



## a breakthrough for free flight models!

**Specially developed to exploit the huge potential of Li-Poly cells, the amazing 'ZOMBIE' allows you to pre-program the flight profile on electric powered models. Simply 'dial-in' the power and duration required before flying and the 'ZOMBIE' will obey!**

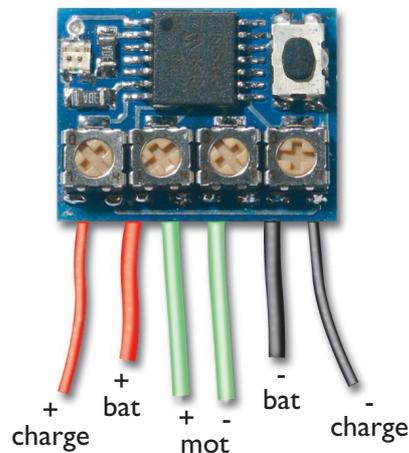
### Overview

The Zombie features 4 'trim pots' which provide total flight control for free flight model aircraft. Trim pots 1 and 2 regulate the first phase 'power' and 'time' settings of the flight, whilst trim pots 3 and 4 regulate the second phase 'power' and 'time' settings of the flight. The trim pots can be adjusted with a 'jewellers' screwdriver to give between 0 and 100% power and 0 to 65 seconds. For instance, a typical flight may consist of a climb at 80% power for 20 seconds (phase 1) followed by a cruise at 45% power for 30 seconds (phase 2)

The flight profile is initiated by pressing the Zombie's on-board switch. The switch has a built in delayed start. At the end of the cycle the Zombie will automatically turn itself off.

Atomic Workshop have carefully designed the Zombie to draw a very low stand-by current. However, we do recommend that if you are not flying for an extended length of time to disconnect the Zombie from the battery.

### Wiring up the Zombie



The Zombie's wires should be connected as follows:

Connect the motor to the 2 green wires (the motor '+' terminal attaches to the green wire adjacent to the red battery wire)

Connect the battery to the 'short' red and black wires (red to battery '+')

The zombie also comes supplied with 2 longer red and black wires for connecting to a battery charging

socket. If these are not required they can be cut off close to the PCB to save weight and prevent shorting.

Although the motor leads can be soldered directly to the motor, Atomic Workshop recommend the use of polarised plugs and sockets for connecting both the battery and charger wires (if used).

### Setting the battery type

To operate correctly the Zombie needs to know what type of battery is connected (number/type of cells).

From the Atomic Workshop factory the Zombie is configured to operate from a single Li-Poly cell. If you intend to use a different battery configuration then the Zombie will have to be re-programmed using the following simple procedure:

#### Step 1:

Disconnect battery

#### Step 2:

Turn 'trim pot 1' fully anticlockwise

### Step 3:

Re-connect the battery whilst simultaneously holding down the 'on/off' switch. At this point the Zombie's LED will glow deep orange. You can now release the 'on/off' switch.

### Step 4:

Slowly turn 'trim pot 1' clockwise until the required battery type is displayed on the flashing LED according to the following:

The number of flashes represents the number of cells and the colour of the flash represents the cell type:

**LiPoly = GREEN**

**NiMH/NiCd = RED**

For example, If you intend to use a 2-cell LiPoly battery pack rotate 'trim pot 1' until the LED double flashes green. If you intend to use a 5-cell NiMH/NiCd pack rotate until you see 5 red flashes.

### Step 5:

When you have made your selection, push the on/off switch once to store your selection. The Zombie will then flash back the stored selection.

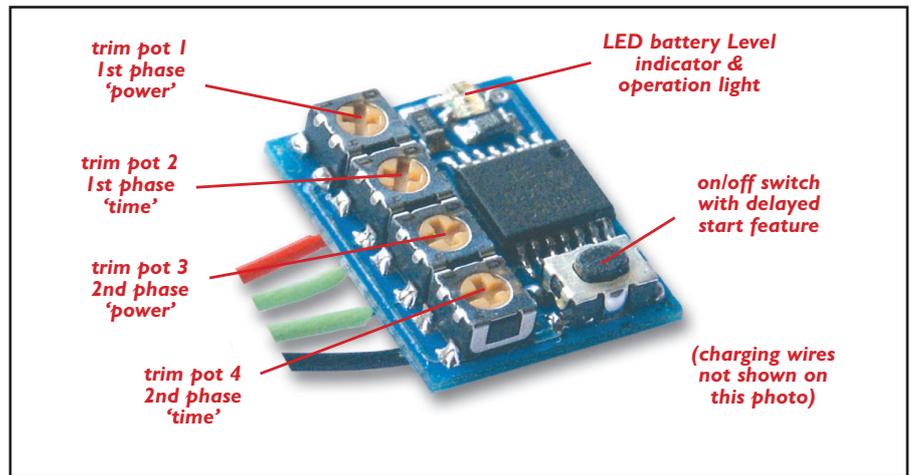
The Zombie will remember this setting even after the battery is disconnected. You can repeat this procedure as many times as you wish. Each time the battery is connected the Zombie will flash out the code for the stored battery type.

### Battery Level Indicator

The Zombie is equipped with a battery level indicator. The battery level is represented by the colour of the LED during the 10 second start delay. As the battery is discharged the LED colour will change from green, through deep orange to red. If the battery is too low for operation the LED will flash rapidly for 3 seconds and the Zombie will shut down.

### On/Off Switch

The switch features a special delayed start (approx. 10 seconds), this enables the operator to close any hatches on



the model or place it on the ground ready for take-off. The switch may be pressed to interrupt the cycle at any time.

### Typical installation



Access is required to the Zombie to alter the 'trim pots' and to hit the on/off switch. To eliminate the need for hatches we recommend the use of a slide-out tray built into the model (see picture of Keil Kraft Luscombe Silvaire right). This system has many advantages: The Zombie's switch and pots can easily be operated, the self-contained tray is easy to wire up and

the balance point of the model can be adjusted by moving the items on the tray.

Build-in two light balsa rails on the insides of the fuselage back to the balance point to accept the sheet balsa tray. The tray, which is glued to the back of the noseblock slides into these rails. Two tiny neodymium type magnets recessed into the back of the noseblock are all that is required to hold the tray in place. This system can be used in the nose of twin engine types as long as you leave enough 'slack' in the motor leads to allow the tray to slide forward.

### Flight Trimming

Trim the model using the 2nd phase power and time settings (pots 3 & 4). Adjust the settings so that you get a 'powered glide' for about 5 seconds. When you are satisfied that the model is flying well you can introduce the 1st phase power and time settings (pots 1 & 2) to obtain a gentle climb. To avoid losing your model, always increase the settings gradually as the Zombie will provide over 2 minutes motor run!

### TECHNICAL DATA

#### ELECTRICAL

**No. of Control Phases:** 2  
**Battery Level Indicator:** YES  
**ON/OFF Switch:** On-board  
**Supply Voltage Range:** 3.15 to 10V  
**Recommended Battery:** LiPoly (1-2 cells) or NiMH/NiCd (3-7 cells)  
**ESC Max Cont. Current:** 4A\*  
**Standby Current:** 30uA

#### PHYSICAL

**Dimensions:** L=14.6mm, W=11.3mm, H=4mm  
**Mass:** 0.65g (excl. wires) 1.25g (incl. wires)  
**Battery Wires:** 2 off 26AWG PTFE insulated,  
**Motor Wires:** 2 off 26AWG PTFE insulated,  
**Charge Wires:** 2 off 28AWG PTFE insulated,

\* Zombie will run hot at max. current. Exceeding max. current (e.g. motor stall condition) may cause damage.



### CAUTION - RISK OF DAMAGE!

Ensure correct polarity when connecting battery cells and never allow the green motor wires to short together whilst the Zombie is connected to a battery. Do not short out any part of the Zombie PCB whilst connected to a battery.

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