Instruction Manual

Gryphon Hyper HV BEC Quasar (GSR-7075 LMT)

Thank you for purchasing a Gryphon product.
The Quasar Hyper BEC is a High Voltage Switching BEC allowing an output voltage ranges between 4.8 up to 8.4V, with a peak current of 20A and continuous current of 10A.

As large electric helicopters market is growing up, using more and more powerful HV servos, the Quasar Hyper BEC has been designed to meet today's pilot expectations and also the future needs in larger machines like 800's class electric helicopters, with a voltage input up to 75 Volts (17S LiPo). But we did not forget about the Nitro helicopters pilots and the Quasar Hyper BEC is also able to run from as low as 11.1 Volts (3S LiPo), to allow the usage of the maximum potential of today's HV servos that can run with 8.4V during all the flight (more consistent flight characteristics in comparison of direct 2S LiPo power feed).

Reaching such input voltages forced us to find some solutions to avoid problems with RF disturbance and electromagnetic disturbances. We added for that reason a built-in Frequency Dithering Controller. It reduces the EMI (Electromagnetic Interferences) up to 10dB the EMI peak amplitude and it minimizes the RF term disturbance, which is necessary when using such high voltages in the switching power circuit.

Because of these features, the Quasar Hyper BEC will allow a stable voltage and smooth electric current supply. The power switch and low voltage led display connectors are integrated in the slim casing design and it is possible to use all of the available power switches and low voltage led display boards, and also the new 2 in 1 switch / low voltage display boards. The Quasar Hyper BEC also features a twin power output cable for connection safety and to hold the high current peaks.

We thank you for reading this manual carefully before installing your product, and in case you have any doubt or question about the product installation, do not hesitate to contact us for support at service@gryphon.co.kr

SECURITY NOTES ABOUT INSTALLATION

Please make sure also that your fail safe programmed value for throttle is 0% as some receivers go to fail safe values during boot up sequence of the receiver. Check the wiring and make sure that the cables can not be damaged by sharp edges in carbon frames or stay away from rotating / moving parts.
The fail safe switches (GSB-1010x or GSB-1030x) are sold as an option, and can be installed for more convenience depending on your model type. It is needed to use a switch for input voltage over 55V.
When you connect the battery, please check polarities correctly. The Quasar Hyper BEC does not have a polarity reverse protection circuit (It would be useless with such high voltages anyway). The Quasar Hyper BEC shall NOT be connected in addition of other BEC products or power sources on the receiver / powered FBL device or control board or on inputs wires.
The Quasar Hyper BEC is optimized for 2.4Gz transmission systems. To use the Quasar Hyper BEC with FM or AM transmission systems, it is highly recommended to use an optional EMC clamp filter. (GCF-1518).
If you draw more than 5A continuously from the GSR-7075, the heat sink will get hot. Make sure to have some airflow around the unit and especially the heat sink. (5m/s airflow).
Connect the GSR-7075 ONLY to batteries. NEVER connect to any stabilized or AC power supply.

TECHNICAL SPECIFICATIONS

Input voltage	11.1 up to 75V (3 to 17 LiPo cells)
Output voltage (DIP switch selection):	5.2, 6.0, 6.8, 7.4 8.4 Selectable
Output voltage (Potentiometer):	4.8 up to 7.7V fully adjustable, when using 7.4 DIP position
Output current:	10A Continuous, 20A Peak
Low Voltage Alarm setup:	10 up to 75V, adjustable by potentiometer
Size and weight:	12mm x 31mm x 52mm / 20g (exc. Cables)

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INSTALLATION

1) Connect a compatible switch (GSB-1010x or GSB-1030x) if you are using one on the "switch" connector. Do not use these Switches / Low voltage Board on other equipment than genuine GRYPHON products

2) Setup the output voltage. You can either use the DIP switch on the back of the GSR-7075 to setup the output voltage. In that case, put the DIP switch for the desired voltage in it's "ON" position (up) and keep others on "OFF" position. Only one switch must be in "ON" position at a time. If you put all switches in "OFF" position the selected voltage will be then 8.4V. Factory default is set on 6.0V

3) If you want to use a custom voltage (Multicopter pilot board,specific voltage equipment) It is possible to adjust the voltage between 4.8v and 7.7V by adjusting the "V-ADJ" potentiometer on the back of the unit, but only when the DIP switch for "7.4V" is in "ON" position.

4) Battery Low Voltage Alarm: You can set it up between 10v and up to 75V by using the "Alarm-ADJ" potentiometer for coarse setup and then fine tune with the "Fine-ADJ" potentiometer. This will light up the Low Voltage Alarm board (GDB-1010) or the Power Flux LED of the GDB-1030 or GSB-1030x 2 in 1 Switch / Low Voltage Alarm boards. Initial setting of the GSR-7075 LMT Low Voltage Alarm is around 42V.
    We recommend you to make a test flight and set the Low Voltage Alarm at the end of your flight and then fine tune on the next 2 or 3 flights. Please take into consideration that the settings might need to be changed depending of the LiPo you will be using. If you want to disable the Low Voltage Alarm function, you can turn it by turning the "Alarm-ADJ" potentiometer fully coulter clockwise (Be careful to not turn the potentiometer too hard or you will damage it).

5) Fit the unit and connect your system wires. Double check all wires and perform a test with a 3S LiPo to check that everything is OK. We also recommend you to perform the basic security tests on your RC model before initial and inspect before each flight that all servos and equipment are responding correctly.
    For more information, please contact your national RC Model Federation / Association and if you are a beginner, ALWAYS get your model checked by an experienced modeler before powering on your system.

PRODUCT VISUAL OVERVIEW & SETTINGS

Hyper BEC Quasar
Model : GSR-7075 LMT
Input Voltage : 11.1V~75.6V (3~18 LiPo Cells)
Output Voltage : 4.8V~8.4V Selectable
Low Battery Alarm Voltage : 10V~75V
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7.4V(Adjustable)
6.8V
6.0V
5.2V

6 volts setting Default

5.2 volts setting

6.8 volts setting

7.4 volts setting

8.4 volts setting