

RD T-PRO ESC

65A (4S-14S)

TRAPEZOIDAL SERIES



65A

Continuous Current

4~14S

LIPO

138 g

WEIGHT

Product Description

RD T-Pro ESC is an advanced electronic speed controller (ESC) designed for high-performance applications. This upgraded model in the T-Series incorporates heavy copper on the PCB, significantly enhancing thermal and current handling capabilities..

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

Key Features

- Durability:** Continuous 65A operation for 1 hour with active cooling.
- Thermal Management:** Continuous 55A operation for 20 minutes without active cooling.
- Reliability:** Rigorous testing ensures operational stability and durability under various conditions.
- Enhanced Design:** Heavy copper PCB improves thermal capacity

Testing and Validation

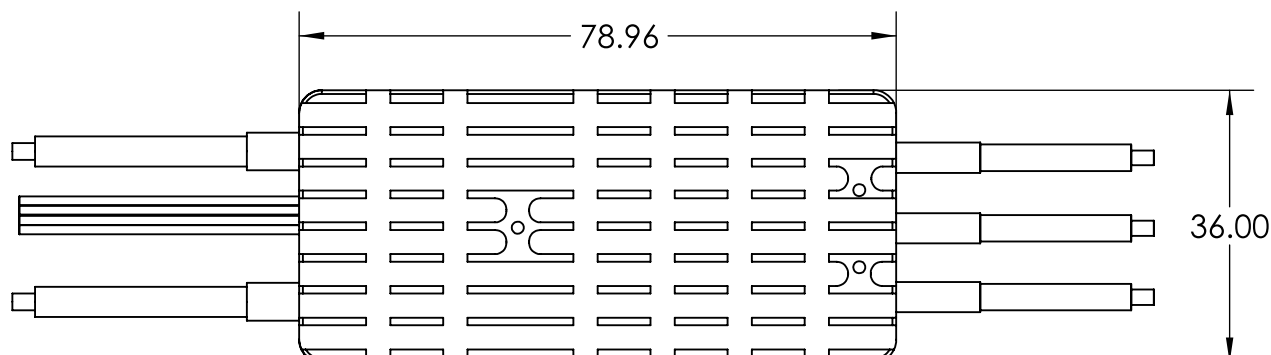
RD T-Pro ESC has undergone extensive and rigorous testing to ensure reliability, including:

- ▶ Continuous current durability tests without active cooling at 55A 48V.
- ▶ Sync-loss Testing.
- ▶ Thermal Testing.
- ▶ Step Test.
- ▶ Thrust Bench Performance Test

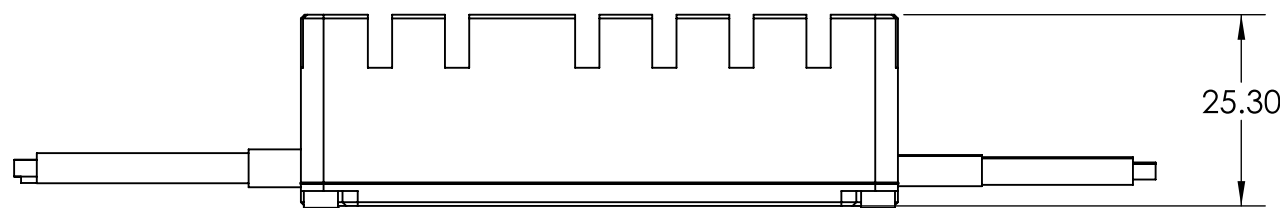
Specifications

Name	RD T-Pro ESC 4S-14S, 65A
Continuous Current Range (With Active Cooling)	65A
Voltage Range	4S-14S
BEC	No
Max Operating Temperature	90°C
Recommended Servo Rate	50 Hz
Weight	138 Grams (including Wire)
Telemetry	Yes
Current Sense	Yes
Communication Protocol	PWM, Dshot300
Waterproof Rating	IP 56
Status	Production
Enclosure	Yes
Dimensions	79mm x36 mm x 26mm

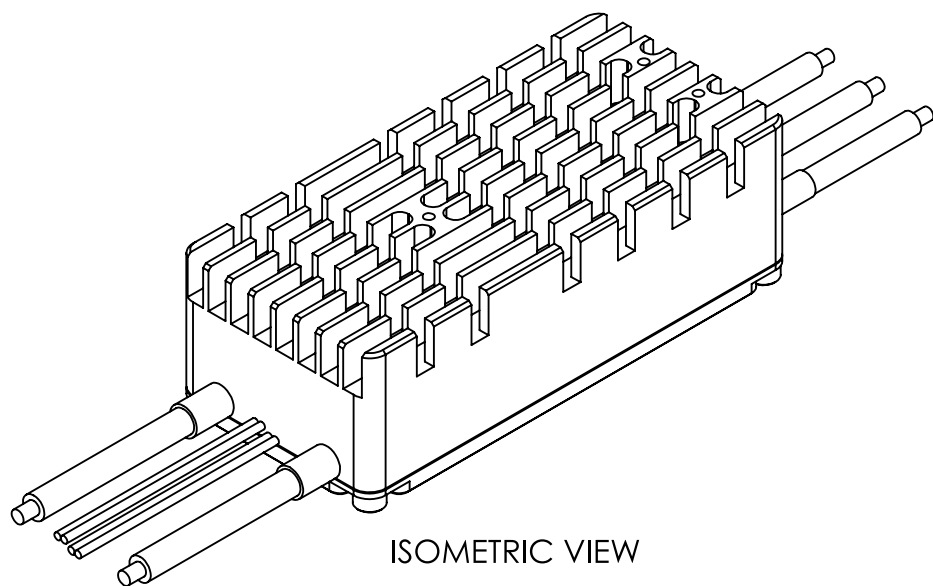
ESC Dimensions



TOP VIEW

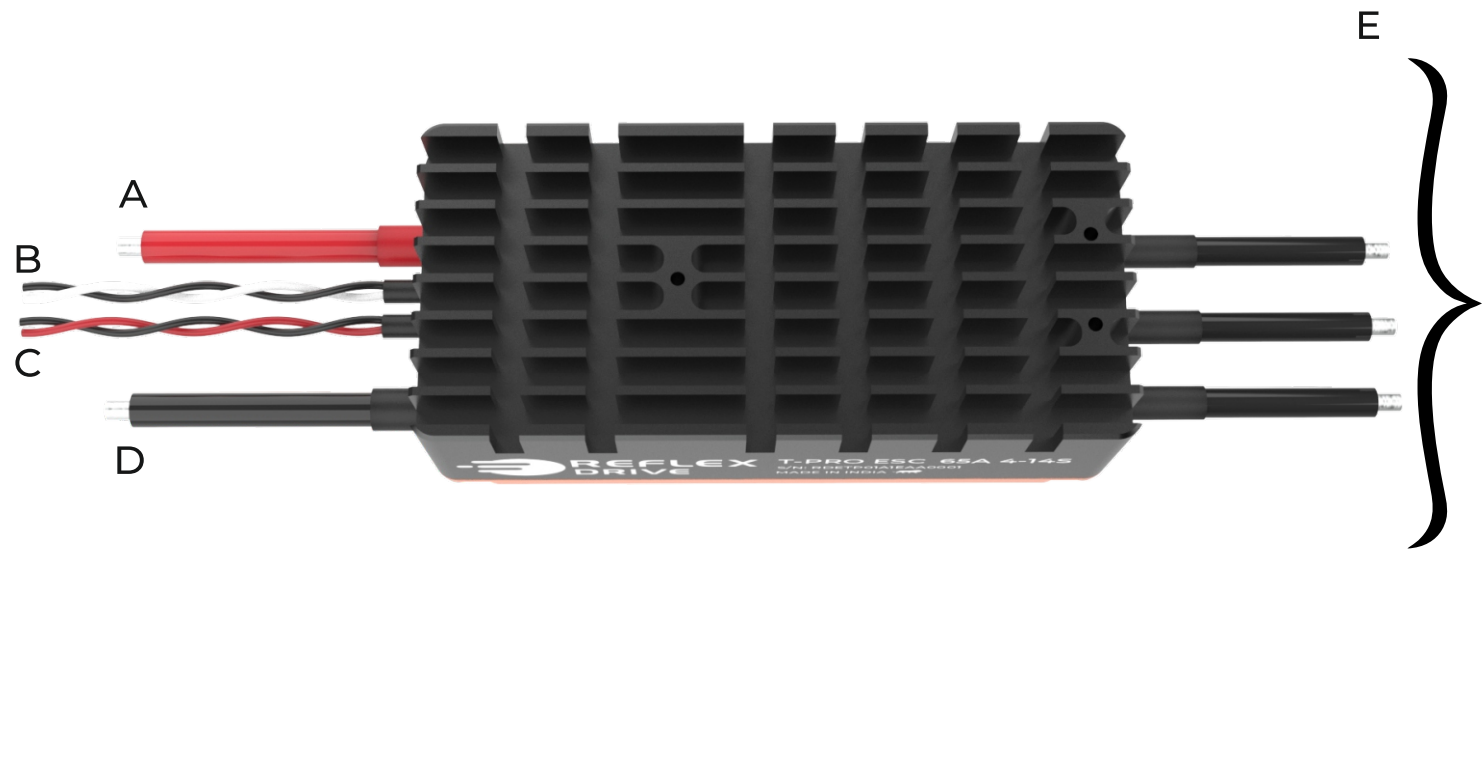


SIDE VIEW



ISOMETRIC VIEW

WIRING DIAGRAM



Detail

Wire A (Red Colour)	+ VBAT
Wire B (Twisted white & Black Colour)	Signal & Ground
Wire C (Twisted Red & Black Colour)	Telemetry & Ground
Wire D (Black Colour)	- VBAT
Wire E (Black Colour)	Motor Output Wire

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-Pro ESC 4S-14S, 65A	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-Pro ESC 4S-14S, 65A	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-Pro ESC 4S-14S, 65A	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-Pro ESC 4S-14S, 65A	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-Pro ESC 4S-14S, 65A	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-Pro ESC 4S-14S, 65A	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