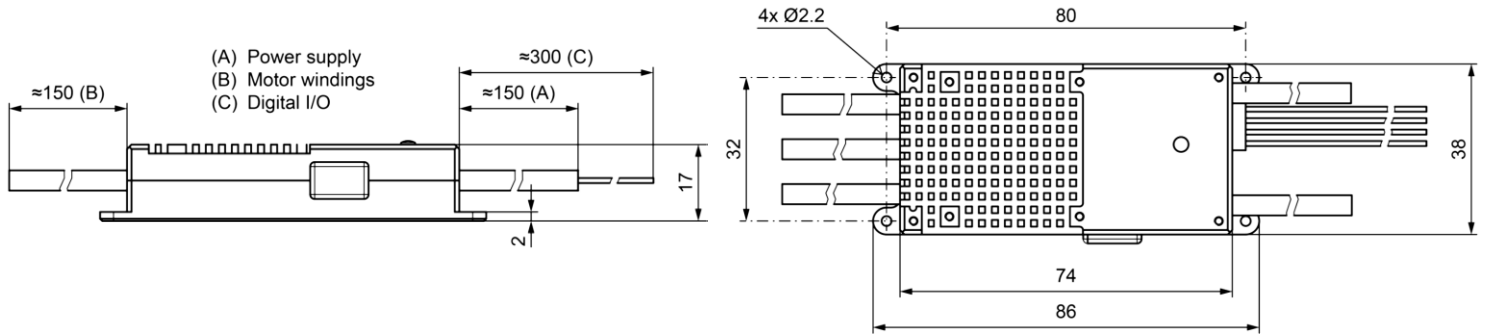


UAV-ESC 52/30 Data

Electronic speed controller designed for professional UAV applications

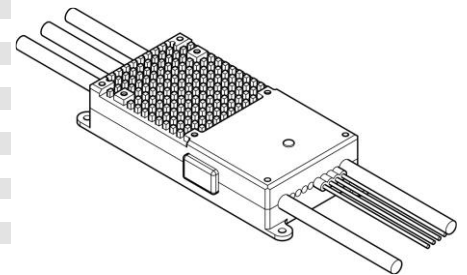
NEW



Part Number

654541

Electrical Data			
1 Nominal power supply voltage $+V_{cc}$	VDC	9...52.2	(3S...12S LiPo Battery)
2 Absolute supply voltage $+V_{min} / +V_{max}$	VDC	8 / 56	
3 Output voltage (max.)	VDC	$0.95 \times V_{cc}$	
4 Output current I_{cont}^1	A	30	
5 Output current I_{max}^2	A	90	
6 Pulse width modulation frequency	kHz	25	
7 Commutation			Sensorless, FOC
8 Sampling rate PI current controller	kHz	25	(40µs)
9 Sampling rate PI speed controller (closed loop)	kHz	2.5	(400µs)
10 Max. efficiency	%	>99	
11 Max. speed EC motor (sinusoidal)	rpm	150'000	(1 pole pair)
12 Built-in motor choke		none	



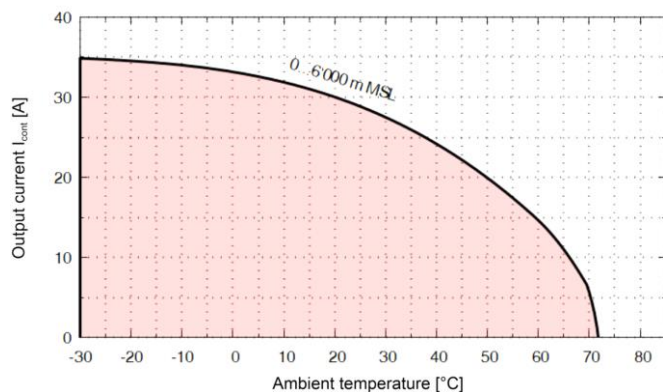
Inputs & Outputs			
13 Digital input «Set Value»	VDC	+2.50...+5.25	(optically isolated), pulse width distortion max. 50 ns
14 Digital output «Speed Monitor e-rpm» ³	VDC	max. 12	$I_L \leq 15mA$; (optically isolated), max. 2.5kHz
15 Analog input «Motor winding temperature» ³			For use with an NTC resistor; NTC 10kΩ

Connections & Interfaces			
16 BLCD motor			Motor winding 1, 2, 3
17 USB			USB 2.0, full speed

Physical			
18 Dimensions (L x W x H)	mm	86 x 38 x 17	
19 Weight (excl. cable, excl. housing)	g	18	
20 Weight (incl. cable, excl. housing)	g	67	For cable lengths as specified in technical drawing
21 Weight (incl. cable, incl. housing)	g	102	For cable lengths as specified in technical drawing
22 Mounting			4 mounting holes for M2 screws
23 Coating			Acota Certonal FC-742, 3M Novec 1700

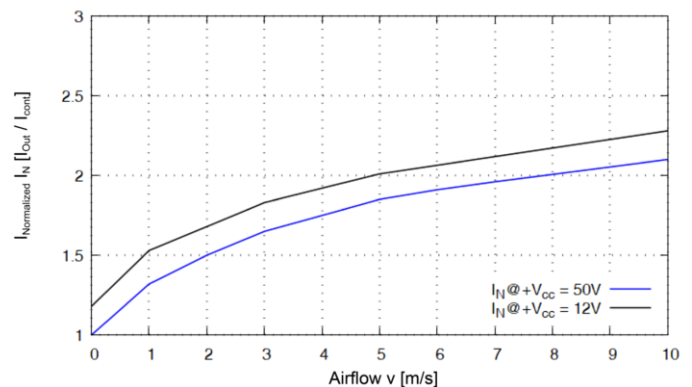
Environmental conditions			
24 Standard operating temperature	°C	-30...+20	Temperature range to meet the stated performance data
25 Extended temperature range	°C	+20...+72	Consider derating
26 Storage temperature	°C	-40...+85	
27 Operating altitude	m MSL	0...6'000	Altitude in meters above Mean Sea Level
28 Humidity ⁵	%	5...90	

Derating of Output Current



Operation within the extended range (temperature) is permitted. However, a respective derating (declination of output current I_{cont}) as to the stated values will apply.

Increase of Output Current



The diagram shows the permissible continuous output current under additional airflow without causing the controller to overheat. The graph shows the permitted additional output current in relation to the continuous output current as determined according to the "Derating of Output Current"-diagram.

¹Airflow 0 m/s; no additional heat sink; $T_A=20^\circ C$; $+V_{cc}=52.2V$;

²Airflow 0 m/s; no additional heat sink; $T_A=20^\circ C$; $+V_{cc}=52.2V$; $t < 25$ s

³Coming soon

⁵Condensation over extended periods or water immersion are not permitted

Notes

Please contact aerospace@maxongroup.com