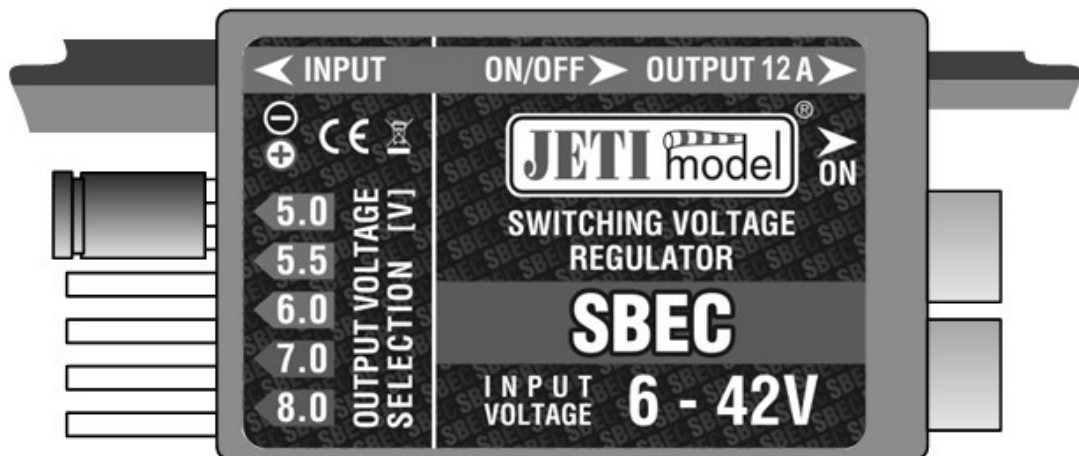




INSTRUCTION MANUAL

SWITCHING VOLTAGE REGULATOR SBEC



Description

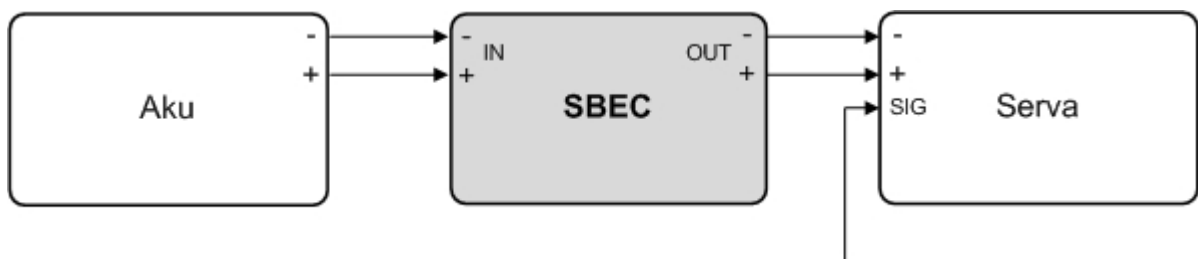
The switching voltage regulator SBEC is supposed to act as a current supply for receivers and servos. It makes possible to use a wide range of input voltages from 2S up to 10S Li-XX cells. Setup of the output voltage between 5 and 8V is accomplished by a shorting plug jumper. This implies that the SBEC is also prepared for use with new „higher“ voltage servos. The SBEC is due to its maximum current of 12A suitable for medium and larger models.

Wiring

The switching voltage regulator SBEC comprises two battery input cables with cross-sections of 1mm^2 as well as two pairs of output servo cables with cross-sections of 0.5mm^2 each. These output cables are equipped with JR-plugs. Another pair of cables is connected to a mechanical switch for switching the regulator on. This switch is wired in a so called „safety“ mode which ensures continuous function of the regulator even if soldering joints or cables become mechanically damaged.



Wiring diagram of the regulator:



Setup

The output voltage is adjusted with the aid of a shorting plug (jumper) in steps of 5.0V, 5.5V, 6.0V, 7.0V and 8.0V. An important condition of keeping a correct output voltage in connection with the jumper position is a sufficiently high supply voltage. The supply voltage of the battery must by all means be higher than the required output voltage. We recommend a minimum difference of at least 2V above the output voltage. Otherways the output voltage would decrease under load conditions. The switched-on condition of the regulator and an information about the presence of voltage at its output are signalled by a shining green LED.

Installation and heat protection

The switching voltage regulator SBEC contains a heat protection means which prohibits destruction of the regulator by long time effects of excessive current or by a short circuit. This phenomena may, for instance, arise if a servo is short circuited or by an excessive output load. If the heat protection is activated, the regulator „switches off“ for a short time necessary to cool down. After cooling down the SBEC switches automatically on again. This affair is signalled by blinking of the green LED. The blinking frequency of the LED depends on the amount of applied load. When the heat protection is activated the output voltage decreases to several hundreds of mV.

In order to ensure a proper function of the regulator always take care of an sufficient amount of cooling air throughflow

Technical Data of the SBEC-Regulator

Technical Data:	
Recommended input voltage	6 – 42 V
Maximum input voltage	50 V
Maximum allowed amounts of cells	2-10 LiXX or 6-33 NiXX
Adjustable output voltage	5.0 / 5.5 / 6.0 / 7.0 / 8.0 V
Output pulse current	12 A (5s)
Switched-off current consumption	max. 140µA (at input voltage 7V) max. 600µA (at input voltage 42V)
Operation temperature	- 20°C till +85°C
Weight	29 g
Dimensions	60 x 28 x 10 mm

Table showing dependence of sustained current loads on input voltages

Number of Lixx Cells	2	3	4	5	6	7	8	9	10
Sustained Output-Current* [A]	6.2	5.7	5.4	5.1	4.7	4.5	4.1	3.8	3.5

* Sustained current values are valid only for operating conditions with sufficient cooling airflow

Warranty

For the 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 has not been damaged mechanically. Warranty and post warranty service is provided by the manufacturer.

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