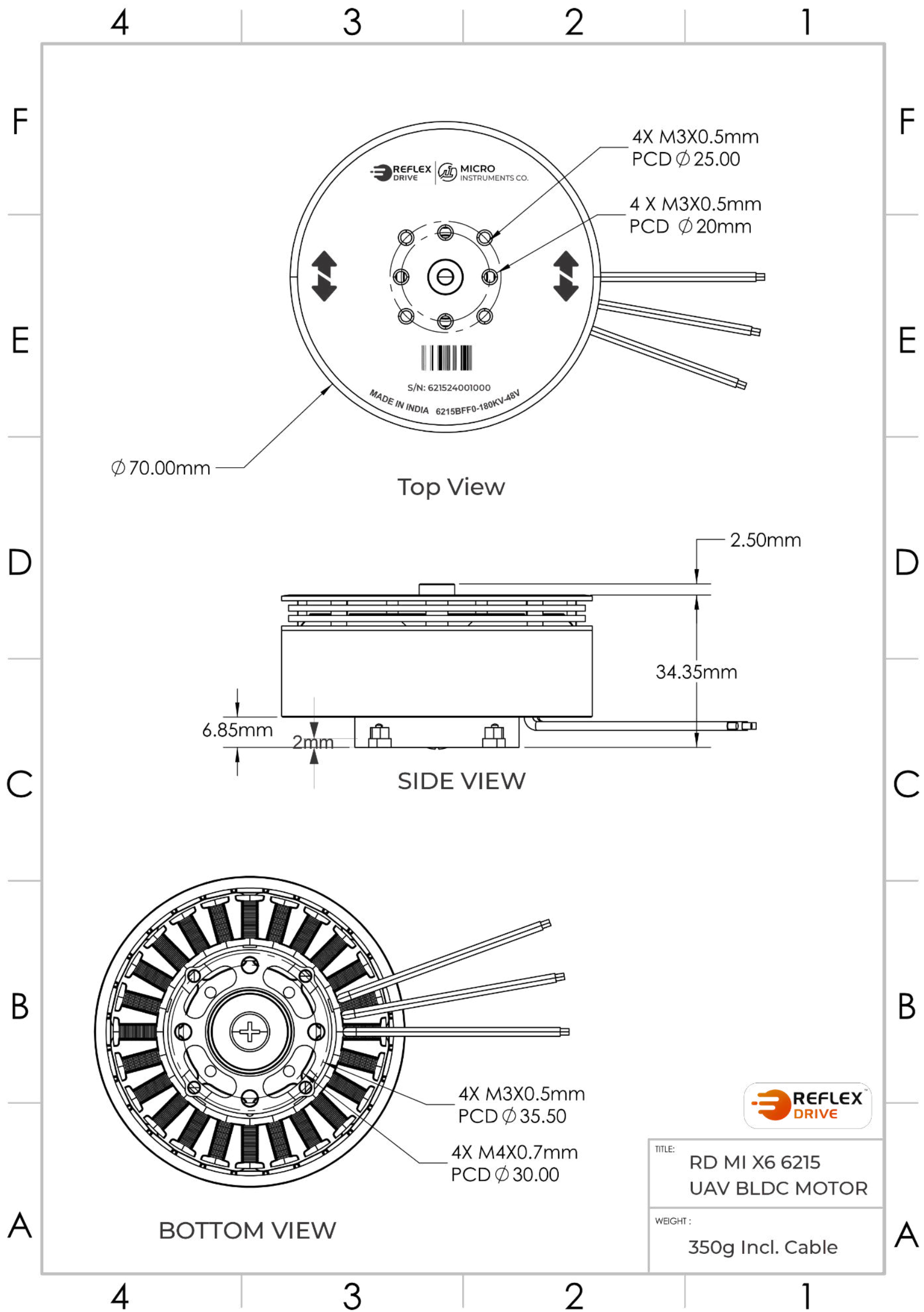


Product Description:	Specifications	
<p>RD MI X6 6215 Motor is a brushless Outrunner motor with a KV rating of 180KV, designed and Manufactured in India to operate within a voltage range of 12S. It can handle a continuous current of 50A and can generate a peak power output of 2.4 KW.</p> <p><b>Multicopter design recommendations</b></p> <ul style="list-style-type: none"> <li>Recommended Propeller: 23*88 (Folding)</li> <li>Recommended ESC: RD T-SERIES ESC 12S-60A</li> </ul> <p><b>Quad-copter:</b> Maximum take-off weight for the drone: 16 KG</p> <p><b>Hex-copter:</b> Maximum take-off weight for the drone: 25 KG</p> <p>Oct-copter: Maximum take-off weight for the drone: 33 KG</p>	Motor Type	Outrunner
	KV Rating	180 KV
	Maximum Thrust	11 KG
	Stator Poles / Magnet Poles	24 / 28
	No load current	1.7A
	Motor Efficiency	93.57%
	Weight (Including Cable)	355 grams
	Voltage Range	44.4 V (12S LIPO - 4.2V/ pc)
	Peak Current (30 Sec)	60 A
	Peak Power (30 Sec)	2400 W
	Motor Dimensions	Ø70mm x 32mm
	Cable length	100 mm
	Shaft Diameter (Internal)	Ø6mm
	Magnet Temperature Rating	150 °C
	Cable Type / Length	16AWG / 100mm
	Copper wire Temperature Rating	150 °C
	Winding material	100% Copper
	IP Rating	IP34
	Maximum Operating Temperature	60 °C
	Recommended Propeller	23*88 (Folding)
Status	Production	

## Performance Data:

Motor	ESC	Propeller	Power Source	throttle %	Servo	Voltage	Current (A)	RPM	Power (W)	Thrust (g)	Efficiency (g/W)
RD MI X6 6215 Motor 12S 180KV	RD T-SERIES ESC 12S-60A	2480	48V	17.4%	1180	47.9	1	1374	52	643	12.37
				28.4%	1290	47.84	3	2144	152	1721	11.32
				35.0%	1356	47.78	5	2513	240	2428	10.12
				47.4%	1480	47.6	10	3172	480	3936	8.20
				56.4%	1570	47.52	15	3653	716	5158	7.20
				63.4%	1640	47.35	20	3988	935	6225	6.66
				69.9%	1705	47.15	25	4244	1174	7160	6.10
				75.9%	1765	46.93	30	4489	1430	7845	5.49
				81.6%	1822	46.75	35	4658	1662	8487	5.11
				86.6%	1872	46.63	40	4774	1880	8961	4.77
				91.1%	1917	46.51	45	4872	2116	9347	4.42
				95.4%	1960	46.32	50	4956	2306	9613	4.17
100.0%	2006	44.62	54	5015	2450	10103	4.12				

Motor	ESC	Propeller	Power Source	throttle %	Servo	Voltage	Current (A)	HW RPM	Power (W)	Thrust (g)	Efficiency (g/W)
RD MI X6 6215 Motor 12S 180KV	RD T-SERIES ESC 12S-60A	2388	48V	19.8%	1204	48.24	1	1605	51	679	13.31
				31.8%	1324	48.16	3	2417	147	1510	10.27
				39.7%	1403	48.04	5	2909	249	2245	9.02
				52.6%	1532	47.87	10	3646	476	3599	7.56
				62.4%	1630	47.69	15	4228	749	4895	6.54
				68.9%	1695	47.54	20	4533	945	5723	6.06
				75.7%	1763	47.35	25	4838	1201	6645	5.53
				82.3%	1829	47.1	30	5079	1430	7395	5.17
				87.7%	1883	47	35	5280	1648	7983	4.84
				92.9%	1935	46.89	40	5436	1859	8428	4.53
				98.4%	1990	46.7	45	5577	2100	8884	4.23
				100.3%	2009	46.52	48	5670	2261	9246	4.09

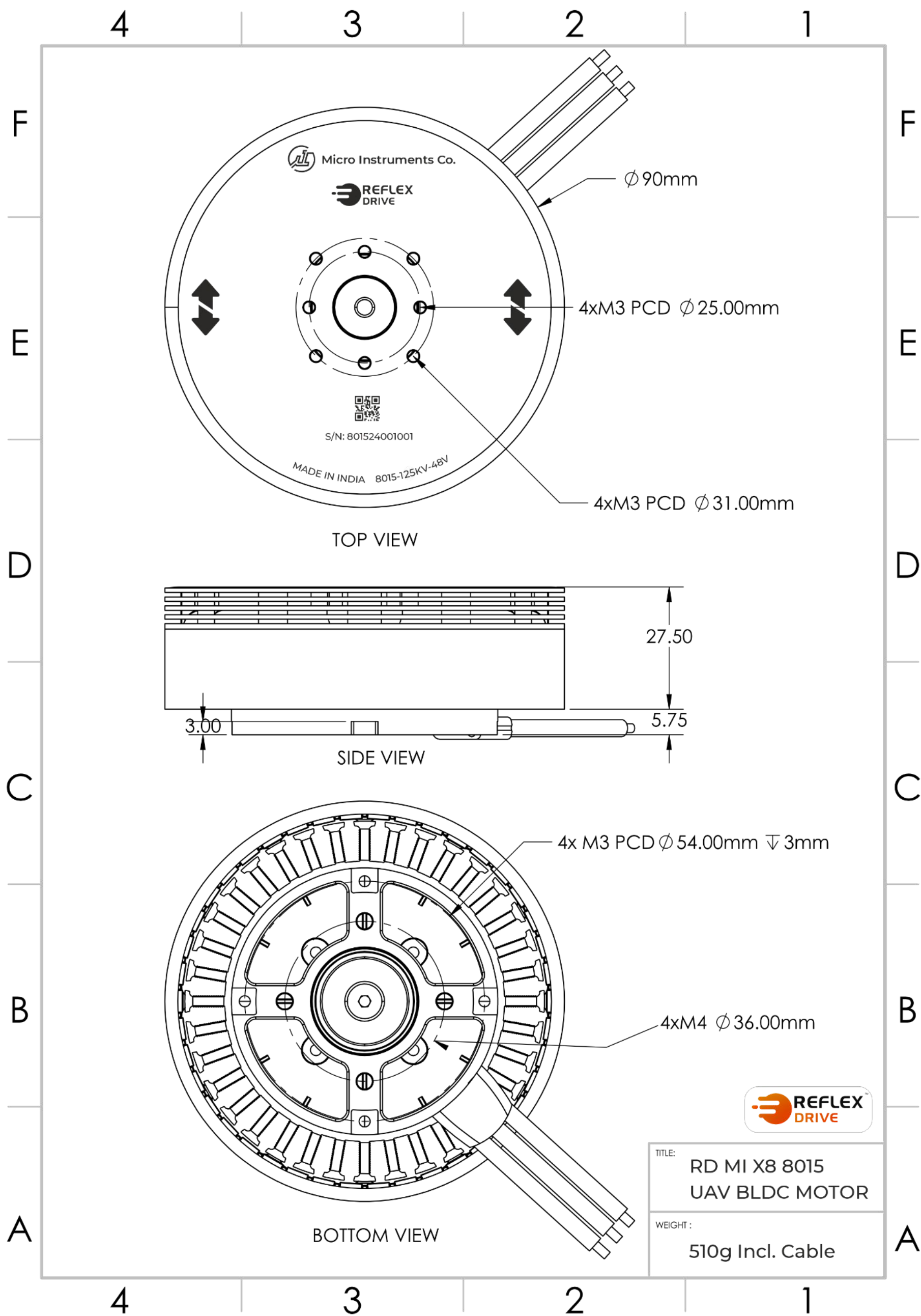


# RD MI X8 8015 12S 125KV



Product Description:	Specifications	
<p>RD MI X8 8015 Motor is a brushless Outrunner motor with a KV rating of 125KV, designed and Manufactured in India to operate within a voltage range of 12S. It can handle a continuous current of 80A and can generate a peak power output of 4 KW.</p> <p><b>Multicopter design recommendations:</b></p> <ul style="list-style-type: none"> <li>Recommended Propeller: 30*95 (Folding)</li> <li>Recommended ESC: RD-Q Series 80A or similar</li> </ul> <p><b>Quad-copter:</b> Maximum take-off weight for the drone: 30 KG</p> <p><b>Hex-copter:</b> Maximum take-off weight for the drone: 46 KG</p> <p><b>Oct-copter:</b> Maximum take-off weight for the drone: 60 KG</p>	Motor Type	Outrunner
	KV Rating	125 KV
	Maximum Thrust	14 KG
	Stator Poles / Magnet Poles	36 / 42
	No load Current	3.2A
	Motor Efficiency	90.99%
	Weight (Including Cable)	509 grams
	Voltage Range	48 V (12S LIPO - 4.2V/ pc)
	Peak Current (30 Sec)	90 A
	Peak Power (30 Sec)	3996 W
	Motor Diameter	90.0 mm
	Motor Length	33.25 mm
	Magnet Temperature Rating	150 °C
	Cable Type / Length	14AWG / 100mm
	Copper wire Temperature Rating	150 °C
	Winding material	100% Copper
	IP Rating	IP34
	Maximum Operating Temperature	60 °C
	Recommended Propeller	30*95 (Folding)
	<b>Status</b>	<b>Production</b>





# RD MI X6 6215 O-SERIES 12S 180KV



Product Description:	Specifications	
<p>RD MI X8 8015 Motor is a brushless Outrunner motor with a KV rating of 125KV, designed and Manufactured in India to operate within a voltage range of 12S. It can handle a continuous current of 80A and can generate a peak power output of 4 KW.</p> <p><b>Multicopter design recommendations:</b></p> <ul style="list-style-type: none"> <li>Recommended Propeller: 30*95 (Folding)</li> <li>Recommended ESC: RD-Q Series 80A or similar</li> </ul> <p><b>Quad-copter:</b></p> <p>Maximum take-off weight for the drone: 30 KG</p>	Motor Type	Outrunner
	KV Rating	180 KV
	Maximum Thrust	14 KG
	Stator Poles / Magnet Poles	36 / 42
	No load Current	3.2A
	Motor Efficiency	90.99%
	Weight (Including Cable)	355 grams
	Voltage Range	48 V (12S LIPO - 4.2V/ pc)
	Peak Current (30 Sec)	90 A
	Peak Power (30 Sec)	3996 W
	Motor Diameter	90.0 mm



<b>Hex-copter:</b> Maximum take-off weight for the drone: 46 KG <b>Oct-copter:</b> Maximum take-off weight for the drone: 60 KG	Motor Length	33.25 mm
	Magnet Temperature Rating	150 °C
	Cable Type / Length	14AWG / 100mm
	Copper wire Temperature Rating	150 °C
	Winding material	100% Copper
	IP Rating	IP34

	Maximum Operating Temperature	60 °C
	Recommended Propeller	30*95 (Folding)

	Status	Production
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# RD MI X8 8015 O-SERIES 12S 125KV



## Specifications

Motor Type	Outrunner
KV Rating	180 KV
Maximum Thrust	14 KG
Stator Poles / Magnet Poles	36 / 42
No load Current	3.2A
Motor Efficiency	90.99%
Weight (Including Cable)	509 grams
Voltage Range	48 V (12S LIPO - 4.2V/ pc)
Peak Current (30 Sec)	90 A
Peak Power (30 Sec)	3996 W
Motor Diameter	90.0 mm
Motor Length	33.25 mm
Magnet Temperature Rating	150 °C
Cable Type / Length	14AWG / 100mm
Copper wire Temperature Rating	150 °C
Winding material	100% Copper
IP Rating	IP34
Maximum Operating Temperature	60 °C
Recommended Propeller	30*95 (Folding)

## PERFORMANCE DATA

TEST SETUP :

Motor:

RD-M-X8.1

ESC :

RD Q-Series ESC

Operating Temperature:

-20 °C~ 60 °C

Voltage	Propeller	Current (A)	RPM	Power (W)	Thrust (g)	Efficiency (Gm/W)
48V	30*95 inch	5	1838	243	3094	12.73
		10	2366	480	5046	10.51
		15	2707	735	6715	9.14
		20	2957	976	7970	8.17
		25	3168	1193	9084	7.61
		30	3330	1418	10237	7.22
		35	3461	1661	11038	6.65
		40	3593	1881	11909	6.33
		45	3669	2126	12777	6.01
		50	3775	2350	13360	5.69
		55	3841	2475	14018	5.66

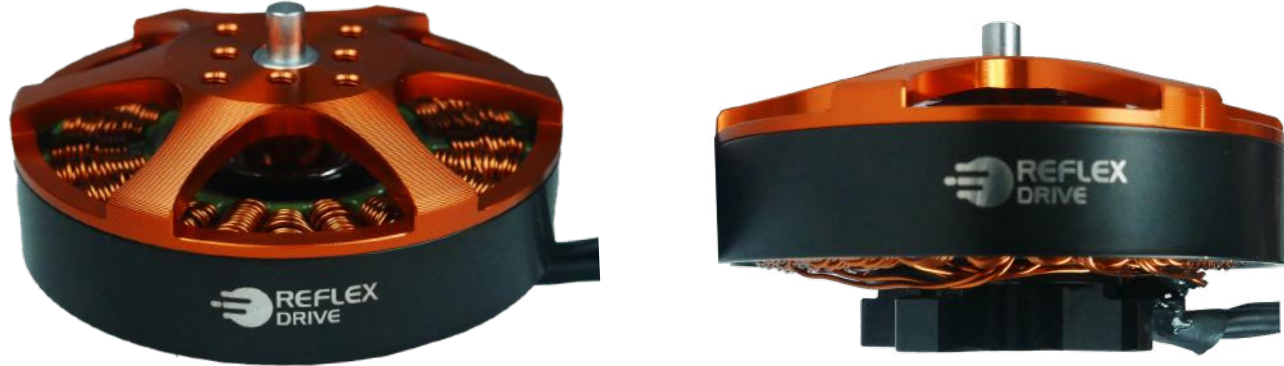
### Multicopter design recommendations with RD-M-X8.1:

Recommended Propeller: **30\*95** (Folding)

Recommended ESC: **RD-Q Series 80A** or similar

- **Quad-copter:**
  - Maximum take-off weight for the drone: 30 KG
- **Hex-copter:**
  - Maximum take-off weight for the drone: 46 KG
- **Oct-copter:**
  - Maximum take-off weight for the drone: 60 KG

# RD5008 6S KV370 MOTOR



RD5008 KV370 Specifications	
Motor Type	Outrunner
KV Rating	370 KV
Maximum Thrust	4.2 KG
No of Slots / Magnet Poles	24/28
No load Current	1.5A
Motor Efficiency	90.99%
Weight (Including Cable)	135 grams
Voltage Range	6S
Maximum Current (15 Sec)	51A
Maximum Power (15 Sec)	1224W
Motor Diameter	55.6mm
Motor Length	27mm
Motor Torque Constant (gm.cm/A)	294.15
Cable Type / Length	15 AWG / 80mm
Copper wire Temperature Rating	90 °C
Winding material	100 % Copper
IP Rating	IP34
Maximum Operating Temperature of the Magnet	150 °C
Recommended Propeller	17*60 (Folding)

PERFORMANCE DATA						
TEST SETUP :						
Motor:		RD5008 KV370				
ESC :		RD D Series 40A 6S ESC				
Operational Temperature:		-20 °C~ 85°C				
Voltage	Propeller	Current (A)	RPM	Power (W)	Thrust (g)	Efficiency (Gm/W)
24V (6S)	17*60	1	1809	25	316	12.64
		2	2451	50	569	11.38
		3	2917	76	807	10.62
		4	3229	100	984	9.84
		5	3540	126	1187	9.42
		10	4438	251	1864	7.43
		15	5129	365	2486	6.81
		20	5589	495	2977	6.01
		25	6013	607	3399	5.60
		30	6295	729	3768	5.17
		33	6487	780	4009	5.14

**Multicopter design recommendations with RD5008:**  
 Recommended Propeller: 1760 Folding or similar.  
 Recommended ESC: **RD D Series 40A 6S ESC** or similar.

- **Quad-copter:**
  - Maximum take-off weight for the drone: 7.62 KG
- **Hex-copter:**
  - Maximum take-off weight for the drone: 11.78 KG
- **Oct-copter:**
  - Maximum take-off weight for the drone: 15.42 KG

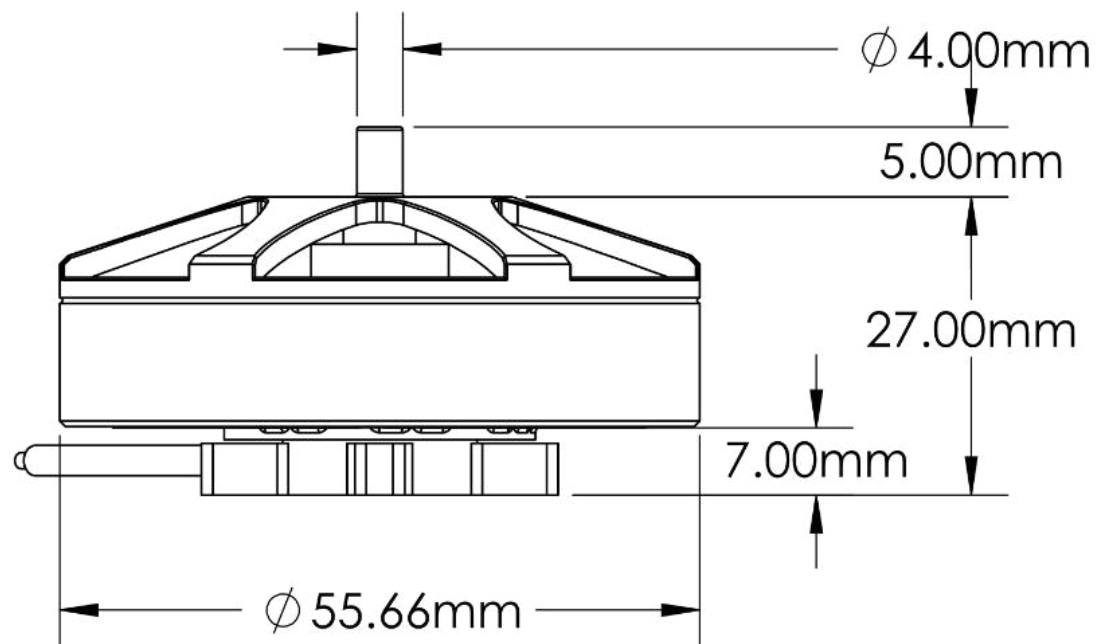
## Performance Data

Motor	ESC	Propeller	Power Source	Servo (1000-2000)	Throttle %	Voltage	Current (A)	RPM	Power (W)	(Wh)	Thrust (g)	Efficiency (g/W)
RD 5008 380KV Motor	D-Series 40A 6S	RD 1760 Folding	25 V	1213	21.30	25.05	1	1885	25.3	0.1	320	12.65
				1303	30.30	25.02	2	2502	51.3	0.3	566	11.03
				1364	36.40	25.01	3	2958	75.9	0.8	789	10.40
				1411	41.10	24.98	4	3258	101.1	1.5	963	9.53
				1452	45.20	24.95	5	3521	124.1	2.5	1130	9.11
				1492	49.20	24.92	6	3890	152.1	3.7	1323	8.70
				1550	55.00	24.85	8	4191	200.2	4.5	1603	8.01
				1608	60.80	24.79	10	4536	253.1	6.3	1903	7.52
				1652	65.20	24.75	12	4782	299.9	8.6	2106	7.02
				1696	69.60	24.69	14	5010	349.1	11.4	2312	6.62
				1736	73.60	24.62	16	5215	390	14.6	2520	6.46
				1779	77.90	24.56	18	5406	431	16.1	2721	6.31
				1826	82.60	24.47	20	5618	493.8	18.3	2952	5.98
				1860	86.00	24.41	22	5747	533.1	22.6	3098	5.81
				1897	89.70	24.36	24	5912	584	27.5	3223	5.52
				1937	93.70	24.32	26	6061	639.7	34.7	3423	5.35
				1972	97.20	24.26	28	6178	691	37.5	3580	5.18
1998	99.80	24.21	30	6272	734	43.5	3672	5.00				
2000	100.00	24.09	33	6433	806.1	50.1	3903	4.84				

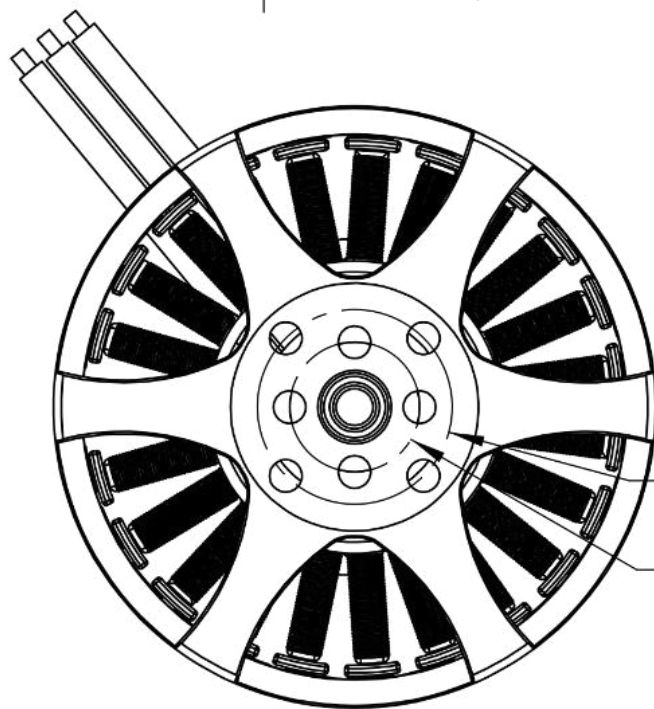


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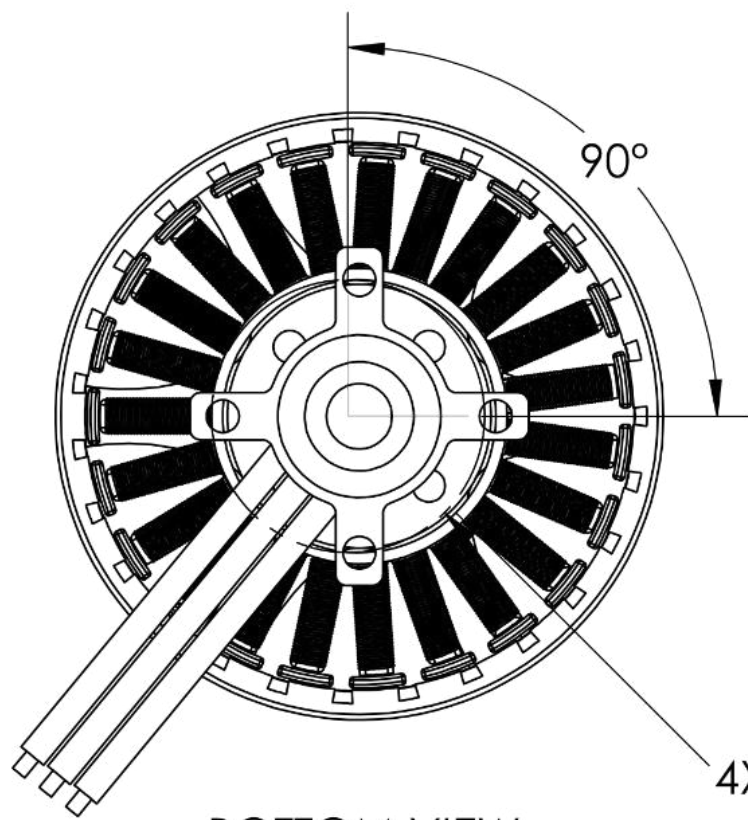


4x M3x0.5x8mm PCD  $\phi 18.00\text{mm}$   
4x M3x0.5x8mm PCD  $\phi 12.00\text{mm}$

D D

TOP VIEW  
(PROPELLER MOUNTING)

C C



4X M3X0.5mm PCD  
 $\phi 25.00$

B B



TITLE:  
RD 5008 KV 370  
UAV BLDC MOTOR

WEIGHT:  
135g Incl. Cable

A A

4 3 2 1

# RD4006 KV390 6S MOTOR



Specifications	
Motor Type	Outrunner
KV Rating	390 KV
Maximum Thrust	2.3 KG
No of Slots / Magnet Poles	18/24
No Load Current	0.8A
Motor Efficiency	90.99%
Weight (Including Cable)	69 grams
Voltage Range	4-6S
Maximum Current (15 s)	27.5 A
Maximum Power	660W
Motor Diameter	44.4mm
Motor Length	21mm
Motor Torque Constant (gm.cm/A)	276.75
Cable Type / Length	17 AWG / 80mm
Copper wire Temperature Rating	220 °C
Winding material	100% Copper
IP Rating	IP34
Maximum Operating Temperature of the Magnet	150 °C
Recommended Propeller	15*52 (Folding)

## PERFORMANCE DATA

### TEST SETUP :

Motor: RD4006 KV390  
 ESC : **RD D Series ESC**  
 Operational Temperature: -20 °C~ 85°C

Voltage	Propeller	Current (A)	RPM	Power (W)	Thrust (g)	Efficiency (Gm/W)
24V (6S)	15*5.2	1	2565	26	312	12.00
		2	3192	49	496	10.12
		3	3734	73	698	9.56
		4	4219	101	978	9.68
		5	4538	126	1020	8.10
		10	5548	245	1530	6.24
		15	6201	362	1939	5.36
		17.2	6377	409	2023	4.95

### Multicopter design recommendations with RD4006:

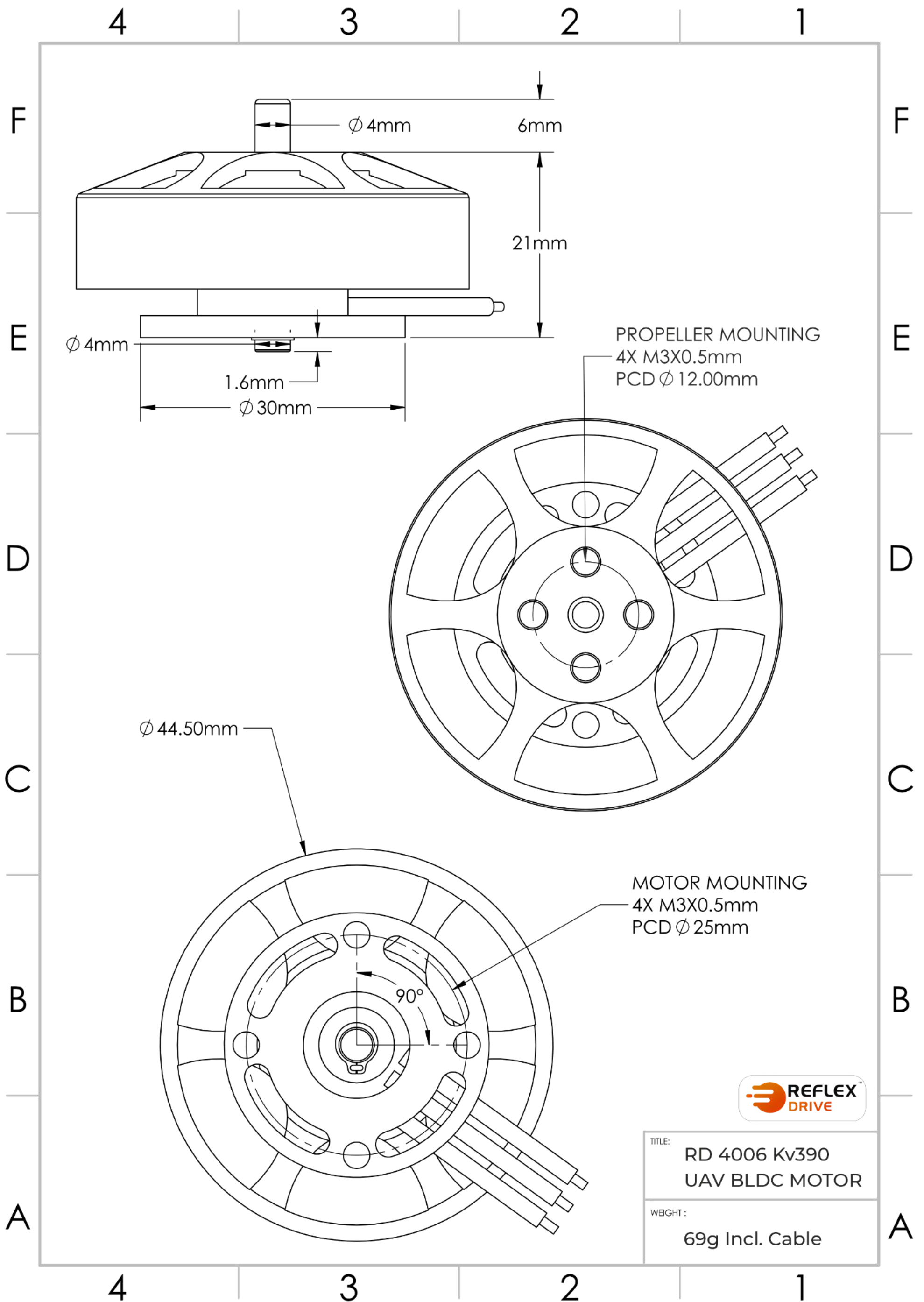
Recommended Propeller: 1552 Folding or similar.  
 Recommended ESC: **RD D Series ESC** or similar.

- **Quad-copter:**
  - Maximum take-off weight for the drone: 3.76 KG
- **Hex-copter:**
  - Maximum take-off weight for the drone: 5.78 KG
- **Oct-copter:**
  - Maximum take-off weight for the drone: 7.56 KG



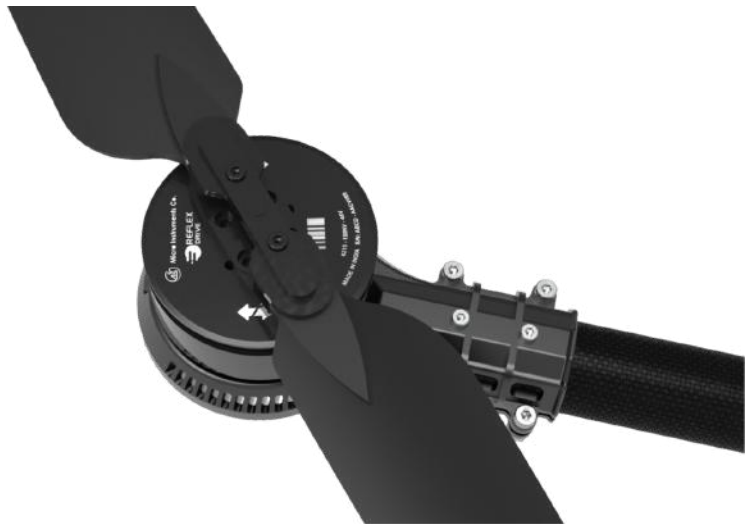
## Performance Data

Motor	ESC	Propeller	Power Source	Servo (1190-1750)	Throttle %	Voltage	Current (A)	RPM	Power (W)	(Wh)	Thrust (g)	Efficiency (g/W)	Temperature
RD4006 380KV Motor	D-Series 40A 6S	RD 1552 Folding	SMPS 24Vdc	1343	27.32	24	1	2466	24.3	0.2	451	18.56	Motor = 54 Motor coil =62
				1414	40.00	24	2	3173	49.3	0.8	659	13.37	
				1469	49.82	24	3	3664	75.3	1.3	823	10.93	
				1493	54.11	23.99	4	4065	95	2	998	10.51	
				1524	59.64	23.94	5	4433	120	2.8	1153	9.61	
				1562	66.43	23.91	6	4719	146.2	5	1278	8.74	
				1582	70.00	23.88	7	4998	172.4	7	1415	8.21	ESC = 43
				1615	75.89	23.83	8	5168	191.8	8.6	1503	7.84	
				1642	80.71	23.81	9	5423	222.5	9.4	1617	7.27	
				1666	85.00	23.77	10	5556	238.6	13.1	1724	7.23	
				1687	88.75	23.76	11	5734	265.7	15.1	1806	6.80	
				1702	91.43	23.67	12	5909	288.3	18.9	1878	6.51	
				1728	96.07	23.6	13	5945	292.8	19.8	1961	6.70	
				1742	98.57	23.57	14	6126	338.7	20.7	2051	6.06	
				1750	100.00	23.54	15.5	6325	360.7	22.5	2138	5.93	



# INTEGRATED PROPULSION UNITS

# RD IPU X6 6215



## Specifications

Motor Type	Outrunner
ESC	12S 60A ESC
KV Rating	180 KV
Maximum Thrust	11 KG
Stator Poles / Magnet Poles	24 / 28
No load current	1.7A
Motor Efficiency	93.57%
Weight (Including Cable)	355 grams
Voltage Range	44.4 V (12S LIPO - 4.2V/ pc)
Peak Current (30 Sec)	60 A
Peak Power (30 Sec)	2400 W
Motor Dimensions	Ø70mm x 32mm
Cable length	100 mm
Shaft Diameter (Internal)	Ø6mm
Magnet Temperature Rating	150 °C
Cable Type / Length	16AWG / 100mm
Copper wire Temperature Rating	150 °C
Winding material	100% Copper
IP Rating	IP34
Maximum Operating Temperature	60 °C
Recommended Propeller	23*88 (Folding)

## PERFORMANCE DATA

### TEST SETUP :

Operational Temperature: -20 °C~ 85°C

Voltage	Propeller	Current (A)	Power (W)	Thrust (g)	RPM
48V (12S)	23*88	5	246	2664	2771
		10	495	4224	3542
		15	711	5442	4010
		20	967	6491	4404
		25	1208	7427	4708
		30	1441	8097	4947
		35	1661	8712	5190
		40	1883	9284	5300
		45	2096	9716	5421
		51	2371	10425	5661

**Description:** RD IPU X6 is a high-performance Integrated Propulsion Unit (IPU) specifically designed for agricultural drone applications. This all-in-one solution features a fully enclosed Electronic Speed Controller (ESC), ensuring optimal protection and reliability in demanding environments. The RD IPU X6 combines advanced propulsion technology with robust design, making it ideal for precision agriculture, crop monitoring, and spraying tasks.

# UAV PROPELLERS

# RD MI 3090 30 INCH Folding



## Product description:

Introducing the Folding Propeller 3090: Elevate Performance and Efficiency with Reflex Drive's innovative propellers. Meticulously engineered to deliver exceptional performance and unparalleled efficiency. Built to withstand the most demanding aerial challenges, the Folding Propeller 3090 boasts a robust construction, ensuring durability and longevity. Its sleek and aerodynamic design not only enhances its visual appeal but also optimises airflow, resulting in improved stability and control during flight.

## Specifications

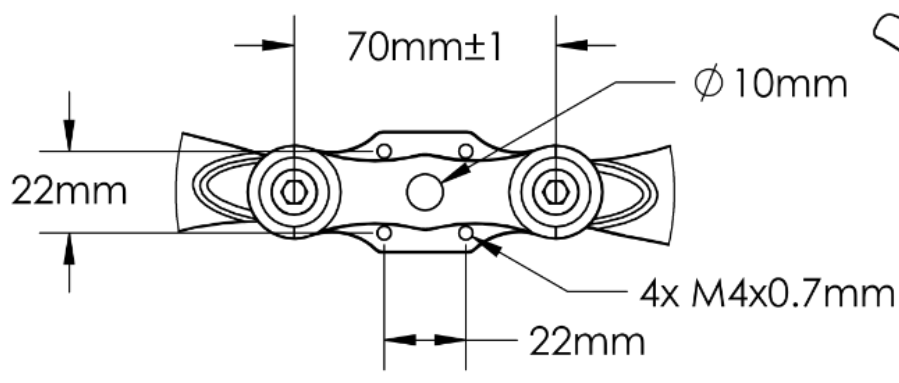
Specifications	
Pitch	9.0 inch
Diameter	30 inch
Weight	186.5 grams
Material	Carbon Fibre



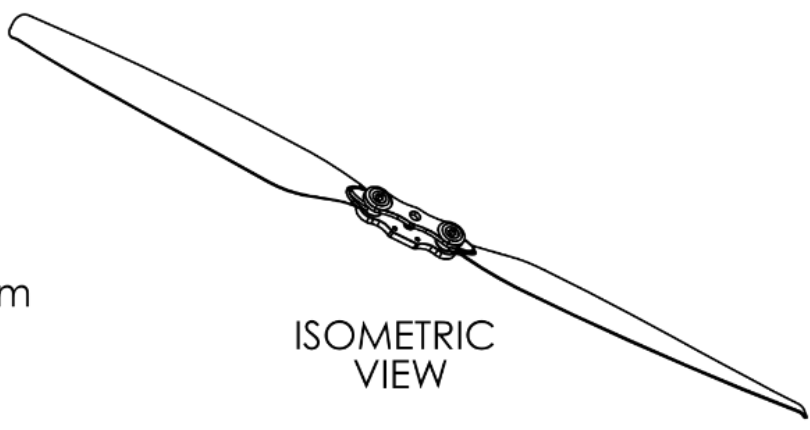
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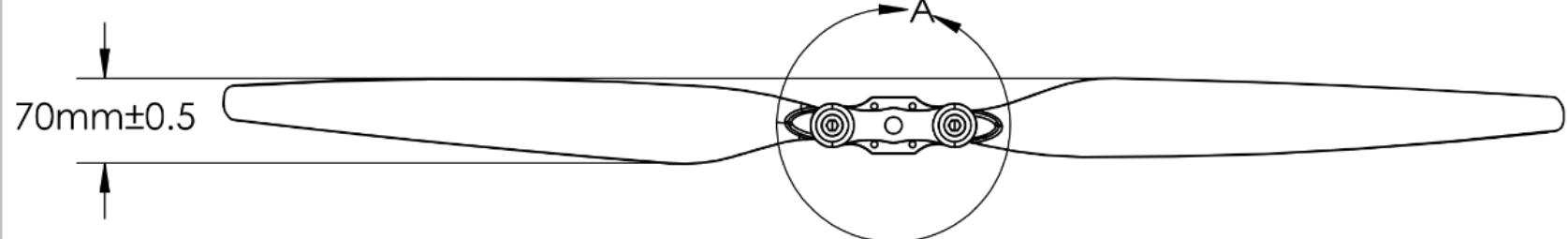


DETAIL A



E

E



TOP VIEW

D

D



PROPELLER SIZE



TITLE:	RD 3090 30 inch FOLDING PROPELLER
WEIGHT:	185g Incl. Hub

A

A

4 3 2 1

# RD MI 2380 23 INCH Folding



## Product description:

Introducing the Folding Propeller 2388: Elevate Performance and Efficiency and Cutting-Edge Innovation. Meticulously engineered to deliver exceptional performance and unparalleled efficiency, this propeller sets a new standard in the industry. Built to withstand the most demanding aerial challenges, the Folding Propeller 2388 boasts a robust construction, ensuring durability and longevity. Its carefully crafted design ensures it can handle high-speed flights and extreme manoeuvres with ease. The sleek and aerodynamic design of the Folding Propeller 2388 not only enhances its visual appeal but also optimises airflow. This results in improved stability and control during flight, allowing you to navigate with confidence and precision.

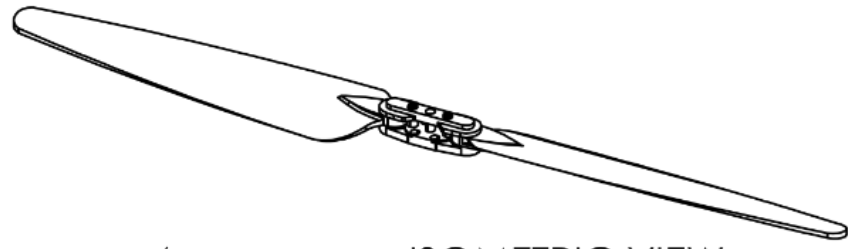
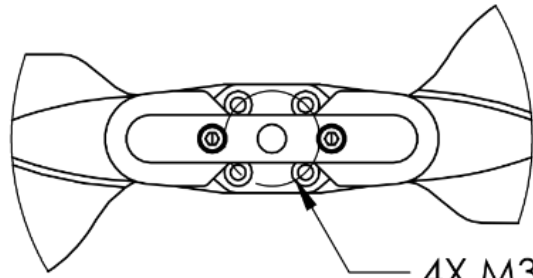
## Specifications

Specifications	
Pitch	8.8 inch
Diameter	23 inch
Weight	128 grams
Material	Carbon fibre

4 3 2 1

F

F



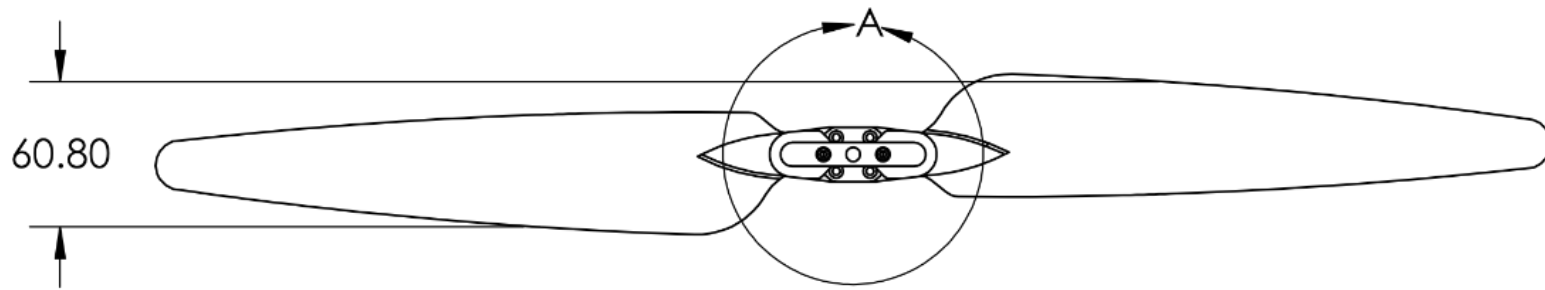
DETAIL A

4X M3X0.5mm PCD  $\phi$  20.00

ISOMETRIC VIEW

E

E



60.80

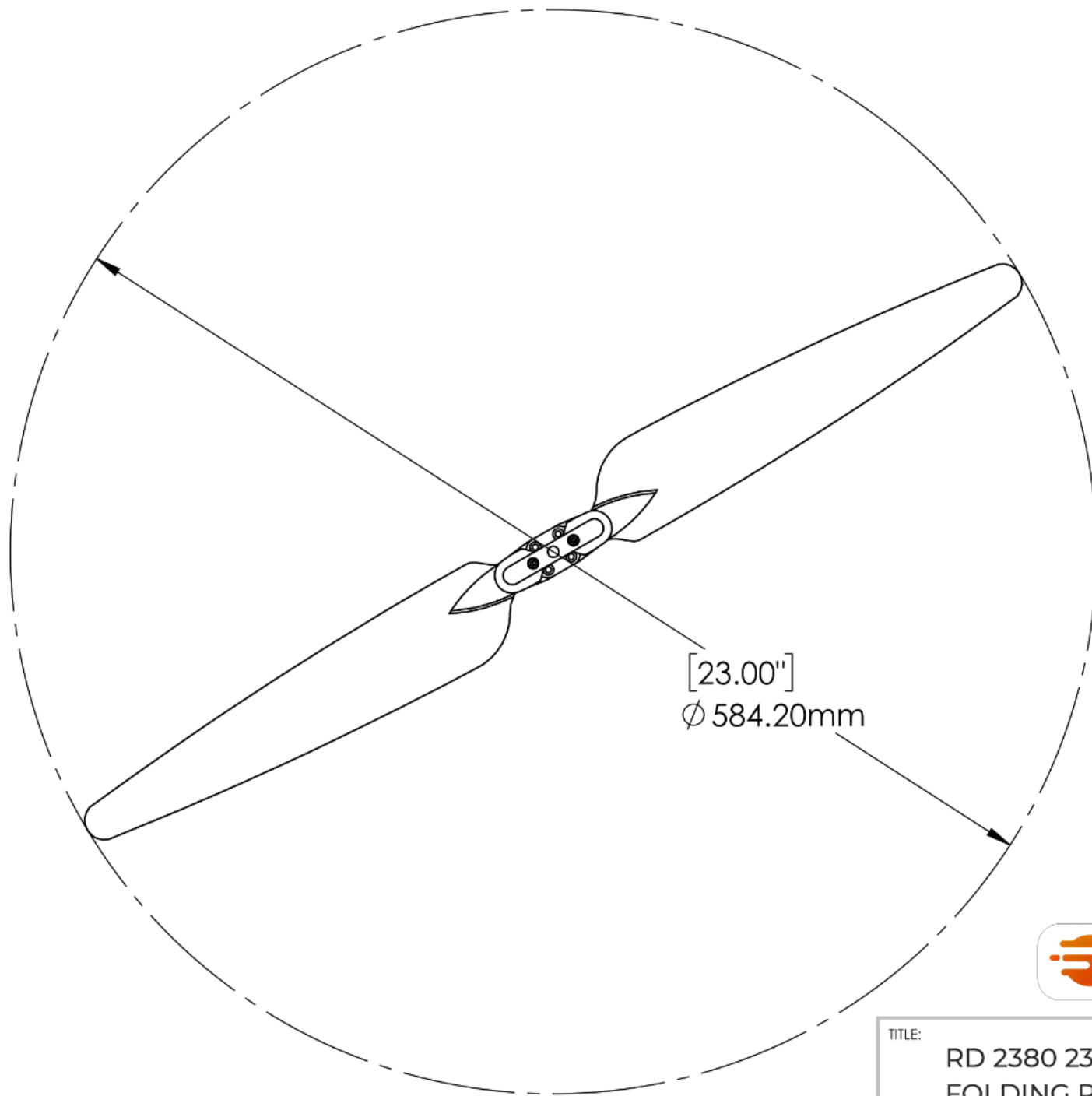
TOP VIEW

D

D

C

C



[23.00"]  
 $\phi$  584.20mm

B

B



TITLE:  
RD 2380 23 inch  
FOLDING PROPELLER

WEIGHT:  
128g Incl. Hub

A

A

PROPELLER SIZE

4 3 2 1

# RD 1760 17 inch Folding Propeller with Hub (CW, CCW)



## Product description:

Introducing 1760 Folding (CW,CCW) Propellers: Unleash Performance and Efficiency in a Compact Design. Engineered to redefine performance and efficiency, this propeller is designed to deliver exceptional results in a compact form. Measuring 17 inches in diameter and 6.0 inches in width, this propeller strikes the perfect balance between agility and stability. The Folding design optimises thrust and airflow, ensuring precise control and manoeuvrability during every flight. Weighing only 40 grams, this lightweight propeller minimises the overall weight of your aircraft without compromising on performance. This reduction in weight translates into extended flight times and improved efficiency, allowing you to maximise your time in the air.

## Specifications

Specifications	
Pitch	6.0 inch
Diameter	17 inch
Weight	40 grams
Material	Polycarbonate

4

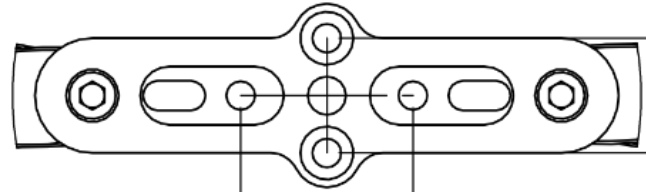
3

2

1

F

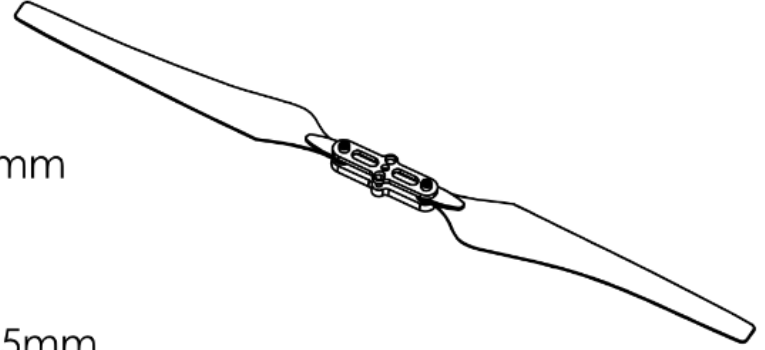
F



2x M3x0.5mm  
12.00mm

2X M3X0.5mm  
18.00mm

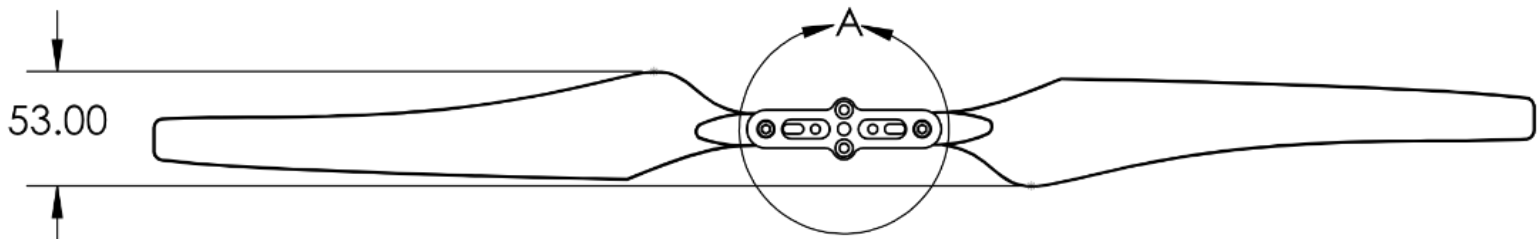
DETAIL A



ISOMETRIC VIEW

E

E

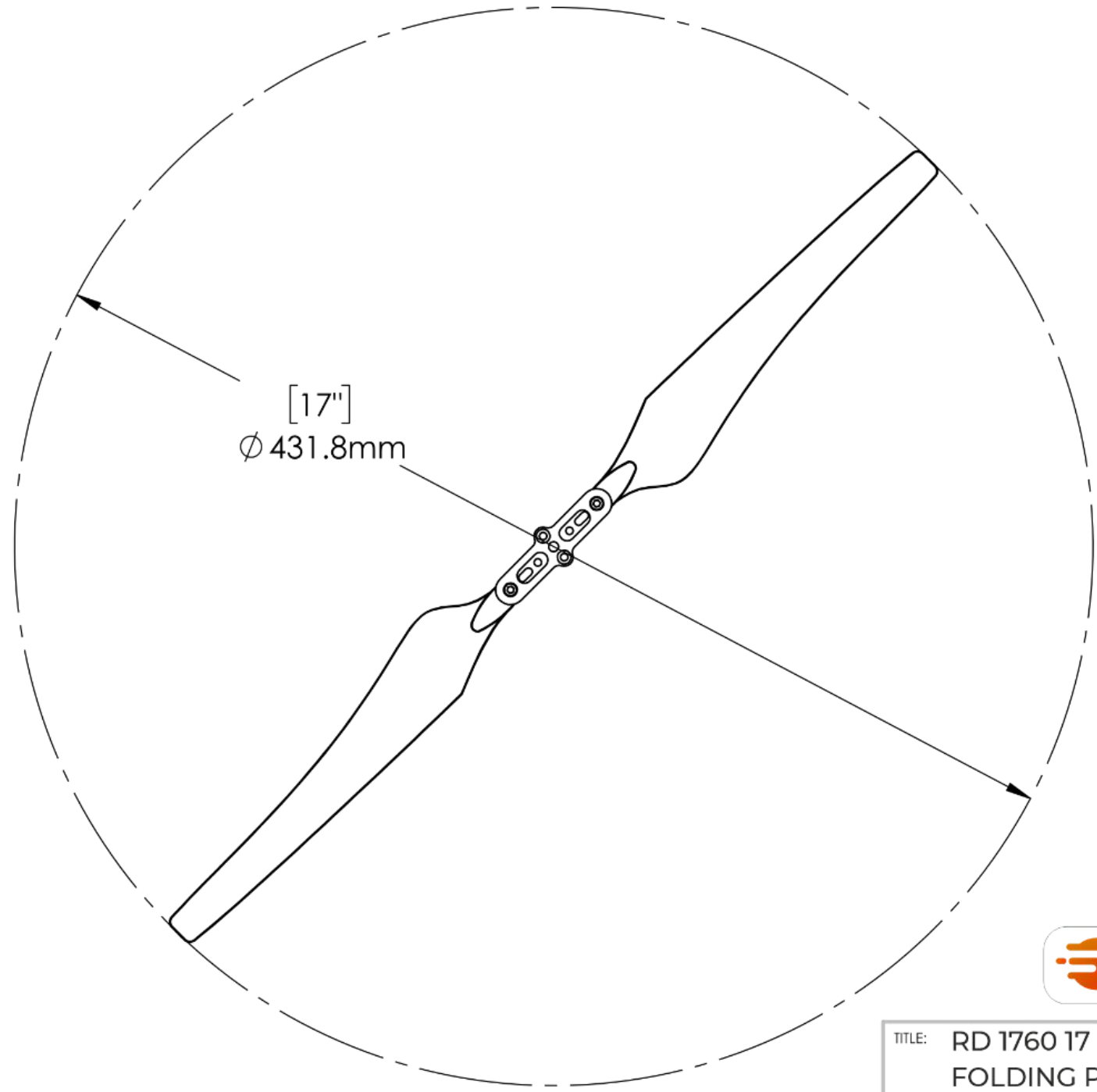


53.00

TOP VIEW

D

D



[17"]  
Ø 431.8mm

PROPELLER SIZE

C

C

B

B



TITLE: RD 1760 17 inch  
FOLDING PROPELLER  
(CW , CCW)

WEIGHT :  
40g Incl. Hub

A

A

4

3

2

1

# RD 1552 15 Inch Folding Propeller with Hub (CW, CCW)



## Product description:

Introducing 1552 Folding (CW,CCW) Propellers: Unleash Performance and Efficiency in a Compact Design. Engineered to redefine performance and efficiency, this propeller is designed to deliver exceptional results in a compact form. Measuring 15 inches in diameter and 5.2 inches in width, this propeller strikes the perfect balance between agility and stability. The Folding design optimises thrust and airflow, ensuring precise control and manoeuvrability during every flight. Weighing only 32 grams, this lightweight propeller minimises the overall weight of your aircraft without compromising on performance. This reduction in weight translates into extended flight times and improved efficiency, allowing you to maximise your time in the air.

## Specifications

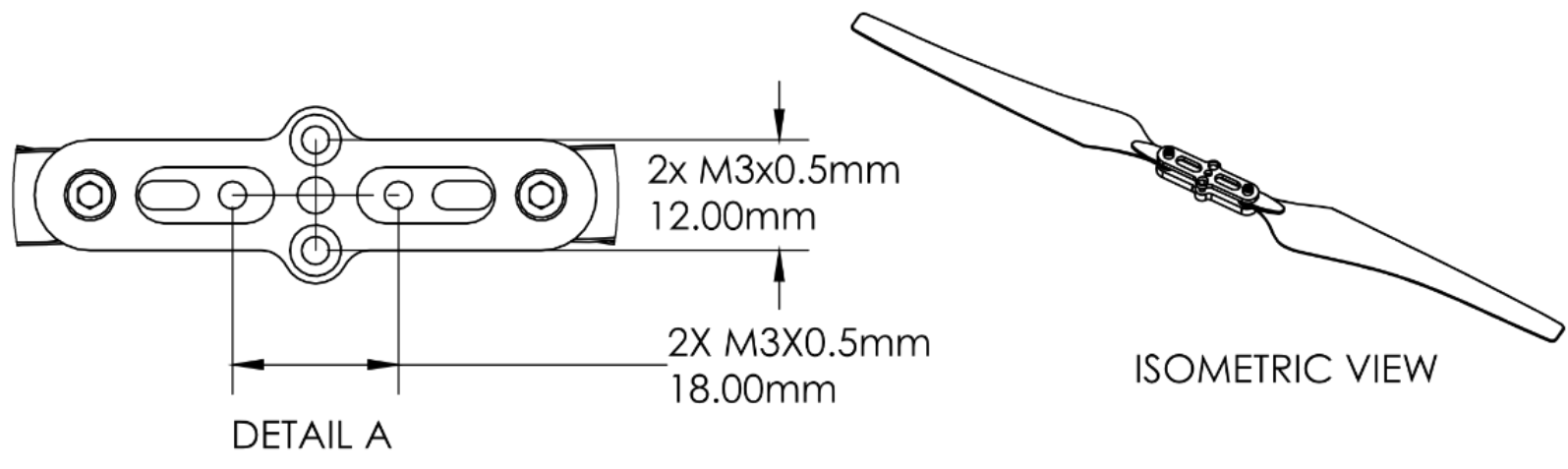
Specifications	
Pitch	5.2inch
Diameter	15 inch
Weight	32 grams
Material	Polycarbonate



4 3 2 1

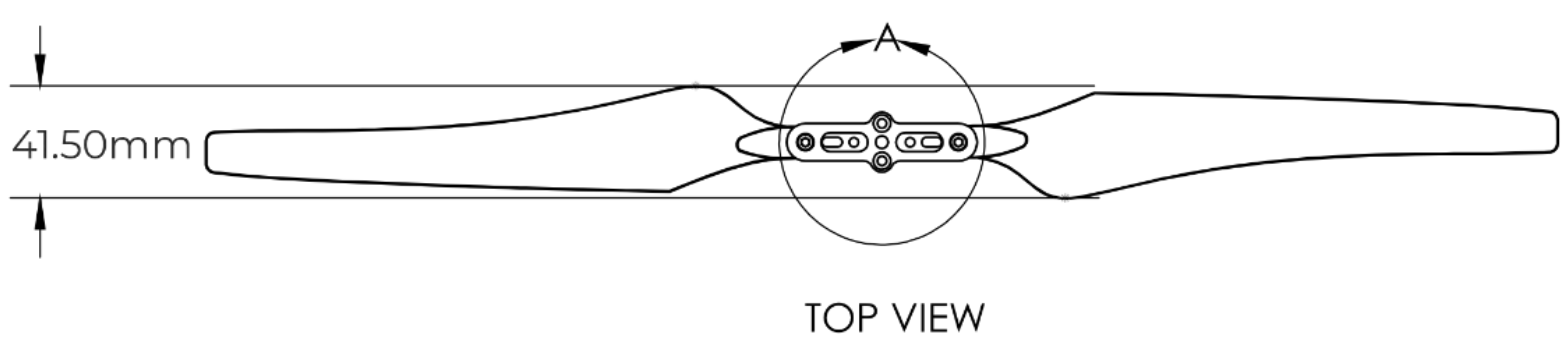
F

F



E

E

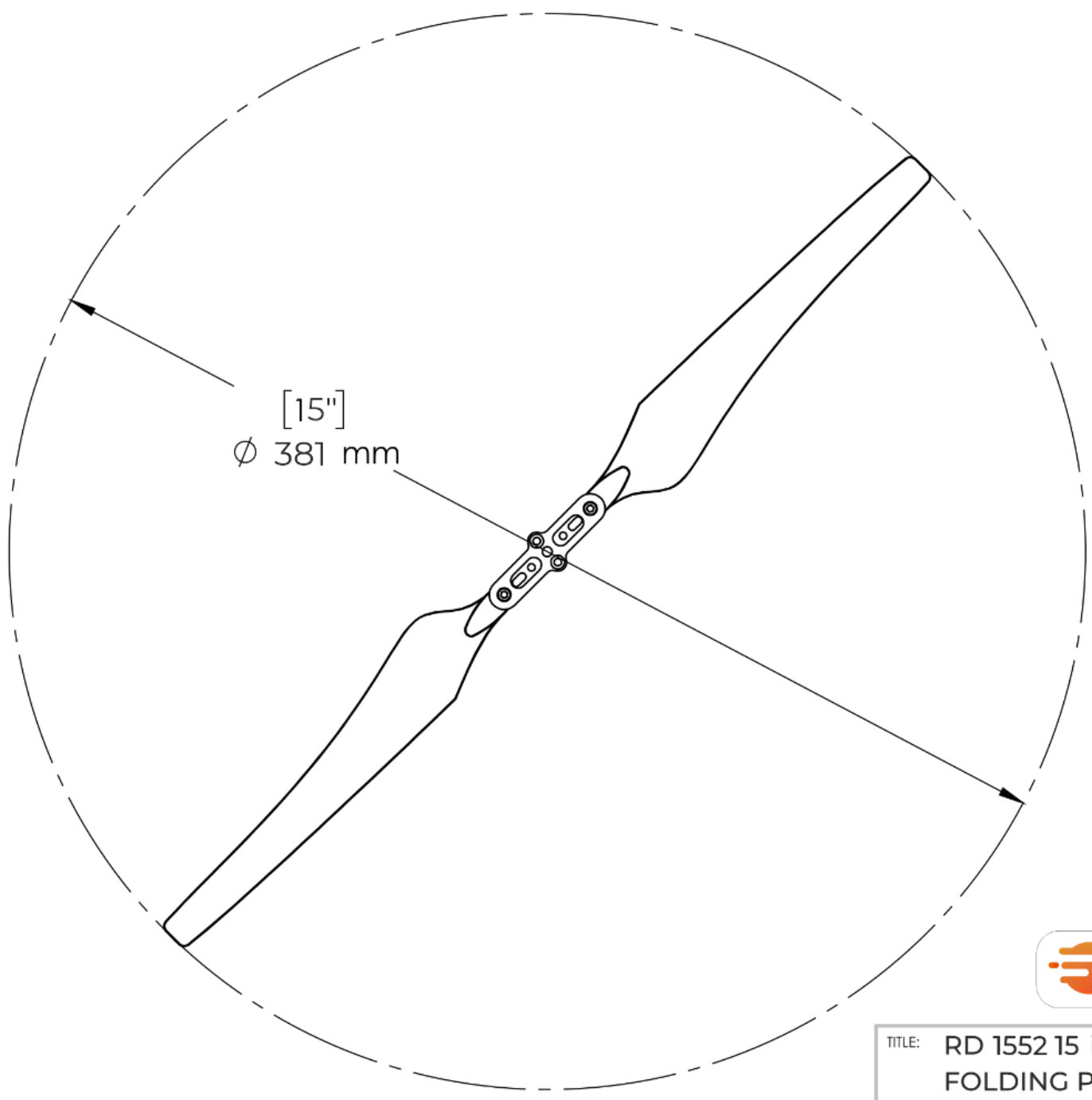


D

D

C

C



TITLE: RD 1552 15 inch  
FOLDING PROPELLER  
(CW , CCW)

WEIGHT :  
32g Incl. Hub





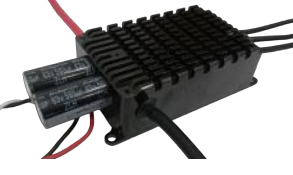

A

A


4 3 2 1

# SUMMARY

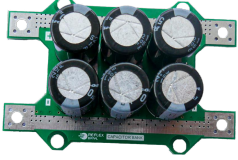
## ELECTRONICS SPEED CONTROLLERS

S. No.	Name	Image	Dimension	Voltage	Amps	Weight(gm)
1	D series ESC		57mmX26.77mmX12.50mm	2S-6S	40A	30 grams with Wire
2	D-Pro Series ESC		57mmX26.77mmX12.50mm	2S-6S	40A	30 grams with wire
3	D-Pro ESC With Enclosure		71.61mmX33mmX13.70mm	2S-6S	40A	57 grams with wire
4	T Series ESC		73.20mmX38.32mmX20.50mm	6S-12S	60A	93 grams with wire
5	Q series ESC		95.67mmx42.96mmx24.41mm	6S-12S	80A	124 grams with wire
6	Pencil ESC		12mm x 60mm	4S - 6S	30A	5 gm





## POWER DISTRIBUTION BOARDS

S. No.	Name	Image	Dimensions	Voltage	Amps	Weight
1	PDB-185		58mm x 57mm x 5mm	4S - 12S	250A	15 grams

# CAPACITORS

S. No.	Name	Part Number	Dimensions	Voltage	Weight
1	CAP BANK 101		67 mm x 45mm x 21mm	12S	30 grams

# PROPELLERS

S. No.	Product Name	Picture	Size (in)	Pitch(in)	Weight
1	RD 3090 Folding Propeller		30 inch	9.0 inch	185 grams
2	RD MI 2380 Folding Propeller		23 inch	8.8 inch	128 grams
3	RD 1760 Folding Propeller		17 inch	6.0 inch	40 grams
4	RD 1552 Folding Propeller		15 inch	5.2 inch	32 grams