






#41046

VR mini Instruction Manual

说明书

Packing List

(a) VR mini linear regulator x1	(b) Velcro(50mm×30mm) x1 (c) FSS-4 switch x1
	 
(a)	

Design Features

- Miniaturised design, input and output using horizontal row and Dupont RC plug , plug-and-play.
- Real-time input voltage monitoring by built-in MCU.
- Output voltage is switchable, supports HV servos (7.4V).
- FSS-4 lightweight switch(#46814) is included in the pack, also supports FSS-3, the failure safety switch with status indicator (#46813).
- Can use external high-power 2A LED indicator with low voltage warning and memory function.
- Full metal case, good heat dissipation.

Electrical Features

- Linear regulator, no interference, low ripple.
- 3 different output voltages and bypass function.
- Fail safe design, ensuring Non-stop work.
- SMT manufacturing process, ensuring high quality.
- Input & output port all use high quality tantalum capacitors.
- Dualsky Shanghai factory assembled, fully tested before dispatch.

Specification

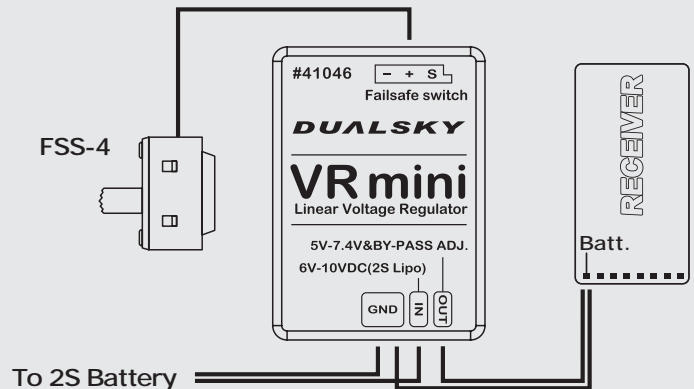
Input voltage:	DC 6V - 8.4V, MAX10V (2S LiPo)
Output voltage:	5V, 6V, 7.4V, Bypass (Switchable, Tolerance + 3%)
Output current:	DC 6A (continuous), Maximum 10A
Maximum differential voltage:	0.5V (when output voltage is 8A)
Power effect:	%0.3
Voltage effect:	%0.3
Output ripple:	≤ 10mV
Size:	32.6mm X 23.6mm X 11.1mm
Weight:	25g (excluding accessories)

Caution

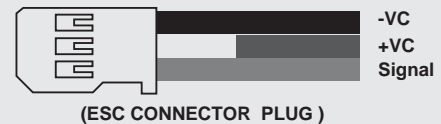
- This product supports switching voltage. Please select the voltage according to the supply voltage of your receiver, servo or other equipment.
- Do not change the output voltage while VR mini is working.
- Output port short circuit will damage VR mini.
- Input voltage higher than 10V will damage VR mini.
- Please do not cover VR mini while using it.
- Do not use VR mini in high temperature or humid environment.
- When using this product in strong vibration environment, vibration mitigation measures should be used.
- The voltage indication and alarm is preset according to the lithium polymer battery.
- If you don't use the regulator in 24 hours, you'd better disconnect it from the battery because a 4mA quiescent current draw remains.
- Not suitable for children under 14 years old without adult guidance.

Instructions

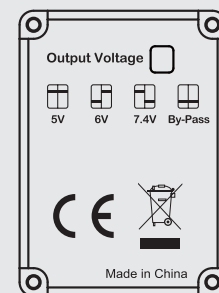
- 1. Input/output connection:** VR mini has welded input and output wires for you. As shown on the metal case, left side is input wire, right side is output wire. Input wire connects to battery, output wire connects to receiver to supply power to receiver, flight control unit and other electronic devices , as shown in the below picture:



If you use VR mini on electric RC airplanes, please disable the BEC function in ESC. You can do it by disconnect the BEC positive pole wire as shown in the below picture. Switch on the FSS-4, VR mini will start to work immediately.



- 2. Select output voltage:** You can select the output voltage by the DIP switch on the back side of VR mini. As shown in the below picture, there are 4 different voltage you can set.



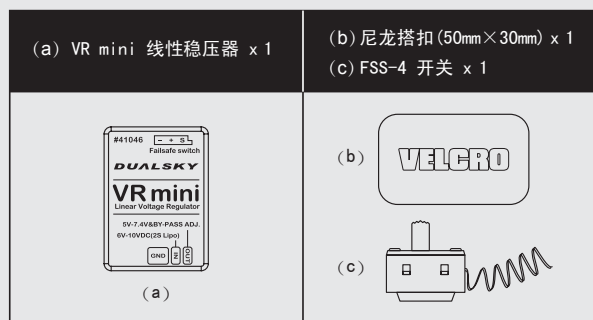
- 3. Failsafe port:** This port can connect to Dualsky FSS switches. Output voltage will be cut off when the FSS switch turned on. This port can also be used to connect 2A high-power LED indicator to display the battery status. When battery voltage is higher than 7.4V, LED will remain lit. When battery voltage is between 7 - 7.4V, LED will flash twice a time. When battery voltage is lower than 7V, LED will flash once a time. Please stop using as soon as the single flash start. Single flash is a memory status, indicated that battery has problem (low voltage, bad contact or overload). Turning off the FSS switch can clear up the memory.
- 4. FSS-4 switch,** the voltage display circuit and the output voltage select switch are all using the "fail safe" design. Any fault will not take the initiative to turnoff VR Mini power output. When the voltage select switch fails, the output voltage will be set to 5V.

VR mini
Linear Voltage Regulator



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物品清单



产品特点

- 小型化设计，输入、输出采用排线和杜邦RC插头，即插即用；
- 内置MCU对输入电压实时监控；
- 支持HV伺服系统（7.4V），可开关切换；
- 标配FSS-4（#46814）轻量开关，支持FSS-3（#46813）；
- 可以外接2A大功率LED指示灯，低电压指示，并有记忆功能；
- 全金属外壳，具有良好的散热性能。

电气特点

- 线性稳压，无干扰、低纹波；
- 输出电压四档可调，具有bypass功能；
- 整个系统采用Fail safe设计，确保不间断工作 (Non-stop)；
- 主板采用SMT贴片工艺生产，保证质量；
- 输入、输出端均采用高品质钽电容；
- 双天上海工厂组装，全检出厂。

主要技术参数

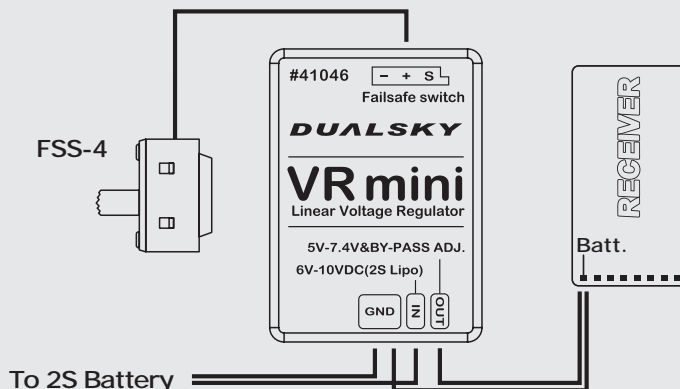
输入电压：DC 6V-8.4V MAX 10V (2S LiPo)
 输出电压：5V、6V、7.4V、直通 (bypass) (Switchable, Tolerance $\pm 3\%$)
 输出电流：DC 6A (连续)，最大10A
 最大压差：0.5V (当输出电流8A时)
 电源效应：%0.3
 电压效应：%0.3
 输出纹波： $\leq 10\text{mV}$
 外形尺寸：32.6mm X 23.6mm X 11.1mm
 主机重量：25g (不含配件)

注意事项

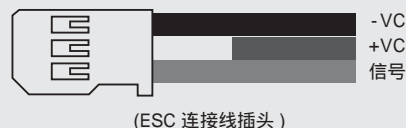
- 本产品支持电压切换，使用此电压时，请确认你的接收机、舵机或其他设备支持该电压；
- 不要在稳压器工作时切换输出电压；
- 确保输出端没有短路；
- 确保输入端电压不超过10V；
- 请勿将VR mini整个包裹后使用；
- 请勿在高温、潮湿的环境下使用；
- 在强烈振动环境使用本产品时，应做好缓振措施；
- 该产品电压指示和报警按照锂聚合物电池预设；
- 如果你长时间（24小时内）不使用VR mini，请断开和电池的连接，因为待机状态下也会有4mA耗电；
- 本品不是玩具，14岁以下儿童使用需要有成人监护。

使用说明

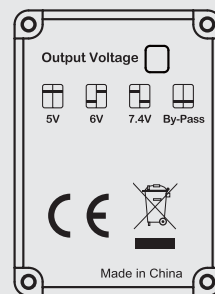
1. 输入输出接线：VR mini在出厂时已经为客户焊接好输入输出线，如外壳标签所示，左边为输入线，右边为输出线。输入线接电池，输出端连接接收机，给接收机、飞控等电子设备供电，如下图：



如果模型为电动飞机，采用VR mini后，需要禁用ESC的BEC功能，可以通过断开BEC的正极线来禁用，如下图。打开FSS-4开关，VR mini立即工作。



2. 电压调节：可以通过VR mini背面的DIP开关调节输出电压，通过不同DIP开关位置，可以设定5V，6V，7.4V和直通4种电压等级。具体设置如下图：



3. Failsafe接口：该接口可以连接双天的FSS开关，开关接通输出电压被关断，同时该接口具有驱动2A大功率LED指示灯的功能，用于显示电池电压状态，当电压高于7.4V时，连接在该接口的LED处于长亮状态，当电压在7.4V到7V之间时，连接在该接口的LED处于双闪状态，当单体电压低于7V时，连接在该接口的LED处于单闪状态，此时应尽快停止使用。单闪警告有记忆功能，表示电池曾经故障（电量低、接触不良或系统过载），关闭开关后重开可以消除记忆。
4. FSS-4电源开关、电压显示电路和输出电压选择开关均采用Fail safe“失效安全”设计。任何故障不会主动关断VR mini的电力输出。当电压选择开关失效后，输出电压被设定在5V。