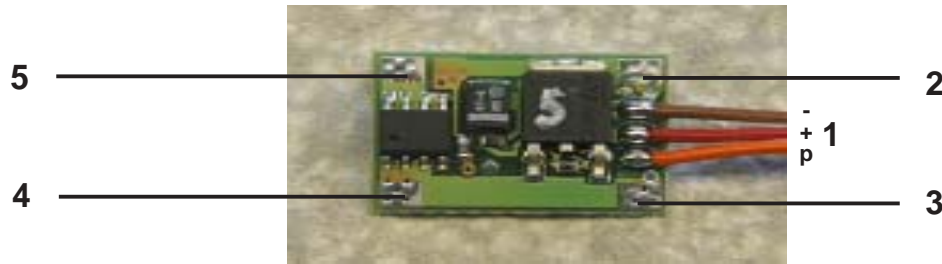
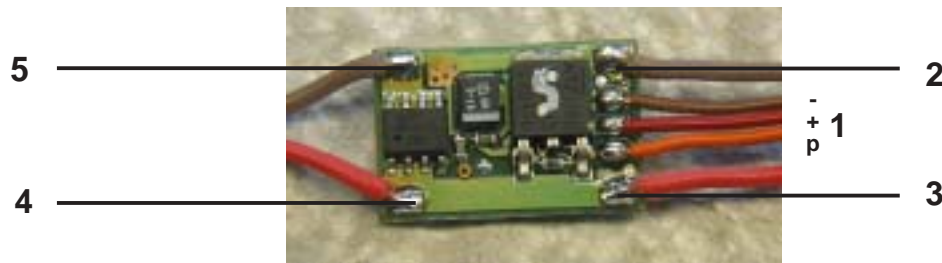


slim-05He, -10He, -105He (no power cables)



slim-05Hek, -10Hek, -105Hek (with power cables)



Key to illustration:

- 1 Receiver cable, 3-pin:
 - = negative (black or brown),
 + = positive (red),
 p = pulse (white or orange)
- 2 Battery connection, neg. (-), black
- 3 Battery connection, pos. (+), red
- 4 Motor connection, pos. (+), (red)
- 5 Motor connection, neg. (-), (blue, yellow)

Notes:

When soldering cables to the controller use only electronic grade rosin-cored solder. Using a separate liquid or paste flux will wreck the slim, as these materials are both conductive and corrosive! No warranty!

Please be sure to insulate the slim with the heat-shrink sleeve supplied once you have soldered the cables to the controller.

10 Specifications

Type	Current	Ni-Cd	Size	Weight	Cable	Thrott.	Brake	BEC
Unit	[A]	[cell count]	[mm]	[g]	[mm ²]	[mΩ]	[mΩ]	[V / A]
slim-05He	5 / 7	(5)6 - 10	20x13 x 5	3	(0.34)	13	20	5 / 1.0 peak
slim-105He	5 / 7	(5)6 - 10	20x13 x 5	3	(0.34)	13	20	5 / 1.0 peak
slim-10He	10 / 15	(5)6 - 10	20x13 x 5	3	(0.5)	4	14	5 / 1.0 peak
slim-10Hek	10 / 15	(5)6 - 10	21x14 x 6	7	(0.5)	4	14	5 / 1.0 peak
slim-05Hek	5 / 7	(5)6 - 10	21x14 x 6	6	0.34	13	20	5 / 1.0 peak
slim-105Hek	5 / 7	(5)6 - 10	21x14 x 6	6	0.34	13	20	5 / 1.0 peak

Current rating: Maximum current / nominal current:
 The excess current level lies above the maximum current value for each unit.
 The nominal current value is the continuous current at full throttle at which the slim can be operated when connected to a 10 V / 1 Ah battery.

Weight: excluding - including cables.

Cable: Values in brackets: recommended conductor cross-section - unit supplied without power cables.

Throttle, brake: Internal resistance of FETs as stated in data sheet. No brake ("H"-types).

Frequency: The half throttle switching frequency is about 3 kHz (**slim-105** is about 100 kHz)

Temperature: No overtemperature protection.

Pulse times: General: allowed range: 0.8 ms ... 2.5 ms, cycle time: 10 ... 30 ms.
 Fixed throttle positions: stop = 1.2 ms, full throttle = 1.8 ms.
 Tolerances: ~ + - 10%

BEC: The stated peak current is dictated by the maximum current value of the 5V voltage regulator; it can only flow for less than 0.33 seconds, followed by a cooling-off period.
 The stated continuous current is much lower and is determined by the maximum power dissipation of the voltage regulator used in the unit ($V_{loss} = V_{battery} - 5V$ BEC-voltage):
 The max. dissipated power is ~1.0W (i.e. 250 mA continuous current at 10 V). The dissipated power can be increased to about 1.5W if you solder a piece of 1.5 mm² wire to the negative terminal; the second wire acts as a heat-sink. This is a good idea if you are using a large number of cells.

Take care when using micro-servos (6 g or 9 g types), as their current drain is generally 2 to 3 times higher than servos suitable for BEC use. This can cause the BEC system to overheat, especially if you use two servos with more than 7 cells.

As a basic rule we recommend only the following servo types for BEC applications (max. 2 servos):

FUTABA: 5102; **GRAUPNER:** C261, C341, C351; **MEGATECH:** MTCFX200;

ROBBE: 8433; **VOLZ:** Microstar, Wingstar, Zip.

If you are using a power supply with no more than 7 cells Ni-Cd or Ni-MH or 3 cells Li-MnO, it is permissible to use up to 4 special slow-fly servos with a max. current drain of 250 mA; otherwise the maximum is 3 servos.

Part-load: Shottky diodes can be used to reduce controller temperature when run under part-load conditions.
 These diodes must be soldered directly across the terminals of each motor. The cathode (ring on diode-body) must be connected to the positive terminal of the motor.

Intended application:

The slim-05He(k) is made to drive a tail rotor in a mini helicopter.

The slim-105He(k) is made to drive the 3 main rotors in the Tribell (Braun Modelltechnik).
 If you use a slim-20 or -26 for the main rotor, you can easily use the BEC systems parallel.

The slim-10He is made to drive a main rotor in a Piccolo mini helicopter. In this case it is necessary to use a slim-05 for the tail rotor to avoid an overload of the BEC system.

Initial use / other:

Use original operating instructions for slim-40Heq type.

Hints: **slim-05He(k), -10He(k):** Fixed throttle end points and „load compensation mode“ always enabled (can not be disabled).

slim-105He(k): Fixed throttle end points, no „load compensation mode“.

A choke (10 uH / 2 A) can be looped into one of the two motor leads to smooth the residual waviness of the current of the coreless motor.