

VoltGuard G3

Overview:

Thank you for purchasing our VoltGuard G3 advanced battery monitor. VoltGuard G3 is more than a simple battery checker; it is an innovative indispensable product for the RC model user. Although compact in size, G3 utilises the latest micro-controller technology to achieve precision voltage measurements via digital signal processing techniques and offers fully configurable operation for a variety of battery technologies. The G3 monitors the battery voltage several hundred times a second and keeps track of the lowest voltage recorded during operation and whilst the battery is under load in flight. The current battery voltage as well as the lowest voltage is then displayed to the user. This is the essential information every model operator needs for making sure that his battery packs are healthy and up to the job.

Overview:

VoltGuard G3 is more than a simple battery checker; it is an innovative indispensable product for the RC model user. The G3 monitors the battery voltage several hundred times a second and keeps track of the lowest voltage recorded during operation and whilst the battery is under real operating loads in flight. The current battery voltage as well as the lowest voltage is then displayed to the user. This is the essential information every model operator needs for making sure that his battery packs are healthy and up to the job.

Specifications:

User configurable; supports multiple pack types including:
 NiCD/NiMH packs: 4 to 10 cell
 Li-Poly packs: 2S to 3S
 Lead acid: 12V
 Size: 40mm x 20mm x 4mm
 Weight: 6 grams including power leads
 Accuracy: 0.05% or better, automatic calibration.
 See inside for detailed specifications.

Warning:

- **Never reverse polarity.** The G3 is not protected against reverse polarity on the (+) and (-) terminals. Connecting the G3 with reverse polarity will almost certainly cause irreparable damage.

Monitoring receiver battery:

Installation: The G3 should be installed in a location where it can be easily seen before take off and after landing. Always choose a clean location away from exhaust fumes of IC engines.

NiCD/NiMH packs: The G3 may be connected directly to any spare channel of the receiver or using a Y-harness.

Li-Poly packs: Connect the G3 before the voltage regulator (Fig. 1) Configure the G3 for 2S or 3S pack as applicable.

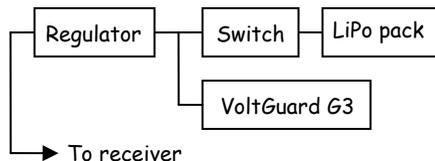


Fig.1 Using G3 with Li-Poly packs and regulator.

Monitoring flight pack of park fliers and micro helicopters:

Installation: The G3 should be installed in a location where it can be easily seen in flight. Use a small piece of double sided adhesive foam tape for mounting G3 in place.

Connecting: Ensure that the battery is disconnected before proceeding with the electrical connections. The G3 should ideally be connected in parallel with the ESC (Electronic Speed Controller), directly to the (+) RED and (-) BLACK terminals of the ESC. This ensures correct voltage measurement and that G3 is powered off when the battery is disconnected at the end of the flight.

Operation:

- When G3 is powered, to confirm correct operation, the LEDs will sequentially flash from the lowest red to the highest green, then back to the lowest red. At this point the G3 becomes functional and starts monitoring the receiver voltage.

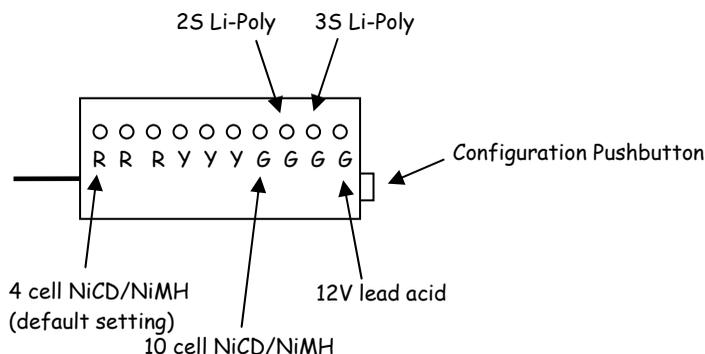
- During operation the G3 will indicate the battery condition by switching on one or two LEDs.
- When two LEDs are on the lower of the two LEDs indicates the lowest voltage that G3 has seen in flight when the servos are under load. The Highest LED indicates the current battery voltage.
- When only one LED is lit, the lowest and current voltage are both equal.

Configuration:

The G3 can be configured to work with various types of battery packs. The number of cells and battery type can be configured via a simple user interface. Configuration is performed via the use of a miniature push-button switch and the LEDs.

Accessing the battery type and cell count configuration mode:

- Power on G3 while holding the pushbutton pressed. All LEDs will illuminate.
- Release the push-button. One LED will remain lit to indicate the current battery type.
- Press and release the pushbutton until the desired type is reached.



Specifications:

Operating voltage: 3.5 - 16 Volts, current draw <10mA

NiCD/NiMH packs: 4 to 10 cell (1 cell: 1.000V, 1.022V, 1.044V, 1.066V, 1.088V, 1.110V, 1.132V, 1.154V, 1.176V)
(4 cell: 4.00V, 4.09V, 4.18V, 4.26V, 4.35V, 4.44V, 4.53, 4.62V, 4.70V)

Li-Poly packs: 2S to 3S (1 cell: 2.50V, 2.75V, 3.00V, 3.10V, 3.20V, 3.30V, 3.40V, 3.50V, 3.60V)

Lead acid: 12V (12.00V, 12.11V, 12.22V, 12.33V, 12.44V, 12.55V, 12.66V, 12.77, 12.88V)

Accuracy: 0.05% or better, automatic calibration.

Visual indicator: 10 ultra-bright LEDs

Size: 40mm x 20mm x 4mm

Weight: 6 grams including power leads

Operating conditions: 0 to 50 deg C, 32 to 122 deg F, 20 to 85 % humidity not condensing.

Storage: -20 to 70 deg C, -68 to 158 deg F, 20 to 90 % humidity not condensing.

Disclaimer:

Because SpartanRC and their distributors have no control over the installation and use of this product, no liability may be assumed nor will any liability be accepted for any damages resulting from the use of this product. Under no circumstances will the buyer be entitled to consequential or incidental damages. By act of installing this product, the buyer accepts all resulting liability.