INSTRUCTION MANUAL

DUAL SWITCH MIXER

DSM ESC



By JETI model s.r.o.

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1. Introduction

DSM ESC is an electronic switch for powering receiver and servos. It combines the voltage output from either two electronic speed controllers (ESC), each with a BEC circuit or an ESC in combination with a receiver battery. The throttle signal from the receiver is supplied to both controllers simultaneously. The DSM ESC also includes a receiver power supply switch. The voltage from the electronic controllers connected to the inputs of the DSM ESC is constantly measured and supplied directly to the output by the DSM ESC's internal processor. The DSM ESC then automatically switches between the inputs so that your receiver is always powered by the power supply with the higher voltage. The signal outputs are interconnected. The DSM ESC output is fitted with a JR connector that can connect the output directly to the receiver. The other JR connector, male, is used to connect an electronic switch, a magnetic switch, or an RC Switch. The DSM ESC can also be operated without an electronic switch. Then, DSM ESC is permanently switched on and functions only as a voltage combiner. The DSM ESC is not equipped with a voltage regulator circuit for the connected batteries or voltage supplies. The voltage at the DSM ESC output will always be equal to the voltage of the input with the higher voltage. Make sure that your receiver, servos and other equipment supplied by the DSM ESC are designed for the voltage being supplied.

The DSM ESC is controlled by a magnetic switch which can be activated using the magnetic key from outside of your model. By touching the target with the magnetic key as shown in the picture in chapter 3, the system is switched on or off. When switched off, the electronic switch draws very little power.

2. DSM ESC Circuitry

The output three-wire cable from the controllers (female) is connected to the DSM ESC to its input three-pins. The output voltage together with the signal is led via a JR three-wire cable (female), which is connected to the receiver and servos. A magnetic switch or the RC Switch is then connected to the other output three-wire cable (male) that has the security tab. The voltage inputs **„−" poles are galvanically (electrically) connected**.



Fig. 1: Wiring of input and output conductors

Be sure to correctly connect the input and output cables.

Attention!! Pay attention to the correct IN and OUT polarity!! Connecting your DSM ESC with incorrect polarity can cause irreversible damage and void the warranty!!

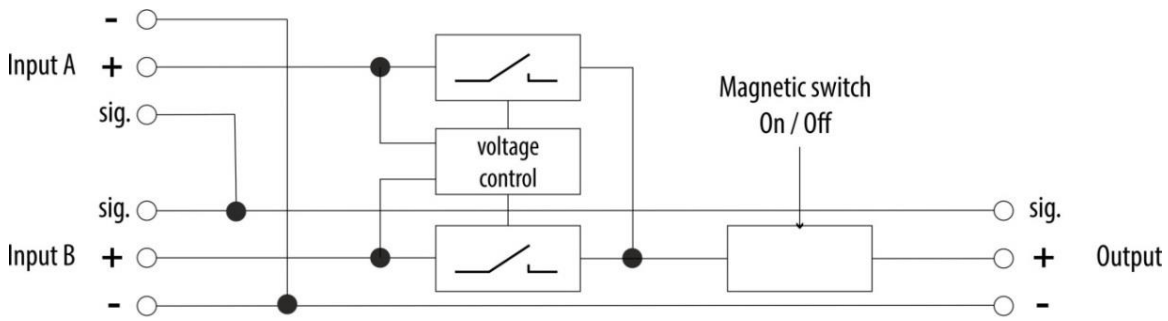


Fig. 2: Internal wiring of DSM ESC

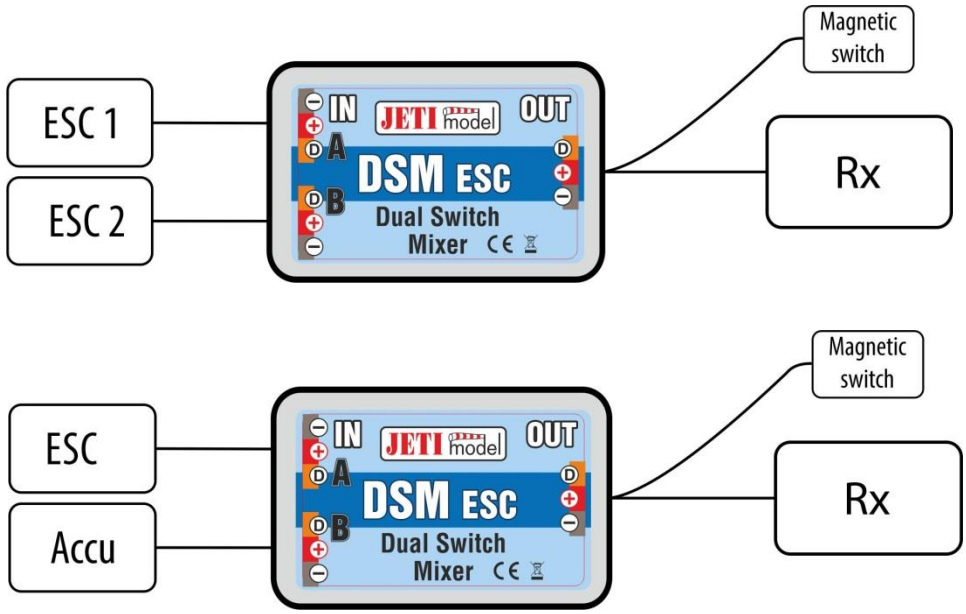


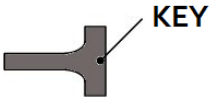
Fig.3: Application wiring of DSM ESC

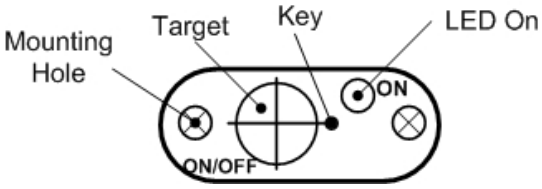
3. Magnetic Switch Control

The DSM ESC is switched on and off by a magnetic switch. For switching on, the magnetic key must be placed on the small target in such a way that the small hole in the key and the dot on the switch target have

the same orientation. The magnetic switch is equipped with a green LED indicating the 'switched on' condition.

LED on - blinking light indicates magnet range
- steady light indicates switched on condition





When you correctly position and hold the magnet on the target as described, after 1 sec, the green LED will turn on as a steady light, showing that the electronic switch is ON. Switching off is done in a similar way. When the magnet touches the target in the proper orientation again and is held in place for 1 sec., the green LED turns off and the system switches OFF.

The switch system remembers its last switch position. This means that if you switch it on with the magnetic switch and then disconnect the batteries, it will automatically return to the on position after you connect the batteries again. **For safety reasons always switch the system off with the magnetic switch before removing the supply batteries.**

When switching on the electronic switch, first connect both batteries and only afterward switch the system on by using the magnetic switch. When switching-off, follow the same rule. First switch the system off using the magnetic switch and only afterward disconnect the batteries.

4. Installation

The magnetic switch can be mounted to the model using the provided mounting holes. When drilling holes for the magnetic switch, use the outer cover as pattern. The outer cover of the magnetic switch is designed to be attached to the outside of the model fuselage and is mechanically connected by bolts to the base. The DSM ESC can be mounted inside the model with double-sided tape or Velcro.

5. Magnet Handling Safety Rules

As the electronic switch system is operated by a magnet, it is necessary to observe safety measures as far as handling magnets is concerned. The magnet in the magnetic key is mounted inside a light weight alloy carrier.

1. Keep a safe distance from equipment which could be damaged by magnetism, like for instance TV sets, credit cards, PCs etc. A magnet may disturb operation of pacemakers!
2. Keep the magnet out of reach of children, it may be swallowed or cause bruises!

6. Technical data

Technical data:	DSM ESC
Recommended input voltage	5 – 8.4 V
Max. input voltage	13 V
Current consumption in switched-off state	130 uA
Output Burst current	20 A
Output constant current	10 A
Operation temperature	- 20°C up to +85°C
Weight including cables	24 g
Module size	38 x 20 x 7 mm
Size of magnetic switch	30 x 21 x 5 mm

7. Warranty

For this product JETI grants 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 first by your JETI dealer and alternately by the manufacturer.
We wish you successful flying with the products of JETI model s.r.o. Příbor, www.jetimodel.cz