Introduction:
Thank you for purchasing FrSky RB-20. It is a high-performance and multi-function unit. In order to fully enjoy the benefits of this system, please read the instruction manual carefully and set up the device as described below.

Overview:

- CH1~CH15 - connect up to 15 servos (PWM)
- RX1 S.P - connect to the S.Port of RX1
- RX2 S.P - connect to the S.Port of RX2
- S.PORT - connect to the S.Port of FrSky products with S.Port
- RX1 IN - connect to the SBUS port of the receiver
- RX2 IN - connect to the SBUS port of the receiver
- BATT 1&BATT 2 - MPX connectors for batteries or BEC connection, supply power for RB-20 and connected receivers

What's New!

- Multi-channel output
- Higher operating current (The current is twice as big as RB) and supporting high-current servos (Please refer to the chart in Overload Protection)
- Automatically selected telemetry between RX1 and RX2: decide on/off of telemetry on RX1 and RX2 through RX1 S.P and RX2 S.P

Specifications:

- Recommended input voltage range: DC 4~8.4V (1~2s Lipo or 4~6s NiMH)
- Number of servos: up to 15
- Operating temperature: -20°C ~ 75°C
- Weight: 37g
- Dimension: 77 x 43 x 22mm

Features:

- High voltage servo supported
- Overload protection on each channel
- Compatible with other FrSky S.Port products
- Dual power and dual receiver
- Integrated S.Port telemetry feedbacks (voltage, current, capacity, overload indication, etc.)
- Settable servo signal output period: 50Hz of servo outputs (20ms period) or equal to the input of SBUS cycle

Working State:

<table>
<thead>
<tr>
<th>Red LED</th>
<th>Green LED</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>On</td>
<td>Normal</td>
</tr>
<tr>
<td>On</td>
<td>Off</td>
<td>Abnormal</td>
</tr>
</tbody>
</table>

Power Supply:

Power supply of RB-20 could be provided from either one battery/BEC (connect via BATT1 or BATT2), or two (connect to BATT1 and BATT2). When two power supplies are used, make sure both supply the maximum continuous current of 40A and the maximum peak current of 120A. Otherwise overload protection could not function efficiently.

If the voltages of two power supplies are the same, power can be used from both supplies at the same time; If the voltages of two power supplies are different, the power comes from the one with the higher voltage, and each supply is isolated from each other instead of shared.

Application of batteries with different capacity, number of cells and chemistry type is allowed. Please ensure output power on one of the two power supplies is no less than the maximum operation power of the connected devices (servos, etc.), or insufficient power supply on the connected devices may occur.

Caution: Do not connect power supplies to CH1~CH15, S.PORT, RX1 S.P, RX2 S.P, RX1 IN and RX2 IN.

Overload Protection:

The RB-20 has overload protection function through a circuit inside on each servo output. If current overload happens, the affected servo output will be disconnected from the power supply while the remaining servo outputs are still power on.

The allowed continuous current output on CH1~CH15, S.PORT, RX1 IN, RX2 IN is 5A. When the continuous current is over 10A, the RB-20 will activate overload protection immediately 23°C.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>I_{hold} (A)</th>
<th>I_{trip} (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>23°C</td>
<td>5.00</td>
<td>10.00</td>
</tr>
<tr>
<td>50°C</td>
<td>3.95</td>
<td>7.90</td>
</tr>
<tr>
<td>70°C</td>
<td>3.35</td>
<td>6.70</td>
</tr>
</tbody>
</table>
Instruction Manual for FrSky RB-20

Values:

- Voltage — actual voltages of both inputs
- Current — actual current flowing from the power supply to the output
- Capacity — consumed capacity of each power supply
- Over-I Monitor — indication of servo status (good or overloaded); indication of receiver status; numbers of detected channels and output period of signal
- All values above will be transmitted to FrSky radio system in real time

<table>
<thead>
<tr>
<th>RXn_FS</th>
<th>RXn_LF</th>
</tr>
</thead>
<tbody>
<tr>
<td>RXn1</td>
<td>RXn2</td>
</tr>
</tbody>
</table>

RbV: total power usage of battery n
RbA: the voltage of battery n
RbC: the current of battery n

I hold means the maximum current passes through the device without tripping under the above three conditions.

I trip means the minimum current passing through the device will cause trip under the above three conditions.

---

FrSky Electronic Co., Ltd    www.frsky-rc.com    Contact us: frsky@frsky-rc.com
Add:F-4, Building C, Zhongshu Technology Park, No.3 Yuanxi Road, Wuxi, 214125, Jiangsu, China  Technical Support: sales4tech@gmail.com

---

How to change the SBUS signal from negative to positive for RX1 IN and RX2 IN:

1. Connect the signal pins of CH11 and CH12, CH13 and CH14 by jumpers, and follow I & II to change the SBUS signal from negative to positive for RX1 IN and RX2 IN at the same time.

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,

2. When using SD logs function, if the RBCS has a non-zero value, such as 64, Convert 64 to binary 100000,