

DUALSKY[®]
ADVANCED POWER SYSTEMS

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VR Pro

High-End Linear Regulated Power Supply Module
高端线性稳压电源模块

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Instructions Manual 使用说明书

No.46745



Design Features

- Miniaturization design, input & output port using horizontal row, plug-and-play;
- Built-in tri-color input voltage monitor, low voltage memory function;
- Support HV servos (7.4V), output voltage is switchable;
- Includes FSS-4 lightweight switch(#46814), VR Pro also supports FSS-3, the failure safety switch with status indicator (#46813);
- Equipped with heat sink, external cooling fan (#46816) can be connected as an option;
- Support up to 6pcs of 30kg digital servo;
- Can be used on the largest 8kg model aircraft, eg. 50cc Gasoline Powered Aircraft.

Electrical Features

- Linear regulator, no interference, low ripple;
- Double MosFET output, independent linear control IC, high output current capability;
- Large heat sink, good heat dissipation and high overload capacity;
- Built-in MCU precisely controls FSS-3 and internal voltage;
- Fail safe design, ensuring Non-stop work;
- Low dropout design makes fully use of the cell's capacity, especially on HV mode;
- SMT process, ensuring the quality;
- Input & output port all use high quality tantalum capacitors;
- Dualsky Shanghai factory assembled, fully tested before dispatch.

Specification

Input voltage:	DC5.3V -8.4V, MAX10V (2S LiPo)
Output voltage:	5V, 6V, 7.4V (Switchable, Tolerance + 3%)
Output current:	DC 0 -10A (Vin-Vout =1V)
Minimum differential voltage:	< 0.2V

Power effect:	%0.3
Voltage effect:	%0.3
Output ripple:	< 2mV
Size:	53mm X32mm X18mm
Weight:	30g (excluding accessories)
How to use	

VR Pro adopts a horizontal row as input and output port, (see the right picture). According to the label instructions, two sockets on the left are for battery input. The battery can be connected to VR Pro by the input adaptor. The middle two sockets are for stabilizing output. VR Pro is



connected to the receiver by the output wire (#46815). Two sockets on the right side are respectively for fan and control switch. There is a three gear switch on the opposite side, which can select the output voltage from 5V / 6V / 7.4V. (We suggest to use Dualsky 20C series 2S li-po battery for VR Pro) When these wires are correctly connected, please put FSS-4 to the "ON" position to work.

During working, the built-in tri-color monitor displays battery voltage: over 7.4V with green light, 7.4V to 7V with yellow light, lower than 7V with the red light. When the red light on, the user should stop using as soon as possible. The red light warning has memory function, it indicates that the battery has fault (low voltage, poor contact or system overload). Close the switch and re-open it can reset the memory.

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 Pro power output. When the voltage select switch fails, the output voltage will be set to 5V.

Safety attentions (Failure to follow these instructions can be damage your product, and cause serious bodily injury or death.)

- Not suitable for children under 14 years old without adult guidance;
- Do not use it in the high temperature or humid environment;
- When using this product in strong vibration environment, vibration mitigation measures should be used;
- Do not cover VR Pro in use;
- Since the output current is large, please use 2 output wires to connect the receiver;
- This product supports switching voltage. Please select the voltage according to the supply voltage of your receiver, servo or other equipments;
- Do not change the output voltage while VR Pro is working;
- Output port short circuit will damage VR Pro;
- In order to ensure the VR Pro working properly, please obey the following formula to limit the thermal power in a safe range:
 - (1) $(\text{input voltage} - \text{output voltage}) \times \text{output current} \leq 10\text{W}$;
 - (2) Please pay special attention to that, if the VR Pro current is over 10W for a long time, the temperature will rise quickly, it will damage the regulator;
 - (3) When the cooling fan is mounted (#46816, optional), the thermal power can be increased to 15W;
 - (4) VR Pro will not stop working when the input current is too large. But the internal limit working temperature is 120 degrees. When the temperature is more than this limit, it will damage the control IC.
- The voltage indication and alarm is preset according to the lithium polymer battery.
- Notes: If you don't use the regulator in 24 hours, you'd better disconnect it from the battery because it remains a 2mA quiescent current.

VR Pro