

The linear voltage regulator MAX BEC 2 is an on board current supply system for models (current supply of the receiver and servos) utilizing 2 LiXX cells or several NiXX cells for the on board system supply. For the whole time of operation the regulator provides a stable current supply for servos and thus ensures a constant servo speed independently of the battery discharge condition. The MAX BEC 2 allows simultaneous connection of two batteries and increases the safety margin of operation. The connected batteries become discharged simultaneously and a LED shows which battery is actually delivering energy. The MAX BEC 2 also comprises an electronic switch which consumes only 170 μ A in the OFF condition.

Technical Data:	MAX BEC 2
Recommended input voltage	5.5 – 8.4 V
Maximum input voltage	16 V
Possible number of supply batteries	1 or 2
Adjustable output voltage	5.0 V / 5.4 V / 5.7 V / 6.0 V
Output current pulses	20 A
Output steady state current	12 A see Tab. 1
Quiescent current	170 μ A
Maximum power loss	20 W
Operational temperature range	- 10°C till +130°C
Weight	85 g
Dimensions	100 x 29 x 16 mm

Output Voltage Setup of the MAX BEC and Functions of the LED-Diodes:

By means of the provided shorting plugs (jumpers) the requested output voltage of the regulator can be adjusted in steps of 5.0 V, 5.4 V, 5.7 V and 6.0 V.

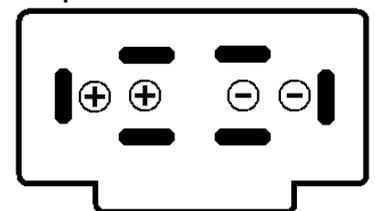
The MAX BEC 2 supply can consist of LiXX or NiXX cells. For this purpose we recommend application of 2 LiXX cells or 5-6 NiXX cells. The supply battery voltage is indicated by four LEDs (1x red and 3x green). In case of a voltage higher than 7,0 V all three green diodes are ON, during discharge of the cells their voltage will gradually decrease and the particular LEDs will turn off one by one according to the input voltage decrease, i. e. when the voltages become lower than 7 V, 6.7 V and 6.5 V. If the input voltage becomes lower than 6.5 V the red LED lights up indicating discharged cells. This shows in case of 2S LiXX batteries that the voltage per cell decreased below 3,25 V.

Wiring:

The supply batteries should be connected by cables of a cross section of at least 1,5 mm² to the terminals of the MAX BEC 2 marked ACCU 1 and 2. The MAX BEC 2 regulator allows connection of two supply batteries. The LED-diode indicates whether the current is drawn from battery 1 or from battery 2. The decision about which battery has to deliver energy depends upon battery voltage, as a rule the battery with higher voltage is delivering current (if the voltage of both batteries is equal current is drawn from both of them and LEDs of batteries 1 and 2 are ON). There exists no energy exchange between the batteries if the voltages of both batteries are different, therefore both batteries may be of different capacities, cell numbers and types. If only one supply battery is used for the MAX BEC 2, it may be connected either to input ACCU 1 or ACCU 2.

The output voltage is available from a built in socket. The plug mating with this socket is contained in the package of the MAX BEC. Solder cables to this plug with connectors for your receiver (according to the current load with at least 1 mm² cross section). If you use normal JR-cables, connect according to your current consumption several of these cables to the receiver (2 or more, this way you will increase reliability and decrease current load of the JR-plugs). The connectors can be plugged in any free channel outputs of the receiver or into particular current supply sockets of your receiver.

Output socket of MAX BEC 2



Switch:

The regulator MAX BEC contains an electronic switch for switching it on or off. The switch is a so called „safe“ switch, in case of mechanical damage of solder joints or cables the BEC-function stays unimpaired. The correct switching function is indicated by LEDs. If the BEC is switched off there is no LED on, if it is switched on, at least one diode will be ON working as voltage indicator, and also the LEDs of the battery connections (ACCU 1 or 2) will be ON.

Installation:

In order to minimize vibrations the MAX BEC may be fixed within the model via rubber grommets inserted in the provided mounting holes. Assembly to the fuselage may be arranged in a way which allows visibility of the diodes from the outside through holes in the fuselage even during flight. The package contains a sticker for the fuselage with descriptions of the particular diodes as well as a sticker describing the voltage setting by the jumper positions, which may be stuck inside the fuselage close to the jumper pins.

In order to ensure a correct function of the MAX BEC sufficient cooling air should be directed along the cooling fins.

Table of Relationship between Sustained Current Load, Input and Output Voltage:

Number of Cells (supply voltage)	Output Voltage [V] / Sustained Current [A] *			
	5 V	5,4 V	5,7 V	6 V
2 Lixx / 6 NiXX	8,33 A	10,00 A	11,76 A	12,00 A
3 LiXX / 10 NiXX	3,28 A	3,51 A	3,70 A	3,92 A
12 NiXX	2,44 A	2,56 A	3,70 A	3,92 A

* sustained current values are only valid with sufficient air cooling

Warranty:

For this product we grant a warranty of 24 months from the day of purchase under the assumption, that it has been operated in conformity with these instructions at recommended voltages and that it was not damaged mechanically. Warranty and post warranty service is provided by the manufacturer.

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