Hobbymate User Instructions for 15a BLHeli ESC (REV 2)

Thank you for purchasing the Hobbymate ESC, please read this manual carefully before you use the ESC and closely follow the instructions. Hobbymate only produces quality products so if you have any questions or problems with the ESC, please don't hesitate to contact our customer service.

Features

- AMTEL ATmega88A (16MHz) processor
- Based on BLHeli firmware with low voltage protection, over heat protection and self check functions, firmware upgradable (BlueSeries 12a)
- Works with 2S to 4S input Rated at 15A continuous and 25A burst (5s max)
- Perfect for 1806, 2204, 2205, brushless motor in QAV180, QAV 210, QAV250 and other small drone
- Support OneShot125 and DampedLight for ultra-high speed control
- All N-FET design with external oscillator for steady performance across different thermal and voltage conditions

Dimensions

- 23mm x 12.5mm x 3mm
- Weight: 4g bare board; 7g with wires
- Motor and power wire: 70mm, 20 awg; Signal wire: 120mm

Programming

- Programmable using transmitter stick or flight controller with BLHeliSuite Cleanflight pass-through
 BLHeliSuite: https://github.com/4712/BLHeliSuite/releases
 BLHeli AMTEL programming manual: https://github.com/bitdump/BLHeli/blob/master/Atmel/BLHeli manual Atmel Rev14.x.pdf
- Δ WARNING: when upgrading firmware, always select "BlueSeries 12a" type firmware otherwise ESC may be permanently damaged
- \triangle WARNING: Take great care to ensure the ESC input power is wired correctly as improper connections will permanently damage the ESC when first connecting the battery
- Cleanflight Configuration Tab ESC Settings (approximate): Minimum Throttle: 1050; Middle Throttle: 1500; Maximum Throttle: 1800 2000; Minimum Command: 920

Default values are shaded

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Function	1	2	3	4	5	6	7	8	9	10	11	12	13
1 - Closed loop P gain	0.13	0.17	0.25	0.38	0.50	0.75	1.00	1.5	2.0	3.0	4.0	6.0	8.0
2 - Closed loop I gain	0.13	0.17	0.25	0.38	0.50	0.75	1.00	1.5	2.0	3.0	4.0	6.0	8.0
3 - Closed loop mode	HiRange	MidRange	LoRange	Off	-	-	-	ı	-	-	-	-	-
4 - Multi gain	0.75	0.88	1.00	1.12	1.25	-	-	-	-	-	-	-	-
5 - Startup power	0.031	0.047	0.063	0.094	0.125	0.188	0.25	0.38	0.50	0.75	1.00	1.25	1.50
6 - Commutation timing	Low	MediumLow	Medium	MediumHigh	High	-	-	-	-	-	-	-	-
7 - PWM Frequency	High	Low	DampedLight	-	-	-	-	-	-	-	-	-	-
8 - PWM dither	Off	3	7	15	31	63	-	-	-	-	-	-	-
9 - Demag compensation	Off	Low	High	-	-	-	-	-	-	-	-	-	-
10 - Rotation direction	Normal	Reversed	Bidirectional	-	-	-	-	1	1	-	-	-	-
11 - Input PWM polarity	Positive	Negative	-	-	-	-	-	-	-	-	-	-	-