GunFire Unit NF-G3

NF-G3 controller is designed to simulate gunfire for warbird scalled models. Controller has two shooting outputs G1 and G2. Outputs produce current pulses 30 ms with cadence 8 or 10 shots per second. The pulses can power white ultra-bright power LEDs 350 or 700 mA to produse light flashes simulating shots. They can also power speaker to simulate noise of gunfire.

The NF-G3 is controlled by one channel in three position mode OFF / GUN1 / GUN2. By red jumper you can modify the functionallity so that BOTH guns are on in third position.

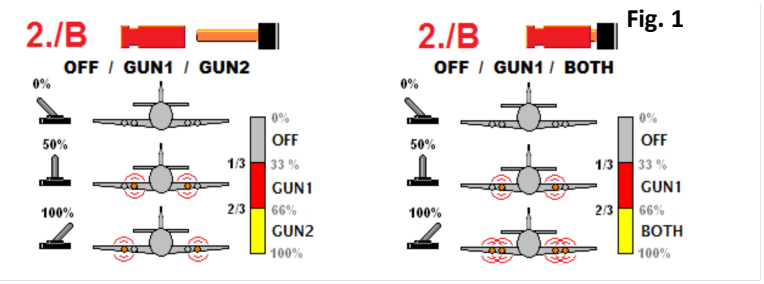


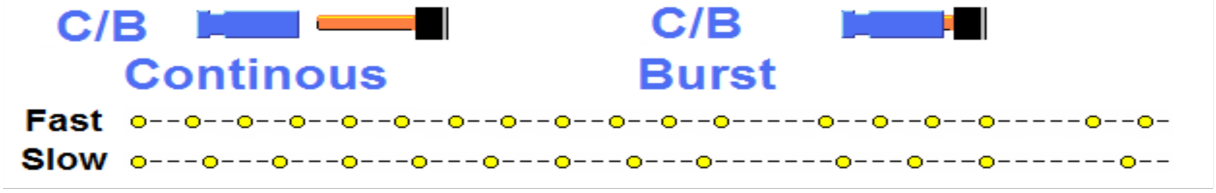
Fig. 1

For each gun you can choose speed by blue jumper on conector **F/S**. Fast speed has 10 shots per second. Slow speed has 8 shots per second. As the shoots of both outputs are interleaved, the final speed of both guns shooting together in slow mode represents 16 shots per second – see Fig. 2

Fig. 2

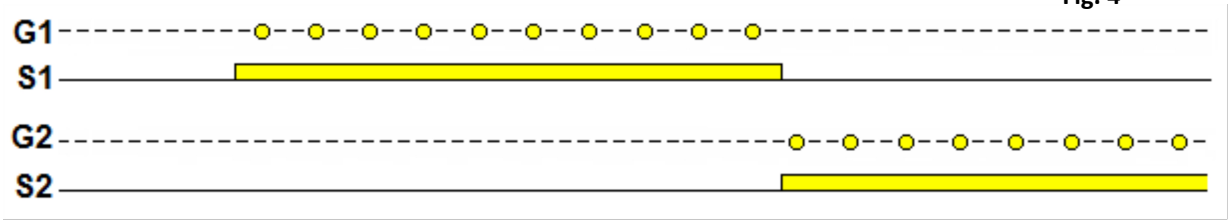
The blue C/B jumper select “Continous” or “Burst” shooting mode for both guns. The burst mode interrupts fire twice per second – see Fig. 3

Fig. 3



There are also two supporting outputs **S1** and **S2**. S1 is switched on if G1 is shooting and S2 is on if G2 is shooting. They could be used as alternative missile or bomb switches. If the GUN2 is not used for shooting the S2 output can be used to power landing lights LEDs for WW2 warbirds in three position mode OFF / GUN1 / LAND. In this case the red jumper “2./B” must be removed – see Fig. 4

Fig. 4



All outputs work as current stabilizators. So LEDs can be connected directly to the outputs. You can select the output current for each of outputs G1,G2 or S2 by jumpers. Jumpers are placed nearby heaters. Outputs without jumper work at 350 mA, with jumper at 700 mA. The S1 output has fix nominal current 20 mA only - see the Fig. 5 for jumper positions.

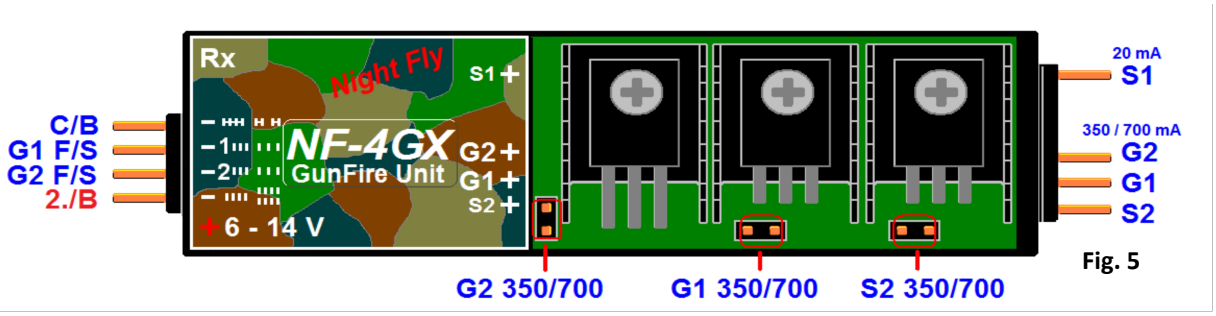


Fig. 5

The **Rx** cable is compatible with Graupner or Hitec-type connectors. The receiver circuit and the outputs are galvanically separated by an opto-coupler. If the NF-G3 is not connected to a receiver the G1 output is shooting and G2 output is off.

The power input is diode-protected against reversing of polarity. The outputs are powered from the positive pole of accumulator. The negative pole is common for all outputs.

The outputs maintain the nominal current in the wide range of voltage from (4.8) 6 to 14 V without the need to connect compensating series resistance in the circuit. The stabilization starts working from 5.0 V already; therefore it is possible to connect the controller to 2S or 3S LiPol. As the number of the cells of the powering accumulator increases, so does the number of LEDs that can be connected serially in one output. It is only necessary to assume that the summa of voltages of diodes plus approximately 1.8 V (necessary for a good functionality of NF-G3) is below the voltage of accumulator, otherwise the circuit starts to decrease the current in the LEDs and the luminosity falls down. Approximate voltage of the white LEDs is 3,2 V. Typical configuration is one or two LEDs serially on each gun´s outputs.

Installation procedure

The typical connections are shown by the scheme Fig. 6. Number as well as position of LEDs in a specific model may vary. By models with on-board power supply less than 2S LiPol there will not be possible to connect more than one diode to the output.

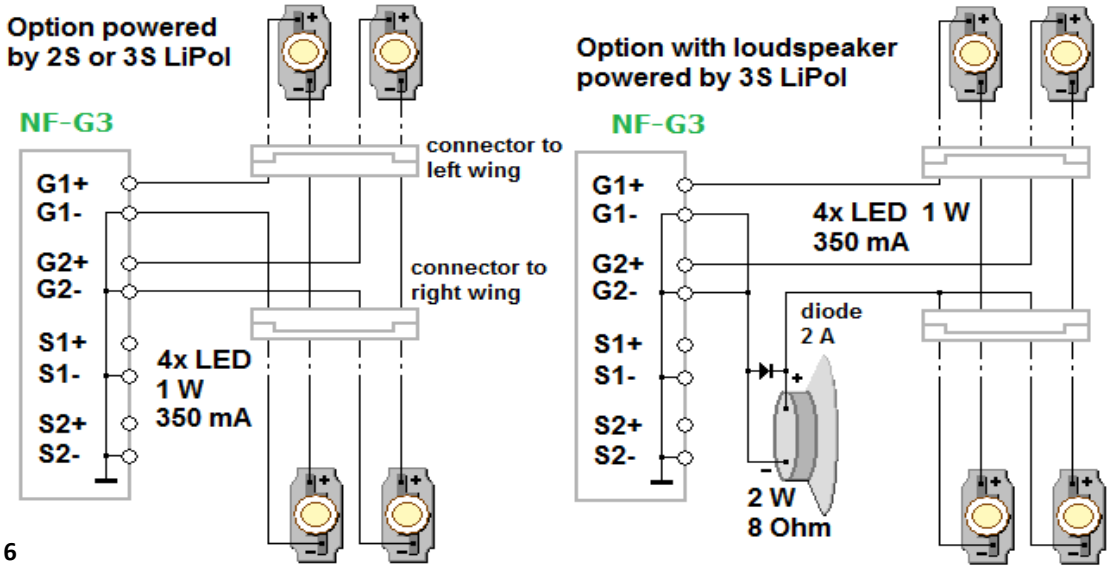


Fig. 6

ATTENTION: Do not test the diodes by connecting them directly to the accumulator. Without using a compensating resistance you would destroy the diodes. When connecting the diodes you have to observe the polarity.

Assembly and pre-flight tests

The wires should not form surface loops. Both wires should go as close as possible to each other. Additional connectors or serial adaptors can be used, either home made or ordered. For serial connection of diodes adaptors for servo-cables cannot be used.

The diode wiring is not a source of interference. However, it might distribute interference through the entire model from an insufficiently shielded engine. Therefore, it is not recommended to lay the wiring concurrently with the receiver antenna as they could affect the reception. The wires should not form surface loops. Both wires should go as close as possible to each other. It can happen that a model that used to fly without problems starts plucking after installation of additional LEDs and wires. After installation it is better to check the model's behaviour on the ground first and improve shielding if necessary or to put a suppression component between the controller and the power supply. A separate power supply for the model illumination can be used too, but it is easier to connect the NF-G3 to a common on-board power supply.

The manufacturer is not liable for damages caused by the operation of the unit beyond the technical parameters and the above recommendations. Instructions for the implementation of socket adapters, cabling and more information about diodes can be found on the website.

Technical parameters NF-G3

	min	typ.	max.
Operational Voltage [V]:	5	9	14
Consumption [mA]:	18	20	25
Output S1 [mA]:	19	20	23
Outputs G1,G2,S2 [mA]:	330		700
Flash (freq. 1 Hz):		pulsy 31 ms	
Temperature:		0 – 70 °C	
Dimensions [mm]:		106 x 24 x 20	
Weight [g]:		34,5	

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