UAV-ESC 52/30 CAN Data

NEW

DroneCAN compatible electronic speed controller designed for professional UAV applications

Part Number

654538

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 x V_{cc}	
4 Output current I_{cont}	A	30	Airflow 0 m/s; no additional heat sink; T_A=20°C;+V_{cc}=52.2V
5 Output current I_{max}	A	90	Airflow 0 m/s; no additional heat sink; T_A=20°C;+V_{cc}=52.2V; t<25 s
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 BLDC motor (sinusoidal)	rpm	150'000	(1 pole pair)
12 Built-in motor choke		none	

Inputs & Outputs			
15 Analog input «Motor winding temperature»			For use with NTC resistor 10kΩ; B25/85 = 3435 K / 3490K / 3610 K / 4000 K or 4480 K

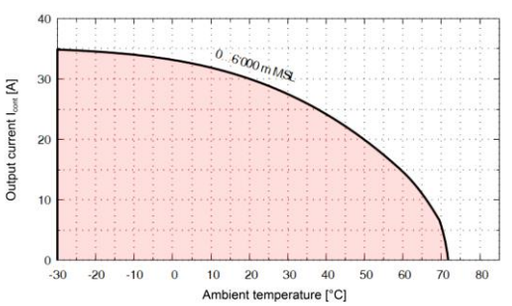
Connections & Interfaces			
14 CAN	Mbit/s	max. 1	DroneCAN v1 protocol
16 BLCD motor			Motor winding 1, 2, 3
17 USB			USB 2.0, full speed

Physical			
18 Dimensions (L x W x H)	mm	86 x 38 x 17	
19 Weight (incl. cable, incl. housing)	g	102	Cable lengths as specified in technical drawing
20 Weight (incl. cable, excl. housing)	g	66	Cable lengths as specified in technical drawing
21 Weight (excl. cable, excl. housing)	g	18	
22 Mounting			4 mounting holes for M2 screws

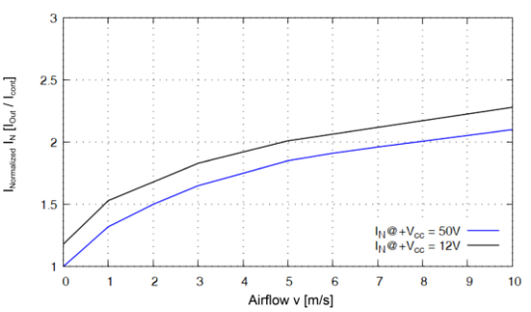
Environmental conditions			
24 Standard operating temperature	°C	-30…+20	Temperature range to meet the stated performance data without additional heat sink or airflow.
25 Extended temperature range	°C	+20…+72	Consider derating
26 Storage temperature	°C	-40…+85	
27 Operating altitude	m MSL	0…6'000	Altitude in meters above Mean Sea Level
28 Humidity	%	5…90	Condensation over extended periods or water immersion are not permitted

Derating and increase of output current

Operation within extended temperature range leads to derating of output current I_{cont} according to the following graphic:



With additional airflow, the output current I_{cont} determined from the graphic above is increased by a factor defined in the following graphic.



DroneCAN v1

Full Pixhawk support.

DroneCAN bus protocol includes the following telemetry messages:
- actual motor speed (rpm)
- ESC input voltage
- ESC output current
- ESC health state (ok, warning, error)
- ESC temperature (power stage)

dronecan.github.io

Notes

Please contact aerospace@maxongroup.com

UAV-ESC Software/Firmware Bundle Download: uav.maxongroup.com